



A THIRD STUDY ON

UNDERSTANDING PUBLIC PERCEPTIONS OF CLIMATE CHANGE IN CAMBODIA

KNOWLEDGE, ATTITUDES, AND PRACTICES



2020



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Abbreviations and Acronyms

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
BBC	British Broadcasting Corporation
CAPI	Computer Assisted Personal Interviewing
CCAPs	Climate Change Action Plans
CCCA	Cambodia Climate Change Alliance
CCCSP	Cambodia Climate Change Strategic Plan
CCFF	Climate Change Financing Framework
COVID-19	Coronavirus disease 2019
CSO	Civil Society Organisation
DCC	Department of Climate Change
DRR	Disaster Risk Reduction
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GSSD	The General Secretariat of the National Council for Sustainable Development
IPCC	Intergovernmental Panel on Climate Change
KAP	Knowledge, Attitudes, and Practices
KAP3	Third Study on Understanding Public Perceptions of Climate Change in Cambodia: Knowledge, Attitudes, and Practices
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEF	Ministry of Economy and Finance
MoE	Ministry of Environment
MoEYS	Ministry of Education, Youth and Sports
MoWA	Ministry of Women's Affairs
MoWRAM	Ministry of Water Resources and Meteorology
NAP	National Adaptation Plan
NAP-DRR	National Adaptation Plan for Disaster Risk Reduction
NCCC	National Climate Change Committee
NCDD	National Committee for Sub-National Democratic Development
NCDDS	National Committee for Sub-National Democratic Development Secretariat
NCDM	National Committee for Disaster Management
NCSD	National Council for Sustainable Development
NDCs	Nationally Determined Contributions

NGO	Non-governmental organisation
NSDP	National Strategic Development Plan
PIC	Parliamentary Institute of Cambodia
PPS	Probability Proportional to Size
PSA	Public Service Announcement
RGC	Royal Government of Cambodia
RUPP	Royal University of Phnom Penh
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

Foreword

Cambodia is one of the most vulnerable countries in the world to the impacts of climate change. The Royal Government of Cambodia (RGC) has recognised the urgency to take action to combat the challenges of climate change and the country has supported global efforts against climate change by being a Party to the United Nations Framework Convention on Climate Change (UNFCCC) since 1995. Cambodia ratified the Kyoto Protocol in 2002 and also signed the Paris Agreement in 2015 and ratified it in 2016.

The Department of Climate Change (DCC) of the General Secretariat of the National Council for Sustainable Development (GSSD), with support of the Cambodia Climate Change Alliance (CCCA) – a multi-donors project funded by the European Union (EU), United Nations Development Programme (UNDP), and Sweden – commissioned the Third Study on Knowledge, Attitudes, and Practices on Climate Change in Cambodia (KAP3) to identify and evaluate changes in knowledge, attitudes, and practices of the public related to climate change and in order to improve the national and sub-national response to the challenges of climate change.

Cambodia has made progress in climate change policy, especially in mainstreaming climate change into national and sub-national planning. However, in order to mainstream climate change at all levels, significant increase in levels of knowledge, attitudes, and practices (KAP) in the country is required. The KAP studies are conducted every 5 years with the purpose of informing the design of future awareness raising efforts and of mechanisms and interventions to engage different groups of Cambodia's society to be effective agents of change in responding to climate change challenges. The first, KAP1, was conducted in 2010, followed by KAP2 in 2015, and this document, KAP3, in 2020.

The KAP3 study derived from a nationally representative survey with 1,560 people across the country, and from around 100 people participated in qualitative in-depth interviews and focus group discussions with community members (men, women, vulnerable groups, local influencers, and village chiefs), and key stakeholders such as representatives from the government ministries, senate, national assembly, media agencies, universities, the private sector, and non-governmental organisations (NGOs). The study found out that two-thirds of Cambodians see that their lives had improved over the last five years. It was also found out that an understanding of the term 'climate change' has been improved among Cambodians. The vast majority of Cambodians thought that climate change is happening in Cambodia and nearly three-quarters felt that temperatures had increased in the past decade and felt that droughts had increased. Cambodians told that they are well-prepared for extreme weather such as heatwaves, storms, droughts or floods and they are very or fairly willing to make changes in the future. Nearly all Cambodians said they were taking at least one action.

It is important to build on people's key motivations for action such as the benefits of taking action on family's health and livelihoods, and children's education. The study also found out that the discussion on and increasing awareness of climate change are key drivers in behaviour change communication and engaging people in taking action – this will also help people to cope with rapid-onset disasters in the future.

The government plays an important role in coordinating the process towards climate resilient and low carbon society and with the results of this KAP3 study, we can design our interventions to enhance the knowledge, attitudes, and practices in order to improve adaptive capacity, reduce emissions and to fulfil our obligations to better the lives of the citizens, in particular the vulnerable. We hope to work together with all stakeholders in order to further understanding of the impacts of climate change and the action to address them to be taken at all levels. On behalf of the Ministry of Environment/the National Council for Sustainable Development, I would like to take this opportunity to express my sincere gratitude to our development partners who have provided funding support and all stakeholders who have supported and cooperated during the process to develop this study. We are all committed to continuing to play our part in what is considered being humanity's greatest challenge.



Say Samal

Chair of the National Council for Sustainable Development
Minister of Environment

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Key Terms

Adaptive capacity: the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences (Intergovernmental Panel on Climate Change [IPCC], 2018).

Climate change: a change in the state of the climate that can be identified (e.g. by statistical tests) by changes in the mean and/or the variability of its properties, which typically persists for decades or longer (IPCC), 2018).¹

Gender norms: accepted attributes and characteristics of male and female gendered identity at a particular point in time for a specific society or community. They are the standards and expectations to which gender identity generally conforms, within a range that defines a particular society, culture and community at that point in time. Gender norms are ideas about how men and women should be and act. Internalized early in life, gender norms can establish a life cycle of gender socialization and stereotyping (United Nations Children’s Fund [UNICEF], 2017).

Gender roles: social and behavioural norms that, within a specific culture, are widely considered to be socially appropriate for individuals of a specific sex. These often determine the traditional responsibilities and tasks assigned to men, women, boys and girls. Gender-specific roles are often conditioned by household structure, access to resources, specific impacts of the global economy, occurrence of conflict or disaster, and other locally relevant factors such as ecological conditions (UNICEF, 2017).

Global warming: the progressive, gradual rise of the Earth’s surface temperature, thought to be caused by the greenhouse effect and responsible for changes in global climate patterns (IPCC, 2018).

Perceived change in the availability of resources: increases or decreases that survey respondents discerned in the accessibility of water, food and energy over the previous decade.

Perceived change in the weather: increases or decreases that survey respondents discerned in rainfall, temperatures, storms and extreme weather over the previous decade.

Perceived change in the environment: increases or decreases that survey respondents discerned in biodiversity, pest numbers and pollution over the previous decade.

Resilience: the ability of households, communities and nations to absorb and recover from shocks, whilst positively adapting and transforming their structures and means for living in the face of long-term stresses, change and uncertainty (Organisation for Economic Co-operation and Development [OECD], 2014).

¹ *This report investigates people’s experience of climate change. It is not a scientific treatise of climatic change in Cambodia and does not compare public perceptions and meteorological records in the country.*

About This Study

As part of its mandate to co-ordinate Cambodia's response to climate change, the National Council for Sustainable Development (NCSD) has been tracking the effectiveness of the nation's efforts on climate change, including changes in the knowledge, attitudes, and practices (KAP) of Cambodian individuals. The NCSD has done this through the Department of Climate Change (DCC) of the GSSD. In this, it has been supported by the Cambodia Climate Change Alliance (CCCA) a multi-donor project funded by the European Union, the United Nations Development Programme (UNDP), and Sweden.

The DCC commissioned BBC Media Action to deliver this third KAP study in the series, following KAP1 (conducted in 2010) and KAP2 (conducted in 2015). It offers an opportunity to understand Cambodian people's knowledge, attitudes, and practices in relation to climate change. In turn, this understanding will inform the design of future interventions and help identify which groups need priority help to respond to the climate-related challenges they face.

Executive Summary

Introduction

This study forms part of a series of knowledge, attitudes, and practices (KAP) studies commissioned by the National Council for Sustainable Development (NCSD), through its Department of Climate Change (DCC) and working with the Cambodia Climate Change Alliance (CCCA).

These series report and analyse Cambodians' understanding and engagement with issues around climate change. Conducted in 2010 (KAP1), 2015 (KAP2), and 2020 (KAP3), they aim to generate evidence of Cambodians' experience of changes in the weather and their environment to inform future communication strategies and government interventions.

This study (KAP3) took a mixed methods approach. The research team conducted a nationally representative survey with 1,560 people in Cambodia, across five regions (Phnom Penh, Plain, Mountain, Tonle Sap, and Coastal) and provinces. In addition, it conducted qualitative research through in-depth interviews and focus group discussions with community members (men, women, vulnerable groups, local influencers, and village chiefs), and key stakeholders such as representatives from the government ministries, senate, national assembly, media agencies, universities, the private sector, and non-governmental organisations (NGOs).

KAP3 adopted a different questionnaire approach from the previous KAP studies to gain a robust understanding of communities' perceptions of climate change.² For example, respondents were asked to reflect on changes in the weather, the environment, and available resources they had experienced and any actions they had taken around these issues. Comparisons between KAP3 findings and those of previous KAP studies have been made where possible.

Key findings

Knowledge of the term 'climate change'

There is still limited understanding of the term 'climate change' among Cambodians. While nearly three-quarters (72%) of respondents said they had heard of the phrase, only one-third (33%) said they knew what it meant. Just over a quarter (28%) had not heard of the term at all. Government stakeholders interviewed for this study also felt that there was a limited understanding of the technical term 'climate change' among the Cambodian population.

² The KAP3 study questionnaire used an approach wherein respondents were asked about changes they were noticing in their everyday lives such as changes in the weather, environment and resources rather than framing the entire survey around the concept of 'climate change', which was different to previous KAP surveys. This was based on previous research conducted by BBC Media Action that found it was clear that people were noticing changes in weather and resources but did not directly link it to climate change.

Almost three-quarters (71%) of survey respondents said they had heard of the term 'global warming'. Similar to the level of comprehension of the term 'climate change', 31% of respondents knew the meaning of 'global warming' and 40% did not.

Attitudes to climate change

Researchers read the definition of climate change to respondents in the interview as a prompt before asking if they thought climate change was happening in Cambodia. The vast majority (84%) of respondents thought that climate change is happening in Cambodia and 81% thought that climate change will affect Cambodia in the future.

The survey asked people about the main cause of climate change. When provided with a list of possible answers to respond to, the top answer provided was the loss of trees (cited by 76% of respondents).

Perceived changes to the weather, environment, and available resources

Respondents were very aware of experiencing changes in the weather, the environment, and their access to resources. In terms of weather and climate, respondents felt that temperatures are getting hotter, rainfall is decreasing, and the severity of droughts is increasing. The majority (69%) felt that rainfall had decreased in the previous decade. Nearly three-quarters (74%) felt that temperatures had increased in the past decade and 36% felt that droughts had increased.

Respondents have noticed declines in their natural environments, such as the loss of trees (73%) and reduced variety of fish (64%). They also felt that other aspects of their environment were changing. The majority (69%) of respondents thought that insects, such as flies and mosquitoes, have proliferated in the last 10 years. A slightly smaller proportion (61%) believed that the amount of litter and plastic had increased in that time, and 42% believed air pollution had increased – especially those living in Phnom Penh.

Generally, however, Cambodians reported experiencing increased availability in resources such as electricity and fuel. Around half of respondents said they had noticed an increased availability of affordable food and water but there is still a shortage of these basic necessities for many people in Cambodia, particularly in rural areas.

Attitudes to changes in the weather, environment, and available resources

Attitudes to preparation: More than half (56%) of Cambodians claimed to be prepared for extreme weather such as heatwaves, storms, droughts or floods. Among these respondents, 14% considered themselves very prepared for such events and 42% thought they were fairly prepared. However, this means a sizeable portion of Cambodians (44%) still felt unprepared for extreme weather. Looking ahead, over a third (38%) of respondents feared that changes they are already experiencing will have a high impact on their lives. Another third (35%) expected a moderate impact from these changes in future, and 14% perceived low potential impact on their lives in the future.

Willingness to take action: When asked about their willingness to make further adjustments to their livelihoods in response to changes in resource availability and weather patterns, 79% of people said they were very or fairly willing to make changes in the future. This indicates that Cambodians are keen to prepare and equip themselves for changes in the weather, environment, and available resources.

Attitudes around the impact of changes felt: Respondents were concerned about the impact of changes on their health and livelihoods too. For example, four in five (79%) said that changes in resource availability and weather have affected their ability to earn money or work to sustain their livelihoods. The top drivers prompting Cambodians to take action in response to climate change were to keep healthy and to provide the best possible future for their children (both cited by 98% of respondents).

Barriers to taking action: Limited institutional support and lack of resources were the main factors Cambodians reported as barriers to taking action in response to climate change. This included a limited support from government (cited by 80%) and NGOs (75%). A large majority of respondents (70%) cited the need for more resources such as having the right networks, information, finance or labour to make a change. Social barriers to action were also prevalent. For example, 61% of respondents felt they could not act because they had other priorities.

Attitudes to women taking action: In Cambodia, issues relating to water disproportionately affect women. The survey found that women were more likely than men to report that changes in available resources and the weather affected their livelihoods (82% versus 75% respectively). Both community respondents and government stakeholders indicated that water availability is more of a concern for women as they bear the brunt of household responsibilities including finding water for cooking, cleaning, and household consumption. Research participants felt that this, combined with women's responsibility for looking after children or elderly people, increased women's vulnerability to the effects of climate change. Women are also limited by prevailing attitudes that prevent them from taking action independently. Almost three-quarters (72%) of Cambodians agreed with the statement, "a man should have the final word about decisions in his home related to adaptation practices". Men were somewhat more likely to agree with this than women (76% compared to 69%, respectively).

Practices to address changes in the weather, environment, and available resources

In response to extreme weather: Researchers asked respondents a prompted question about actions they might have taken to deal with extreme weather events. Keeping up with weather forecasts was the most commonly reported action (cited by 64%), followed by saving money (58%) and storing food (47%). Very poor respondents were the least likely to report saving money (40% compared to 96% of well-off respondents) and to store food (31% compared to 81% respectively).

In response to food and water shortages: To address water and food shortages, Cambodians reported taking a range of simple actions such as storing or saving water (cited by 77% of respondents), reducing food waste (79%), and growing different types of crops (76%). For example, in one village people were changing their crops to watermelons, cucumbers, and peanuts, which they felt were more resistant to weather and environmental changes.

Taking action is increasingly important to Cambodians: When the different KAP studies asked participants whether they were doing anything in response to climate change, respondents increasingly reported that they were taking action. Nearly all KAP3 respondents (91%) said they were taking at least one action (93% of men and 89% of women – a statistically significant, albeit minor, difference). This is broadly in line with KAP2 (at 94% – though the question was framed slightly differently, around changes made by individuals or their families) and an increase from 73% in KAP1.³ Generally, this indicates that taking action has become more pressing in recent years.

KAP3 respondents also reported noticing that more people in their communities were taking action in response to these changes. Allowing for slight differences in the question framing across the three studies,⁴ this also appears to be increasing. Overall, there has been an increase in respondents reporting that people in their communities are taking action, from 55% in KAP1(2010) to 83% in KAP2 (2015) to 91% in KAP3 (2020).

Priority groups for communication

The study analysis makes it clear that some key groups require support in taking action in relation to changes in the weather, the environment, and the availability of resources. These groups should be prioritised in future communication strategies or community interventions linked to climate change. These groups are:

Farmers and fishermen: This group particularly struggled with access to water for agricultural activities and depleting fish stocks. However, they were motivated to take action and were trying to take steps, given how important natural resources, the weather, and the environment are to their livelihoods and survival. This group trusted government and NGO measures taken in response to these issues. They could benefit from support to help them make the most of the actions they are already taking (such as saving money or taking up alternative livelihoods). They would welcome information on the most effective adaptations to adopt, and support to learn new skills or techniques.

³ Questions used to generate these figures differ across the three KAPs. KAP1: Have you or someone in your family done anything to respond to the changing weather? KAP2: What have you or someone in your family done in response to the climate variability? KAP3: What are you currently doing to cope/deal with changes in the availability of water, food, electricity and fuel and changes in weather?

⁴ Questions used to generate these figures differ across the three KAPs. KAP1: Have people in your community done anything in response to the changing weather? KAP2: What have people in your community done in response to the climate variability? KAP3: What have people in your village or area done in response to changes in water, food, energy supplies or weather?

Very poor people: This group had a limited knowledge around climate change and generally did not know what they can do to prepare for extreme weather. For them, even taking simple actions such as saving money or storing food was challenging as they struggled to access basic necessities. They also lacked motivation to act, had limited information, and have not discussed these issues with others as they do not recognise their own vulnerability. This group would benefit from targeted outreach and information to help them understand more about the issues affecting them, as well as ideas for very simple, low-cost actions they could take to support themselves.

People in the Coastal region: These people are particularly vulnerable to the impacts of climate change. They were struggling to access water and food, and were experiencing saltwater intrusion. They were the least likely to feel confident about preparing for extreme weather and the most likely to say they needed government support to address the changes they were experiencing. They said they did not take action as they did not know how to do so, which was reinforced by their perceived lack of information. They need support and information to help them address their most pressing basic needs, such as long-term access to water and food. They also need the most support from others and lack confidence, so would benefit from being shown ways to support themselves more effectively, and how to access support and information from the government or NGOs.

Recommendations for climate change communication strategies in Cambodia

- Build on people's key motivations for action. Highlight the benefits of taking action on their family's health and livelihoods, and their children's education.
- Ignite discussion within and between communities to facilitate behaviour change and also engage decision makers and key influencers. Discussion is a key driver in behaviour change communication, yet most Cambodians are not discussing or sharing the actions they are taking with others.
- Address the key long-term issues affecting Cambodians, such as drought and water shortages, to engage people in taking action – this will also help people to cope with rapid-onset disasters in future.
- Help people to connect the dots when the term 'climate change' is used in communication strategies. Explain how changes in the weather, the environment, and the availability of resources that affect their everyday lives are the result of climate change.
- Increase awareness of weather and resource changes among the poorest and least educated people in Cambodia. They are the least likely to perceive the impacts of climate change on their lives at the moment, making them less likely to take action in some cases. They feel the least prepared for extreme weather events, even though their livelihoods are the most exposed to such events.

1.1. Cambodia's vulnerability to climate change

Cambodia's economic growth has been one of Asia's fastest, averaging 7% annually over the last decade (World Bank, 2020). Agriculture contributed 21% to Cambodia's gross domestic product (GDP) in 2019 and employed 37% of the country's labour force in 2017 (MAFF, 2020).

Despite this, Cambodia remains among the countries most affected by extreme weather, ranking as the 12th most vulnerable in 1998–2018 (Eckstein, Kunzel, Schafer, & Wings, 2020), compared to 19th in 1998–2017. In 2015 alone, estimated losses associated with adverse climate impacts amounted to approximately USD 1.5 billion, equivalent to 10% of the country's annual GDP (USAID, 2019). According to an estimate using the Climate Economic Growth Impact Model conducted by Ministry of Economy and Finance (MEF) with the support from the National Council for Sustainable Development (NCSD)/Ministry of Environment (MoE) through the Cambodia Climate Change Alliance (CCCA) programme, climate change could shrink Cambodia's GDP by 2.5% by 2030, and almost 10% by 2050 (MEF & GSSD, 2019).

Cambodia is highly vulnerable to the impact of climate change due to its high dependence on climate-sensitive sectors (RGC, 2013) – agricultural irrigation relies heavily on precipitation, and agricultural production faces soil fertility challenges (GSSD, 2015). Agricultural productivity is extremely vulnerable to increased temperatures, changes in rainfall patterns, and extreme weather events. This is significant because a large part of the Cambodian labour force works in agriculture and has low adaptive capacity because of limited financial, technical, and human resources (GSSD, 2015). Around 61% of the rural population, particularly women, will be affected by climate change because of diminishing access to natural resources. This includes 7 million farmers and 240,000 workers in the construction industry (Talberth & Reyntar, 2014).

Climate change impacts such as low crop yields, and damage to property and equipment, push families in at-risk areas into debt. This often results in men migrating to neighbouring countries for work, leaving women to work the land, look after the children, and do household chores (Goh, 2012).

Cambodian women face additional challenges. They sometimes also migrate to urban areas to work in factories or as domestic helpers, increasing their vulnerability to sexual exploitation (ADB, 2015). Women tend to be at greater risk of malnutrition and diseases such as typhoid or dengue (Oxfam America, 2010), as they tend to eat less so their partners and children can eat enough (Goh, 2012; Oxfam, n.d.). Women's economic resilience index (0.59) is lower than men's (0.61), and their income is also 8% lower (ActionAid Cambodia, 2020).

1.2. Key policy frameworks on climate change

Recognising the threats of climate change, the RGC has made clear its intention to build a “greener, low-carbon and climate-resilient, equitable, sustainable, and knowledge-based society, and to contribute to global efforts to tackle climate change” (GSSD, 2015). Moreover, it has strengthened its political commitment to, and actions on, climate change through various programmatic interventions (GSSD, 2017). These key frameworks are listed below.

The Rectangular Strategy (RS) phase IV: Unveiled in September 2018, this sets out commitments and priorities to strengthen legal and policy frameworks, research on climate change, and institutional capacity at all levels in relation to climate change. This strategy commits the government to implementing the National Strategic Plan on Green Growth 2013–2030, the Cambodia Climate Change Strategic Plan 2014–2023, the National Environmental Strategy and Action Plan 2016–2023, and the National Reducing Emissions from Deforestation and Forest Degradation (REDD+) strategy (RGC, 2018).

The National Strategic Development Plan (NSDP) 2019–2023: This plan operationalises the strategic policies outlined in the RS IV and dictates the roles and responsibilities of several ministries, many of which have incorporated disaster risk reduction (DRR) into their sectoral plans (RGC, 2019). Across key ministries, sub-national level Sectoral Climate Change Strategic Plans (SCCSPs) and Sectoral Climate Change Action Plans (CCAPs) have been developed. Fourteen ministries have approved CCAPs and are implementing them (NCSD, 2019b).

The Cambodia Climate Change Strategic Plan (CCCSP) 2014–2023: Introduced in 2013, this mainstreams the RGC’s climate change adaptation and mitigation policies, and engages development stakeholders in shaping and implementing them (RGC, 2013a). The CCCSP provides a framework to address climate change (NCSD, 2019b) and create a “greener, low-carbon, climate resilient, equitable, sustainable, and knowledge-based society” (as cited in Käkönen et al., 2014). Its key objectives have been incorporated into the NSDP and relevant ministries’ sector development plans.

National Action Plan for Disaster Risk Reduction 2014–2018 (NAP-DRR): Led by the National Committee for Disaster Management (NCDM), this policy was produced in 2013 (RGC, 2013b) and has a specific focus on “capacity building, mainstreaming DRR, creating synergies between DRR and Climate Change Adaptation (CCA), increasing the pace of institutional reforms, and highlighting the role of research and academic institutions in national disaster management” (ADPC & UNDRR, 2019).

Disaster information management system: To better understand the impacts of disasters, enhance response capacity, and support provincial risk assessments, the NCDM created CamDI, a database of disaster damage and loss (ADPC & UNDRR, 2019). Similarly, the Ministry of Water Resources and Meteorology (MoWRAM), in collaboration with the United Nations Development Programme (UNDP), has established a Drought Monitoring

InfoHub to enhance its weather monitoring capacity and early warning systems (ADPC & UNDRR, 2019).

Climate Economic Impact Model (CEGIM): Developed by the Ministry of Economy and Finance (MEF) with support from the NCSD, this model evaluates climate change impacts on economic growth and identifies priority intervention areas to minimise these impacts (MEF & GSSD, 2019).

Cambodia conducted a Climate Public Expenditure and Institutional Review (CPEIR), which assessed expenditure on activities related to climate change and examined the extent to which the expenditure is guided by existing policy and institutional responsibilities (UNDP, 2012). In addition, Cambodia Climate Change Financing Framework (CCFF) was set up to manage climate change finance across government, whereas the Cambodia National Adaptation Plan Financing Framework and Implementation Plan (NAPFF), which increased the possibilities for Cambodia to access additional adaptation finance, was also approved (NCSD, 2019b). A Disaster Management Budget has been set up to finance the NCDM and its DRR activities, and ensure funds for disaster relief and emergency responses (ADPC & UNDRR, 2019). Cambodia also has a climate change and DRR monitoring framework to review the impacts of policies, laws, and regulations on reducing vulnerability or reducing carbon emissions (DCC/GSSD, 2016).

At the international level: Cambodia submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC ahead of the Conference of Parties (COP) 21 in Paris, December 2015. The RGC ratified the Paris Agreement on Climate in 2016, which largely focuses on Cambodia's adaptation commitments and mitigation targets to help minimise its carbon emissions (NCSD, 2019a). Through this, the RGC had pledged to reduce national emissions by up to 27% and increase forest cover to 60% by 2030 (NCSD, 2019a). To achieve this, the RGC has published an NDC Roadmap and Stakeholder Engagement plan (NCSD, 2019a). In December 2020, Cambodia updated its NDC commitment with a target of reducing 42% of emissions compared to the business-as-usual level by 2030 (GSSD & MoE, 2020).

1.3. Institutional structures relating to climate change

There is consensus that Cambodia has made significant improvements to its climate change response capacity, such as national and sub-national institutional arrangements to co-ordinate response efforts. Some key structures are summarised below.

National Climate Change Committee (NCCC): An inter-ministerial body established in 2006 to co-ordinate policy making on climate change, and to monitor the delivery of climate change policies, regulations, legal instruments, and programmes.

National Council for Sustainable Development (NCSD): A policy-making body established in 2015. Chaired by the Minister of Environment, it comprises 36 ministries and agencies, and 25 capital/provincial governors (NCSD, 2019a). Its mandate is to promote sustainable development in areas such as climate change, biodiversity conservation, biosafety, and

the green economy (GSSD, 2017), and to monitor progress against Cambodia's Sustainable Development Goal (CSDG) on climate action (UNDP, 2019).

National Committee for Disaster Management (NCDM): Established in 1995 as an inter-ministerial body, this aims to address the increasing risk of disasters across Cambodia (RGC, 2013). It is mandated as the co-ordinator of disaster prevention, adaptation, mitigation, and response activities (ADPC & UNDRR, 2019). The Department of Meteorology (DOM) and the Department of Hydrology and River Works (DHRW) lead on forecasting storms and floods, and early warning systems.

Gender and Climate Change Committee: Established by the RGC to ensure that gender is mainstreamed in climate change policy and interventions, this comprises the gender mainstreaming action group (GMAG) of line ministries and the technical working group on gender (NCSD, 2019b).

1.4. Interventions raising awareness of climate change

The RGC has made concerted efforts to raise awareness of climate change by publishing and disseminating materials on related discourses and concepts. For example, an English-Khmer lexicon of climate change has been adopted nationally to provide a common understanding and interpretation of climate change terminology. A climate change textbook for high schools, which covers climate change's basic science, cause and effects, vulnerability, and responses was published in 2018 (MoEYS, 2018). Moreover, the science of climate change has been integrated into various university curricula (Deodato, Erdogmus, & Detten, 2018).

Established in 2008, Cambodia's National Committee for Sub-National Democratic Development Secretariat (NCDDS) is another national public sector organisation to support democratic development by decentralisation and de-concentration reforms. This secretariat is committed to addressing climate change issues, mainly by engaging local government bodies in climate change adaptation activities by enhancing livelihoods, infrastructure, and water security (Green Climate Fund, n.d.).

The Royal University of Agriculture is a leading agricultural public institution in Cambodia and its Center for Agricultural and Environmental Studies, which was established in 2011, educates students and conducts research in the field of climate change (RUA, n.d). In 2015, seven agricultural schools and universities,⁵ under the World Bank-funded Integrated Climate Change into Curricular Development for Agriculture University in Cambodia (HEQCIP) project, published four teaching modules on climate change, with a particular focus on agriculture. In addition, since 2017 the Royal University of Phnom Penh (RUPP) has offered a Master of Sciences degree in Climate Change under the USAID-funded Low Emissions Asian Development (LEAD) programme (RUPP, 2020).

⁵ *The Royal University of Agriculture, Chea Sim University of Kamchaymear, Svay Rieng University, Preah Leap National School of Agriculture, Kampong Cham National School of Agriculture, University of Battambang and Mean Chey University.*

MAFF, NCSD and MoE, have recently published an adaptation guide containing recommendations on 34 technologies and options for climate change adaptation in Cambodian agriculture (MAFF, NCSD & MoE, 2019). The guide aims to provide a starting point for ideas on relevant adaptation technologies and practices (MAFF, NCSD & MoE, 2019).

1.5. Gaps in Cambodian policy and interventions on climate change

Although the CCCSP is aligned with Cambodia's current needs and problems, there is still a lack of attention on factors related to demographic and socio-economic conditions and trends, such as urbanisation, economic-structural changes, spatial data, slow onset changes, infrastructure, and gender (NCSD, 2019b). For instance, activities, indicators, and resources needed to realise the CCCSP's gender-focused objectives are absent from the policy (NCSD, 2019b). Moreover, there is no clear strategy demonstrating how climate change could be mainstreamed into sub-national planning and budgets. Greater monitoring at the sub-national level would also help to mainstream climate change into sub-national planning, budgeting, and implementing in order to improve coordination and management as well as to scale up the implementation (NCSD, 2019b).

Another barrier to mainstreaming climate change in Cambodia is insufficient financial support, and technical and human resources (MoE, 2016). Tools and guidelines to allocate funding for climate change related interventions to sectoral and sub-national levels are not available despite CCFF's mandate to allocate funding to relevant ministries. These resources need to be mobilised for other stakeholders including non-governmental organisations (NGOs) and the private sector (NCSD, 2019b). A report by the Parliamentary Institute of Cambodia (PIC) shows three relevant ministries – MoE, MAFF, and MoWRAM – have faced similar challenges, including financial constraints, and a lack of human capacity, reliable and comprehensive datasets and research, technology transfer, and limited experience in implementing climate change programmes (Un, 2018). Findings from this third knowledge, attitudes, and practices study (KAP3) confirm this.

This study's review of government policies offers limited information on the preferred methods and effectiveness of communication channels to support climate change adaptations. The effectiveness of awareness-raising interventions including introducing climate change textbooks and MoEYS targeting school-aged children is not yet known.

1.6. Climate change knowledge, attitudes, and practices

Since 2010 two KAP studies have been conducted (in 2010 and 2015) to measure the Cambodian population's engagement with climate change and to inform government interventions. In addition, BBC Media Action conducted a nationally representative survey as part of its 'Climate Asia' research series in 2018 to understand how Cambodians live with climate change.

Knowledge

KAP1, a nationwide study conducted in 2010, revealed that 80% of Cambodians were familiar with the term 'climate change' and had noticed changes in the weather and the environment, particularly temperature and rainfall patterns, and the increased intensity and frequency of extreme weather events (MoE, 2011). The proportion of people familiar with the term 'climate change' increased to 91% in KAP2, conducted in 2015 (MoE, 2016). Cambodian Climate Asia study finds that 85% of Cambodians were familiar with the term (BBC Media Action, 2019). Crucially, the Climate Asia study differentiates between people who knew the term's actual meaning (42%) and those who did not (43%). Men, educated people, and young people were over-represented among the former group.

According to previous KAP studies, Cambodians attributed climate change to deforestation – 78% of KAP2 respondents in 2015 and 67% of KAP1 respondents in 2010.

Attitudes

The perception of communal action in Cambodia (joint community effort or work in solidarity) to address climatic impacts increased from 52% in 2010 (KAP1) to 56% in 2015 (KAP2) (MoE, 2011; MoE, 2016). The 2019 study found that up to 93% of Cambodians believed that communities can work together to solve problems relating to climate change – only 25% of respondents preferred working individually to cope with these changes (BBC Media Action, 2019).

The same study explored how far apathy and fatalism determine whether an individual would respond to the impacts of climate change. It found that 64% of Cambodians believed they could not do much to change things that happen in their lives. Furthermore, 55% reported having other priorities that prevented them from taking action in response to climate change, 48% reported having limited knowledge to do so, and 37% believed that their actions would not make any difference.

Attitudes towards mitigating the impacts of climate change in Cambodia have changed over time. In 2010, only 33% of Cambodians acknowledged that daily activities such as reducing machinery use and energy consumption could reduce climatic impacts (MoE, 2011). In 2016 43% believed so (MoE, 2016). This suggests that more people are thinking about mitigating the risks generated by climate hazards.

Practices

KAP1 found that planting more trees and adopting new agricultural techniques were the most common practices in response to climate-related hazards (MoE, 2011), while Climate Asia showed that growing different crop varieties, rotating crops, and applying pesticides were the key adaptive strategies employed by people in rural areas (BBC Media Action, 2019).

In the Climate Asia study, 60% of Cambodians were unprepared for extreme weather and 43% reported making changes to their livelihoods or jobs to sustain an income in response to changing weather conditions. Prominent strategies included supplementing their income in different ways (59%) and temporarily migrating for work (21%). In periods of extreme weather, Cambodians reported debt increases and migration became more important to their livelihoods, particularly for communities whose income depends on natural resources. While many respondents reported having taking action, some Cambodians believed that the impacts of climate change were not a problem for them (37%) or that they were not responsible for taking climate-related actions (32%) (BBC Media Action, 2019).

1.7. Climate change adaptation by gender

The actions that Cambodian men and women have taken to prepare for extreme weather differ significantly. According to the Climate Asia study, the majority of men (82%) had learned a skill to prepare for extreme weather (such as swimming, first aid or building shelters). However, only 42% of women reported the same, making them more vulnerable to risks such as flooding. Women were more likely to take household actions such as storing food (53% compared to 44% of men), whereas men were more likely to report making structural changes to the home (41% of men, 36% of women).

However, the same study shows that women reported being better able to cope with changes in the weather than men (76% of women and 68% of men reported feeling able to cope with these changes). Moreover, 46% of women reported feeling more prepared for an extreme weather event, compared to only 40% of men (BBC Media Action, 2019). The report also highlights that women were likely to take action to cope with the impacts of climate change, but suffered structural, social and resource barriers, linked to deep-rooted gender norms and inequalities in Cambodia.

Barriers and motivations to adapt to the impacts of climate change

KAP1 and KAP2 revealed that a shortage of financial resources hindered the majority (60%) of Cambodians in responding to climate impacts, while around a quarter (25% in KAP1, 30% in KAP2) pointed to limited knowledge as a barrier (MoE, 2011; MoE, 2016). The Climate Asia study found a similar proportion (64%) pointing to a lack of money, equipment, and information as personal barriers to responding to climate change. The same study shows that the majority of Cambodians felt the need for greater support from

the government and NGOs to act on climate change. All Cambodians surveyed believed that resources and knowledge about technical adaptation strategies were key to taking action (BBC Media Action, 2019). Health and the future of their children were the key drivers that motivated Cambodians to respond to climate change.

Social norms based on gender stereotypes in Cambodia can limit women's participation in politics and decision-making on climate change and DRR (Kem, 2016). Based on the Cambodia Women's Resilience Index (WRI), women scored only 0.56 in terms of institutional resilience, while men scored 0.61 in 2020 (ActionAid Cambodia, 2020). This indicates that women participated less in decision-making compared to men.

The same study published by ActionAid Cambodia (2020) also shows that rural populations had limited access to external assistance during and after disasters, and little knowledge on disaster management plans. This report also highlights the media's limited role in supporting disaster management and climate change adaptation among Cambodia's rural populations.

2.1. Desk review

An in-depth desk review was conducted to inform the KAP study design. This provided an overview of climate change issues in Cambodia and policy approaches to addressing the issue. The desk review included a comparative analysis of previous KAP studies and BBC Media Action’s Climate Asia survey methodology to ascertain how they measured key indicators and to evaluate the strength of different measurement methods to inform the KAP3 survey design.

2.2. Quantitative research

The KAP3 survey sampled⁶ 1,560 people⁷ in Cambodia, across five regions (Phnom Penh, Plain, Mountain, Tonle Sap, and Coastal)⁸ and provinces. This nationally representative sample was stratified to reflect the urban/rural and male/female split to enable both national level representation and regional level analysis.

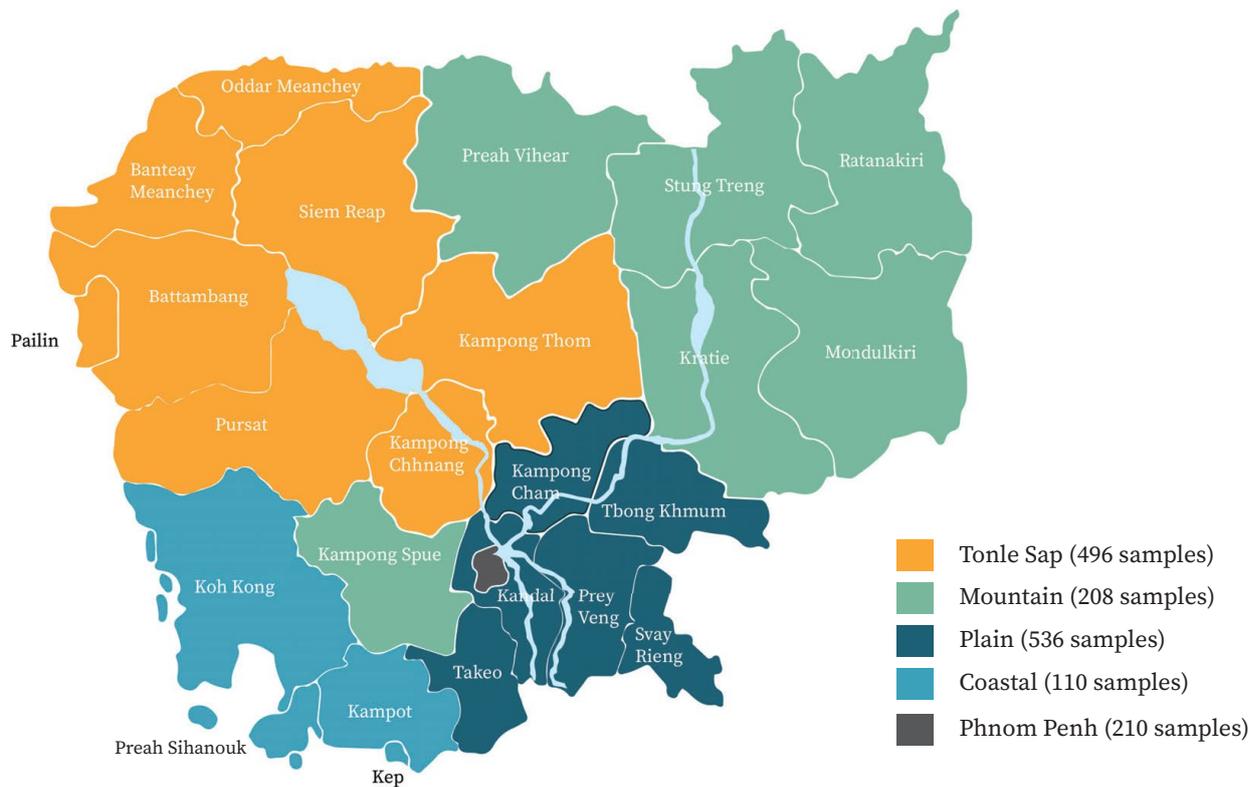


Figure 1: Sample distribute by region

6
$$\text{Sample size (n)} = \frac{z^2 \times p(1-p)}{e^2} \div \left(1 + \frac{z^2 \times p(1-p)}{e^2 N} \right)$$
 N: Population Size, z: Critical Value (or confidence level), e: Margin of Error, p: Sample Proportion

7 Rounded to 1,558 after statistical weighting

8 According to the Population Census of the Kingdom of Cambodia 2019, there are four regions across the country: Plain, Tonle Sap, Mountain, and Coastal region. Plain: Kampong Cham, Tbong Khmum, Kandal, Phnom Penh, Prey Veng, Svay Rieng, and Takeo. Tonle Sap: Banteay Meanchey, Battambang, Kampong Chhnang, Kampong Thom, Pursat, Siem Reap, Oddar Meanchey, and Pailin. Coastal: Kampot, Koh Kong, Preah Sihanouk, and Kep. Mountains: Kampong Speu, Kratie, Mondul Kiri, Preah Vihear, Ratanak Kiri, and Stung Treng. Since Phnom Penh, as the capital city, has a sizeable population at 2,129,371 (13.9% of the overall population of the country) and has a different demographic make-up to the provinces it was important to ensure the sampling strategy took this into account. Phnom Penh was separated from the surrounding Plain region in order to ensure a more rigorous and effective sampling strategy.

To ensure a nationally representative sample, the research team used a probability proportional to size (PPS) methodology to select locations at random for fieldwork within each region. Village blocks or enumeration areas (EAs) were the smallest administrative units in rural and urban areas. Households were selected randomly following the right-hand rule of field movement⁹, and respondents¹⁰ were selected using Kish grid for true random selection. As a result, the sample included a mix of people from different backgrounds, including different employment backgrounds (farmers, fishermen, and businessmen), a diverse range of age groups, and minorities.

The fieldwork for this study was carried out face-to-face from June to July 2020, following the easing of restrictions associated with the coronavirus disease (COVID-19) pandemic. COVID-19 safety measures were set up and strictly followed throughout¹¹. The survey used Computer Assisted Personal Interviewing (CAPI) to conduct and record interviews with people aged 15–55.

Study sample

Table 1 provides an overview of the key demographic groups in the weighted sample. Research data was weighted by age, gender, and location, using results from the latest comprehensive dataset on the Cambodian population (Commune Database 2017 based on the 2014 population data¹² from National Committee for Sub-National Democratic Development (NCDD) of the Ministry of Interior (MoI)¹³.

Table 1: Quantitative survey sample

Demographics		Survey proportions (weighted) Total sample: 1,558
Gender	Male	49%
	Female	51%
Age	15–24	35%
	25–34	25%
	35–44	24%
	45–55	16%

⁹ Where every household falling to the right side of the street or footpath was contacted until a successful interview was conducted.

¹⁰ In this report, the terms ‘respondents’ and ‘Cambodians’ are used interchangeably to describe the findings obtained from a random sample of the population that was nationally representative based on age, gender, region and type of residence.

¹¹ All fieldwork staff were briefed on the COVID-19 protocols as part of their training. The CAPI questionnaire was scripted with COVID-19 screening questions, checking for COVID-19 symptoms and checking recent travel history. Additional safety measures, following MoH guidelines, included interviewers conducting physically distanced interviews, wearing face masks, using hand gel and alcohol wipes, and providing clear instruction to respondents about COVID-19 safety measures for the interview process.

¹² 2014 population data was updated from population census 2008.

¹³ When KAP3 fieldwork was completed, the 2019 national population census data was not yet available.

Location	Urban	33%
	Rural	67%
Region	Phnom Penh	10%
	Plain	39%
	Mountain	11%
	Tonle Sap	33%
	Coastal	7%
Economic status ¹⁴	Very poor	4%
	Poor	57%
	Comfortable	38%
	Well-off	1%
Education received	No schooling	6%
	Up to primary school	37%
	Up to secondary school	31%
	Up to high school	20%
	Up to university	5%
	Vocational training	0.3%
Occupation	Professional	7%
	Traders/business people	21%
	Farmers, fishermen	34%
	Labourers (low skilled and unskilled)	9%
	Not working (housewives, students, retired, unemployed)	29%

¹⁴ Economic status was measured via one question in the survey. In order to accurately measure economic status, a series of questions looking at the different dimensions of poverty would be recommended (i.e. access to health care, education and living standards such as housing, sanitation, access to water, fuel, electricity and assets). However, in order to keep the survey as short as possible and to ascertain a basic understanding of economic status one question used to measure this was based on standardised BBC Media Action surveys (see <https://dataportal.bbcmmediaaction.org/site/assets/uploads/2016/07/Common-Media-and-Demographic-Questions.pdf>). This self-reported question on a respondents' affordability of durables was used in order to place people into the following basic categories.

People who struggle to buy food were defined as 'very poor'; those who can afford food and clothes but cannot buy durables or more expensive items were defined as 'poor'; those who can afford anything but an apartment or house were defined as comfortable; people who could afford anything including an apartment or house were defined as well-off. This definition differs from standardised Cambodian government definitions of poverty.

2.3. Qualitative research

Initial qualitative interviews: The research team conducted in-depth interviews with key stakeholders, including decision makers in ministries, senators, parliamentarians, media practitioners, and private sector representatives. These aimed to understand their opinion and awareness of the impacts of climate change, what communication affected populations need, and what interventions could support climate change adaptations in the future.

Subsequent qualitative interviews: Following analysis of the quantitative survey data and initial qualitative interviews, the research team conducted in-depth interviews with key stakeholders at the sub-national level of government (provincial, district, and commune) and development practitioners (local and international NGOs). In-depth interviews and focus group discussions (FGDs) were also conducted with local influencers, community members, members of vulnerable groups¹⁵, and students.

This subsequent qualitative study had an observational component, which was used to triangulate findings and generate case studies to illustrate how different population groups in Cambodia are taking action in response to the impacts of climate change, and the barriers they face in doing so.

Table 2: Qualitative research participants

Target group	Key participants
Government agencies	National level (relevant ministries, parliamentary, and senate)
	Provincial level (provincial governors)
	District level (district governors)
	Commune level (commune council chiefs)
Key influencers	Media (private and public media institutions)
	Private sector representatives
Civil society organisations (CSOs)	Local NGOs
	International NGOs

¹⁵ Vulnerable groups were: 1) people with disabilities and 2) women from different backgrounds, such as rural who lacked access to media, women heads of household or women whose husbands had migrated.

Population level	Village chiefs
	Members of Commune Committee for Women and Children/Commune Committee for Disaster Management
	Teachers
	Religious leaders/community elders
	Disadvantaged groups (people with a disability, female heads of household, poor people, etc.)
	Villagers
	Women and men
	Students

2.4. Virtual consultation workshop

Following the analysis of the quantitative and qualitative data, the research team presented preliminary findings to some of the key stakeholders – government representatives, media agencies, NGOs, development partners, private sector representatives, and academics during a consultation workshop on 18 November 2020. This workshop was designed to validate initial findings and seek input to finalise this report.

2.5. Guidance note: methodological differences between KAP studies

The KAP3 study used a different questionnaire approach¹⁶ from the previous KAP studies. The questionnaire was designed to ask respondents to reflect on changes in the environment, weather and resources they had experience and actions they had taken around these issues. i.e. one that is rooted in their lived experiences and their understanding of the changes in climate and resources around them.¹⁷

KAP3 also included questions designed to provide trend data when comparing key indicators with KAP1 and KAP2. These pertained to:

- Familiarity with the terms ‘climate change’ and ‘global warming’

¹⁶ The design built on expertise amassed through delivering the Climate Asia study Cambodia. Most of the KAP3 questionnaire mirrored the wording of the Climate Asia survey.

¹⁷ Formative research conducted to inform the Climate Asia survey series found that respondents had difficulty comprehending terminology around ‘climate change’. When conducting formative research to inform the KAP3 survey tools, it was clear that people were noticing changes in the weather, environment and resources but did not directly link this to climate change. To get valuable results, the survey had to be designed using questions, language and concepts that related to people’s day-to-day lives, such as food, water, energy and extreme weather events, rather than the more abstract ‘climate change’. People were first asked questions about their perception of changes in temperature, rainfall and extreme weather events over a 10-year period, followed by a series of questions about changes in the availability of key resources like food, water and energy, and changes to their environments. Questions around the term ‘climate change’ came at the end of the survey.

- The actions that local people have taken to respond to changes in the environment, weather, and the availability of resources

Throughout this report, any specified differences between sub-groups are mentioned because they are significantly different. Where any significant differences are present for gender, these are highlighted. If there is no mention of differences by gender, it means that no significant difference exists.

Table 3: Summary differences in the KAP study approaches (including key indicators tracked)

		KAP1	KAP2	KAP3
Conceptual framework		The survey is anchored in people's everyday experiences related to changes in the weather, and their engagement with these changes is explored in detail.	'Climate change' is introduced early in the survey. Respondents' engagement with changes is unpacked through the concepts of 'climate change' and 'climate variability', regardless of their familiarity with the terms.	The survey is centred on people's everyday experiences related to changes in the weather, the environment, and the availability of resources. Respondents' engagement with these changes is explored across domains (health, water, food, weather).
Key indicators	Climate change knowledge	The term 'climate change' is first mentioned in the survey when people are asked whether they had heard about it.	The survey is introduced the term 'climate change' several times before a question asks people if they had heard the term before.	Familiarity with the concept of 'climate change' is asked at the end of the questionnaire, followed by a question probing for comprehension of the term.
		Question wording: <i>Have you ever heard the term 'climate change'?</i>	Question wording: <i>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?</i>	Question wording: <i>Have you heard of the phrase 'climate change'?</i>

Key indicators	Community action	The same list of actions was provided against each variation of the question in a prompted manner		
	Individual action	<p>The question asked about ‘response to changing weather’.</p> <p><i>Have you or someone in your family done anything to respond to the changing weather?</i></p>	<p>The question asked about ‘response to climate variability’.</p> <p>Individual actions are explored on the same list of actions as collective ones.</p> <p><i>What have you or someone in your family done in response to the climate variability?</i></p>	<p>Individual actions are only explored across domains (health, water, food, weather).</p> <p><i>What are you currently doing to cope/deal with changes in the availability of water, food, electricity and fuel, and changes in weather?</i></p>

2.6. Limitations of the study

As discussed above, the KAP3 survey questionnaire was significantly different in question order, structure, and content. As such, except the questions outlined in the previous section, this report limits comparisons between KAP3 findings and those of previous KAP studies. This is because the framing of questions on key areas such as knowledge or attitudes were framed differently and are therefore not completely comparable. Where possible, the report highlights overarching trends that are relevant to knowledge, attitudes, and other survey areas.

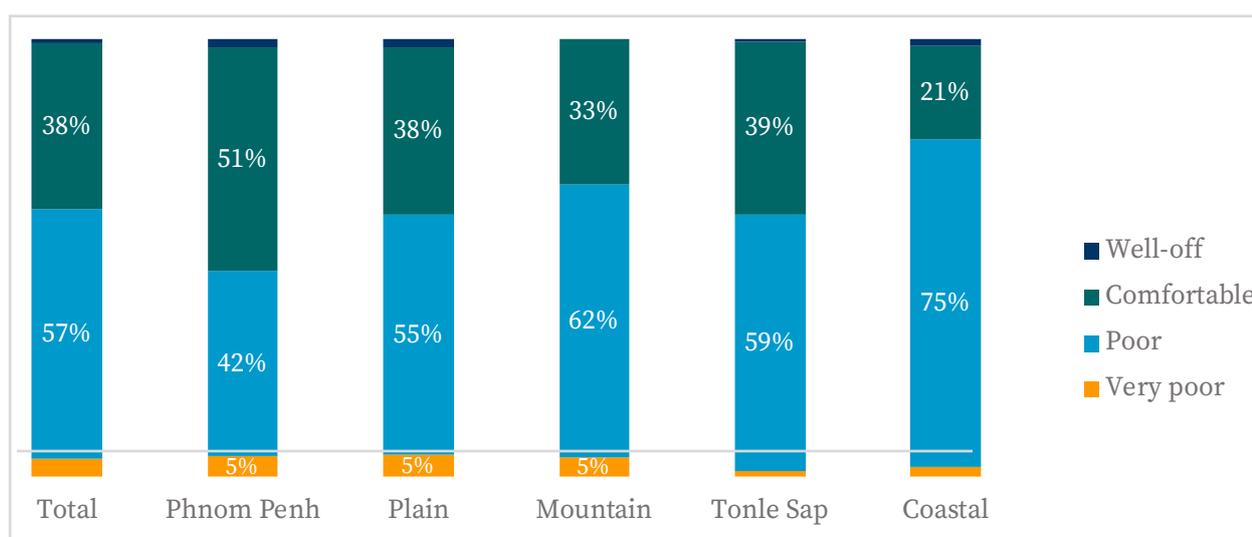
The KAP3 study aimed to document and evaluate changes in Cambodians’ knowledge, attitudes, and practices in relation to climate change issues, to inform the design of future awareness raising. Therefore, the primary focus of the qualitative and quantitative data was to understand Cambodian citizens’ everyday perspectives, attitudes, and actions linked to climate change. Qualitative research conducted with other stakeholders aimed to underpin and support the main population-level data. The study did not aim to map or track changes in knowledge, attitudes or practices around climate change at an institutional level or to evaluate how interventions to raise public awareness of climate change have been carried out by different actors. Separate research needs to be conducted to assess these aspects of climate change policy and institutional practice in Cambodia.

3.1. Cambodians' lives

This section presents Cambodians' perceptions of their everyday lives, values, and worries.

3.1.1. Life is getting better for most Cambodians

Two-thirds of Cambodians (67%) interviewed in this study felt that their lives had improved over the last five years.¹⁸ Men were more likely to perceive an increase in the quality of life in the previous five years (reported by 70%, compared to 65% of women), as were people aged 15–24 (73% of whom reported having an improved quality of life in the past five years). Not everyone felt so positive – socio-economic status (measured by income, education level or occupation) was positively linked to perceived improvements. For example, people with a university degree were much more likely to perceive an increase in their quality of life than those with no schooling (86% compared to 53% respectively). While Cambodia continues to grow economically, adding 7% to its GDP every year (World Bank, 2020), not everyone benefits equally from this. A third (33%) of respondents reported a decrease in their household income over the last five years.¹⁹



Base: All respondents

Figure 2: Household income²⁰ status by region²¹

¹⁸ QA2 'Compared to five years ago, would you say that your life is better, worse or the same now?'

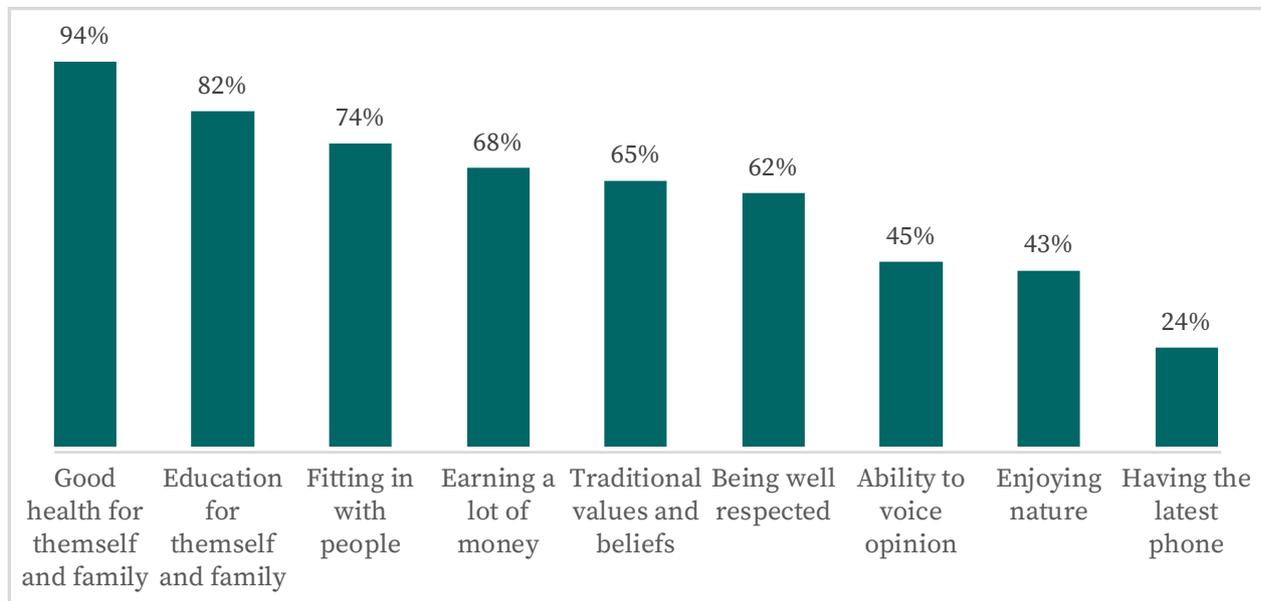
¹⁹ QDE11 'How much has your household income changed over the last five years?'

²⁰ Definition of income status in this report: Very poor: People who struggle to buy food were defined; Poor: those who can afford food and clothes but cannot buy durables or more expensive items were defined; Comfortable: those who can afford anything but an apartment or house were defined as comfortable; Well-off: people who could afford anything including an apartment or house.

²¹ Data labels below 5% are only shown where design allows.

3.1.2. Cambodians value good health and access to education above all²²

When asked about the most important priorities in their lives, Cambodians emphasised health and education. Nearly all (94%) of respondents reported that keeping themselves and their family in good health was very important to them, 82% mentioned the education of themselves and their families, while 74% mentioned fitting in with surrounding people as a very important value. The ability to earn a lot of money (68%), traditional values and beliefs (65%), and recognition and respect (62%) were somewhat less likely to be mentioned, but were still rated as very important by the majority of respondents. Just under half thought it was important to voice opinions on issues of concern (45%) and a similar proportion valued nature (43%). Having the latest phone was the lowest priority among survey respondents, with only 24% mentioning this.



Base: All respondents

Figure 3: Values that are very important for Cambodians

3.1.3. Keeping healthy is people’s main concern²³

Unsurprisingly in light of the key values described above, not being healthy is the most common primary concern, reported by 24% of Cambodian people. This is nearly the same as in the Climate Asia study (25%), showing that the COVID-19 pandemic has seemingly not influenced absolute levels of worry about health. Not having enough work was the primary concern for 20% of respondents, and not being able to afford children’s education or having enough saving for the future was most pressing worry for 19%.

²² QA1 ‘Everyone has different values and beliefs. Below is a list of values which different people have said are important to them. For each of these values, we want to understand how important or unimportant these are to you.’

²³ QA3a ‘Out of the following, which is your biggest worry at the moment?’

Cambodians' concerns somewhat reflected traditional gender norms. Women were more likely to worry about health, family well-being, and children's education, whereas men were more concerned with sustaining the family's livelihood. These findings reflect previous research, where men and women outlined slightly differing priorities (Sao, Gowland, Kim, Hor & Ratan, 2020).

3.2. Changes in Cambodia's weather, environment, and resources (awareness)

This section examines Cambodian people's perceptions of changes in the past 10 years in the availability of resources, the natural environment, and the weather, including extreme weather events. Most Cambodians believe their access to key resources has improved in the past decade, but the natural environment is undergoing degradation and extreme weather is becoming more commonplace.

3.2.1. Changes in resource availability

Just under half of respondents (45%) perceived an increase in the availability of water for daily consumption and drinking over the past decade.²⁴ While this may reflect positively on the country's infrastructure development, 27% of respondents believed that the availability of water had decreased over this period and half of these people (13% of all Cambodians) perceived a major decline in water access. The perception of this decrease in the availability of water was more common among people in rural areas than urban ones (30% versus 23%), particularly among farmers, fishermen, and those who perceived that rainfall has decreased. People from the Coastal (26%) and Mountain (33%) regions were significantly less likely to perceive improvements in the availability of water – in sharp contrast with residents of the capital (58%).

Just over half (51%) of respondents felt there had been an increase in the availability of affordable food in the last 10 years and 50% perceived an increase in the variety of food and vegetables over that period. Those living in Phnom Penh and the Plain region, and those living comfortably, were significantly more likely to believe there has been an increase in the availability of affordable food (64%, 58%, and 61% respectively), compared with residents of the Coastal and Mountain regions (33% and 39% respectively).

Case study 1:

Understanding access to water in rural areas

In response to water shortages, people in rural Cambodia said that they usually collect rainwater to store in jars or tanks for household consumption, but this is not enough for their needs. As such, people reported having difficulties accessing clean and safe water during floods and droughts. The following examples from Cambodia's different geographic areas illustrate some of the barriers and enablers to accessing water, as reported by qualitative research respondents.

²⁴ QB1. 'I would like to ask you about social and environmental issues that may affect your life... Over the last 10 years, do you think the following have increased, stayed the same, or decreased?'

Mountain region – Kampong Speu

- Fresh water from a dam is managed and controlled by one villager who is assigned the water gate keeper. The villagers inform either the village chief or village guard when they need water from the dam, who in turn inform the water gate keeper to act accordingly. In general, people in this region are happy about how water is managed for public use in their areas. However, there were some reported cases where people have access to piped water or pumping wells in their villages, which sometimes causes conflict. In one instance, a tube well was donated by an organisation and the landowner later retained the well for their own use, excluding other villagers.
- In other cases, some villagers reported that well water was not clean and contained toxic substances that they believe can affect human and animal health. Villagers believed that the quality of groundwater in their areas was damaged by a nearby sugarcane plantation, which uses a lot of chemical fertilisers.

“There are three dams and two big rivers in my district, in addition to pumping wells, wells and ponds in [the] community which provide people with sufficient water during [periods of] drought and less rainfall.”

Female deputy district governor, Kampong Speu province

Coastal region – Kampot

- Some people in this region access fresh water from a dam under construction, which is managed and controlled by a private company. Respondents reported some concerns about this dam in terms of future control of water as they said that groundwater is not available in their area – when they dig wells, the water is salty and not fit for drinking.
- Some saltwater areas are managed by the relevant authorities and communities to conserve aquatic resources.
- This region has some effective initiatives between local businesses and community members to manage access to water. For example, local businessmen dug a pond for the community. In return, they took the soil to sell.

Tonle Sap region – Kampong Thom

- The research identified a conflict among farmers in this region around water distribution for agriculture. People living near the lower end of a local stream did not receive enough water to irrigate their paddy field compared to those living near the stream’s upper end. In addition, a 1,000 hectare, privately owned rice field is located near the stream and uses most of its water. The local authorities are not able to resolve this problem. Only digging deep wells would enable villagers to access their own fresh water but they would have to use their own resources, use labourers or take out loans to do this.
- To address the issue of water for household use, community members sometimes have to buy water, which negatively affects their income.

Plain region – Prey Veng

- People in this region collect rainwater and water from their pumping well. Although there are numerous wells here, people reported struggling to access water because of shortages owing to drought and a lack of rainfall.
- People in this area also appreciated the irrigation system constructed by the government (in addition to water accessible from the local river) as it helps them with their agricultural activities. The commune and village chiefs play a role in distributing water from this irrigation system, especially in the dry season. The availability of water in this region is better than in the past. However, poorer households still find it difficult to access water and electricity.

While many respondents perceived having an increased access to food overall, this is counterpointed by declining access to fish. Four in five respondents (79%) thought that the availability of fish had decreased over the past decade and three out of five (59%) perceived a dramatic decline in this resource. This is a major concern in a society where fish remains the most important source of protein for the majority.

“*Floods damage physical infrastructure such as dams, canals and roads, and destroy rice crops. Drought and rising temperatures, on the other hand, lead to a decrease in fish.*”

— **Male village chief, Prey Veng province**

Qualitative research for this study found that fish is one of the main sources of income and food for fishermen in the Coastal region. Both men and women were concerned about depleting fish stocks because of warmer temperatures (they said that fish go to cooler, deeper waters). They were also concerned about the increasing intensity of storms, which sometimes prevented them from going fishing.

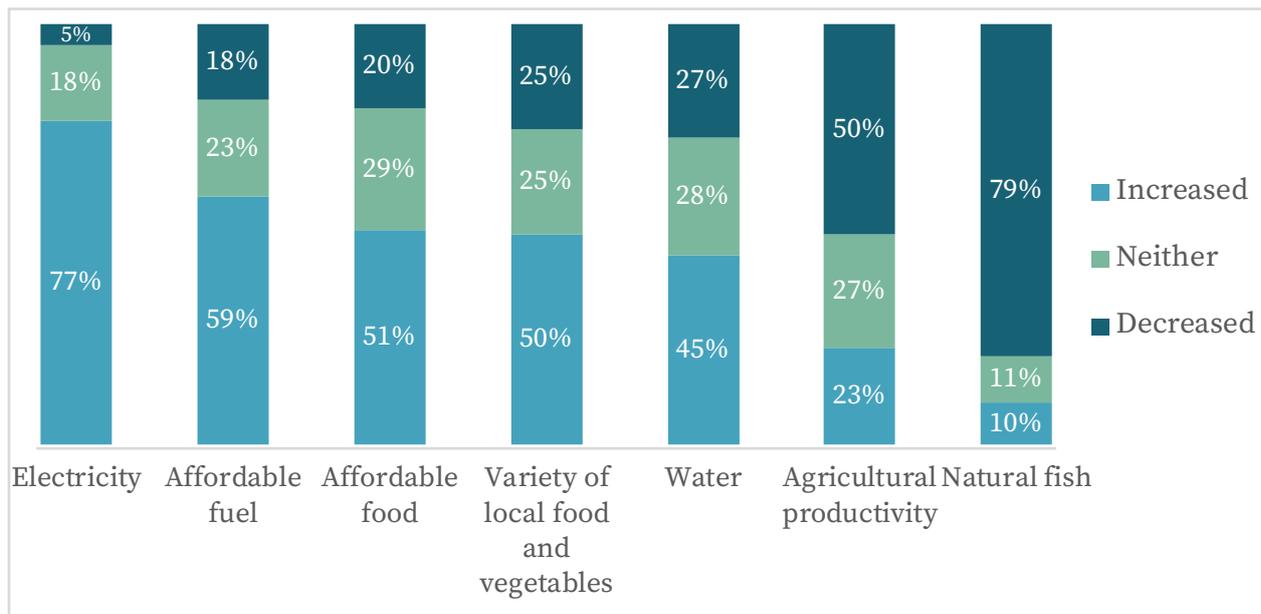
“*During [the] dry season, some of us buy water for drinking and consumption within [the] household – and food as well, since we cannot harvest aquatic resources and grow vegetables on our own with inadequate water. Therefore, we have additional spending ... while we lack money and have irregular income.*”

— **Men’s group FGD, Kampong Speu province**

In rural areas, the qualitative research found that people reported a greater availability of food and vegetation in the rainy season, which saves them money as they do not have to buy food from the market. In contrast, people felt they were more reliant on buying food from markets during the dry season. Sometimes they worried about consuming this food as they believed vegetables imported from outside and in particular from Vietnam are exposed to high levels of chemical fertilisers.

In terms of energy, over three-quarters (77%) of respondents reported an increased availability of public or private electricity in their communities over the past 10 years. Importantly, this was the same in urban and rural areas (78% and 77%), though it was reported by a higher proportion of those who are financially comfortable (83%) than poor people (74%). More than half (59%) of respondents also reported increased access to affordable fuel for their daily lives over the past decade. Again, this was reported more by those who live comfortably (68%) than those who are poor (53%), and was reported equally by respondents in urban and rural areas (58% and 60% respectively).

Although the overall availability of electricity and fuel were reported as having increased over the last 10 years, community members living further from main roads in rural areas reported in the qualitative research that they still faced issues in accessing these resources. They faced difficulties in getting a connection or could not afford installation fees. For example, some rural respondents said they spent USD 15–20 per month on electricity whereas others spent only USD 5–9 per month on it. Therefore, although increased access to electricity improves access to basic needs it could create additional financial pressure for some households.



Base: All respondents

Figure 4: Perceived change in the availability of resources

3.2.2. Changes in the natural environment

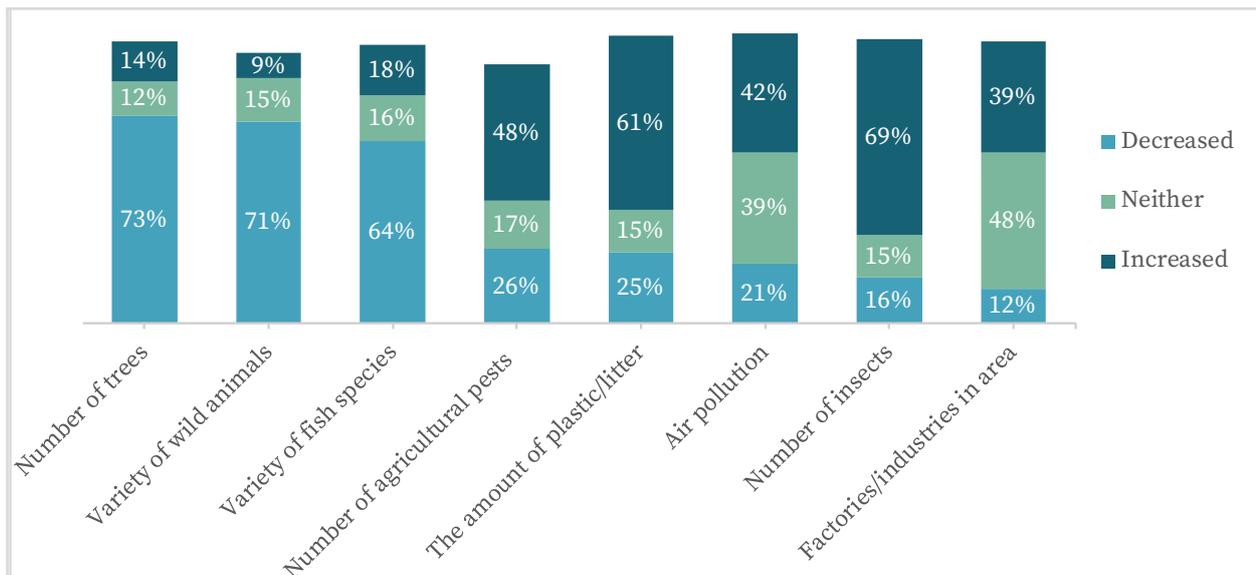
Perceived standards of living and the availability of crucial resources may have improved in the past decade according to Cambodians, but the same cannot be said about their perception of changes in the natural environment. Nearly three-quarters of Cambodians perceived a decrease in the number of trees²⁵ (reported by 73%), and in the variety of wild animals and birds (71%) in the past decade – both losses were reported more by

²⁵ QC1. 'Next, I will ask your view on social and environmental changes. In your neighbourhood, would you say over the past 10 years each of the following has increased, stayed the same, or decreased?'

people living in rural areas. Nearly two-thirds (64%) of Cambodians perceived a decrease in the variety of fish species over the same period. The majority of respondents (69%) also thought that insects, such as flies and mosquitoes, had proliferated in the last 10 years.



Most Cambodians (61%) believed that the amount of litter and plastic had increased in the previous decade. This was more likely to be reported by those living in urban areas (67% of urban respondents said this) and Phnom Penh (79%). Air pollution has also increased according to 42% of Cambodians, particularly those living in Phnom Penh (61% of the capital's respondents reported this). During qualitative interviews with private sector, media agency, and government stakeholder representatives, many observed that the amount of plastic and litter thrown into the Mekong River affects the quality of water and fish, indicating a problem with poor waste management.



Base: All respondents

Figure 5: Perceived changes in the environment²⁶

²⁶ When values do not add up to 100%, the missing data falls in 'Don't know' or 'Refused answer' categories

3.2.3. Changes in weather patterns

Cambodia saw turbulent weather in the years preceding this report, which might explain why, the KAP3 study found that 69% of Cambodians perceived a decrease in rainfall over the previous 10 years.²⁷ Fishermen and farmers, and people living in the Tonle Sap and Mountain region, were more likely to perceive a decrease in rainfall (reported by 74%, 75% and 74% of these groups respectively), while Coastal people were significantly less likely to do so (with only 47% reporting this).

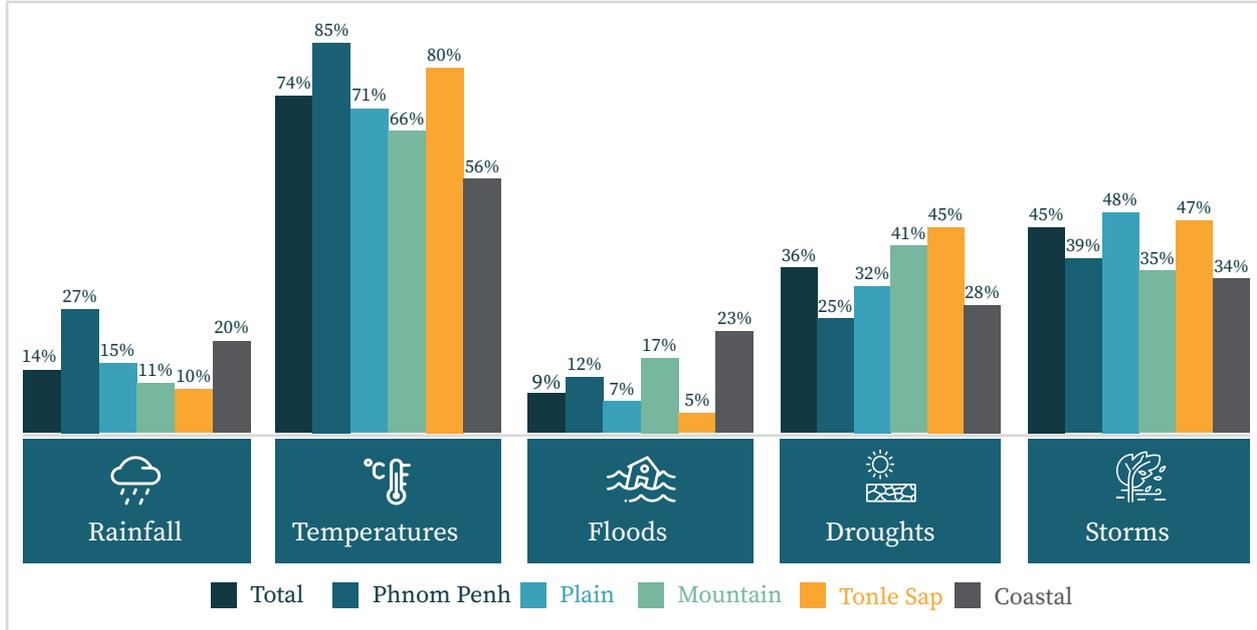
This perceived decrease in rainfall is corroborated by a similar proportion of respondents (74%) who reported increased temperatures over the past decade. People in Phnom Penh and Tonle Sap were more likely to observe rising temperatures (85% and 80% respectively), while their Coastal counterparts were the least likely to do so (only 56% of whom reported this).



The apparent changes in rainfall and temperature also translate into shifting ideas about droughts and floods. Over a third of respondents (36%) thought that droughts and water scarcity had increased in the past decade – particularly those from the Tonle Sap and Mountain regions (45% and 41% respectively). Poor people (40%), and fishermen and farmers (43%) were more likely to report having experienced increasing droughts. Additionally, 54% of respondents felt that floods have decreased, with those from Tonle Sap region most likely to report this (71% did so). Finally, around half of respondents perceived an increase in strong winds and storms (45%) and lightning (50%) over the last decade.

²⁷ QC2 'In the area that you live, would you say over the past 10 years the following have increased, stayed the same, or decreased?'

These perceptions of changes in the weather are in line with the RGC prediction that temperatures are likely to continue rising and that rainfall will become increasingly severe and erratic. It has been expected that Cambodians will experience longer, hotter, and drier dry seasons, and shorter and more intense wet seasons (NCDDS, 2017).



Base: All respondents

Figure 6: Perceptions of changes in weather by region (% increases only)

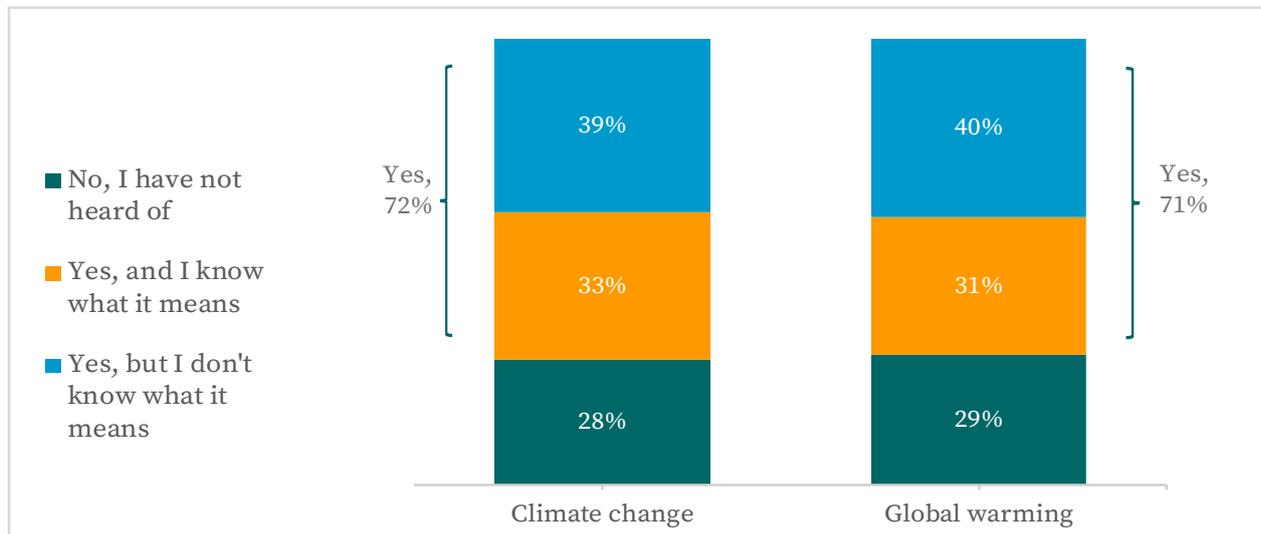
3.3. Knowledge on climate change

When asked if they had heard the phrase ‘climate change’,²⁸ nearly three-quarters (72%)²⁹ of respondents said yes – 73% of men and 71% of women. Prompting for deeper understanding, the study found that only one-third of respondents (33%) said they knew what the term meant, while 39% reported that they did not know its meaning. People with higher level of education are more likely to have knowledge of the term ‘climate change’ – university (98%), high school (88%), secondary school (70%), and primary school (64%). One in four Cambodians (28%) had not heard of the term climate change at all. Those who lacked knowledge of the term were more likely to be low skilled or unskilled workers (35%), those who have never attended school (49%) or those who are very poor (51%). The lack of familiarity with the term among these groups echoes findings from the qualitative research conducted as part of this study. In qualitative research interviews, officials in government ministries felt that there was a need for the term ‘climate change’ to be used and explained more, along with its causes, to support understanding among the Cambodian population.

²⁸ QK1a ‘Have you heard of the phrase “climate change”?’

²⁹ While 72% of those who have heard of term ‘climate change’ may, on the surface, look like a decrease from the 80% and 91% of KAP1 and KAP2 respectively, the three KAP studies did not follow the same survey structure. KAP3 did not introduce the phrase ‘climate change’ to respondents before asking if they had heard about it, allowing it to attain the most valid measure of familiarity. This survey structure is suggested for future KAP studies, alongside more focused tracking not only of awareness levels but also actual knowledge of the terms’ meanings.

After asking survey respondents about the concept of climate change, researchers did the same for ‘global warming’, with very similar results: 71% of respondents said they had heard of global warming.³⁰ Just like familiarity with the term ‘climate change’, 31% of respondents said they knew the meaning of ‘global warming’ and 40% did not.



Base: All respondents

Figure 7: Familiarity with the terms ‘climate change’ and ‘global warming’

3.4. Attitudes towards climate change

3.4.1. Cambodians think climate change is happening in Cambodia

Following the unprompted question on knowledge of the term, researchers read the definition of climate change to the surveyed population in the interview as a prompt before asking if they thought climate change was happening in Cambodia.³¹ Answering this, the vast majority (84%) of respondents thought that climate change was happening in Cambodia and 81% thought that climate change will affect Cambodia in the future. People who had experienced decreases in rainfall and floods were much more likely to agree that climate change was happening in Cambodia (91% and 90% of these groups reported this, respectively).

These findings were echoed in the qualitative research, where both men and women felt that changes in weather, available resources, and the environment they had experienced were worse in 2020 than the past and these issues would get worse in the future. They gave some examples of how irregular rainfall, the intensity of storms, extreme flooding, and increased temperatures occurred in their areas and how they affect livelihoods, especially in rural areas. Previous research has also found that though men and women both experience these changes, they can experience different impacts as a result.

³⁰ QK1b ‘Have you heard of the phrase “global warming”?’

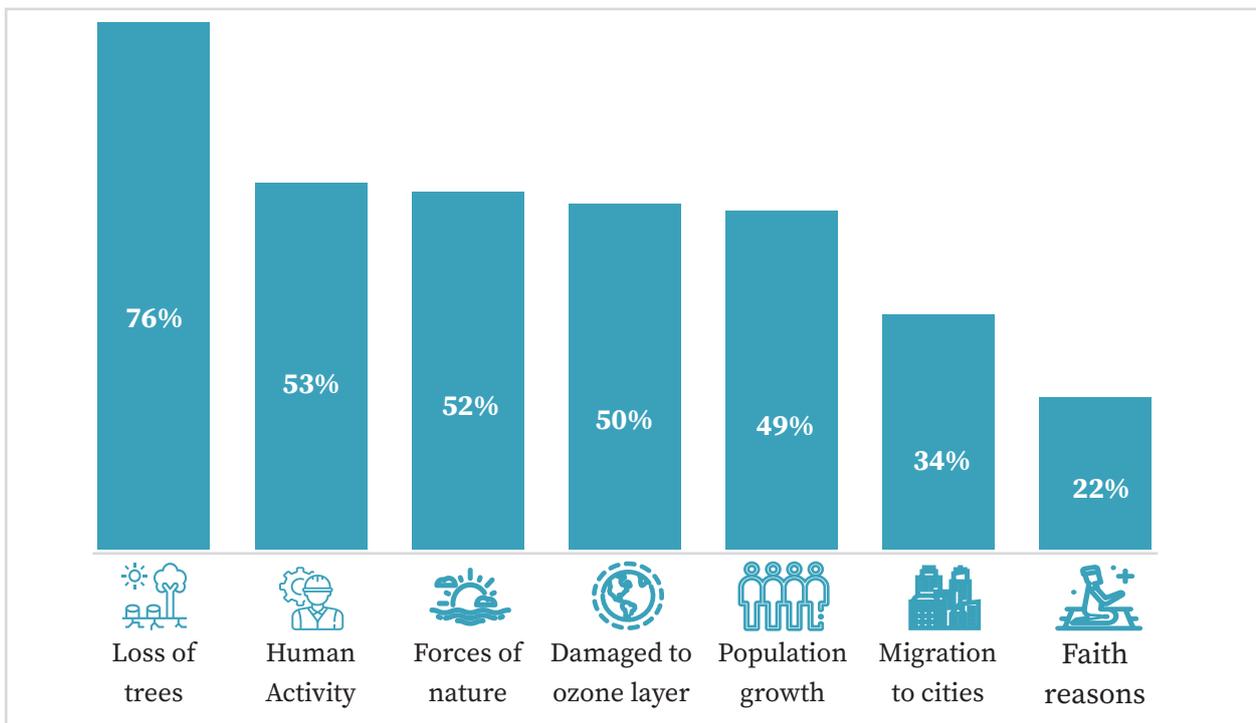
³¹ QK2 ‘Climate change refers to “a change in climate and weather that persists for decades or longer”. Do you think that climate change is happening in Cambodia?’

Women tend to be concerned about how these changes (such as the availability of water for household use) affect their ability to care for their children and livestock while men are often concerned about how these impacts will affect their future and livelihoods (Sao, et al., 2020).

Among Cambodians, higher socio-economic status, measured by education or wealth, correlates with greater knowledge about climate change and global warming – and a belief that climate change is happening in Cambodia and will continue to do so.

3.4.2. Loss of trees is the most commonly perceived driver of climate change³²

The study asked Cambodian people about the main cause of climate change in a prompted manner³³ and found 76% mentioned the loss of trees – this was higher among people who are more knowledgeable about the meaning of ‘climate change’ and ‘global warming’. Over half of the population (53%) attributed climate change to human activity that leads to greenhouse gas emissions – particularly men (60% of whom cited this, compared to 47% of women) and professionals (67%, compared to 40% of low skilled or unskilled workers). Other prominently cited causes of climate change included the forces of nature (cited by 52% of respondents), the hole in the ozone layer (50%), and population growth (49%). People were less likely to relate climate change to increased migration to cities (34%) and the influence of god (22%).



Base: All respondents

Figure 8: Perceived causes of climate change

³² QK3 ‘Which of the following do you think are the main causes of climate change?’

³³ Reading them a list of seven potential drivers: 1. Human activity leading to the emission of gases called greenhouse gases, 2. A hole in a protective layer of gas that covers the planet called the ozone layer, 3. Forces of nature, 4. Faith reasons, 5. Loss of trees, 6. Population growth, and 7. Migration into cities.

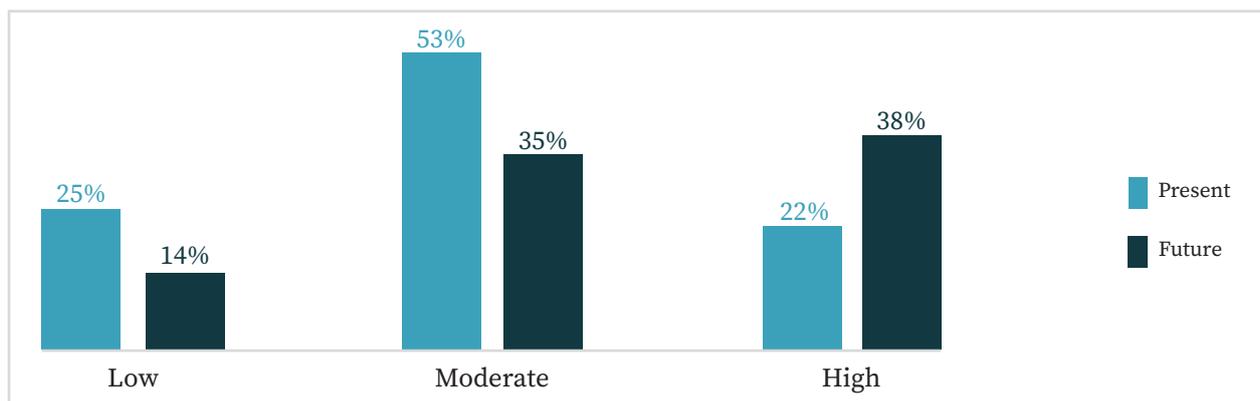
When asked a follow-up question whether they thought that human activities were the main causes behind climate change,³⁴ three-quarters (76%) of respondents agreed, while 35% (out of 76%) strongly agreed. Coastal inhabitants and people aged 15–24 were more likely to agree that climate change is primarily caused by human activities (reported by 87% and 81% of these groups, respectively).

Over a third of people (38%) believed that their own actions contributed to climate change³⁵ whereas 58% disagreed with this. The most cited way of respondents’ personally contributing to climate change was burning waste (mentioned by 33%).³⁶ Interestingly, only 22% believed that cutting wood for cooking contributed to climate change – which is sharply at odds with respondents’ overwhelming perception that the loss of trees is the most important factor behind climate change.

3.5. The impact of changes in the weather, environment, and resource availability

3.5.1. Impact of changes in the weather, environment, and resource availability is moderate but expected to increase

When asked³⁷ how much of an impact changes in the natural environment was having on their lives in 2020, 25% of Cambodians reported that this had a low impact, 53% perceived a moderate impact and 22% felt a high impact. Looking to the future,³⁸ over a third (38%) of respondents feared that these changes will have a high impact on their lives, another third (35%) expected a moderate impact from this in future, whereas 14% expected these changes to have a low impact on their lives in the future. In addition, 12% of people said that they did not know or could not predict the level of impact they will experience from these changes in the future.



Base: All respondents

Figure 9: Current perceived impact and expected impact in the future

34 QK3X ‘Some say human activities are the main causes of climate change. Do you agree or disagree with this statement?’

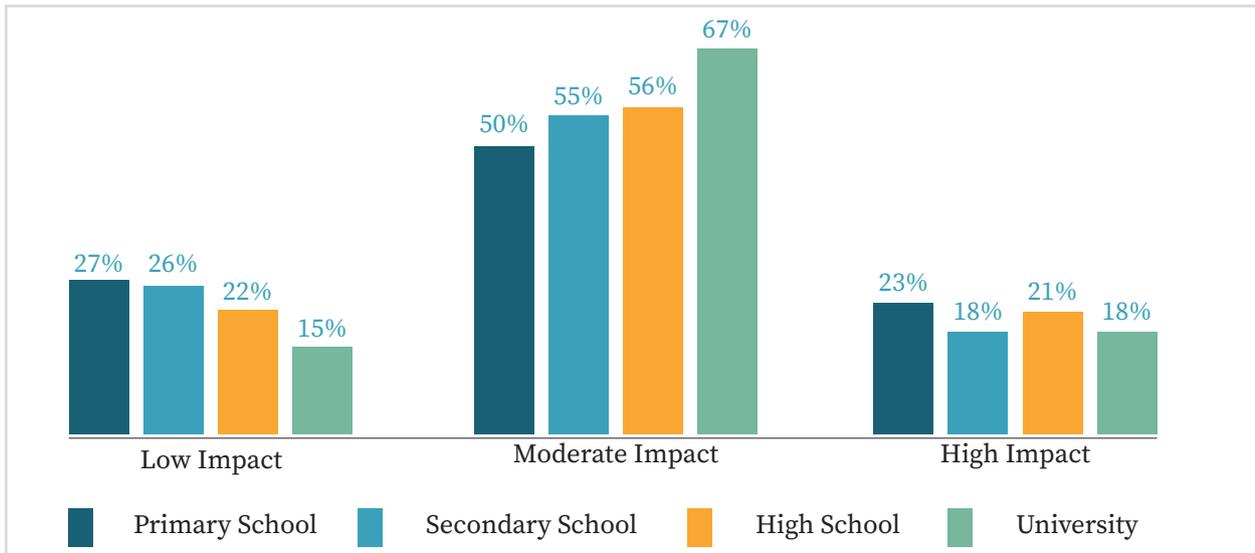
35 QK3Y ‘Do you think your actions contribute to climate change?’

36 QK3Z If yes, ask: ‘How do you think your actions contribute to climate change?’

37 QX1a ‘How much of an impact do you feel these changes in the natural environment around you (availability of water and changes in weather) have on your life at present?’

38 QX1b ‘How much of an impact do you feel these changes (availability of water and changes in weather) can have in the future?’

There was an association between people's perceived current impact of changes in the weather and the availability of water and their education levels. It is evident that the less formal education a person had received, the more likely they were to think that changes in the natural environment had a low impact on their lives in 2020. The least educated Cambodians tend to be the poorest and most vulnerable to climate change. Lower perceptions of the impact of climate-related changes hinders people's ability to prepare and respond to these changes.



Base: All respondents

Figure 10: Current impact of changes in the weather, environment, and resource availability by educational attainment

Looking more closely at how changes in weather patterns and the availability of resources such as water, food, and fuel disrupt Cambodian livelihoods,³⁹ it is clear that people's ability to generate income and to stay healthy were affected the most. Four in five KAP3 respondents (79%) said that changes in resource availability and weather patterns have affected their ability to earn money or sustain their livelihoods – women (82% of whom reported this, compared to 75% of men) were more likely to report difficulties in this area. Four in five respondents (78%) also believed that keeping healthy was more difficult due to environmental changes. Rural women (81% of whom reported this) and people with high risk to extreme weather (83% of whom cited this) were more likely to experience challenges in this area.

Fewer Cambodians claimed that changes in resources and the weather affected their ability to eat what they wanted, though this still affected more than half of all respondents (58%). This issue was particularly reported by people who were already experiencing a high impact from these changes and those who had already perceived an increase in floods (74% and 77% of these groups reported impacts on their access to food, respectively). More than half (63%) of people who reported changes in their access to food said this had an impact on their diet.⁴⁰ This was more common among people aged 25–34 (72% of whom reported this) and Tonle Sap (86%) residents.

³⁹ QX2 'In your opinion, overall, have these changes (availability of water, food, electricity and fuel and changes in weather) affected your ability to...?'

⁴⁰ QX4 'And in what ways has you/your family's diet been affected?'

A sizeable portion of Cambodians (44%) said their ability to use water for their daily lives was affected by changes in the weather, environment, and resource availability. This impact was more likely to be reported by people in rural areas than urban ones (45% versus 42%). The most common water access problem⁴¹ was a lack of clean water (mentioned by 71% of people affected), and this was more likely to be cited by people from rural, Mountain, and Coastal regions (74%, 80%, and 84% of people from these groups cited this, respectively). A lack of available water was also indicated by 62% of those who experienced water limitations – particularly by rural residents, and people in Tonle Sap (73% of people from this region who experienced water limitations cited this).

Box 1: Perception of risks affecting men and women

Qualitative KAP3 study revealed different perceptions of risks relating to changes in the weather, environment, and resource availability among different groups.

Government stakeholders felt that women were more at risk and more likely to experience impact from changes in the climate, believing that women are physically weaker than men and therefore less resilient. For example, they felt that men can bear high temperatures better than women, who get sick more quickly. This was echoed at the community level, where respondents felt that women were sometimes more vulnerable as they often have caring responsibilities for elderly people and children. Women with a disability, women heads of household, children, and older people were also seen as more vulnerable to the impacts of climate change because of their perceived physical weakness, lack of money, and transport.

Government respondents also recognised that sometimes women are more at risk from the impacts of changes in resources and weather because many of their daily household tasks such as cooking and cleaning, (for which most women in Cambodia are responsible) are tied to basic resources such as water. This can heighten women's vulnerability, especially in rural areas where women have limited access to information, skills, and opportunities because of household demands on their time.

In contrast, some government stakeholders and community members felt that some men face bigger risks in their daily lives as a result of climate-related changes. For example, they cited the more immediately life threatening risks that men face when they have to go fishing during storms.

“Storm [causes] rooftops of houses to be blown and houses to be collapsed, with devastation on durian and mango trees. Rising temperature makes livestock sick and ruins crops.”

Male Commune Chief, Kampot province

“Hazard like flood strongly affects women during pregnancy, and children or elderly who do not know how to swim. Particularly, children do not know much, while elderly have physical weakness and poorer health.” Male person with a disability, Phnom Penh

41 QX5a ‘Finally, in what ways has your water consumption (eg for drinking, cooking, washing, keeping cool in hot temperatures etc.) in everyday life been affected?’

Other key groups identified as being more vulnerable to changes in the environment and weather were farmers and those living in rural areas. Government stakeholders and community members both recognised that people who rely on the land and natural resources for their livelihood are more likely to be affected by these changes. In contrast, those living in urban areas have greater access to public services, and a variety of jobs and information sources, and therefore may find it easier to deal with basic issues such as water shortages.

“As an example of water usage, people in [the] city use tap water, while people at rural areas have to fetch water.” Male government ministry representative

3.6. Practices to respond to changes in the weather, environment, and resource availability

3.6.1. Cambodians showed moderate levels of preparedness for extreme weather events⁴²

More than half (56%) of Cambodians claimed to be prepared for extreme weather such as heat, storms, droughts or floods – 14% thought themselves very prepared and 42% fairly prepared. But those who felt the most prepared were the least likely to suffer from such events. While 74% of people in professional jobs felt well-equipped to deal with extreme weather, only 55% of farmers and fishermen, and 54% of low skilled or unskilled workers, felt ready to do so. Geographically, Coastal people stood out as the least prepared for extreme weather (only 45% felt prepared), while Mountain people appeared the most prepared (62% felt prepared). There was no relationship between people’s perceived risk of extreme weather and reporting feeling prepared for it. This indicates a need, especially among people who perceive themselves to be at a higher risk, to be more prepared for extreme weather.

Qualitative research found that longer term preparation for extreme weather was limited at a local level, and support provided was largely focused on disaster response. Many commune representatives claimed to be integrating climate change issues into their commune investment plan and working to help people to respond to extreme weather. However, commune plans address a wide range of issues, of which climate change is just one. The main achievements commune representatives mentioned in response to climate change focused on infrastructure development (such as irrigation systems) or budgets for post-disaster support (such as food aid and transportation).

There was also some knowledge at the community level about climate change awareness and adaptation strategies. People in rural areas said they did not participate in any relevant local meetings, as they lacked support networks and would prioritise earning and household responsibilities instead. Rural people also reported inadequate information sharing from commune authorities. In contrast, district and provincial representatives felt they were often not listened to by local people, who continued to deplete forests, dump waste near waterways and litter land.

⁴² QD5 ‘If extreme weather (too hot/cold, storm/strong wind, lightning/thunder) were to happen in your local area, how prepared do you think you would be? Prepared or not prepared?’

3.6.2. Cambodians are taking action to respond to extreme weather

Researchers asked Cambodians in an unprompted way⁴³ about their perceptions of what people can do to respond to extreme weather. The top spontaneous responses mentioned making a disaster preparedness plan (cited by 24%), followed by 22% who mentioned making temporary adjustments to homes, and 19% who thought people should store food. People who felt that floods have increased in their area (26%) were more likely to think about the need to store food. However, over one-third of respondents (35%) could not think of any measures that can help people prepare for extreme weather. Very poor respondents were more likely to lack this knowledge (53% of them could not think of any preparatory measures).

In a prompted follow-up question,⁴⁴ the research team asked people about actions they might have taken to deal with extreme weather events. Keeping up with weather forecasts was the most commonly reported step (mentioned by 64%), followed by saving money (cited by 58%) and storing food (47%). Very poor respondents were the least likely to report having saved money (40% of whom said they had done this, compared to 96% of well-off respondents) or stored food (31%, compared to 81% of well-off people).

3.6.3. Cambodians are changing their livelihoods and lifestyles to adapt to extreme weather, environmental, and resource availability changes

Despite facing challenges, over a third (37%) of respondents said that they have started making changes to their livelihoods to better adapt to changes in the availability of resources and weather patterns.⁴⁵ Among KAP3 respondents, 6% said they had made a lot of changes to their current livelihood, while 31% reported having made some adjustments. However, 62% reported not having made any changes to their livelihoods – women were more likely to report this than men (66% versus 59%). Tonle Sap residents were considerably less likely to have made any changes to their livelihoods (only 26% of this group reported this). There was also a negative association with age – the older people were, the fewer livelihood changes they were likely to have made.

Asking those who had made livelihood adjustments about these changes in an unprompted manner,⁴⁶ 62% mentioned changing their job. Having changed job was more likely among people in their prime working years⁴⁷ (70% of those who had made

43 QG2 'How can people prepare/get ready for extreme weather?'

44 QG3 'Here are some more actions people can take to help them deal with extreme weather events like storms/strong winds, lightning/thunder, drought, floods/intense rains, extreme temperatures. Please tell me which of these actions you are currently doing.'

45 QD1 'Have you, or your family, made changes to your current livelihood/job to help cope/deal with changes in the availability of water, food, electricity and fuel and changes in weather you might be facing?'

46 QD2 'So you said that you or your family made changes to your livelihood to cope with changes in the availability of water, food, electricity and fuel and changes in weather. What changes have you made?' UNPROMPTED.

47 25–34 years old.

livelihood changes reported this). It was also more common among men than women (66% compared to 58% respectively). Tonle Sap residents were more likely to report job changes because of resource availability and weather change (75% of those who had made livelihood changes), while Phnom Penh residents were the least likely to do so (49%). Those reporting a deteriorating quality of life in the past five years (70%) were also more likely to mention having made job changes as a coping strategy, which highlights the fragility of livelihoods in large sections of Cambodian society. The second most cited coping strategy was supplementing income, which was mentioned by over one-third (36%) of the respondents.

Next, researchers asked all respondents about a broader range of actions they were taking to cope with changes in the availability of resources and the weather⁴⁸. Changes in energy use (including using electricity more efficiently, using energy-saving appliances and alternative fuel for cooking) was the strategy most likely to be mentioned by Cambodians (cited by 74% of all respondents), though only a small minority (14%) reported using renewable sources of energy such as solar power or solar lanterns.

Case study 2 :

Villagers experiencing income decreases

Male villagers in Kampot province discussed experiencing a range of problems including drought, increased temperatures, floods, saltwater intrusion, strong winds, water scarcity, and lightning storms.

Drought and not having enough water for farming crops were key problems for farmers and fishermen as they cause delays in rice planting from May until September. They also said that rising temperatures were affecting fish stocks, as fish dive down to cooler water, making them more difficult to catch. This has reduced their earnings from fishing and farming crops, affecting their overall income. Floods in 2019–2020 had also damaged vegetable and rice crops, and caused illness among livestock.

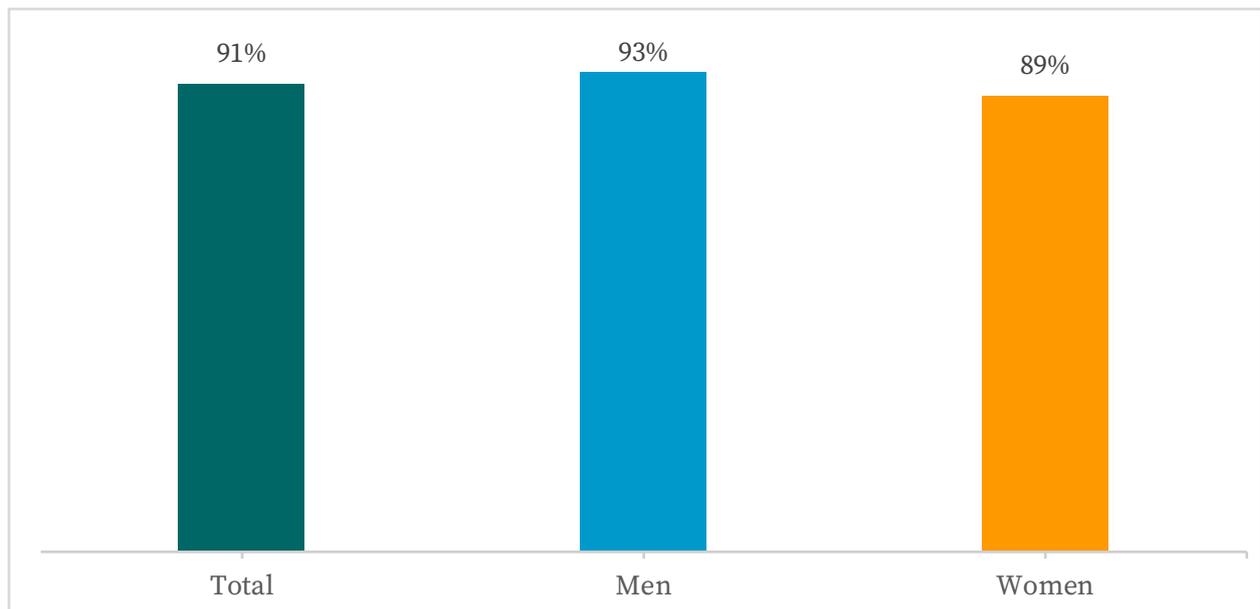
Unlike other regions, saltwater intrusion in Coastal areas also damages rice fields, further constraining farmers' ability to generate income. With their livelihoods largely dependent on the weather, available resources, and traditional practices, villagers' livelihoods are highly affected by changes in weather patterns and resource availability. Moreover, there are fewer jobs available, so villagers are finding it more difficult to supplement their income in other ways.

⁴⁸ QD4a 'What are you currently doing to cope/deal with changes in the availability of water, food, electricity and fuel and changes in weather?' READ OUT OPTIONS.

The second most commonly mentioned action, reported by just under half (47%) of the population, was supplementing their income in other ways – particularly among men (53%, compared to 41% of women), people in the Mountain region (60%), and professionals and farmers/fishermen (both 55%). About one-third (30%) of Cambodians mentioned having changed the location of their job or business (such as their fishing area or grocery store location) to cope with changes in the weather or resource availability. Tellingly, low-skilled or unskilled workers reported changing their job location much more than other occupation groups (39%, followed by 35% of fishermen and farmers).

Lastly, one in five respondents (21%) mentioned that they had learned new skills or agriculture techniques to maintain their income. Interestingly, people who had access to radio, social media or online messaging applications were more likely to have done this.

When looking at the overall rate of taking action using the following broader list of actions (see figure 12), 91% of KAP3 respondents had taken at least one action in response to changes in weather patterns and resource availability (93% of men and 89% of women, a statistically significant difference, albeit a minor one). This compares to 73% of KAP1 respondents and 94% KAP2 respondents.⁴⁹ This indicates that Cambodians are at least taking one action to respond to changes in weather, resources, and environment, and this has become more pressing in recent years.



Base: All respondents

Figure 11: Respondents who reported taking any action in response to climate-related changes

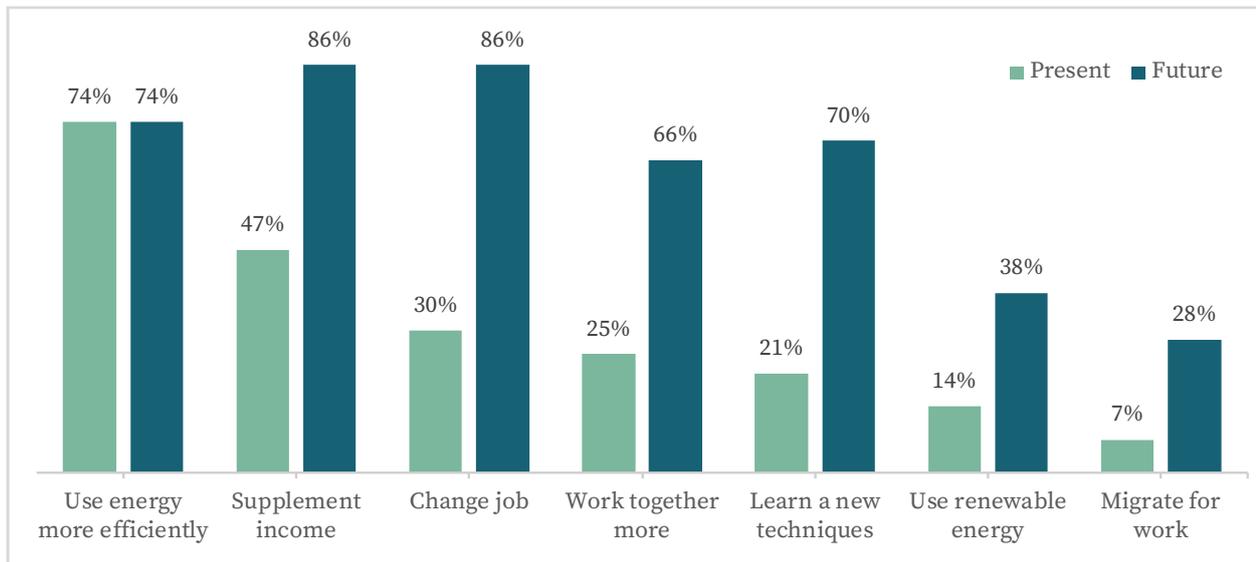
⁴⁹ The questions used to generate these figures differ across the three KAPs. KAP1: ‘Have you or someone in your family done anything to respond to the changing weather?’ KAP2: ‘What have you or someone in your family done in response to the climate variability?’ KAP3: ‘What are you currently doing to cope/deal with changes in the availability of water, food, electricity and fuel and changes in weather?’

3.6.4. Cambodians are willing to make further adjustments to adapt to changes in the weather, environment, and resource availability

When asked about their willingness to make further adjustments to their livelihoods in response to changes in resource availability and weather patterns, 79% of people said they were very or fairly willing to make changes in the future.⁵⁰

When asked what actions they would be willing to take using the same list as used for understanding current actions,⁵¹ 86% of respondents who had already made changes were willing to supplement their income in other ways. This was most common among the youngest people⁵² (93% of whom said they were willing to make additional changes) and those with the highest education (90% of high school graduates and 93% of university graduates).

A large majority of those who had already made changes (86%) also said they were likely to change their job or business location, and 74% of them claimed they would be ready to use fuel more efficiently. Respondents also reported a high willingness to learn new skills and agricultural techniques in the future (70% said they would do this). Rural people (72%), farmers or fishermen (73%) and men (74%, compared to 66% of women) were more likely to be eager to do this. Reported readiness to work with people in their community to deal with climate-induced issues was also high (66% of respondents said they would do this). The two future coping mechanisms least likely to be mentioned by respondents were using renewable energy sources (cited by 38%) and migrating for work (28%) – though those aged 15–24 in rural areas were a lot more likely to report they would migrate in future (44% of whom reported this).



Base: All respondents

Figure 12: Changes people have made and are willing to make in the future

⁵⁰ QD3 'How willing are you to make (more) changes to your current job/livelihood to help cope/deal with changes in the availability of water, food, electricity and fuel and changes in weather you might be facing?'

⁵¹ QD4b 'How likely are you to do these actions?'

⁵² 15–24 year olds.

Overall, there is a stark contrast between the actions Cambodians said they were already taking in response to the impacts of climate change and those that they plan for the future. On one hand it is normal for people to think about future plans in inflated terms, but these large discrepancies could point to the significant barriers that people face when trying to make changes.

Case study 3:

Climate change adaptation practices in action

Kampot province

The KAP3 qualitative research revealed how Cambodians were taking action to deal with changes in resource availability and weather patterns. In Kampot, respondents stated that when facing drought or lacking water, villagers dig ponds and use machines to pump water to irrigate rice fields, as well as collecting rainwater. Some villagers had also changed their crops, planting watermelons, cucumbers and peanuts, which they felt were more resilient to changes. However, others had given up farming completely and decided to work as labourers instead.

Kampong Thom province

In this province, water scarcity was a bigger issue for villagers than rising temperatures and storms. They felt that their water sources, such as a main canal and smaller streams, were not enough to fulfil the community's needs. In response, in addition to rice growing during the rainy season, villagers in one commune have also started growing dry-season rice a few times a year and started growing rice on additional land. Many villagers have also tried to dig wells and ponds to access water but have had no success as there are no groundwater sources nearby. Rather than trying to address water shortages or adapt their farming practices, some villagers have migrated to work in construction jobs.

3.6.5. Responses to water and food shortages

Water shortages and droughts in Cambodia are particularly linked to the wet season increasingly starting late and ending early. This severely affects rice farmers who rely heavily on rain (MoE & FAO, 2020).

As this threatens people's access to clean water and affordable food, they look for coping mechanisms. Asking Cambodians about how they coped with water insecurity,⁵³ researchers found that storing or saving water and treating it to make it safe to drink (both mentioned by 77% of all respondents) were the most common approaches. Rural respondents were significantly more likely to say they stored water than their urban counterparts (81% compared to 70% respectively). In addition, finding a new water supply,

53 QE2a and QF2a 'Please tell me which of these actions you are currently doing.' READ OUT OPTIONS.

for example by digging a pond or well, was reported by 41% of respondents, especially among rural people and farmers/fishermen (reported by 50% and 53%, respectively, compared to only 22% of urban respondents).

Respondents also reported community-level actions in response to water shortages (see Figure 16). To improve irrigation, 46% of respondents reported that their community has built irrigation canals and 40% reported their community has built dykes to respond to water shortages. These types of community responses to water management have increased compared to KAP2.

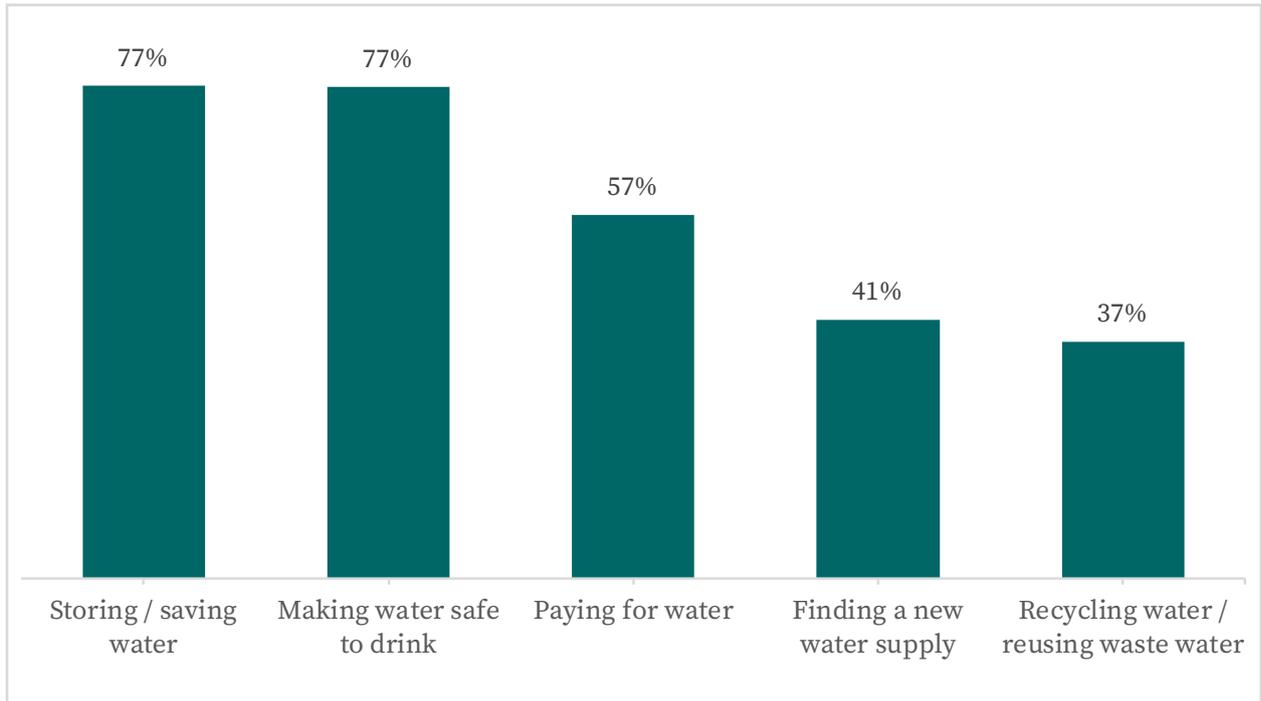
Box 2: Addressing water shortages at different government levels

The Cambodian government, at both national and sub-national levels, strives to connect people to clean water sources and recognises that rural areas are more likely face water shortages.

Various stakeholders, including those from different government levels, reported that the government provision of information, awareness-raising and support is limited, particularly on the topic of climate change. This is the result of the government's many priorities at sub-national level. It was reported that province and district levels of government are working with communes to help people take action in response to the impacts of climate change, by increasing knowledge and support and providing materials, albeit on a limited scale and in response to short-term demands.

Qualitative research participants highlighted government attempts to help improve community members access water, for example:

- In Kampong Thom province, Tonle Sap region, the provincial and district level supplied water to people and provided information on water storage to communes to disseminate to local people.
- In Kampong Speu province, Mountain region, the provincial and district authorities collaborated to improve irrigation systems such as dams, canals and reservoirs to increase water availability.
- In Kampot province, Coastal region, the provincial and district authorities regularly support communes by providing wells and other sanitation facilities.
- In Prey Veng province, Plain region, provincial and district authorities provided training to communes level about the agricultural techniques and supported the building of more irrigation systems such as ponds and canals.

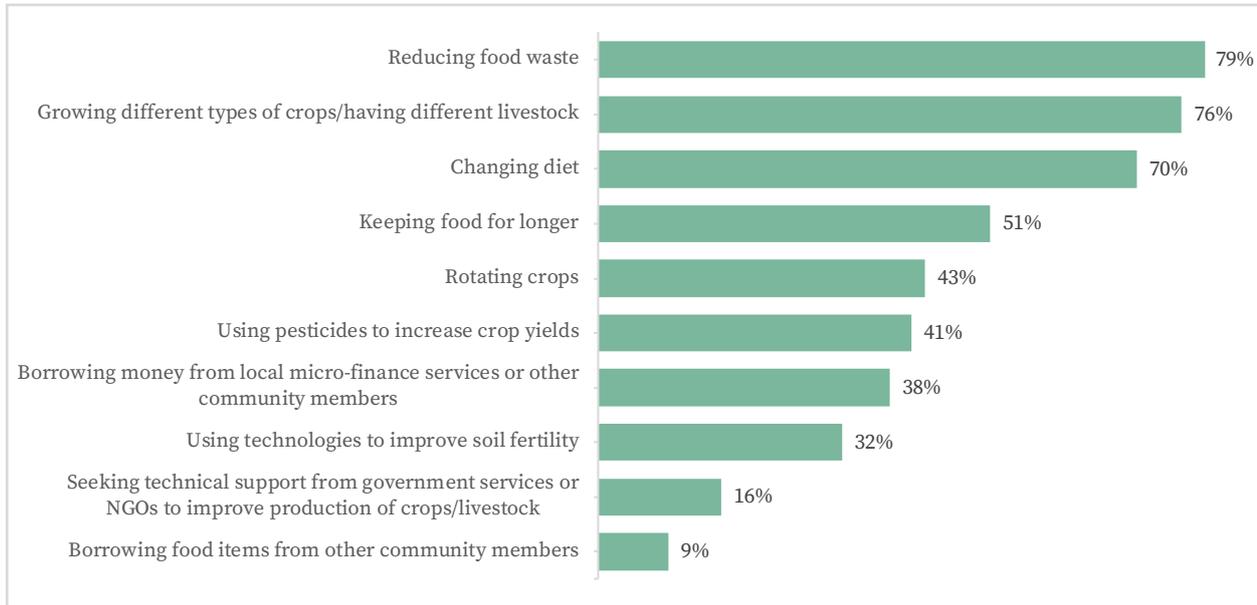


Base: All respondents

Figure 13: Current responses to water shortages



To address changes in food availability, 79% of Cambodians said they were reducing food waste, and similar numbers reported growing different crops (76%) and changing their diet (70%). Unsurprisingly, rural people were a lot more likely to change crops (86% of whom reported having done this, compared to 57% of people in urban areas).



Base: All respondents

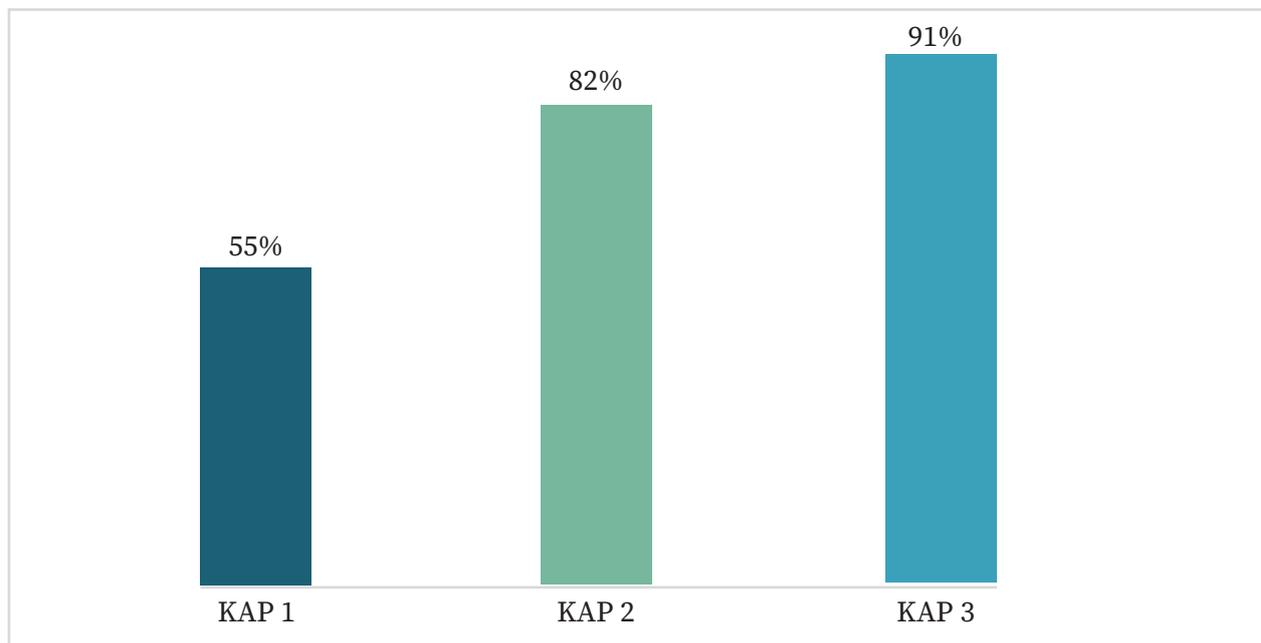
Figure 14: Current responses to food shortages



3.6.6. Community-level action

Qualitative research found that climate change is integrated in the commune action plan of almost all communes. A main priority in this area is focused on improving infrastructure to address key needs such as access to water through irrigation systems. However, some communes struggle to integrate addressing climate change alongside competing priorities such as livelihoods, health, domestic violence, security, and education. For example, one district reported that they have limited resources to address climate change specifically, representing only 5% of their total budget for 2021. However, this study also found that addressing climate change is a priority that is increasingly being addressed by multiple stakeholders, not just the government. Many other stakeholders such as NGOs and the private sector are working with government authorities to address climate change in Cambodian communities.

KAP studies have sought to measure actions that Cambodians feel are being taken in their communities in response to the changes in resources, the environment, and weather patterns.⁵⁴ Overall, there has been an increase in respondents reporting that people in their communities are taking action, for example, from 83% in KAP2 (2015) to 91% in KAP3.⁵⁵ In KAP2, 83% of women reported that people in their communities were taking action (compared to 89% of women reporting this in KAP3). These increases chime with the trend of more people also reporting taking individual actions (as reported above).



Base: KAP1=2,401, KAP2=1,000, KAP3 N=1,558

Figure 15: Respondents who report that people in their community are taking any action

⁵⁴ QY5 ‘What have people in your village or area done in response to changes in water, food, energy supplies or weather?’

⁵⁵ While respondents answered a question about the same list of potential actions, there was slight variation between the three KAPs in question wording. KAP1: ‘Have people in your community done anything in response to the changing weather?’ KAP2: ‘What have people in your community done in response to the climate variability?’ KAP3: ‘What have people in your village or area done in response to changes in water, food, energy supplies or weather?’

KAP3 respondents had noticed that people in their communities were using air conditioners or fans (79%), planting crops as usual (73%), and planting more vegetation (58%). More KAP3 respondents reported noticing key changes to address water shortages, such as building dykes and irrigation canals, than in KAP1 and KAP2.

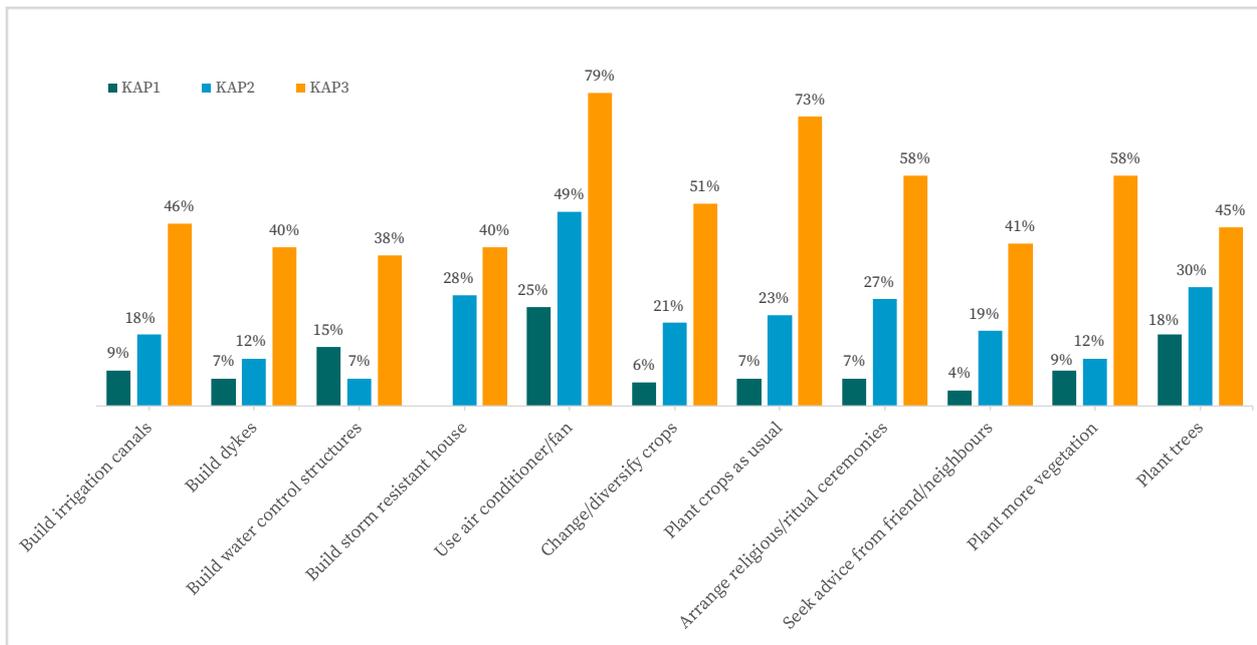
The KAP3 qualitative research also found examples of community members taking actions similar to those asked in the survey to respond to changes in the weather and environment. Community members reported having dug wells and ponds to cope with droughts, moving livestock to safer areas in times of flooding, and turning off electronic appliances during rainstorms (to avoid electrocution by lightning).

“*In face of storm, villagers send their children to the safer places such as neighbours’ houses built [in] cement. During lightning, they did not stay under trees, close [their] phone, TV and radio as well as keep iron materials away when going outside.*”

— Male village chief, Prey Veng province

“*In coping with heat, we take a bath more often, use fans and plant more trees. We also dug wells and ponds within the community to generate water during drought.*”

— Men’s group FGD, Kampong Speu province



Base: KAP1=2,401, KAP2=1,000, KAP3 N=1,558

Figure 16: Community responses to address changes in resources, the environment, and weather⁵⁶

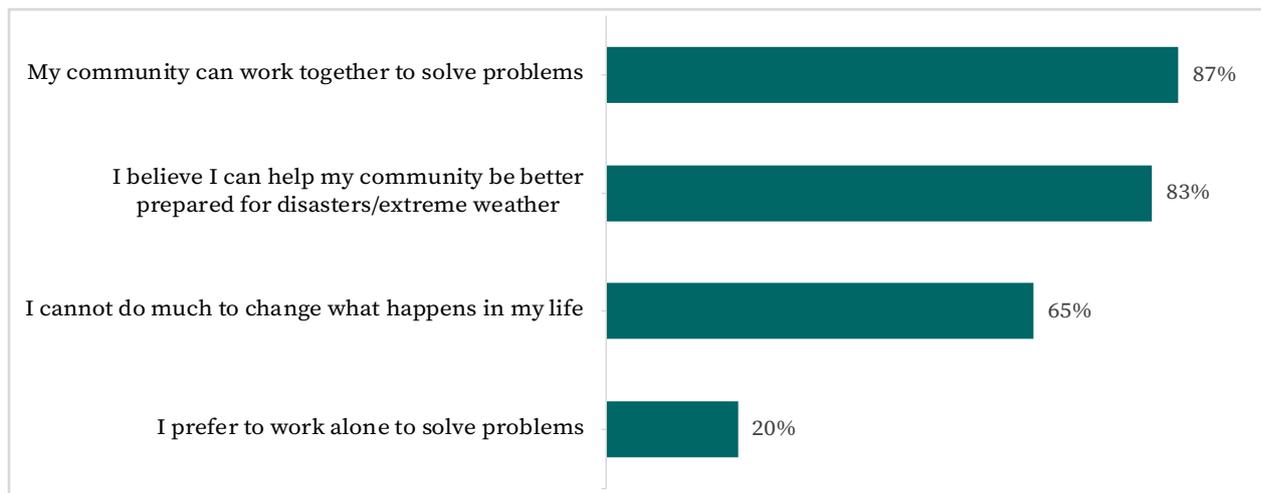
⁵⁶ In KAP1 the option ‘build storm-resistant house’ did not appear or report, so this option has no data to compare in the graph.

3.6.7. Attitudes to community action

Working together can be an important way for communities to counteract the impacts of climate change. In the KAP3 study, 25% of respondents said that they worked with others or shared resources to cope with changes in the weather, environment, and the availability of resources (see Figure 12 above). People who are more knowledgeable about ‘the terms climate change’ and ‘global warming’ also put more effort into collective actions or sharing resources locally.

However, the current level of collective action does not match people’s overall attitudes to working together, indicating that many more Cambodians want to work together than have already done so. The vast majority of respondents (87%) thought that their community could work together to solve problems, and they preferred communal over individual action.⁵⁷

Only one in five people (20%) stated that they preferred to work alone to solve problems. While two-thirds (65%) of respondents thought they could not do much to change what happens in their life, it seems that feelings of individual efficacy can be enhanced by the prospect of collective benefits: 83% thought they could help their community be better prepared for disasters and extreme weather. This strongly suggests that all interventions aimed at increasing preparedness for climate-induced hazards should tap into the power of community action. This was echoed in the qualitative research, where there were very few examples of communities working together to take action. Such examples included community members in Prey Veng in the Plain region working together to dig canals for water access as part of a project initiated by the commune. Community members in Kampong Thom also reported having come together to seek local authority support to improve water supplies for rice paddy irrigation, though they did not succeed in resolving this problem.



Base: All respondents

Figure 17: Attitudes towards individual and collective action (% agree)

⁵⁷ QD6 ‘For each statement I read out, please say whether you agree or disagree with the following statements. Please say if you strongly agree, tend to agree, strongly disagree or tend to disagree.’

3.6.8. Community discussion about environmental and weather-related issues

Almost half (42%) of Cambodians stated that they did not talk to anyone about actions they could take in response to changes in resource availability and the weather,⁵⁸ while about one in four said they discussed this with family (29%), relatives (24%) or other people in their local area (22%). Interestingly, 18% of respondents also reported discussing climate change adaptations with the village or commune authority. While this is lower than the level of discussion with family members and peers, it could be promising, as engagement with authorities can have a greater impact on adaptations among both individuals and the wider community.

Among those who reported having discussed potential actions with others, more than half (57%) said they did not talk very often to others about these actions,⁵⁹ whereas only 8% reported discussing this fairly often.

3.7. Understanding barriers and enablers to climate change adaptation

This section considers the factors that Cambodians feel prevent and enable their response to changes in resource availability, the environment, and weather patterns.

It is important to understand the barriers that prevent Cambodians from taking action to adapt to climate-induced threats, in order to find ways to overcome them. Institutional support and the lack of resources were the main factors Cambodians cited as barriers to taking action in response to these changes. However, it is worth noting that over half of respondents (57%) reported a general feeling of despondency about taking action as they felt that taking action would not make any difference.

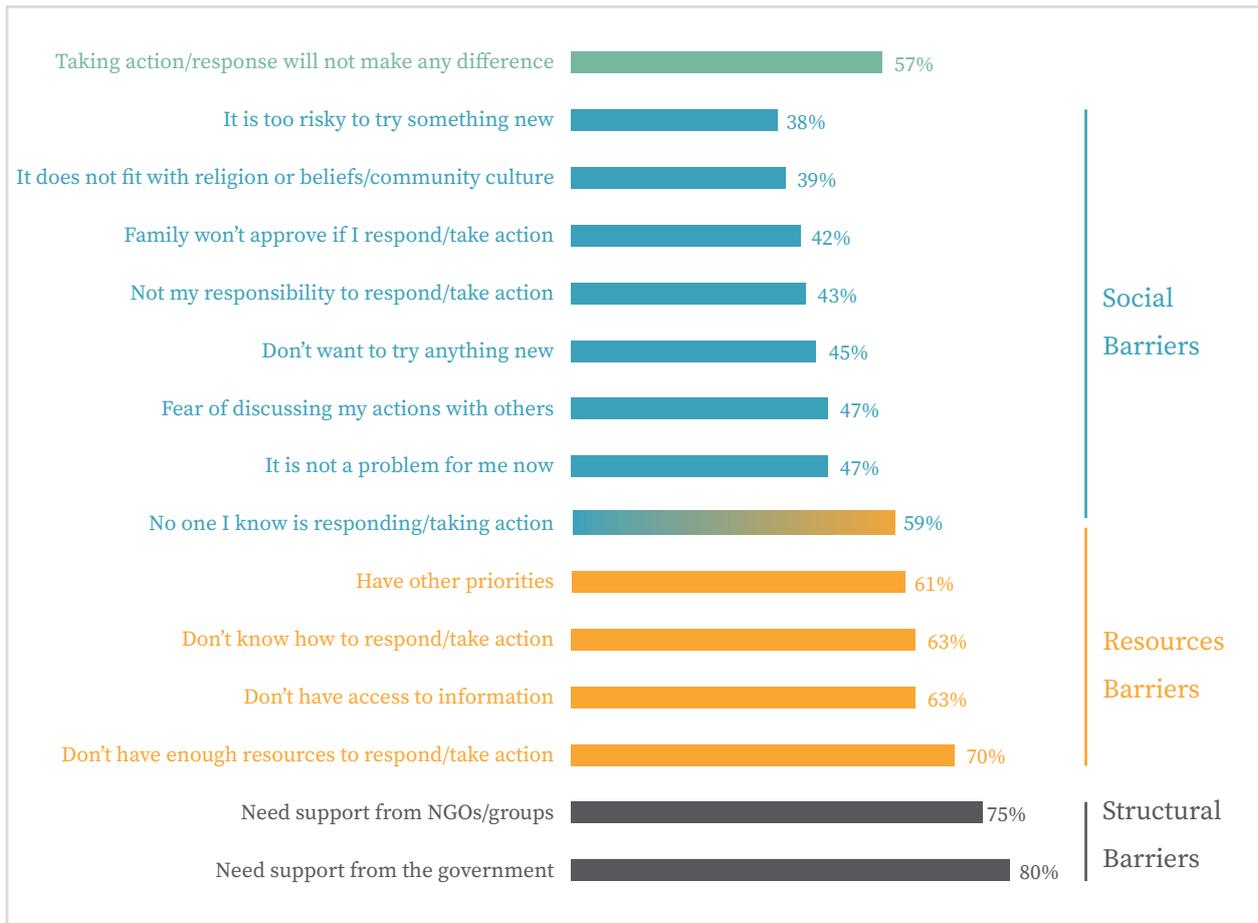
3.7.1. Barriers to climate change adaptation

When asked about the most important barriers that prevented them from their taking action in response to weather, environmental, and resource availability changes,⁶⁰ Cambodians were most likely to state that they needed support from the government and NGOs.

58 QY0 'Who do you talk to in your local area/community about taking actions to cope/deal changes in water, food, energy supplies or weather you might be facing?'

59 QY1 'How often do you talk to others in your local area/community about taking actions to cope/deal changes in water, food, energy supplies or weather you might be facing?'

60 QS1 'We have seen some ways that people can respond/take actions to respond to changes in the availability of water, food, electricity and fuel and changes in weather. I am now going to read some statements. They are reasons why some people do not respond/take action. For each statement I read out, please say whether you agree or disagree with it as a reason for why you would not respond/take action.'



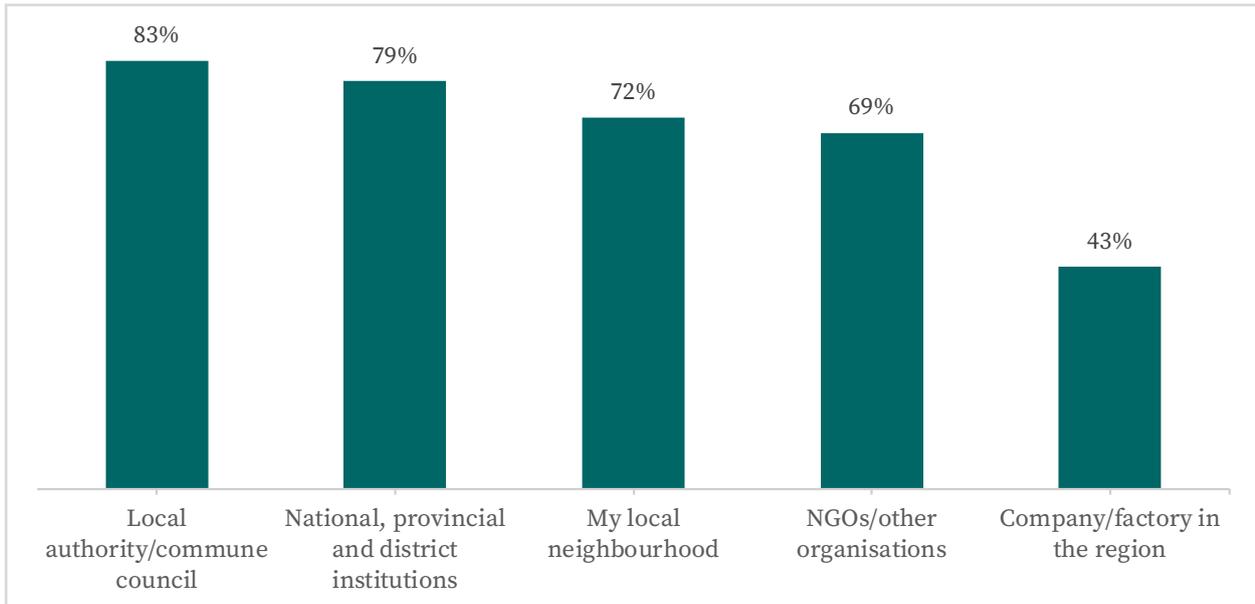
Base: All respondents

Figure 18: Barriers to taking action⁶¹

3.7.1.1. Institutional barriers

Every four in five respondents (80%) said they have not taken individual action in response to climate-related changes action because they require support from the government to do so. The majority (83%) also felt confident that their local authority/commune council are taking steps to help respond to these changes, which may deter individual adaptations. Lower levels of education were associated with an increased likelihood of requiring government support to take action. There was also a clear regional pattern – Coastal and Tonle Sap respondents were the most likely to strongly agree that they required government support in order to take action (reported by 48% and 43% of respondents from these regions, respectively). People from Coastal and Tonle Sap regions were also more likely to be very confident that national, provincial, and district institutions were taking the necessary actions (mentioned by 29% and 31% of respondents, respectively).

⁶¹ The first option, 'Taking action/responding will not make any difference=57%' did not fall under any of the three main barriers.



Base: All respondents

Figure 19: Confidence in institutions taking necessary action

Although the majority of respondents reported having high confidence⁶² in government institutions taking the necessary steps to respond to changes in resource availability, the environment, and the weather, two-thirds (66%)⁶³ said they did not know about their local village disaster management group and 61% had never heard about their local commune committee for disaster management. Lack of awareness undermines participation, which is evidenced by the low participation rates in training and meetings related to disaster management and preparedness – only 17%⁶⁴ of respondents said they had ever participated in a session on this theme.

Three-quarters (75%) of Cambodians thought they would not take action because they require help from NGOs to do so. The most vulnerable groups were more likely to say they needed support from NGOs, such as unskilled workers (83% of whom reported this) and those who already perceived climate changes to have had a high impact on their lives (80% of whom cited this).

Qualitative research conducted as part of this study found that people with less education, limited access to information and those who had to prioritise their work and livelihoods commonly did not know how to make climate-related adaptations that could improve their lives. Interviews conducted with stakeholders recognised the existence of local level barriers to helping community members understand climate-related challenges and take action to counteract them. They observed that local authorities could usefully play a greater role in disseminating information in communities in simple ways, such as by attending forums or events, or making announcements via loudspeakers and microphones.

⁶² QY2 'How confident do you feel that each of the following institutions are taking the necessary actions to help respond to changes in water, food, energy supplies or weather? Are you confident or not confident?'

⁶³ QY3a 'Do you know/have you heard of these institutions?'

⁶⁴ QY3b 'Have you participated in training/meetings related to disaster management and preparedness?'

3.7.1.2. Resource barriers

Looking beyond the expectation of help from government and NGOs, it quickly becomes apparent that lack of resources and information are other major impediments to individual action by Cambodians. Government stakeholders interviewed as part of this research also recognised that community members often lack the resources to take action in response to weather, environmental, and resource availability changes – especially in rural areas. For example, they observed that limited water resources, and disasters such as floods and droughts, have affected farmers’ ability to earn a living, often driving them to take steps such as migrating to find work.

The majority of Cambodians stated that they would not take action because they do not have the necessary resources, such as money and equipment (70%). People who reported their lives have got worse in the past five years (79%) were more likely to think this than people whose lives had improved (69%). Geographically, Tonle Sap and Coastal residents were the most likely to say they lacked resources (reported by 75% and 77% of respondents from these regions, respectively).

Information is key – nearly two-thirds of respondents (63%) stated that they would not take action in response to climate-related changes due to not having access to information. The same proportion (63%) said they did not know how to take action. Coastal people were the most likely to say that they did not know how to take action (70% of them reported this). Socio-economic status was also a factor – those with lower educational and income levels were more likely to report not knowing how to take action in response to these changes.

Despite this fundamental feeling of disempowerment, the majority of respondents (54%) disagreed with the idea that taking action was not their responsibility. People with a higher socio-economic status were more likely to disagree with this (71% of professionals, but only 50% of farmers and fisherman, thought that taking action was not their responsibility). Again, this highlights that disempowered groups of Cambodians rely more on external help. It also shows that many people do not completely renounce responsibility for responding to the environmental changes that affect their lives and may be keen to adapt if they have the right knowledge, support, and resources.

“ *We do not take action due to a lack of experience as well as limited knowledge, resources, and capital to undertake any activities.*”

— **Mixed gender FGD, Kampong Thom province**

3.7.1.3. Social barriers

The KAP3 study results show that the third important set of barriers to Cambodians taking action in response to climate-related changes are social. These include a lack of peer support and a low sense of urgency, which is also linked to community norms and individual priorities.

The most widely cited social barrier was having other priorities (reported by 61% of respondents). Coastal people were the most likely to say this (71% reported it). Again, socio-economic status was a factor – poorer people were more likely to say that having other priorities prevented them from taking action in response to changes in the environment, weather patterns and available resources. The second-most mentioned social barrier was that no one they knew was taking action (reported by 59% of respondents).

Another notable social barrier was respondents' belief that their family would not approve of them taking action (reported by 42%). Responses to this question varied by age: 45–55 year olds were considerably more likely to have been discouraged from taking action by potential family disapproval than their 25–34 year old counterparts (reported by 49% and 37% of these groups, respectively).

Religion and belief did not emerge as major impediments to climate change adaptations. The majority of respondents (56%) disagreed that their religion or belief was a reason for them not having taken action.

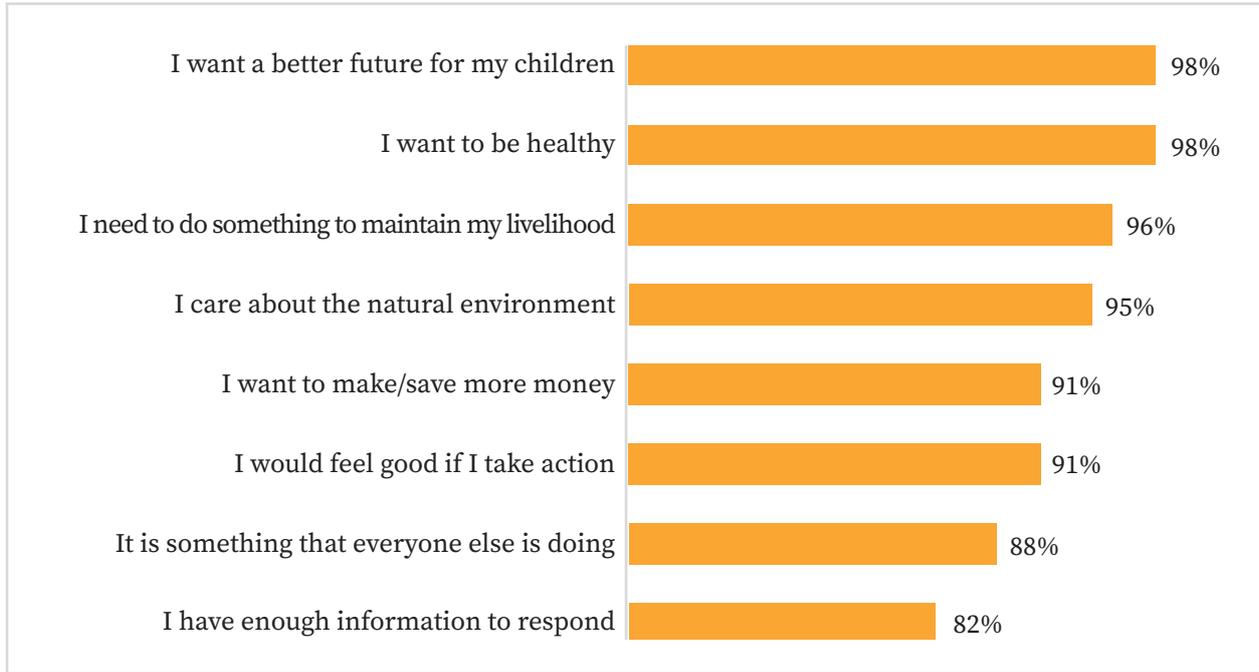
Finally, risk-aversion appears to be lowest of barriers, as only 38% of Cambodians said that trying something new is too risky and would hold them back from taking action. Those willing (68%) to make changes to their livelihood were more likely to agree it is too risky than those that were not willing (49%) to make changes.

3.7.2. Enablers to climate change adaptation

This section examines the factors that Cambodians reported would drive them to take action in the face of changing resource availability and weather patterns.⁶⁵ Keeping healthy and their children's future were the most commonly cited motivations for taking action.

The majority of respondents agreed that they would take action because they want a better future for their children (98%), want to be healthy (98%), need to do something to maintain their lifestyle (96%) or care about the environment (95%). Taking action to make or save money and the good feeling linked to taking action were cited by marginally fewer respondents, but were still mentioned by the overwhelming majority (both 91%). Taking action because it is something everyone else is doing (reported by 88%) and having enough information to respond (82%) were the least cited motivators.

⁶⁵ QS2 'Some people have given reasons for why they have responded to impacts felt. For each statement I read out, please say whether you agree or disagree with it as a reason for why you would respond/take action.'



Base: All respondents

Figure 20: Motivators for taking action

Knowledge on climate change is positively associated with agreeing with all of the enablers discussed – the more informed people are, the higher their motivation to take action in response to climate-related changes. Respondents from rural areas were more likely to report that the different motivators would spur them to take action. Interestingly, the oldest respondents (45–55 year olds) tended to be more likely to agree that the listed enablers would drive them to act. This may suggest that people from rural areas and those who were older felt a greater need to respond to changes in weather patterns, the environment, and resource availability.

The qualitative research found that various factors have helped people to take action. These include support and encouragement from local authorities and information sharing (especially for those with fewer networks or less NGO support) from role models like village chiefs or religious leaders and receiving financial, technical or labour support to implement action. Government stakeholders also recognised that action motivators are linked to people’s overall adaptive capacity, they reflected that addressing climate change is highly dependent on people’s resilience. For example, people in urban areas have better infrastructure, education, and health services, so their resilience capacity is higher than that of their rural peers.

3.7.3. The influence of gender roles and norms in taking action

The majority of men in rural areas are involved in agriculture and fishing, which are highly vulnerable to climate impacts. Women in Cambodia are generally expected to look after the household and children (including providing clean water and food), often

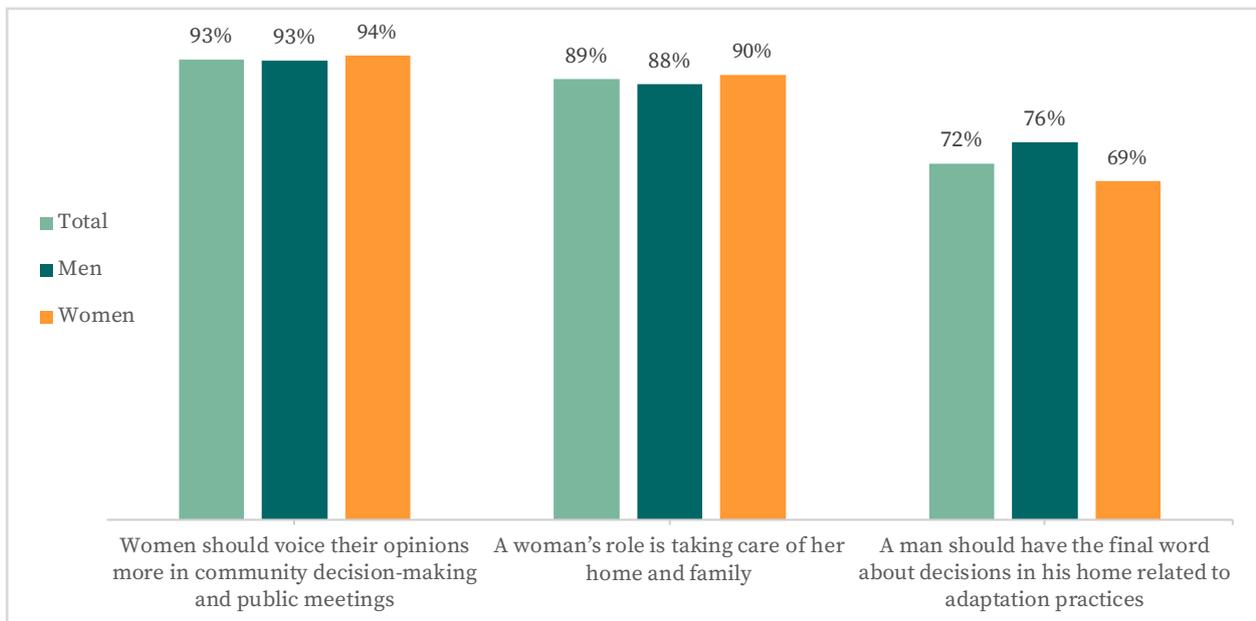
in addition to agricultural labour or other income generating activities. This double burden is often compounded by husbands migrating to find work, leaving women as solitary household providers for extended periods, making them particularly vulnerable during extreme weather.

The quantitative survey uncovered evidence of entrenched gender roles that put huge burdens on women without having the necessary decision-making power. Nine in 10 respondents (89%) agreed that ‘a woman’s role is to take care of her home and family’.⁶⁶ Men and women were equally likely to agree with this, but 63% of people from rural areas strongly agreed with it, compared to 55% of those from urban areas. Perhaps unsurprisingly, older respondents were more likely to think that a women’s role is to take care of her home and family.

“Men can go to find construction work anywhere for additional income, yet women have household chores and take care of children, elderly parents, and livestock.”

— Women’s group FGD, Kampot province

Previous research also found that Cambodian people are experiencing the same changes in the weather, the environment, and the availability of resources, but the impacts of these changes can affect men and women differently due to the strongly gendered division of labour in Cambodian society (Sao, et al., 2020).



Base: All respondents

Figure 21: Agreement with statements about gender roles

⁶⁶ QS3 I am now going to read some statements, which pertain to women’s ability to adapt to changes in the availability of water, food, electricity and fuel and changes in weather. For each statement I read out, please say whether you agree or disagree with it.

Almost three-quarters (72%) of Cambodians agreed with the statement that ‘a man should have the final word about decisions in his home related to adaptation practices’. Men were somewhat more likely to agree with this than women (76% versus 69%), but the oldest surveyed age group (45–55 year olds) were a lot more likely to agree (84% did so). There was no substantial difference in agreement between rural and urban respondents (74% compared to 69% respectively). Mountain residents (79%) were significantly more likely to agree than people from other regions. Qualitative data collected in a province of this region supports this survey finding – many people felt that men should make final decisions as they are the family breadwinners, have more experience and greater physical strength. Overall, women in Cambodia commonly trust men to make larger decisions and usually only make smaller financial decisions unless their husband is absent because of migration (Sao, et al., 2020).

Cambodian society remains largely patriarchal and hierarchical, and women continue to face political and economic discrimination (MoWA, 2014). This is confirmed by KAP3’s qualitative findings: women heads of household and women with a disabled family member encounter more difficulties than others to generate income.

“ *Men and women discuss [with] each other before making any decision, yet the last decision is made by [the] husband because he is generating income in the household. Furthermore, women cannot perform heavy tasks like men, such as bearing logs or sacks of rice and pumping water.*”

— **Mixed gender FGD, Kampong Speu province**



However, when asked about women's political participation, the vast majority of Cambodians (93%) agreed that 'women should voice their opinions more in community decision-making and public meetings'. While gender did not influence agreement with this statement, educational level and age did. Older people and those with higher educational levels were more likely to agree. This indicates that, in theory, people value women's opinions being voiced in public. But in reality, given their responsibilities, women rarely attend public forums or meetings, including those on climate responses, depriving them of the opportunity to learn and share information (Sao, et al., 2020).

Case study 4:

A single mother deals with water shortages⁶⁷

Sina, a widow in Kampong Speu province, Mountain region, lives with her son who has disabilities. She is the head of the household and the sole income earner, and is severely affected by water shortages.

Sina is a traditional rice farmer, highly dependent on having plentiful water available. But drought often means she does not have enough water for irrigation. Low rainfall also makes it difficult for Sina to collect and save rainwater for household consumption. To supplement her income when the rice farming season is over, she works at a sugarcane plantation.

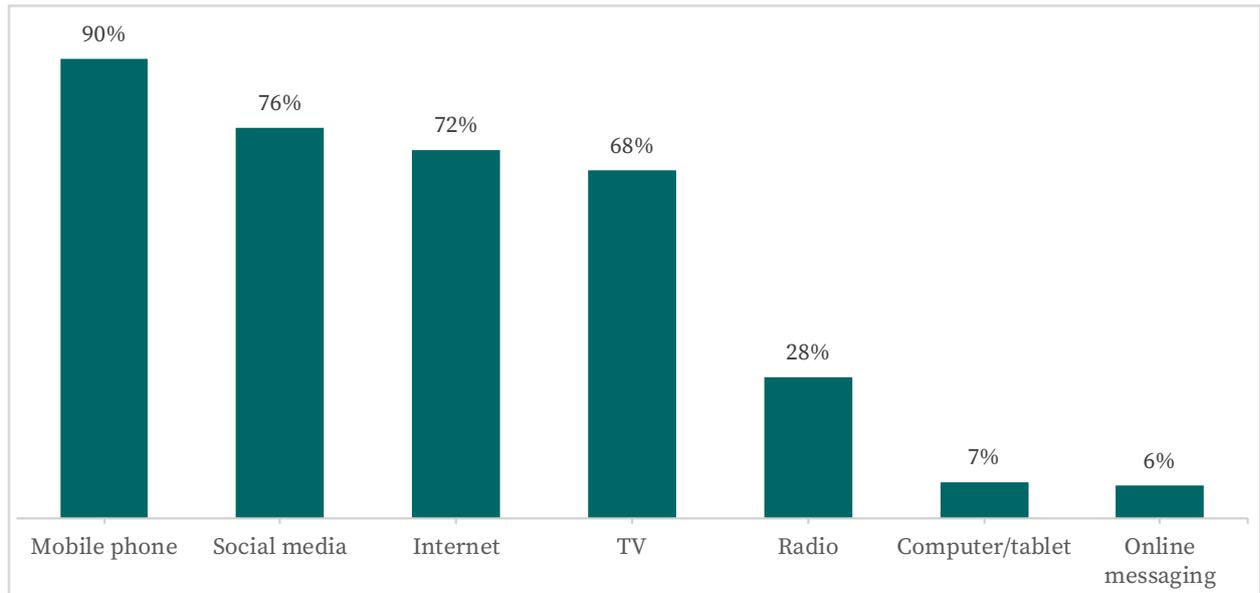
Sina's access to water is compounded by her low status. She is discriminated against by her community because of her son's disability and hygiene issues, and is therefore barred from using the village's public well. As a result, she had no choice but to construct her own well, without hiring any labour as she could not afford to pay anyone.

⁶⁷ This case study emerged as part of a FGD with vulnerable women.

3.8. The media and communication landscape

3.8.1. Media consumption habits

This section looks at media consumption and communication related to climate change in Cambodia. In order to communicate effectively with people, it is important to understand what they want to know, the media they use, who they talk to and trust, and how they like to receive information.



Base: All respondents

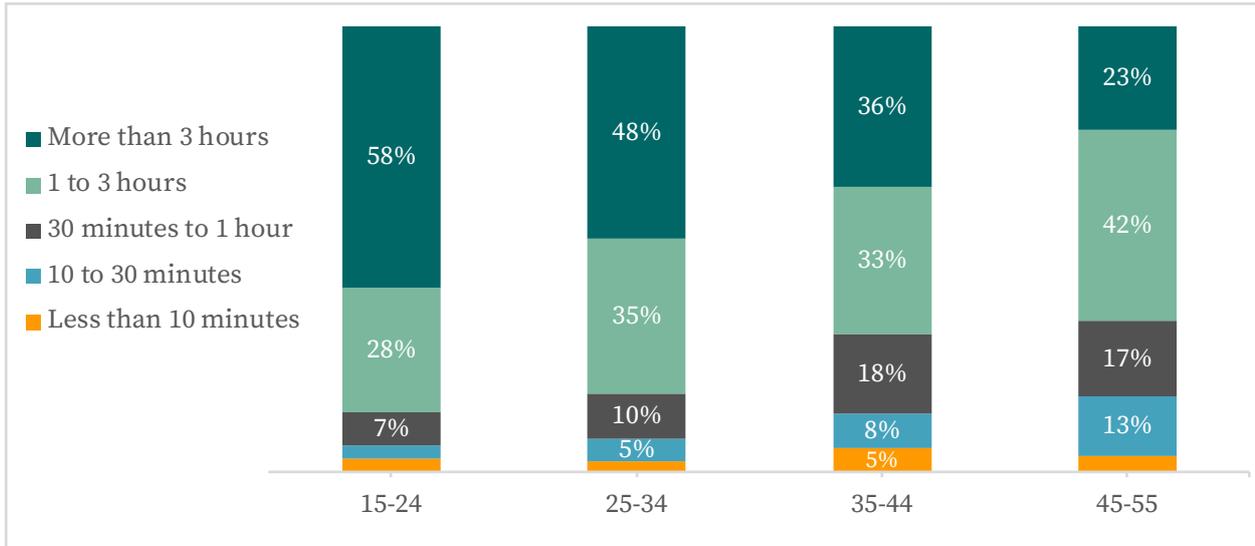
Figure 22: Media accessed in the past year

3.8.1.1. Mobile phone use

Mobile phones are the most widely accessed communication devices among Cambodians, as 90% of people reported having used them in the previous months, either at home or elsewhere.⁶⁸ Despite the high figure, not all social groups use mobile phones equally. Men and urban residents (94% and 95% respectively) are more likely to have done so recently than women (86%) or rural people (88%). Younger people are more likely to have used a mobile phone recently than older ones (93% of those aged 15–24 compared to 81% of 45–55 year olds). Nearly all phone users owned a smartphone (95%),⁶⁹ and rural people who used a phone were less likely to have access to a smartphone than their urban counterparts. Yet socio-economic status was still linked to smartphone access, with better-off people more likely to have one.

⁶⁸ QMC1a ‘In the last 12 months, which of the following items can you access/use (at home or elsewhere)?’

⁶⁹ QMC8 ‘Do you have a smartphone?’



Base: 1,217

Figure 23: Time spent on phone by age group (among those with phone access)

Phone calls were the most commonly cited reason for using a phone (reported by 86% of those with access to a phone), particularly among older age groups⁷⁰ (cited by 94% of 45–55 year olds compared to 75% of 15–24 year olds). In comparison, phone-based social networking (done by 57% of Cambodians) was more common among younger age groups (69% of 15–24 year olds compared to 38% of 45–55 year olds). Almost one-third (32%) of mobile phone users cited using audio information services on phones. This was most common among the younger age groups.

The majority of phone users (79%) reported spending more than an hour on their phone every day, while almost half of all phone users (47%) said they spent more than three hours on their device every day, primarily accessing the internet.⁷¹ The results show that in Cambodia 100% of internet users can access it through a phone, while only 7% can get online using a computer and 2% on a tablet.

Three-quarters (76%) of Cambodians who used mobile phones reported using social media in the past year. Men (82%, compared to 71% of women), urban residents (85%, compared to 72% of rural dwellers), and 15–24 year olds (89%, compared 51% of 45–55 year olds) were more likely to have used social media recently. Facebook was the most commonly used social media platform (97%).⁷² Other highly used social media platforms were YouTube (93% used it and 82% did so daily), Instagram (used by 16% of respondents who used social media, predominantly urban and young people), and WhatsApp (used by 6% of the population, more commonly in urban areas).

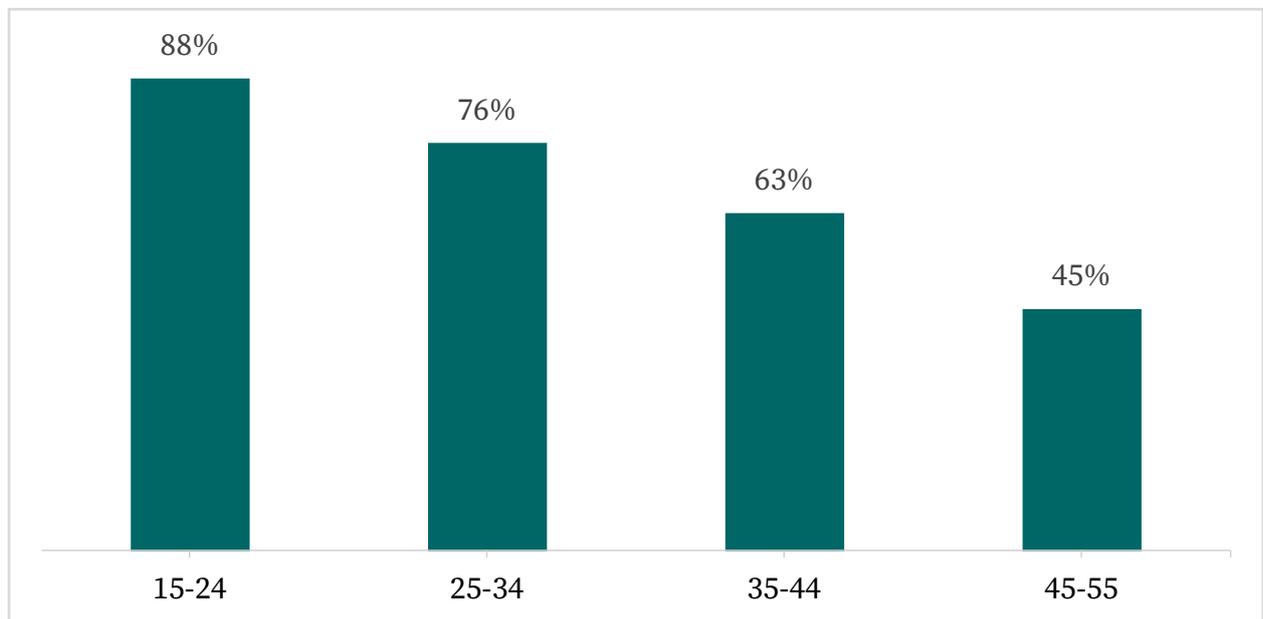
⁷⁰ QMC10 ‘What is/are the main reason/s for you using a mobile phone?’

⁷¹ QMC9 ‘How much time do you spend on a mobile phone per day (including texting, phoning, using social media and surfing the web)?’

⁷² QMC7b ‘How often do you use it? Would you say you use it several times a day, once a day, several times a week, once a week, several times a month, once a month, less than once a month or never?’

3.8.1.2. Internet use

72% of respondents used the internet and it was the most commonly accessed media platform among younger age groups. A large majority of 15–24 year old respondents (88%) reported using the internet, compared to just 45% of 45–55 year olds. The internet was also more likely to be accessed by people from urban areas (80% of whom reported this, compared to 68% of rural residents). Men were more likely to report using the internet than women (78% compared to 66%) and people with higher education levels were more likely to use it than others. Almost all internet users (92%) stated that they used it at least daily.⁷³ In terms of daily time spent on the internet, 28% of Cambodians who use the internet reported spending under an hour online each day and 36% spent more than three hours online each day.



Base: All respondents

Figure 24: Internet access by age

3.8.1.3. TV and radio access

After mobile phones and the internet, TV was the next most used medium among Cambodians (68% reported watching TV). Men (71% of whom reported watching TV, compared to 65% of women) and older age groups (75% of 45–55 year olds versus 68% of 15–24 year olds) were slightly more likely to watch TV. Three-quarters (73%) of TV viewers said they watched TV at least daily. The most commonly watched channels are Hong Meas TV (watched by 49% of those to use TV), MyTV (37%), Bayon TV (33%), TV5 (25%), Cambodia News Channel (CNC) (21%), and People National Network (PNN) (21%).⁷⁴

⁷³ QMC1c ‘How frequently do you use the following, if at all?’

⁷⁴ MC2a ‘Please tell me what television channels you have watched since Khmer New Year.’

Some TV programmes relating to climate change were reported to be watched by a substantial chunk of the population. More than half (53%) of respondents who watched TV said they had watched weather forecasts, 33% watched Bayon TV's agricultural programmes, 27% watched the Cambodia Climate Change Talk Show, and 10% watched Don't Wait for Rain.⁷⁵

The radio was the least widely used mass-media platform among survey respondents, with 28% saying they had listened to the radio in the previous year. Men were more likely to listen to the radio than women (31% and 24% respectively). The older respondents were, the more likely they were to listen to the radio but there was no difference in radio listenership between urban and rural residents. Almost two-thirds (64%) of radio listeners did so daily. The most accessed radio programmes among radio users are ABC Traffic Kampuchea (FM107.5) (15%), Bayon Radio (7%), Radio Free Asia (6%), and South East Asia Voice and Australian Broadcasting Corporation—ABC Australia (FM101.5) (3% each).⁷⁶

3.8.2. Information sources on changes to resources, the environment and the weather

This section analyses where Cambodians get their information about changes in the weather, the environment, and the availability of resources. It also identifies Cambodians' most trusted information sources and how they prefer to receive information.



⁷⁵ MC3a 'Have you ever watched the following TV programmes (via TV or online)?'

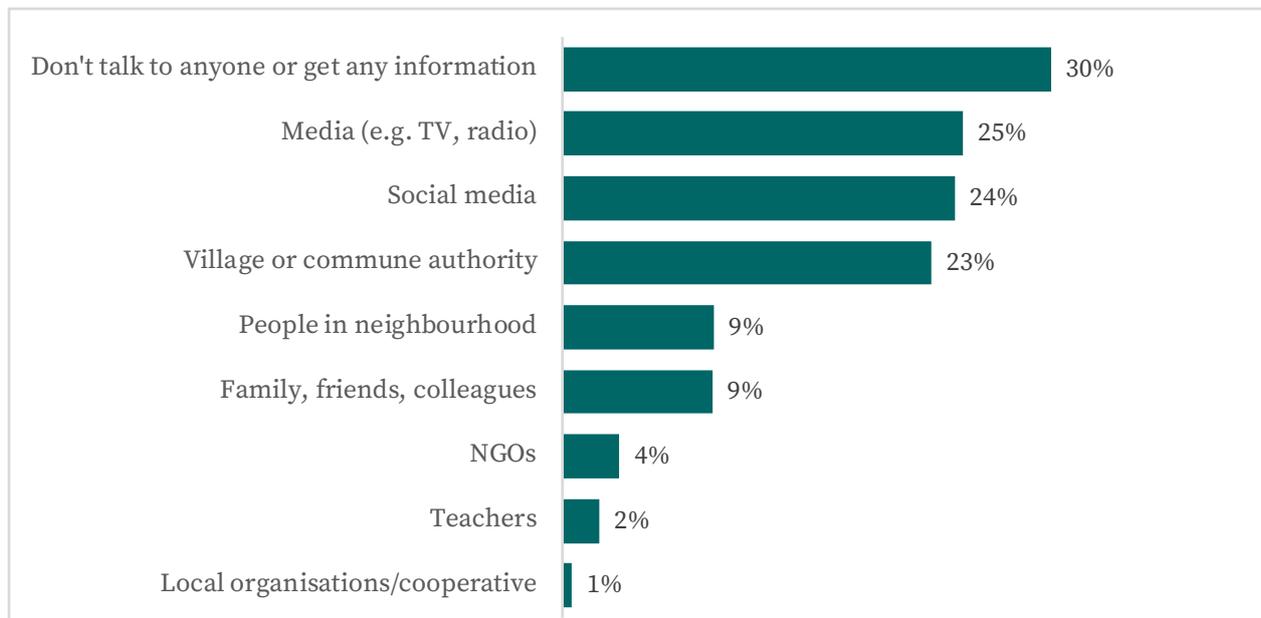
⁷⁶ MC4a 'Please tell me what radio stations you have listened to since Khmer New Year.'

3.8.2.1. How well-informed Cambodian people feel about these changes⁷⁷

When asked about their own knowledge, more than half of Cambodians (57%) thought they were well-informed on how to cope with changes in water, food, energy supplies or the weather - 9% felt very well informed and 48% felt fairly well informed. Coastal people were the least likely to feel informed (40% of whom reported this) and Tonle Sap residents (51%) were also behind the national average. People in these regions rely disproportionately on natural resources for their livelihoods, so are much more at risk of climate-induced disruptions to their incomes. Feeling less informed than their counterparts in other provinces highlights their vulnerability and their need for more information to cope with these changes.

3.8.2.2. General sources of information

In terms of the information sources people accessed to help them cope with environmental and resource changes,⁷⁸ media features prominently. One in four respondents said they turned to media (e.g. TV and radio) (25%) or social media (24%) for such information. Almost the same proportion said they sought information from their local authority (23%), with rural people being more likely than their urban counterparts to do this (25% compared to 19%). However, almost one-third of respondents (30%) stated that they did not talk to anyone or get any information on these issues. Certain groups were particularly likely to say this, notably rural dwellers (32% of whom reported this) and people from the Coastal region (47%).



Base: All respondents

Figure 25: Sources of information on climate change-related adaptations

⁷⁷ QJ3 'How well informed do you feel about the things you could do to cope/deal with the changes in water, food, energy supplies or weather you might be facing?'

⁷⁸ QJ1 'Where do you get this information from?'

3.8.2.3. Most trusted information sources ⁷⁹

Although media was reported as Cambodians' most popular information source, KAP3 findings reveal that people are slightly more likely to trust their local authorities for information related to changes in the weather, environment, and resource availability (80% reported this) than the media (73%). The third prominent information source, social media, trails well behind – only 46% of respondents said they trusted it. Rural people were not only more likely to turn to local authorities for information, but were also more likely to regard them as a trusted information source (reported by 83% of rural people), compared with their urban peers (72% of whom reported this).

The qualitative research found that although local authorities may be trusted by Cambodians, this does not always translate into authorities taking action on their climate-related problems. For example, community members reported that if they had a problem they would usually speak first to their village chief (for example to ask to dig a pond or drill a well to access more water). Sometimes this would be effective but at other times it could take a long time to address an issue, as the village chief would need to turn to the commune chief to follow the government administrative procedure to process the request.

People also have high levels of trust in teachers (trusted by 76% of Cambodians), family members and friends (74%), NGOs (55%), and religious leaders (54%). The fact that none of these groups is yet regarded as an important source of information on issues related to changing weather and resource availability may be because of their perceived lack of authority on these issues, but they may also offer a good opportunity for climate change communication. Government and other relevant stakeholders could benefit from exploring potential partnerships with trusted opinion leaders to disseminate information and engender action among communities.

3.8.2.4. Perception on how media covers information on climate-related changes

Cambodians' relatively high levels of trust in mainstream media is underpinned by additional findings from the questionnaire.⁸⁰ More than half (59%) of Cambodian people thought that media was doing well in covering news about changes in the weather and access to resources. Urban people were slightly more likely to believe this than rural residents (63% compared to 57%). Once again, people from the Coastal region presented different results to other groups, with only 43% of them thinking that media covered these issues well.

⁷⁹ QJ2 'As a general source of information, do you trust this source or not?'

⁸⁰ QJ4 'How well do you think the media covers information about changes in the availability of water, food, electricity and fuel and changes in the weather?'

3.9. Segmentation analysis

This report aims to provide a detailed picture of how Cambodians engage with climate-related changes that affect them – how they perceive these changes, the impact they have on their lives, and what actions they are taking or plan to take in response. Throughout the analysis, the research team looked at different groups and highlighted when their knowledge, attitudes, and practices differed noticeably from the national average.

This section presents a segmentation analysis, which explores different of groups within Cambodian society based on their engagement with climate change issues. It also looks at how communication could be used to support the different groups. The research team used a statistical technique called cluster analysis to identify similar groups based on:

- Knowledge about climate change
- Climate change-related impact they have felt in their everyday life
- Motivations and willingness to respond to these changes
- Actions they are taking in response to these changes
- Barriers they face if they want to act in response to these changes
- Confidence in institutional responses to climate change

Respondents have been grouped into four distinct segments: ‘willing’, ‘unconcerned’, ‘trying’, and ‘disengaged’, based on their overall engagement with issues relating to climate change. Table 4 provides an overview of these segments.

Table 4: Segments by demographics⁸¹

Demographics		All	Willing	Unconcerned	Trying	Disengaged
Segment	Share of population	100%	25%	21%	38%	16%
Gender	Men	51%	54%	61%	49%	39%
	Women	49%	46%	39%	51%	61%
Age	15–24	39%	39%	52%	36%	32%
	25–34	25%	25%	25%	26%	21%
	35–44	22%	21%	15%	25%	28%
	45–55	14%	15%	9%	13%	19%

⁸¹ Percentages in the table may not total 100 due to rounding. (N=1,257)

Region	Phnom Penh	10%	11%	10%	8%	11%
	Plain	38%	39%	38%	40%	33%
	Mountain	10%	14%	11%	9%	8%
	Tonle Sap	36%	32%	35%	37%	43%
	Coastal	5%	5%	5%	6%	4%
Education received	Up to primary school	41%	25%	28%	53%	52%
	Up to secondary school	31%	30%	33%	31%	27%
	Up to high school	22%	33%	28%	13%	17%
	Up to university	7%	11%	10%	2%	4%
Location	Urban	33%	38%	37%	25%	37%
	Rural	67%	62%	63%	75%	63%
Occupation	Professionals	7%	7%	13%	3%	9%
	Traders/businessmen	20%	22%	15%	19%	23%
	Fishermen, farmers	35%	32%	29%	41%	32%
	Labourers (low skilled and unskilled)	9%	9%	5%	12%	7%
	Not working ((housewives, students, retired, unemployed)	30%	30%	40%	26%	29%

Table 5: Key characteristics of the four segments

	Willing	Unconcerned	Trying	Disengaged
Social barriers to action	MEDIUM	LOW	HIGH	MEDIUM
Institutional barriers to action	HIGH	LOW	HIGH	MEDIUM
Actions taken	HIGH	HIGH	HIGH	LOW
Motivation for action	HIGH	LOW	HIGH	LOW
Climate change impact perceived	HIGH	MEDIUM	MEDIUM	LOW
Climate change knowledge level	HIGH	MEDIUM	LOW	LOW
Confidence in institutional response to climate change	MEDIUM	MEDIUM	HIGH	LOW

Willing (25% of total sample)

Key characteristics of this segment – is already taking action and has the knowledge and motivation to do more:

- Highly educated
- Young
- Urban

People in the ‘Willing’ segment have the highest education level, and are more likely to be men and live in urban areas, but in all other ways they are largely representative of Cambodian society. This means that two-thirds of them are under 35 and two in five are under 25. One-third of this segment is a farmer or a fisherman, while another third does not have an income-generating job.

Thanks to their higher education level, people in this segment have by far the highest knowledge about climate change among Cambodians. They are the most likely to feel that changes in the natural environment have an impact on their lives, and also those most likely to be motivated to respond to these impacts – including making changes to their livelihoods necessary. People in the ‘Willing’ segment are already taking steps to cope with changes in the availability of water, food, electricity, and fuel, as well as changes in the weather, and are not particularly likely to be hindered by social barriers in doing so. While people in this segment hold the firmest beliefs in the efficacy of community action on climate-related issues, their confidence in authorities taking the necessary actions to support climate change adaptation is not especially high. Members of this segment are the most likely to think that insufficient government support is a hindrance to taking action.

People in the ‘Willing’ segment are the most likely to have noticed a decrease in the number of trees and variety of wild animals, and an increase in plastic, litter, and air pollution. Members of this segment are also most likely to have perceived the impact of environmental changes on their lives (such as on their ability to earn money, stay healthy, and access water). They also expect the highest level of impact from climate change on their lives in the future.

However, these people are not paralysed by these prospects. They are the most likely to have supplemented their income in other ways, to follow weather forecasts, and to prepare and act for events such as extreme weather, for example by having disaster preparedness plans, making adjustments to their homes, storing water, and discussing with others about steps they could take. ‘Willing’ people are the most likely to use social media, the internet and watch TV, and they are also more likely than other Cambodians to listen to radio.

Aims for communication with the ‘Willing’ segment

- These people are already highly motivated in relation to climate change adaptations, having taken action independently, and engaged with climate change issues. Draw on this group as role models to motivate others to take action without institutional support.
- Show how NGO and/or government interventions can support this segment with any services to enable them to take more action or increase their knowledge, to help build their confidence in that support.

Unconcerned (21% of total sample)

Key characteristics of this segment – members lack motivation to take action as long as their livelihoods are not impacted:

- Men
- High socio-economic status
- Young

People in the ‘Unconcerned’ segment are the most likely to come from the youngest sections of Cambodian society (over half of them are under 25) and they are also far more likely to be men. Their socio-economic status is also higher than average – a member of this segment is over twice as likely to be economically well-off than the average Cambodian, and almost twice as likely to have a professional job. A large majority of this segment (87%) also think that their lives got better in the past five years.

Due to their high socio-economic status, members of the ‘Unconcerned’ segment are fairly knowledgeable about climate change. They have perceived some of its impacts and have even taken some actions to respond (most commonly growing different crops or keeping different livestock), unhindered by a lack of help from authorities, NGOs or even from their social circles. Yet members of this segment are not particularly motivated to take steps in the future to adapt to climate-induced changes. This may be because they feel well-prepared to respond to extreme weather, because they are less economically compelled to take action compared to other segments or because they are already supplementing their incomes more than other Cambodians.

People in the ‘Unconcerned’ segment are more likely to be well-educated and have higher incomes than Cambodian society as a whole. Almost half of them are in the non-working group (mostly students) and 20% have professional jobs. This segment’s access to resources, information and media is the highest in Cambodia. People in this group feel less affected by the impacts of climate change, are not struggling to adapt to these changes, and are the least likely to discuss potential actions with others.

Aims for communication with the ‘Unconcerned’ segment

- As the youngest of the four segments, and the most likely to face the impacts of climate change on their lives in the future, communication initiatives need to make climate-induced risks more relevant for them, by highlighting the anticipated impacts on their lives in the mid- and long-term.
- Although people in this segment have not yet felt much impact and have low levels of motivation, they do not face barriers to action and may have the resources and influence to encourage action in communities that otherwise often rely on institutional assistance.

Trying (38% of total sample)

Key characteristics of this segment – motivated to take action but faces many obstacles:

- Lowest education level
- Low socio-economic position and low-status jobs
- Rural

This is the largest segment, accounting for almost two in every five Cambodians. Members of the ‘Trying’ segment have the lowest education level (over half received no more than primary schooling), are the most likely to be poor or very poor, and to come from a rural background. Over four in 10 members of this segment are farmers or fishermen. Men and women are equally represented in this segment, and its members’ age profile is largely in line with the Cambodian population, with over a third younger than 25 and over 60% younger than 35.

Members of this segment are the most likely to feel that their lives have become worse in the past five years. They are the group whose access to clean water has been most affected. They do the best they can to prepare for extreme weather and are the most likely to state they save money for this and they have also sought alternative sources of income. While they have so far taken more action in response to the impacts of climate change than other segments, people in this segment are also the most likely to think that taking action is not their responsibility.

The ‘Trying’ segment has the lowest knowledge of climate change and is not very likely to have perceived its impacts on their lives. Despite this, they are the most likely of all segments to have taken action to adapt to these changes and are highly motivated to do more, especially in making changes to their livelihoods, to improve their living standards.

The key barriers to taking more action for members of this segment include feeling the need for others around them to approve of such action and feeling that they need additional help from institutions. They display high levels of confidence in institutions, which could be leveraged if such institutions offered more support to enable this group to take more independent action, to reduce their vulnerability and dependence on external help.

This segment's attitudes to gender norms suggest that it is the most conservative segment. Its members are also less likely to have access to the TV, radio, and internet than other segments.

Aims for communication with the 'Trying' segment

- Engaging with this largest segment is a priority for future communication and interventions. Its members are highly motivated and the most likely to be already taking action. Interventions and communication that increase this segment's awareness of available help are likely to be well received, especially given its members' trust and confidence in institutions.
- Leveraging this segment's faith in community action could spur its members to take more action, both individually and collectively. These people are also especially likely to benefit from improved community knowledge-sharing platforms.
- These people's understanding of the links between changes in their environment and climate and the problems they face in their everyday lives is low. They should be the key target group for governmental communication that clearly explains climate change and related issues.

Disengaged (16% of total sample)

Key characteristics of this segment – faces various obstacles to taking action and lacks motivation to do so:

- Women
- Older
- Low socio-economic status

This segment is the smallest and most disempowered in Cambodia. Its members are most likely to be women, older than average and come from low socio-economic groups. They have lower educational attainment than the national average and mostly come from rural backgrounds.

People in the 'Disengaged' segment are very disempowered and have the lowest scores on almost all indicators measured in this study. They have low levels of knowledge about climate change and are the least likely to have perceived the impact of changing weather patterns on their lives. As a result, they have the lowest levels of motivation to take steps to cope with and adapt to changes in the weather and the availability of key resources.

Somewhat surprisingly, the prospect of livelihood changes that could bring about higher living standards do not motivate the 'Disengaged' segment to take action. Its members have the lowest confidence level in the efficacy of community action around climate change and also have the lowest trust in authorities' action in this area.

‘Disengaged’ people feel they have made changes to their livelihoods to adapt to a changing world but admit to being the least prepared to respond to extreme weather events – they are the least likely to set aside food, water or money for the future. While this could be explained by their low socio-economic status, they have a different attitude to people in the ‘Trying’ segment, who have similarly low levels of income and education.

In line with their overall disengagement, members of this segment are the least likely to discuss potential action with others and they also have the lowest media access. The combination of being mostly women and having the lowest support for women having a voice in their community suggests that members of this segment have highly entrenched negative gender norms, and consequently feel they have little control over the forces that shape their lives.

Aims for communication with the ‘Disengaged’ segment

- This is a highly vulnerable segment and should therefore be another priority group for future interventions or communication initiatives. Members of this group are at risk as they lack information and are unable to identify their own vulnerability. They need more information on simple actions they can take themselves, and relatable role models to inspire them.
- Communication interventions that aim to ignite more discussion among this segment could help to inform them about climate change and motivate them to take action, possibly through using outreach communication methods to counter their lack of media access.

4.1. Conclusions

Climate change affects Cambodia's weather and its people notice this: they feel that temperatures are becoming hotter, rainfall is decreasing, and the severity of droughts is increasing. The sharp decline in perceived rainfall over the past years signals that people detected the exceptionally dry wet seasons that took place in the years preceding the KAP3 study.

Even though the majority of Cambodians have experienced improvements in the availability of water, food, and energy, they also observe adverse impacts from changes in the environment and the weather on their lives. As they value health above all, Cambodian people are more likely to perceive the impact of these changes on their health. Many feel that both minor ailments and more serious conditions have become more common. Overall, Cambodians are increasingly concerned about the future, as they feel that changes to the weather and environment are going to have a greater impact on their lives in the coming years.

Yet not all Cambodians connect changes in the environment and weather patterns to the livelihood struggles they are experiencing – the less educated (and therefore poorer) people, who are most likely to feel that life has got worse over the past five years, are less likely to report that changes in the environment are having an impact on their lives.

Many Cambodian people, especially those from lower income or education groups, are eager to make changes to their livelihoods to adapt to these changing conditions. They are ready to find new ways to supplement their income, and/or to change jobs, learn new skills, and work together more. The majority are also taking a range of actions to address water and food shortages. The desire to remain healthy, provide the best possible future for their children and at least maintain their current lifestyle are the most likely motivations to propel people into taking action to prepare for, and cope with, changes in the weather, environment, and resource availability.

However, various factors hinder Cambodians' climate change adaptation efforts. Many feel that they need more support from the government and NGOs in order to act. At the same time, they also display high levels of trust towards national, provincial and district level institutions, local authorities, and commune councils, in terms of their ability to respond to climate change-related issues that affect Cambodians' everyday lives.

Other important barriers include limitations in resources and information, the lack of a supportive social environment, and having other individual priorities.

4.2. Recommendations

Reach and engage key target populations in Cambodia

- Cambodians are increasingly taking action to deal with the impacts of climate change they have noticed in their daily lives. However, it is clear that climate related interventions or communication strategies would benefit from addressing a series of drivers of behaviour change to support people to take more action in future:
 - **Building on Cambodians’ key motivators and issues that are important to their daily lives – such as health, education, and livelihoods.** Leveraging these motivators and demonstrating how taking action can help them could encourage people to take action and increase their resilience to the impacts of climate change.⁸² Furthermore, building knowledge about how to prepare or adapt effectively for climate-related changes, including how to become more informed, could help individuals increase their preparedness and resilience.
 - Normalising discussion on the impacts people are experiencing as a result of changes in the weather, the environment, and the availability of resources could help generate ideas and share learning – both among community members themselves, and with local decision makers or influencers who can help people to address these issues in practical ways. **Discussion is a key driver of behaviour change, yet Cambodians are not discussing or sharing the actions they are taking with others.**
 - **Addressing the key long-term issues affecting Cambodians (such as droughts and water shortages) would encourage people to act.** Cambodian people are increasingly noticing a general warming and a reduction in rainfall. Focusing on these issues would help to meet people’s existing needs and could ensure higher levels of community collaboration with decision makers and authorities. These issues vary by different areas and population groups, so any strategies to address them require careful targeting.⁸³
 - **Helping Cambodians link the changes they experience in their everyday lives to the concept of ‘climate change’ through discussions and communication.** It is clear that the key technical concepts of climate change and global warming are still unclear to many people, even though they are experiencing their impacts in their everyday lives. Communication that is primarily rooted in people’s everyday experiences may be more helpful in understanding the link between the technical terms and the impacts they face.

⁸² For example, this could mean highlighting the benefits of taking action on their current income, their current and future health and their children’s future.

⁸³ For example, water shortages are a particular concern for people in rural areas, especially in the Coastal and Mountain regions.

- **Capitalising on Cambodian people’s high desire to fit in with other people in their community to encourage action.** Establishing new norms can be challenging but using role models who are seeing the economic benefit of making simple, cheap, and replicable changes to prepare for and cope with the impacts of climate change could help communities to see the value of taking action, and helping to embed the idea that doing so is positive and achievable. Media and communication strategies, especially at scale, can be a highly effective way of using relatable and memorable role models to inspire others.
- Several key groups of Cambodians would benefit from being prioritised in future climate change interventions or communication strategies.⁸⁴ Specific groups who are already experiencing an impact on their daily lives from changes in the weather and the environment – even if they have not apparently noticed these changes or not connected them with climate change – should be prioritised for communication and support. Some of **the most vulnerable Cambodians** (the poorest and least educated people, those whose livelihoods are most exposed to the weather) **were the least likely** to have noticed the impacts of climate change on their lives and also felt the least prepared for extreme weather events. Key priority groups are outlined below.
 - The livelihoods of **farmers and fishermen** are highly dependent on natural resources and the weather, and have been particularly affected by changes in these factors.⁸⁵ **Farmers and fishermen are most likely to be found in the ‘Trying’ segment – they are willing to take action but could benefit from improved networking, sharing of effective actions, and leveraging their interest in working together.**
 - People living in the **Coastal region** are particularly vulnerable to the impacts of climate change.⁸⁶ Coastal people need support and information to help them to address their most pressing basic needs, such as long-term water shortages and limited access to food. **They also lack confidence and need the most support from others – showing them ways to support themselves more effectively, and how to access support and information from government or NGOs, would benefit people from this region.**

⁸⁴ Overall, Cambodians think that life is getting better, with just over two-thirds (67%) of survey respondents reporting that life has improved over the last five years. However, this general positivity masks challenges faced by more vulnerable groups. People who were more likely to think that life had improved come from more educated and wealthy backgrounds. In contrast, one-third (33%) of respondents reported a decrease in their household income over the last five years.

⁸⁵ For example, fishermen have been particularly affected by a decline in fish stocks, which they linked to warmer temperatures. Farmers were more likely to report having experienced increasing droughts and decreases in rainfall that affect their incomes. Despite this, just over half of them (55%) felt ready to face extreme weather events. However, nearly three-quarters (73%) were keen to learn new skills to address these issues.

⁸⁶ They were least likely to feel that their access to water had improved (just one fourth reported this) – and frequently mentioned that saltwater intrusion affected their ability to grow crops and access enough safe drinking water. Coastal residents were also least likely to feel their access to food had improved (just one third felt this). People from this region were the least likely to feel prepared for extreme weather (slightly less than half said this). They were the most likely to say they needed support from the government to take action and that they did not know how to take steps. This is reinforced by the fact that only two in five felt informed about climate change adaptation.

- The very poor is another key group that stands out as facing strong barriers to taking action to protect themselves from changes in the weather, environment, and resource availability.⁸⁷ This very vulnerable group struggles with basic needs and requires the most support and information to help them prepare for extreme weather and cope with long-term stresses.

Community action requires strengthening capacity among a range of stakeholders addressing climate change

There is a range of ways in which different stakeholders can help to support communities to take action to prepare for and adapt to the impacts of climate change in their everyday lives.

Policy-makers:

- Policy making on the topic of climate change should ensure it takes a bottom-up approach, promote and track the active participation of women at all levels, and aim to address the immediate challenges that the communities face. When planning any strategies or policies on the topic, it is critical to know the audience: their needs, what motivates them, how they get their information, and how this differs by key groups (i.e. by sex, location, income levels). This will make the intervention more appropriate and engaging so that it can contribute to the positive policy implementation. As such, policy makers should ensure that key target audiences and behavior change objectives discussed in the section above should be at the centre of future policy formulation.
- Key areas for policy focus which emerged from this study are irrigation and water issues, especially for farmers and fishermen. Policy which focuses on improving access to water and irrigation would have beneficial impacts on men and women's ability to cope with climate change and also improve their livelihoods and alleviate poverty. The study has shown that women face particular vulnerabilities linked to water issues and as such, would benefit from gender transformative approaches that takes into account the differing needs and experiences of women and girls.
- The development, implementation and progress of policies addressing climate change should be made widely accessible, taking into account the capacity of different audience groups to understand and act on them.
- A full review of the efficacy of climate change policy development and implementation is outside the parameters of this study. Future focus on this area would be productive and could be used alongside the data presented here in the formulation of further policy recommendations.

⁸⁷ When asked what people could do to prepare for extreme weather, just over half (53%) of this group could not name any actions. In a prompted follow-up question, members of this group failed to mention some key actions. Very poor people were the least likely to report having saved money or stored food, indicating how challenging even 'simple' actions are for this group. When asked about changes they had made to their livelihoods, 71% of this group had made job changes as a coping strategy, highlighting the fragility of their livelihoods. People in this group were also least likely to say they understood the term 'climate change'.

National Level:

- Some regions, especially Coastal, are more vulnerable to risks induced by climate change. **Increased decentralisation** of climate change interventions to sub-national and local levels could support effective, targeted implementation on the ground and see more immediate benefits at community level. For example, the CCCSP 2014–2023 already commits to supporting development stakeholders in developing and implementing climate change work. Strategic objective 5 – “Improved capacities, knowledge and awareness for climate change responses” – should remain a priority for all government climate change-related actions and interventions. **Therefore, it is recommended to develop a specific communication and awareness building plans that targets the specific needs of these more vulnerable regions.**
- Supporting government stakeholders at different levels to understand and communicate **more effectively about climate change** should be integrated into workplans. Streamlining workplans and objectives at all levels will help community members to have an improved understanding of actions they can take. National-level government institutions in charge of climate change policy should reassess 1) climate change mainstreaming in planning, 2) institutional capacity and co-ordination, 3) access to, and use of, information, and 4) performance assessment of implementers to prepare capacity development plans tailored to improve performance over time.
- To ensure sub-national implementation of climate change policy is effective, **regular field monitoring** should be conducted to check local progress and the support needed and ensure effective synchronisation between national and sub-national levels.
- National government stakeholders should also **strategically disseminate** any annual or relevant reports on **progress in climate change strategies** – achievements, lessons learned and the way forward – to help other stakeholders including NGOs, development partners and the private sector to understand where their efforts could be most effective. This could be through setting up knowledge sharing platforms or forums where stakeholders from different levels can coalesce to hear about reports or updates and can share lessons to build knowledge. Continuing to implement a research programme to understand the impact of climate change on Cambodians, especially looking at coping strategies and adaptation to water shortages and droughts would be beneficial.

Sub-National Level:

- **Increasing the capacity and resources of local stakeholders responsible for climate change work at sub-national and local levels is key.** Local authorities are a key trusted information source and key influencers of communities, who can help to motivate people to take action. Supporting local stakeholders to communicate with communities more effectively on how to take action could improve community responses. Sub-national level also needs a greater capacity to plan, finance and

implement climate change action plans and use a consistent monitoring and evaluation framework provided by the national government.

- People appreciate receiving support to address infrastructural issues such as access to water, as this is a key resource for many livelihoods, especially in rural areas. Sub-national level **should consider how investment in infrastructural changes can support people to take action** in response to the impacts of climate change. Therefore, it is recommended to consider developing specific local engagement plans to encourage people to take action at local level.
- **Developing local government capacity to help communities prepare, implement and monitor disaster risk management plans.** Local authorities are uniquely able to respond to issues affecting their specific location. Local authorities should ensure that their communication strategies or interventions are relevant to the everyday, climate-related impacts experienced by community members and promote sustainable technologies and practices that are relevant to local people and livelihoods. Therefore, having local engagement plans to encourage people to take action at a local level would be recommended. Encouraging communities to take action at a local level could be enhanced through increased non-formal environmental education related to climate change that is accessible for all in the community. For more detail, please see the Appendix 1: Communication strategies.

Community leaders/opinion formers:

- Local leaders and influencers are often the first key stakeholder community people approach with an issue or problem. The study found that they were key stakeholders in resolving issues and were sometimes seen as important information sources or role models. Therefore, village chiefs or commune council leaders should also be trained and supported to understand the climate change-related issues affecting their communities. This includes understanding the needs and perspectives of different community members, including marginalised groups. As trusted stakeholders, these people are key to engaging communities, building trust and introducing new initiatives or support to benefit them.
- Community members hold high levels of trust in influential people in the community such as teachers or religious leaders. But these people are not yet regarded as an important source of information on climate change. Government and other relevant stakeholders should explore potential partnerships with trusted opinion leaders to disseminate information and spur action in communities.

NGOs/private sector/academic institutions:

- In addition to government stakeholders, NGOs, private sector organisations, media outlets and universities also play a large role in helping to address climate change and working with populations to improve their awareness, knowledge and action.

However, these stakeholders have limited opportunities to learn from each other and design more effective interventions to benefit communities. It would be helpful to build a shared recognition that addressing climate change is the responsibility of a broader range of actors, not just the population and the government, and to improve opportunities to network among these stakeholders. Joint efforts to address climate change between these actors could help to amplify the impacts of their solo initiatives.

- Community members are highly reliant on support from the government and NGOs in order to take action in response to the impacts of climate change. They also have high levels of confidence in these stakeholders' responses to addressing these issues. NGOs should continue to build trust among community members, while also supporting them to take action. Community-based NGOs can help to bring community members together to discuss ideas and possible solutions, and they can share information and potential solutions or techniques with people. Community-based NGOs should take an inclusive approach to supporting community members and sharing information.

Design programming, communication and measurement beyond basic metrics

- This study aims to provide recommendations for a small set of key indicators (based on KAP3 variables) to measure future communication and engagement strategies. These indicators should be able to track changes in Cambodian people's knowledge, attitudes, and practices towards climate change. They should also be easily understood by a wide range of practitioners and policy-makers, enabling them to assess the overall effectiveness of awareness raising and capacity building efforts in key areas of climate change response.
- As discussed in Section 2.5 of the main report, the KAP3 study took a different approach to survey design and implementation to previous KAP studies. It primarily asked Cambodians about changes they had experienced or noticed in the weather and the availability of key resources, and how this affected their lives. This provides a useful opportunity to use the KAP3 data as a new baseline for future measurement.
- **Overall measurement:** Indicators to measure Cambodians' knowledge, attitudes, and practices and monitor changes related to those areas should be defined in line with overall climate change strategies, interventions and communication strategies. The more tightly aligned strategies and measurement frameworks are, the more likely that their impact will be effectively measured and understood.
- **Knowledge:** Continuing to use the metric of overall awareness of the term 'climate change' will only be useful alongside concerted efforts to help Cambodians understand this key term. The KAP3 study found that while awareness of the term 'climate change' is high in Cambodia, understanding is low. Many Cambodians do not connect the technical concept to the changes felt in their daily lives. If 'climate change knowledge' is to continue to be a metric to measure success, Cambodians need to know what the causes and impacts of climate change. Tracking indicators

such as level of understanding of the term through more knowledge- or test-based questions would be more effective.

- **Taking action:** It would be more effective to measure and track specific actions by individuals that are encouraged by climate change interventions or programming. Rather than measuring overall action or any actions taken, it would be useful to split actions into different types and domains as in the KAP3 study (actions in response to water shortages, food shortages or livelihoods). This would provide a more nuanced understanding of the actions being taken and could be traced back specific interventions or strategies. Focusing action measurement on what individuals do themselves (rather than asking them to report on actions they have noticed people taking in their community) is a tighter measure that will be less prone to error or judgement.
- **Efficacy:** Depending on the focus of climate change interventions or programming, a key indicator to continue tracking would be how confident and motivated individuals are to take action on climate-related issues, both individually and at a community level.
- **Awareness of support and trust in institutions:** Continuing to track resource, social and institutional barriers to taking action and monitoring how and where they decrease would be an effective overall measure to understand how Cambodians feel they can cope with climate change. The more closely linked these barriers are to climate change interventions or programming, the more effective measuring them will be. People's awareness of the type of support available or how they can access support from different institutions (government, private organisations, CSOs or NGOs) is another effective measure to understand if these institutions' strategies to reach and engage Cambodians are effective.

- ActionAid Cambodia. (2020). The Cambodia Women's Resilience's Index. Phnom Penh: ActionAid Cambodia. Retrieved 20 October 2020, from: <https://cambodia.actionaid.org/publications/2019/cambodia-womens-resilience-index-2019#downloads>
- ADPC & UNDRR. (2019). Disaster Risk Reduction in Cambodia: Status Report 2019. United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific.
- Asian Development Bank (ADB). (2015). Promoting Women's Empowerment in Cambodia. Philippines: Asian Development Bank. Retrieved 12 February 2020, from: <https://www.adb.org/sites/default/files/publication/156499/promoting-womens-economic-empowerment.pdf>
- BBC Media Action. (2019). How the people of Cambodia live with climate change and what media and communication can do. BBC Media Action.
- DCC/GSSD. (2016). Cambodia's National Climate Change M&E Framework. Retrieved 10 January 2020, from: <http://www.camclimate.org.kh/en/documents-and-media/library/category/140-climate-change-m-e-framework.html?download=727:cambodia-s-national-climate-change-m-e-framework-brief-en>
- Di Deodato, L., Erdogmus, G., & Detten, R. (2018) Research and Development in Climate Change and Related Areas within Higher Education in Cambodia, Laos and Vietnam: Current Status and Trends. Erasmus+ project REACT. Retrieved February 12, 2020, from: https://www.climate-react.eu/sites/default/files/react_-_rd_in_climate_change_en_web.pdf
- Eckstein, D., Kunzel, V., Schafer, L., & Wings, M. (2020) Global Climate Risk Index 2020. Bonn: GermanWatch. Retrieved 12 October 2020, from: https://germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf
- Goh, A. H. (2012) A Literature Review of The Gender-Differentiated Impacts of Climate Change on Women's and Men's Assets and Well-being in Developing Countries. Washington DC: International Food Policy Research Institute. Retrieved 10 October 2020, from: <https://ebrary.ifpri.org/digital/collection/p15738coll2/id/127247>
- Green Climate Fund. (n.d.). National Committee for Sub-National Democratic Development Secretariat. Retrieved 23 November 2020, from: <https://www.greenclimate.fund/ae/ncddsecretariat>
- GSSD. (2015). Cambodia's Second National Communication under the United Nations Framework Convention on Climate Change. Phnom Penh: GSSD/ME. Retrieved 20 October 2020, from: <http://unfccc.int/resource/docs/natc/khmnc2.pdf>

- GSSD. (2017). National Adaption Plan Process in Cambodia. Phnom Penh: General Secretariat of National Council for Sustainable Development/Ministry of Environment, Cambodia. Retrieved 12 February 2020, from: <https://ncsd.moe.gov.kh/sites/default/files/phocadownload/POLICYFRAMEWORK/FINANCING/cambodia%20nap%20process%20document.pdf>
- GSSD, & MoE. (2020). Cambodia's Updated Nationally Determined Contribution (NDC). Phnom Penh: The General Secretariat of the National Council for Sustainable Development/Ministry of Environment, Cambodia.
- IPCC. (2018). Global Warming of 1.5°C. Retrieved 7 December 2020, from: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_AnnexI_Glossary.pdf
- Käkönen, M., Lebel, L., Karhunmaa, K., Dany, V., & Try, T. (2014) Rendering climate change governable in the least-developed countries: Policy narratives and expert technologies in Cambodia. *Forum for Development studies*, 41(3), 351–376. DOI: 10.1080/08039410.2014.962599
- Kem, K. (2016). Progress of Women in Politics in Cambodia. Phnom Penh: PIC. Retrieved 12 February 2020, from: https://www.pic.org.kh/images/2016Research/20170523%20Progress%20of%20Women%20in%20Politics_Eng.pdf
- MAFF, NCSO & MoE. (2019). Adaptation Technologies Guide – Agriculture. Phnom Penh, Cambodia. Retrieved 12 February 2020, from: <https://ncsd.moe.gov.kh/resources/document/adaptation-technologies-guide-agriculturejune-2019en>
- MAFF. (2020). Annual Report of Ministry of Agriculture, Forestry and Fisheries. Phnom Penh: MAFF.
- MEF & GSSD. (2019). Addressing Climate Change Impacts on Economic Growth in Cambodia. MEF and GSSD. Retrieved 10 October 2020, from: <https://www.kh.undp.org/content/cambodia/en/home/library/2019/addressing-climate-change-impacts-on-economic-growth-in-cambodia.html>
- MoE. (2011). Understanding public perceptions of climate change in Cambodia (KAP1). Phnom Penh: MoE.
- MoE. (2016). A Second Study on Understanding of Public Perception of Climate Change in Cambodia: Knowledge, Attitudes and Practices. Phnom Penh: MoE
- MoE & FAO. (2020). Concept note: Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihood in Tonle Sap Basin (PEARL). Green Climate Fund. Retrieved 21 October 2020, from: <https://www.greenclimate.fund/sites/default/files/document/23210-public-social-private-partnerships-ecologically-sound-agriculture-and-resilient-livelihood.pdf>

- MoEYS. (2018). Climate Change Textbook for the Upper Secondary School. Ministry of Education, Youth and Sport. Retrieved 12 February 2020, from: https://ncsd.moe.gov.kh/sites/default/files/2019-08/CC%20Textbook%20for%20Upper%20Secondary%20School_2018_kh.pdf
- MoWA. (2014). Attitude Gender Relations and Attitude Cambodia Gender Assessment. Phnom Penh: MoWA.
- NCDDS. (2017). Concept note: Local Governments and Climate Change (LGCC). Green Climate Fund. Retrieved 21 October 2020, from: <https://www.greenclimate.fund/sites/default/files/document/17610-local-governments-and-climate-change-lgcc.pdf>
- NCSD. (2019a). NDC Roadmap and Stakeholder Engagement Plan 2019-2030. Phnom Penh: National Council for Sustainable Development. Retrieved 10 February 2020, from: https://ncsd.moe.gov.kh/sites/default/files/2019-08/Cambodia%20NDC%20Roadmap%20and%20Stakeholder%20Engagement%20Plan_awaiting%20signature_2019_en.pdf
- NCSD. (2019b) Mid-term review of Cambodia Climate Change Strategic Plan 2014-2023. Phnom Penh: General Secretariat of the National Council for Sustainable Development. Retrieved 12 February 2020, from: https://ncsd.moe.gov.kh/sites/default/files/2019-08/CCCSP%20MTR_Final%20Evaluation%20Report_final_cleared.pdf
- Nicholson, K., & Dourng, K. (2019). Addressing climate change impacts on economic growth in Cambodia. Phnom Penh: MEF and GSSD. Retrieved 12 October 2020, from: <https://www.kh.undp.org/content/cambodia/en/home/library/2019/addressing-climate-change-impacts-on-economic-growth-in-cambodia.html>
- OECD. (2014). Guidelines for Resilience Systems Analysis. OECD. Retrieved 23 December 2020, from: <https://www.oecd.org/dac/Resilience%20Systems%20Analysis%20FINAL.pdf>
- Oxfam America. (2010). Rural Women, Gender, and Climate Change: A Literature Review and Invited Perspectives on Climate Change Impacts and Processes of Adaptation in Cambodia. Retrieved 12 February 2020, from: http://www.rrcap.ait.asia/Publications/LITERATURE_REVIEW_-_Rural_Women_Gender_and_Climate_Change.pdf
- Oxfam. (n.d.). Drought Management Considerations for Climate Change Adaptation: Focus on the Mekong Region. Retrieved 12 February 2020, from: <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/112524/drought-management-considerations-climate-change-adaptation-cambodia-211008-en.pdf;jsessionid=D91D4DFE40F841D74CE228C6CE7341FC?sequence=1>

- RGC. (2013a). Cambodia Climate Change Strategic Plan 2014–2023. NCCC. Retrieved 12 February 2020, from: http://cambodiaip.gov.kh/DocResources/ab9455cf-9eea-4adc-ae93-95d149c6d78c_007729c5-60a9-47f0-83ac-7f70420b9a34-en.pdf
- RGC. (2013b). National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018. The Royal Government of Cambodia. Retrieved 10 January 2020, from: https://www.rrcr-resilience-southeastasia.org/wp-content/uploads/2017/12/2014_national_action_plan_for_disaster_risk_reduction__nap-drr__2014-2018_english.pdf
- RGC. (2018). Rectangular Strategy for Growth, Employment, Equity, and Efficiency: Building The Foundation Toward Realizing the Cambodia Vision 2050 Phase IV. Phnom Penh: RGC.
- RGC. (2019). National Strategic Development Plan 2019–2023. Phnom Penh: RGC. Retrieved 29 January 2020, from: https://data.opendevlopmentmekong.net/dataset/087e8a03-f09d-4eb2-94f2-00d8d237b342/resource/bb62a621-8616-4728-842f-33ce7e199ef3/download/nsdp-2019-2023_en.pdf
- RUA. (n.d). Royal University of Agriculture. Retrieved 23 December 2020, from: http://www.rua.edu.kh/index.php/view_divicen/137365694144
- RUPP. (2020). Master of Science in Climate Change. Curriculum brochure, Royal University of Phnom Penh, Retrieved 29 January 2020, from: http://www.rupp.edu.kh/graduate/climate_change/
- Sao, V., Gowland, S., Kim, L., Hor, O., & Ratan, A. (2020). Participatory Action Research on Gender-based Vulnerabilities to Climate Change in Cambodia. Phnom Penh: BBC Media Action.
- Snow, C., & Taylor, W. (2015). Media, discussion and attitudes in fragile contexts. BBC Media Action. Retrieved 3 December 2020, from: <http://downloads.bbc.co.uk/mediaaction/pdf/research/media-discussion-attitudes-fragile-contexts-report.pdf>
- Talberth, J., & Reytar, K. (2014). Climate change in the lower Mekong River Basin: An Analysis of Economic Value at Risk. New York: USAID. Retrieved 20 October 2020, from: https://web.archive.org/web/20170221055112/http://mekongarcc.net/sites/default/files/usaid_marcc_values_at_risk_report_with_exesum-revised.pdf
- UNICEF. (2017). Gender Equality: Glossary of Terms and Concepts. UNICEF Regional Office for South Asia. Retrieved 23 December 2020, from: <https://www.unicef.org/rosa/media/1761/file/Gender%20glossary%20of%20terms%20and%20concepts%20.pdf>

- UNDP. (2012). Cambodia Climate Public Expenditure and Institutional Review. UNDP Regional Centre for Asia-Pacific. Retrieved 23 December 2020, from: https://www.climatefinance-developmenteffectiveness.org/sites/default/files/publication/attach/Cambodia%20CPEIR%20_web.pdf
- UNDP. (2019). Cambodia's Voluntary National Review 2019 of the Implementation of 2030 Agenda. Retrieved 20 October 2020, from: https://sustainabledevelopment.un.org/content/documents/23603Cambodia_VNR_SDPM_Approved.pdf
- Un, S. (2018) Review of Implementation Challenges Posed by the Climate Change Action Plan 2014-2018 in Cambodia: Case Studies of Three Ministries. Parliamentary Institute of Cambodia (PIC). Retrieved 8 January 8 2020, from: https://www.pic.org.kh/images/2018Research/20180611_Review%20of%20Implementation%20Challenges%20Posed%20by%20the%20Climate%20Change%20Action%20Plan%20in%20Cambodia.pdf
- USAID. (2019). Climate Risk Profile Cambodia. USAID. Retrieved 12 October 2020, from: https://www.climatelinks.org/sites/default/files/asset/document/2019_USAID_Cambodia%20CRP.pdf
- World Bank. (2020). GDP growth (annual %) Cambodia. World Bank. Retrieved 20 October 2020, from: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=KH>

Appendix 1: Communication Strategies

Introduction

There is increasing recognition that media and communication can be highly effective tools to build people's resilience and support positive changes in their knowledge, attitudes, and practices towards climate change.

Media and communication can support people in Cambodia to reduce the impact of climate change on their lives in multiple ways, by:

- Making technical information more accessible
- Addressing harmful social norms and perceptions
- Supporting people to evaluate their choices, facilitating dialogue, and prompting positive decisions

Media and communication are also valuable tools to build the capacity of practitioners and engage policy-makers. These are all areas that could be leveraged to contribute to positive outcomes in climate change mitigation and adaptation in Cambodia.

This appendix aims to provide guidance to stakeholders including the RGC, NGOs, and the media on how communication can be used to effect positive changes on knowledge, attitudes, and practices around climate change, using the data and insights generated from the KAP3 study. It sets out the different steps involved in developing effective communication strategies and gives practical examples, building on the study recommendations. These indicative approaches and entry points can be used independently by interested parties or in conjunction with other communication plans and strategies.

Alignment with other communication strategies

There are undoubtedly benefits to developing unifying communication strategies that could be used at national and sub-national levels to harmonise communication efforts across Cambodia and achieve economies of scale. This could be done by devising a communication framework for use by stakeholders to help maximise investments in this area by seeking synergies and aligning communication objectives and messages. This would require a much more comprehensive view of both existing and planned climate change mitigation and adaptation efforts in Cambodia, and is beyond the scope of this study. For example, strategic objective 5 of the CCCSP, which focuses on improved capacities, knowledge, and awareness for climate change responses, is of particular relevance to the KAP3 study recommendations and even echoes some of them, such as the need to develop targeted awareness programmes for the most vulnerable groups.

The objective of the communication plan for Cambodia’s National Adaptation Plan (NAP) to “influence key stakeholders to be proactive players on the implementation of adaptation actions [...] thus helping to mobilise resources and scale up implementation, as well as increase knowledge”. As such, it has a different scope to the suggestions outlined here, which focus on supporting population-level change. Nevertheless, it would be beneficial for any future communication outputs to be co-ordinated with the strategy to align the information disseminated to groups across Cambodia. There are some useful suggestions of how to reach key stakeholders, for example in Figure 4: Channels and tools for communication in Cambodia’s NAP, which have been taken on board in this appendix. Equally, future implementers of communication work relating to the NAP process may want to incorporate some of the KAP3 study recommendations.

Elements of effective communication strategies

Effective communication strategies are a bit like a jigsaw puzzle, comprising different elements that come together to achieve a whole. This section outlines each of the distinct segments of Cambodian society and offers guidance on developing strategies to effect positive change in their knowledge, attitudes, and practices around climate change.



Figure 26: The communication strategy jigsaw

Define your objectives

It is important to clearly define the desired change, whether that is raising awareness, shifting attitudes, building skills or encouraging discussion. As explored later in this section, when tackling complex and multi-faceted subjects such as climate change and empowering people to take independent action, it is often beneficial to think beyond just increasing awareness and knowledge. For example, this might include breaking down social barriers and harmful gender norms and building people’s enthusiasm for working together as a community. To increase the likelihood of success, the communication

objectives should be rooted in audience needs and priorities. Breaking the objective down into measurable goals will help to assess the impact of any interventions. These goals might include a target number of people to reach, a particular behaviour change or a change in policy.

Know your audience

Effective communication is rooted in a deep understanding of the target audience. This can cover, for example, their values, attitudes, perceptions, practices, needs, priorities, and interests as well as their media habits. The KAP3 study provides a rich source of data and insights that can be used to do this.

Different groups of people have different needs, according to their sex, location, affluence, level of education and livelihood. The segmentation outlined in Section 4.9 of the main report gives valuable insights into the behaviours and needs of particular groups of Cambodians, which go beyond demographic data and can help to deliver more nuanced strategies. Improving people's responses to the impacts of climate change requires a recognition of people's diversity, and prioritising key vulnerable groups. Such groups include Cambodians living in rural areas, farmers and fishermen, and people with disabilities. Communication interventions need to support these groups to increase their knowledge on how to take action to prepare for and respond to the impacts of climate change, and the benefits this will bring to their day-to-day lives.

Craft your communication

Effective communication requires devisers and implementers to have a clear definition of what is being communicated. This could be information that helps to solve problems people face or an inspiring story that encourages people to take steps to help themselves. Effective communication around climate change should not just tell audiences to do something. It needs to bring to life actions, behaviours and values for people to consider. To be truly impactful, communication needs to be simple, relevant, practical and credible, and framed around people's everyday values and motivations.

When considering how to support climate change adaptations in Cambodia through communication, for example through increasing public access to data and information use by practitioners and decision-makers, simply providing data and raising awareness is not enough. Addressing the underlying barriers and enablers that need to change, using language and concepts rooted in people's daily lives, is a much more effective approach to supporting people. It is best to avoid scaremongering as this can often have a detrimental effect on people's motivation to change.

Furthermore, tackling underlying barriers and enablers can be more effective than a 'messaging' approach in encouraging people to take action. Awareness and knowledge do not always lead to change – people may be well aware of what needs to be done but other factors may impede them from acting on this knowledge.

Using data from the KAP3 study, this report has outlined the priority enablers to address in communication with Cambodians in order to increase their resilience to the impacts of climate change. These are fully described in the main report's Recommendations section but include:

- Showing the benefits of taking action on people's key motivators, such as their health, education and livelihoods
- Normalising discussion around the existing impacts of climate change and actions people are already taking in response
- Showcasing role models implementing simple, cheap and replicable solutions to help them prepare for and cope with the impacts of climate change

Engage partners

Working with partners can provide essential technical knowledge and also amplify communication objectives or messages. In the complex context of climate change in Cambodia, aligning with other strategies such as those outlined above and seeking synergies would be beneficial.

Choose your channel

A communication channel is the means used to deliver communication content. This could be one or more of many different ways to reach Cambodian people, including TV, national and local radio, social media, the internet, interpersonal communication, newspapers, and mobile phones. Different channels will be appropriate for different communication objectives and to reach different target audiences. As Cambodia is rich in communication 'touchpoints', consider strengthening existing channels such as popular TV programmes, school-based activities, youth groups, and extension services, etc.

Choose your format

The chosen format (way that communication content is packaged for delivery) can make a significant difference to its impact on the audience. Different formats are useful for achieving different things. Often, the more creative a format is, the more it will resonate strongly with audience members. For example, instead of announcing the benefits of storing rainwater, it might be more compelling to create a song or play about it. Dramas are often good ways to tackle multiple and difficult issues over time.

Different formats and objectives suit different communication channels. For example, public service announcements (PSAs) relating to extreme weather events are best when targeted to audiences in affected areas through popular local radio stations.

Various formats can also complement each other. For example, people might learn more about new crop techniques through a community discussion based on a radio programme they have heard, rather than just listening to the programme. Consider whether a format

should directly convey a message to the audience or encourage them to discuss an issue. Is what is being communicated better suited to a visual or verbal treatment?

Measure impact

Measuring impact is a crucial step to determine the efficacy of communication and allows for course correction if it is not having the desired effect. A set of measurable key indicators should be developed to help guide the evaluation process. Sharing the results of communication interventions across the climate change sector would also be valuable.

Amplify impact

It is sometimes helpful to scale up an effective communication approach to other areas. Sharing results and communication outputs with other stakeholders can also help to ensure maximum reach and impact.

Communications Strategies Framework

The Communications Strategies Framework uses insights and data from the KAP3 study, focusing on the population level and vulnerable groups, including stakeholders as a target audience where appropriate. These stakeholders include policy-makers and government officials, district and provincial leaders, commune council, religious leaders, NGO and CSO representatives, and media practitioners. As well as being target audience groups, these groups hold influence that could be mobilised in communication efforts to bring about positive change or be used as communication ‘channels’.

Some examples of communication platforms, formats, and channels to reach different target groups are included in the following tables (one for each target group) but this list is not exhaustive. The KAP3 study recommendations should stimulate and inspire the development of communication strategies by different actors, tailored according to the specific target group, the timescale, and available resources.

Table 6: Communication strategy for farmers and fishermen

TARGET GROUP:	Farmers and fishermen
OBJECTIVE:	Help them to take adapt their livelihoods so they have more secure incomes and are prepared for extreme weather events
BARRIERS	ENABLERS
<ul style="list-style-type: none"> • Lack of knowledge on climate change, despite already taking some action • Struggling with access to water for agriculture 	<ul style="list-style-type: none"> • Confidence and trust in communication from, and institutional responses to, climate change – including commune councils and local authorities
<ul style="list-style-type: none"> • Declining fish stocks • Do not feel prepared or ready to face extreme weather 	<ul style="list-style-type: none"> • Motivated to act and keen to learn new skills • Building on actions already being taken, such as alternative livelihoods and saving money
COMMUNICATION NEEDS	
<p>KNOWLEDGE</p> <ul style="list-style-type: none"> • Awareness of support available to them • Help making the link between climate change in general, its impacts on their lives and the actions they can take <p>ATTITUDES</p> <ul style="list-style-type: none"> • The benefits of taking action collectively and how to learn from others <p>PRACTICES</p> <ul style="list-style-type: none"> • Techniques, methods and skills in: <ul style="list-style-type: none"> - How to cope with decline in fish stocks, e.g. possible alternative livelihoods - How to prepare for extreme weather and long-term stresses such as drought, and what to do about water shortages - How to make their existing actions more effective, such as optimal ways to use resources and new farming and fishing techniques 	

CHANNELS	FORMATS
<p>1. NGO/local authority community outreach work</p> <p>[as these actors are the most trusted influencers to drive positive actions – 83% confidence in local authority/commune council and 69% confidence in NGO]</p>	<p>1.1 Audiovisual materials to help demonstrate agricultural solutions and showcase innovation</p> <p>1.2 Community and networking events to a) share information on support available, b) facilitate discussion on shared problems, ideas and effective solutions rooted in everyday lives and c) leverage interest in working together</p>
<p>2. TV</p> <p>[69% of farmers watched TV, especially Hang Meas, Bayon and CTN]</p>	<p>2.1 Factual or drama content that explains the links between climate change and what is happening in their lives, perhaps in short films broadcast as PSAs on TV and simultaneously used as community outreach materials</p> <p>2.2 Factual content that role models farmers and fishermen ‘like them’ taking action, focusing on replicable techniques and steps. A long-format magazine series could combine technical information and real-life inspiring stories</p>
<p>3. Radio</p> <p>[28% of farmers listened to the radio – more than other groups except professionals]</p>	<p>3.1 Phone-in programmes with experts and model farmers to provide information on agricultural solutions</p>
<p>4. Mobile phones – via SMS/text messages, interactive voice response and social media</p>	<p>4.1 Short videos shared on Facebook and YouTube to demonstrate agricultural solutions and more in-depth toolkits in app form</p> <p>4.2 Early warning messaging service for drought, floods, and storms</p>

Table 7: Communication strategy for very poor and poor people

TARGET GROUP:	Very poor and poor people
OBJECTIVE:	Increase knowledge of the impacts of climate change, awareness of their own vulnerability, and their motivation to take action
BARRIERS	ENABLERS
<ul style="list-style-type: none"> • Lack of knowledge around climate change and how to prepare for extreme weather • Lack of motivation • Lack of trust in institutional responses to climate change • Do not feel the impacts of climate change • Highly vulnerable income streams and frequent job changes • Lack of media access, particularly TV, the internet, and social media • Don't discuss climate change-related issues with others • Find it difficult to take simple actions like saving money or storing food • Struggle to meet their basic needs 	<ul style="list-style-type: none"> • Motivated by seeing the rewards of taking action and others' success • Build on the actions they have already taken, such as changing jobs, to showcase the benefits of smaller actions such as saving money • Relatable role models for inspiration • Discussion with others to spark motivation • Motivated by things that help to increase their income
COMMUNICATION NEEDS	
<p>KNOWLEDGE</p> <ul style="list-style-type: none"> • Help them identify their own vulnerability and the risks they face • Information and understanding on how these risks affect them and their income <p>ATTITUDES</p> <ul style="list-style-type: none"> • Shift deep-rooted gender norms • Build motivation for taking action <p>PRACTICES</p> <ul style="list-style-type: none"> • Support simple, easy actions they can take themselves 	

CHANNELS	FORMATS
<p>1. Community outreach work led by trusted figures such as religious and community leaders</p> <p>[85% of very poor and 82% of poor confidence with their local authority]</p>	<p>1.1 Community and networking events in small peer groups with role models to a) showcase and discuss small changes that have made a difference and b) shift norms, particularly around women’s roles</p>
	<p>1.2 Audiovisual materials for use by extension workers/trusted people such as religious leaders to build understanding of the impacts of climate change and highlight small changes that make a positive difference</p> <p>1.3 Train extension workers to communicate with communities in clear, relatable and engaging ways, to spark motivation and build understanding</p>

Table 8: Communication strategy for young people (more educated and urban)

TARGET GROUP:	Young people (more educated and urban)
OBJECTIVE:	Connect them with how climate change will affect their futures and the future of Cambodia unless people like them take action
BARRIERS	ENABLERS
<ul style="list-style-type: none"> • Disconnection from many of the impacts of climate change because they do not feel them directly • ‘Fitting in’ is less important for them as a value 	<ul style="list-style-type: none"> • Less inhibited by social barriers than older people • Have a good level of knowledge about climate change • Engaged and willing to take action • High users of mobile phones and internet

COMMUNICATION NEEDS	
<p>KNOWLEDGE</p> <ul style="list-style-type: none"> • Build awareness and understanding of the impacts of climate change experienced by other people across Cambodia <p>ATTITUDES</p> <ul style="list-style-type: none"> • Build empathy with groups who are struggling more with the day-to-day impacts of climate change <p>PRACTICES</p> <ul style="list-style-type: none"> • Encourage them to recognise their role in addressing climate change for Cambodia's future and to get involved in taking action 	
CHANNELS	FORMATS
<ol style="list-style-type: none"> 1. NGO/local authority community outreach work [76% needs support from government and 69% need support from NGO] 2. TV [68% have access to TV, more than the middle age group but less than the oldest group] 3. Mobile phones [92% have access to mobile phones and 89% have access to social media] 	<ol style="list-style-type: none"> 1. Develop exchange or volunteer opportunities for urban youth to experience the impacts of climate change in rural areas 2. Long-format content that brings together young people who are detached from the impacts of climate change with those who are experiencing its impacts, to a) explore the issues and build greater understanding, and b) amplify youth voices 3. Short films that showcase young people valuing the environment and taking action to inspire others to follow suit

Table 9: Communication strategy for women

TARGET GROUP:	Women
OBJECTIVE:	Empower to take action, with the support of people around them
BARRIERS	ENABLERS
<ul style="list-style-type: none"> • Less access to media, networks and knowledge about climate change • Deep-rooted gender norms prevent independent decision-making on responding to climate issues affecting their family • Multiple responsibilities – often both household and agricultural – including looking after vulnerable groups such as the elderly and children 	<ul style="list-style-type: none"> • Motivated by considerations of the future for their children • Are already taking some action • People, including men, thought that women should voice their opinions more publicly
COMMUNICATION NEEDS	
<p>KNOWLEDGE</p> <ul style="list-style-type: none"> • Build access to information from media sources and knowledge networks <p>ATTITUDES</p> <ul style="list-style-type: none"> • Build supportive attitudes among influencers, including husbands, to enable women to make decisions independently <p>PRACTICES</p> <ul style="list-style-type: none"> • Shift gender norms to ensure more equitable responsibilities and access to information 	
CHANNELS	FORMATS
<ol style="list-style-type: none"> 1. NGO/local authority community outreach work and women’s networks/groups [81% needs support from government and 77% need support from NGO] 2. TV – in the evening, when women are more likely to have free time [65% of women have access to TV] 	<ol style="list-style-type: none"> 1.1 Inclusive community events to facilitate discussion on simple effective actions and involving women in decision-making related to climate change 2.1 Long-format drama content rooted in everyday lives to highlight the challenges and triumphs of rural life, and role model women and men taking action together 2.2 Short films to spark discussions on gender norms and the benefits of a more equitable responsibilities. These could be distributed as PSAs and used in community outreach activities

Appendix 2: Survey Items for Potential Future Indicators

The table below contains questions from the KAP3 survey that researchers suggest could be used for future indicators – either as single item measures or as composite indices that combine data from various items.

Table 10: The KAP3 survey items for future indicators

Key indicator	Question	See Appendix 3 for details of the reference	Baseline in KAP3
1. Knowledge			
Knowledge on climate change	Have you heard of the phrase ‘climate change’? Do you know what it means? The term ‘climate change’ must not be read out until coming to this question, or	QK1a, QK1b	QK1a: Yes=72% - Yes, but doesn’t know the meaning 39% - Yes, and know the meaning 33% No=28%
	It should be asked at the beginning. Which of the following do you think are the main causes of climate change? (Look at mention of ‘human activity’)	QK3	QK3: - 53% agree - 47% disagree
2. Attitudes			
Attitudes towards climate change	Do you think your actions contribute to climate change?	QK3Y	- 38% agree - 58% disagree - 4% don’t know
3. Practices			
Actions currently taken to cope or deal	What are you currently doing to cope/deal with	QD4a	- 91% currently take action

with changes in resource availability and weather	changes in the availability of water, food, electricity and fuel, and changes in the weather?		
Willingness to take action in the future to cope or deal with changes in resource availability and weather	How likely are you to make these changes in the future to help you deal with issues we have been discussing?	QD4b	<ul style="list-style-type: none"> - 86% willing to make future change
Actions currently taken to cope or deal with water shortages	Which of these actions are you currently doing to cope or deal with water shortages?	QE2a	<ul style="list-style-type: none"> - Storing/saving water 77% - Making water safe to drink 77% - Pay for water 57% - Finding a new water supply 41% - Recycling water/re-using wastewater 37%
Actions currently taken to cope or deal with food shortages	Which of these actions are you currently doing to cope or deal with food shortages?	QF2a	<ul style="list-style-type: none"> - Reducing food waste 79% - Growing different types of crops/ having different livestock 76% - Changing diet 70% - Keeping food for longer 51% - Rotating crops 43% - Use pesticides to increase crop yields 41%
Actions currently taken to cope or deal with extreme weather events	Which of these actions are you currently doing to cope with extreme weather events?	QG3a	<ul style="list-style-type: none"> - Watch or listen to weather forecasts 64% - Save money 58% - Store food 56% - Make permanent adjustments to my home 36% - Have disaster preparedness plan 34%

			<ul style="list-style-type: none"> - Learn new skills 19% - Make temporary adjustments to my home 19%
Preparedness for extreme weather events	If extreme weather (too hot/cold, storms/strong winds, lightning/thunder) were to happen in your local area, how prepared do you think you would be?	QD5	<ul style="list-style-type: none"> - Not at all prepared 23% - Not very prepared 20% - Fairly prepared 42% - Very prepared 14% - Don't know 1%
Ability to cope with changes in resource availability and weather	How able do you feel to cope/deal with these issues, i.e. the availability of water, food, electricity and fuel, and changes in the weather?	QX6	<ul style="list-style-type: none"> - Cannot cope/deal at all 11% - Cannot cope/deal very well 17% - Neither well nor not well 1% - Can cope/deal fairly well 66% - Can cope/deal very well 3%
Community response/ Actions taken to cope or deal with changes in resource availability and weather by community	What have people in your village or area done in response to changes in water, food, energy supplies or weather?	QY5	<ul style="list-style-type: none"> - 91% report that their community are taking action
4. Barriers and enablers			
Feeling informed about actions to cope with changes in resource availability and weather	How well informed do you feel about the things you could do to cope/deal with changes in water, food, or energy supplies, or weather you might be facing?	QJ3	<ul style="list-style-type: none"> - Not at all informed 14% - Not very well-informed 29% - Fairly well-informed 48% - Very well-informed 9%
Confidence in institutions	How confident do you feel that each of the following institutions are	QY2	<ul style="list-style-type: none"> - Local authority/commune council 83% - National, provincial and district institutions 79%

	taking the necessary actions to help respond to changes in water, food or energy supplies, or the weather?		<ul style="list-style-type: none"> - My local neighbourhood 72% - NGOs/other organisations 69% - Company/factory in the region 43%
Gender norms in relation to action	There are some statements which pertain to women's ability to adapt to changes in the availability of water, food, electricity and fuel, and changes in the weather. For each statement, do you agree or disagree with it?	QS3	<ul style="list-style-type: none"> - Women should voice their opinions more in community decision-making and public meetings M=93%, F= 94% - A woman's role is taking care of her home and family M=88%, F=90% - A man should have the final word about decisions in his home related to adaptation practices M=76%, F=69%
Barriers to action	These are reasons why some people do not respond/take action. Do you agree or disagree with each of them as a reason for why you would not respond/take action?	QS1	<ul style="list-style-type: none"> - Need support from the government 80% - Need support from NGOs/groups 75% - Don't have enough resources to respond/take action 70% - Don't have access to information 63% - Don't know how to respond/take action 63% - Have other priorities 61% - No one I know is responding/taking action 59% - It is not a problem for me now 47% - Fearful of discussing my actions with others 47% - Don't want to try anything new 45%

			<ul style="list-style-type: none"> - Not my responsibility to respond/take action 43% - Family won't approve if I respond/take action 42% - It does not fit with religion or beliefs/community culture 39% - It is too risky to try something new 38% - Taking action/response will not make any difference 57%
Enablers to action	Some people have given reasons why they have responded to impacts they have felt. Do you agree or disagree with each of them as a reason for why you would respond/take action?	QS2	<ul style="list-style-type: none"> - I want a better future for my children 98% - I want to be healthy 98% - I need to do something to maintain my livelihood 96% - I care about the natural environment 95% - I want to make/save more money 91% - I would feel good if I take action 91% - It's something that everyone else is doing 88% - I have enough information to respond 82%
Faith in community action and apathy	Do you agree or disagree with the following statements?	QD6	<ul style="list-style-type: none"> - My community can work together to solve problems 87% - I believe I can help my community be better prepared for disasters/extreme weather 83% - I cannot do much to change what happens in my life 65% - I prefer to work alone to solve problems 20%

Existing indicator of change in social response to climate risk	Have you heard of the phrase 'climate change'?	QK1a	- 72% have heard of the term
	What have people in your village or area done in response to changes in water, food, energy supplies or weather?	QY5	- 91% reported that their community are taking at least one action

If composite indicators are required for future measurement, we would recommend:

- Questions listed above can be analyzed individually to track trends, perceptions, issues, and needs for overall monitoring.
- Individual questions which are monitored should clearly link back to climate change interventions and strategies (especially in terms of communication strategies) which aim to support people to cope better with the impacts of climate change.
- Trend analysis for specific questions or answers would also benefit from being analysed based on key target audiences any communication strategy or intervention aims to tackle (for example rather than tracking overall preparedness, if a communication strategy which focused specifically on encouraging people in the Coastal region to prepare effectively is rolled out then it would make sense to look specifically at that specific population in any future analysis).
- For any composite indicators developed for overall tracking, it is important that any questions or constructs in the survey relate clearly to one another. For example, effective comparisons between KAP study findings using the previous indicator – ‘change in social response to climate risk, measured in %/year, (based on ‘proportion of respondents familiar with the term climate change’) and ‘proportion of respondents living in communities that are responding to climate variability’) may not enough for further tracking as it is not clear how far the two measures in this indicator are linked. Based on this experience, it might be important to define future indicators that comprised of constructs which link to each other more specifically. For example, an indicator which looks at levels of motivation and levels of action taken may be helpful to examine if increased motivation is leading to increased action (if a communication strategy was introduced which aimed to increase people’s levels of motivation to take action on climate change). Further examples could include:

- o To improve the measurement of **Knowledge** change over time: Think beyond whether people have heard of the terms “climate change (QK1a)” or “global warming (QK1b)”, but assess whether they understand the terms or know what does the terms means. Any monitoring of this should link to the content of any interventions which have aimed to increase people’s knowledge of the meaning and causes of climate change.
- o To measure **Attitude** changes over time: Capturing people’s experience about impact of climate change on their lives (QX1) and risk they feel (QG1), their willingness to respond (QD3), their perception on problem solving (QE1, QF1), as well as their perceived ability to cope (QX6) and how prepared (QD5, QG2) are important individual areas of measurement. Composite indices which link attitudes to take up of practices (which again link back to any interventions or communication strategies which have focused specifically on changing attitudes) could be an effective way to assess how, if at all, influencing attitudes is associated with practices.
- o To measure **Practice** changes over time: An indicator which looks at the links between perception of impact (QX1) and risk (QG1) and how this corresponds to responses/actions (QD4a, QE2a, QF2a) could be an important measure. Moreover, examine the quality or type of action could be a more effective way to measure how effective any interventions or communication strategies are working. For example, if one strategy is to encourage people to take up a certain type of action (such as more people having a disaster preparedness plan), then as well as looking at overall level of action being taken, tracking what level of take up there is amongst the population (or specific key target groups) would be more effective.

Appendix 3: KAP3 Survey Questionnaire

Household Serial Number: ___

INTERVIEWER VISITS			
	1	2	3
DATE [DD/MM/YY]	/ /	/ /	/ /
INTERVIEWER'S NAME:			
RESULT			
NEXT VISIT: DATE [DD/MM/YY]	/ /	/ /	
TIME			
*RESULT CODES: 1 = Interview completed 2 = Respondent refused to be interviewed 3 = Time and date set for later		4 = Respondent not at home 5 = Other (specify): _____	

ASK THE FOLLOWING QUESTIONS TO THE HEAD OF THE HOUSEHOLD OR THE CHIEF WAGE EARNER

IT IS IMPORTANT THAT YOU EXPLAIN TO THE HOUSEHOLD REPRESENTATIVE (THE PERSON YOU ARE SPEAKING WITH AND ASKING FOR INFORMATION) THAT YOU ARE REQUIRED TO SELECT THE PERSON FOR INTERVIEW ON A RANDOM BASIS AND THIS IS WHY YOU NEED TO RECORD NAMES. THE NAMES ARE ONLY FOR THIS PURPOSE AND WILL NOT BE USED BY ANYONE APART FROM YOU.

INTRODUCTION

Good morning/afternoon/evening. We are conducting a survey to understand how people feel about some important social and environmental issues and also to understand people's media habits and needs. For this reason, we are asking people in your neighbourhood to participate in our study. You were chosen by chance, and your help in answering our questions is important but voluntary. Everything that you say will be confidential. Could you help me answer some questions? Yes/no

If you agree to take part, I will ask you some questions about what media you use and your views on social and environmental issues. It's really helpful for us to hear your views and opinions in order for us to improve future intervention, so it's important for you to be as honest as you can be with us. This is not a 'test' and there are no right or wrong answers – we just want to hear what you honestly think.

We will be collecting your personal data e.g. your name for the purpose of undertaking this research and we will destroy this personal data once we complete our research work.

 Screener Questions

Q#	Question	Code			
Q1	Please let us know how many people live in your household. Please include all members of the household who have stayed and had meals together in the household for a minimum of six months – In this case, please include servants / maids, and temporary guests.	<input type="text"/> <input type="text"/>			
Q2	Among these, how many are children less than 15 years old?	<input type="text"/> <input type="text"/>			
Q3	Please give us the first name or initials, age and sex of each person aged 15 years or above in the household STARTING FROM THE YOUNGEST ONE (15 years, going up). Do not forget to include yourself if you are from 15 years old.				
	No.	Name	Sex	Age	Selected to be interviewed in Kish Grid
			Male	Female	
	1		1	2	
	2		1	2	
	3		1	2	
	4		1	2	

	5		1	2		
	6		1	2		
	7		1	2		
	8		1	2		
	9		1	2		
	10		1	2		

Select only one eligible respondent following the instructions below:

KISH-GRID MATRIX

AFTER COMPLETING THE INFORMATION ABOUT ALL ELIGIBLE HOUSEHOLD MEMBERS ABOVE, PLEASE SELECT THE RESPONDENT USING THE KISH GRID BELOW. THE KISH GRID ALLOWS THE RANDOM SELECTION OF A RESPONDENT AMONG HOUSEHOLD MEMBERS.

Kish-Grid instructions:

- Look up the column for the last digit in the household serial number and the row for the number of eligible people
- The number in the cell where the column and row meet is the Person No. to interview. For example, if household serial ending in '2' has '3' adults, interview the household member listed as Person No. 2 in the Household List at Q3
- Circle the chosen respondent and if available explain to them the purpose of the interview, obtain consent and proceed
- If the selected respondent will be available that day, but is not available/ not at home at the time the interviewer calls, the interviewer should make 2 return calls to see if that person is available/ has returned before selecting another household
- If the selected respondent is not going to be available that day, the interviewer should go to the next household. Do not select another respondent within the household.

Eligible people	Last Digit of Household Serial No.									
	1	2	3	4	5	6	7	8	9	0
1	1	1	1	1	1	1	1	1	1	1
2	2	1	2	1	2	1	2	1	2	1
3	2	3	1	2	3	1	2	3	1	2
4	3	4	1	2	3	4	1	2	3	4
5	5	1	2	3	4	5	1	2	3	4
6	5	6	1	3	3	4	5	6	1	2
7	3	4	5	6	7	1	2	3	4	5
8	6	7	8	1	2	3	4	5	6	7
9	8	9	1	2	3	4	5	6	7	8
10 or more	9	10	1	2	3	4	5	6	7	8

INTRODUCTION (IF NOT ALREADY READ)

Good morning/afternoon/evening. We are conducting a survey to understand how people feel about some important social and environmental issues and also to understand people's media habits and needs. For this reason, we are asking people in your neighbourhood to participate in our study. You were chosen by chance, and your help in answering our questions is important but voluntary. Everything that you say will be confidential. Could you help me answer some questions? Yes/no

If you agree to take part, I will ask you some questions about what media you use and your views on social and environmental issues. It's really helpful for us to hear your views and opinions in order for us to improve future intervention, so it's important for you to be as honest as you can be with us. This is not a 'test' and there are no right or wrong answers – we just want to hear what you honestly think.

We will be collecting your personal data e.g. your name for the purpose of undertaking this research and we will destroy this personal data once we complete our research work.

INFORMED CONSENT

BEFORE COMPLETING THIS CONSENT FORM YOU MUST READ THE BELOW INFORMATION AND ANY QUESTIONS YOU MAY HAVE BEEN ANSWERED BY THE INTERVIEWER.

Although there is no direct benefit to you for participating, your responses will be used to help understand what people think about these issues, and to help to improve future intervention so that it is more responsive to the needs of local communities in future.

Your responses and your identity will be kept confidential, which means we will remove anything that is likely to identify you or anyone else who takes part in this study, such as names and villages.

You can decide not to answer any question that you do not want to, you can stop the interview at any time without explanation.

The interview will take approximately 60 minutes.

Do you understand what I have just explained? (circle): Yes / No

Are you satisfied with the answers you have received regarding any questions you had? (circle): Yes / No

Do you agree to participate in this interview? For COVID19 safety measure, we will

be wearing mask, frequently cleaning hand with alcohol gel and sitting in distance at least 1 meter from each other? (circle): Yes / No

Do you agree to record our interview? (circle): Yes / No

1	<p>I have discussed with the respondent the above procedures, explicitly pointing out potential risks or discomforts. I have asked whether any questions remain and have answered these questions to the best of my ability. The respondent verbally agrees to participate in this study.</p> <p>Interviewer name: _____</p> <p>Interviewer signature: _____</p> <p>Dated: _____</p>
2	<p>IF RESPONDENT IS BELOW 18 OBTAIN ADDITIONAL CONSENT FROM PARENT/GUARDIAN</p> <p>As the parent/guardian of the respondent, I have read and understood the above information and any questions that I asked have been answered. I agree to grant consent for the respondent to participate in this study.</p>
	<p>Parent/guardian name: _____</p> <p>Parent/guardian signature: _____</p> <p>Dated: _____</p>
3	<p>FILL IN TIME WHEN YOU START THE INTERVIEW: </p> <p style="text-align: right;">HOUR MINUTES</p>

IMPORTANT: SIGNED COPIES OF THIS CONSENT FORM MUST BE 1) RETAINED ON FILE BY THE ENUMERATOR, 2) GIVEN TO THE RESPONDENT.

INTERVIEWER RECORD RESPONDENT DETAILS

Q4. Age	Write in year	_____
	Don't know	88
	Refused	99
Q5. Location (single code)	Urban	1
	Rural	2
Q6. Household Serial Number	Write in household no.	_____
Q7. Sex of the respondent (single code)	Male	1
	Female	2

NOW BEGIN THE INTERVIEW WITH THE SELECTED PERSON**SECTION A: OVERALL VALUES AND PRIORITIES**

DO NOT READ OUT “DON’T KNOW” OR “REFUSED/NO ANSWER” RESPONSES THROUGHOUT QUESTIONNAIRE.

ASK ALL

READ OUT: I would now like to ask about what is important in your life.

QA1. Everyone has different values and beliefs. Below is a list of values which different people have said are important to them. For each of these values, we want to understand how important or unimportant these are to you.

For each, can you first say if it is important or not important to you. If it is important, I will ask if it is very important or fairly important to you; if it is not important, I will ask if it is not very important or not at all important to you.

SINGLE CODE FOR EACH

Important		Not important	
Very	Fairly	Not very	Not at all

PRESENT SHOWCARD. DO NOT READ THE NEITHER/NOR OPTION OUT.

QA1	Very	Fairly	Neither/nor	Not very	Not at all	Don't know	Refused/No answer
a) Drawing on traditional values and religious/moral beliefs	5	4	3	2	1	88	99
b) Being able to voice my opinions on issues that concern me	5	4	3	2	1	88	99
c) Earning as much money as possible	5	4	3	2	1	88	99
d) Fitting in with people around me	5	4	3	2	1	88	99
e) Being well respected in my neighbourhood	5	4	3	2	1	88	99
f) Having the latest phone	5	4	3	2	1	88	99
g) Enjoying being in natural places (e.g. visiting forest or wildlife areas)	5	4	3	2	1	88	99
h) Keeping myself or my family in good health	5	4	3	2	1	88	99
i) Having education for myself or my family	5	4	3	2	1	88	99

ASK ALL

QA2 Compared to 5 years ago, would you say that your life is better, worse or the same now?

SINGLE CODE

IF MENTIONED 'BETTER', ASK - IS IT MUCH BETTER OR A BIT BETTER? IF MENTIONED WORSE, ASK - IS IT MUCH WORSE OR A BIT WORSE? CODE ACCORDINGLY IN THE GRID BELOW.

QA2		
Better	Much better	5
	A bit better	4
The same		3
Worse	A bit worse	2
	Much worse	1
Don't know		88
Refused/No answer		99

ASK ALL

QA3a Out of the following, which is your biggest worry at the moment?

QA3b And which is your second biggest worry at the moment?

PRESENT SHOWCARD. READ OUT. SINGLE CODE FOR EACH QA3a AND QA3b.

	QA3a	QA3b
Not having enough food to eat	1	1
Not having enough clean water to drink	2	2
Not having a suitable shelter/house	3	3
Not being healthy	4	4
Not having enough electricity/fuel	5	5
Not having enough work/employment/job	6	6
Not having enough money to spend on items for me and my family (clothes, furniture etc.)	7	7
Not sending my kids school/saving money for my children's future	8	8
Not worried about any of these things	9	9
Other - specify	10	10
Don't know	88	88
Refused/no Answer	99	99

SECTION B: AWARENESS OF ACCESS TO WATER/FOOD/ENERGY

ASK ALL

READ OUT: I would like to ask you about social and environmental issues that may affect your life...

QB1: Over the last 10 years, do you think the following have increased, stayed the same, or decreased?

SINGLE CODE FOR EACH.

IF MENTIONED 'INCREASED', ASK - HAS IT INCREASED A LOT OR INCREASED A BIT?
IF MENTIONED 'DECREASED', ASK - DECREASED A LOT OR DECREASED A BIT? CODE ACCORDINGLY IN THE GRID BELOW.

Increased		Stayed the same	Decreased	
Increased a lot	Increased a bit		Decreased a bit	Decreased a lot

QB1	Very	Fairly	Neither/nor	Not very	Not at all	Don't know	Refused/No answer
a) Availability of water (for daily consumption/activity e.g. drinking, cooking, keeping cool in hot temperatures etc.)	5	4	3	2	1	88	99
b) Availability of affordable food	5	4	3	2	1	88	99
c) Variety of food and vegetables (locally produced)	5	4	3	2	1	88	99
d) Availability of fish (natural fish only)	5	4	3	2	1	88	99
e) Availability of electricity (both private and public)	5	4	3	2	1	88	99
f) Availability of affordable fuel (example: petroleum and gas)	5	4	3	2	1	88	99
g) Agricultural productivity – ability for land to grow vegetables/crops	5	4	3	2	1	88	99

SECTION C: AWARENESS OF ENVIRONMENT AND WEATHER CHANGES

READ OUT: Next, I will ask your view on social and environmental changes.

ASK ALL

QC1 In your neighbourhood, would you say over the past 10 years each of the following has increased, stayed the same, or decreased? SINGLE CODE FOR EACH.

Increased		Stayed the same	Decreased	
Increased a lot	Increased a bit		Decreased a bit	Decreased a lot

QC1	Increased a lot	Increased a bit	Stayed the same	Decreased a bit	Decreased a lot	Not applicable for local area/ community	Don't know	Refused/ No answer
Number of trees	5	4	3	2	1	6	88	99
Variety of wild animals and birds	5	4	3	2	1	6	88	99
Variety of fish species	5	4	3	2	1	6	88	99
Number of agricultural pests	5	4	3	2	1	6	88	99
Number of insects such as flies and mosquitos	5	4	3	2	1	6	88	99
The amount of plastic/litter	5	4	3	2	1	6	88	99
Factories/industries in area	5	4	3	2	1	6	88	99
Air pollution	5	4	3	2	1	6	88	99

ASK ALL

QC2 In the area that you live, would you say over the past 10 years the following have increased, stayed the same, or decreased?

SINGLE CODE FOR EACH.

Increased		Stayed the same	Decreased	
Increased a lot	Increased a bit		Decreased a bit	Decreased a lot

QC2	Increased a lot	Increased a bit	Stayed the same	Decreased a bit	Decreased a lot	Not applicable	Don't know	No Refused/ answer
Rainfall	5	4	3	2	1	6	88	99
Temperature	5	4	3	2	1	6	88	99
Flood	5	4	3	2	1	6	88	99
Drought/water scarcity	5	4	3	2	1	6	88	99
Storm/strong wind	5	4	3	2	1	6	88	99

Lightning	5	4	3	2	1	6	88	99
Sea level	5	4	3	2	1	6	88	99

SECTION X: IMPACT OF CHANGES

READ OUT: You have just answered some questions on availability of water, food, electricity and fuel and changes in weather. The next series of questions will be asking you about the impacts that these have had on your life.

ASK ALL

QX1 On a scale of 1 to 10 where 1 = no impact and 10 is a very high impact?

How much of an impact do you feel these changes in the natural environment around you (availability of water and changes in weather) have on your life at present? PRESENT SHOWCARD FOR SCALE. SINGLE CODE.

QX1a	1	2	3	4	5	6	7	8	9	10	DK
------	---	---	---	---	---	---	---	---	---	----	----

And how much of an impact do you feel these changes (availability of water and changes in weather) can have in the future? PRESENT SHOWCARD FOR SCALE. SINGLE CODE.

QX1b	1	2	3	4	5	6	7	8	9	10	DK
------	---	---	---	---	---	---	---	---	---	----	----

ASK ALL

QX2 In your opinion, overall, have these changes (availability of water, food, electricity and fuel and changes in weather) affected your ability to...? READ OUT EACH OPTION ONE BY ONE. SINGLE CODE FOR EACH.

QX2	Yes	No	Don't know	Refused/ No answer
a) Earn money/do your work	1	2	88	99
b) Keep healthy	1	2	88	99
c) Eat what you want to eat	1	2	88	99
d) Use water for your daily life (e.g. drinking, cooking, washing, keeping cool in hot temperatures etc.)	1	2	88	99

ASK THOSE WHO NOTICED CHANGES AT QX2b (CODE1)

These changes could have had a positive or negative impact.

QX3 In what ways has you/your family's health been affected?

DO NOT READ OUT. CODE ALL THAT APPLY

Gets diarrhoea more often	1
Gets constipated more often	2
Gets coughs more often	3
Gets fever more often	4
Vomiting more often	5
Lost weight	6
Gets fatigue more often	7
Urinating less	8
Gets more blisters/sore on skin	9
Not had as many colds	10
Gained weight	11
Other (please specify)	12
Don't know	88
No answer/Refused	99

ASK THOSE WHO NOTICED CHANGES AT QX2c (CODE 1)

QX4 And in what ways has you/your family's diet been affected?

DO NOT READ OUT. CODE ALL THAT APPLY

I skip meals to feed children	1
I use less expensive ingredients	2
My children skip meals	3
My diet is not as varied	4
I have a greater understanding of nutrition	5
My diet is more varied	6
There is less food for everyone at each meal	7
Other (please specify)	8
Don't know	88
No answer/Refused	99

ASK THOSE WHO NOTICED CHANGES AT QX2d (CODE 1)

QX5a Finally, in what ways has your water consumption (e.g. for drinking, cooking, washing, keeping cool in hot temperatures etc.) in everyday life been affected?

DO NOT READ OUT. CODE ALL THAT APPLY

Less clean water to drink	1
Do not washing hands after going to the toilet every time	2
Do not washing hands when preparing food	3
Do not washing hands before eating	4
Do not washing hands after eating	5
Less clean water for cooking	6
Less water for washing clothes	7
Less water for cleaning the home	8
Less water for business farming (crops, livestock to sell)	9
Less water for growing food (crops, livestock for consumption)	10
Less water for flushing/washing the toilet/toilet area	12
Less eater for gardens, recreation	13
Having to travel further to get water	14
Using more water to cool down (i.e. take a bath)	15
Have more water now	16
Other (please specify)	17
Don't know	88
No answer/Refused	99

ASK ALL

QX6 In your opinion, overall, how able do you feel to cope/deal with these issues, i.e. availability of water, food, electricity and fuel and changes in weather? READ OUT (EXCEPT NEITHER/NOR) SINGLE CODE

Can cope well		Cannot cope well	
Very	Fairly	Not very	Not at all

QX6	
Can cope/deal very well	5
Can cope/deal fairly well	4
Neither well nor not well	3
Cannot cope/deal very well	2
Cannot cope/deal at all	1
Don't know	88
Refused/No answer	99

SECTION D: RESPONSES TO CHANGES

READ OUT: In the next part of the interview, I am going to ask you what people can do to respond to some of the changes in availability of water, food, electricity and fuel and changes in weather that we have been discussing.

ASK ALL

QD1 Have you, or your family, made changes to your current livelihood/ job to help cope /deal with changes in the availability of water, food, electricity and fuel and changes in weather you might be facing?

DO NOT READ OUT. SINGLE CODE

QD1		
Yes, a lot of changes	3	QD2
Yes, some changes	2	QD2
No	1	QD3
Don't know	88	QD3
No answer/refused	99	QD3

ALL THOSE WHO ARE CODED 3 OR 2 AT QD1 PROCEED TO QUESTION QD2

IF CODED 1 AT QD1, PROCEED TO QD3

QD2 So you said that you or your family made changes to your livelihood to cope with changes in the availability of water, food, electricity and fuel and changes in weather. What changes have you made? OPEN ENDED. DO NOT READ OUT/PROMPT. CODE ALL THAT APPLY

QD2	
Changed job	1
Travel further on a daily basis to find/go to work	2
Go away from home/migrate for a period of time to earn money	3
Migrated - changed place I live permanently	4
Grown alternative crops/change agricultural variety	5
Raised alternative fish/livestock	6
Supplemented income in other ways	7
Reduce the number of people I employ; or take on more of the work myself	8
Changed cultivation timing	9
Planted trees	10
Took loans from microfinance/banks	11
Borrowed money from other community members or family/relative	12

I get practical support from my family i.e. my parents look after my children whilst I work elsewhere	13
I have taken out insurance	14
Learned new skills	15
Other (specify)_____	16
Don't know	88
No answer/Refused	99

IF ANSWERED QD2, ASK 'MAKE MORE CHANGES', IF NO ANSWER TO QD2, ASK 'MAKE CHANGES'

QD3 How willing are you to make (more) changes to your current job/livelihood to help cope /deal with changes in the availability of water, food, electricity and fuel and changes in weather you might be facing?

SINGLE CODE. DO NOT READ OUT NEITHER/NOR

Willing		Not willing	
Very	Fairly	Not very	Not at all

QD3	
Very	5
Fairly	4
Neither/Nor	3
Not very	2
Not at all	1
Don't know	88
Refused/No answer	99

QD4a What are you currently doing to cope /deal with changes in the availability of water, food, electricity and fuel and changes in weather?

QD4b How likely are you to make these changes in the future to help you deal with issues we have been discussing? Likely or not likely? SINGLE CODE.

PLEASE NOTE THE NEUTRAL COLUMN IS AT THE END OF THIS SCALE.

Likely		Not likely	
Very	Fairly	Not very	Not at all

IF CODED 2 AT QD4a ASK QD4b

PLEASE SAY FOR ALL THE STATEMENTS: Only to cope with...	QD4a Currently doing		QD4b How likely are you to do these actions?						
	Yes	No	Very	Fairly	Neither/Nor	Not very	Not at all	Don't know	Refused/ No answer
Change job/business location (e.g. change area of fishing or location of grocery store)	1	2	5	4	3	2	1	88	99
Supplement income in other ways	1	2	5	4	3	2	1	88	99
Migrate for work	1	2	5	4	3	2	1	88	99
Learn a new skill/trade/ agricultural technique	1	2	5	4	3	2	1	88	99
Work together more / shared resources with people in my community	1	2	5	4	3	2	1	88	99
Use renewable sources of energy (e.g. solar power, lanterns)	1	2	5	4	3	2	1	88	99
Use electricity/fuel more efficiently (e.g. using energy saving light bulbs or turning off AC, use less alternative fuel for cooking)	1	2	5	4	3	2	1	88	99

ASK ALL

QD5 If extreme weather (too hot/cold, storm/strong wind, lightning/thunder) were to happen in your local area, how prepared do you think you would be? Prepared or not prepared? SINGLE CODE.

PLEASE NOTE THE NEUTRAL COLUMN IS AT THE END OF THIS SCALE.

Prepared		Not prepared	
Fairly	Not very	Not at all	Not at all

QD5	
Very prepared	5
Fairly prepared	4
Not very prepared	2
Not at all prepared	1
Neither/Nor	3
Don't know	88
Refused/No answer	99

ASK ALL

QD6 For each statement I read out, please say whether you agree or disagree with the following statements? Please say if you strongly agree, tend to agree; strongly disagree or Tend to disagree. READ OUT. SINGLE CODE. DO NOT READ OUT NEITHER/NOR

Agree		Disagree	
Strongly	Tend to	Tend to	Strongly

QD6	Strongly agree	Tend to agree	Neither/Nor	Tend to disagree	Strongly disagreed	Don't know	Refused/No answer	Refused/ No answer
a) My community can work together to solve problems.	5	4	3	2	1	88	99	99
b) I believe I can help my community be better prepared for disaster/extreme weather.	5	4	3	2	1	88	99	99
c) I prefer to work alone to solve problems.	5	4	3	2	1	88	99	99
e) I cannot do much to change what happens in my life.	5	4	3	2	1	88	99	99

SECTION E: RESPONDING TO WATER AVAILABILITY

READ OUT: In the next part of the interview, I am going to ask you what people can do to respond to some of the social and environmental issues we have been discussing.

ASK ALL

QE1 What can people do to deal with lack of available water? DO NOT READ OUT. CODE ALL THAT APPLY AND RECORD VERBATIM IN OTHER CATEGORY. MULTIPLE CODE.

a) Keep food for longer (e.g. freezing or drying food)	1
b) Change diet (e.g. using less expensive ingredients)	2
c) Reduce food waste (e.g. the amount of food I throw out)	3
d) Rotate crops (e.g. changing fields that crops are grown in, changing crop types)	4
e) Use technologies to improve soil fertility (e.g. mixing the soil with fertilizer)	5
f) Grow different types of crops/livestock	6
g) Find out about crop/livestock prices	7
h) Use pesticides to increase crop yields	8
l) Borrow food items (e.g. from other community members, or rice banks)	9
j) Borrow money from local micro-finances services or other community members	10
k) Seek technical support from governments services or NGOs to improve production of crops/livestock	11
i) Other (specify)_____	12
m) Don't know	88
n) Refused/No answer	99

READ OUT: Below is a list of actions people can take to help them deal with changes in food availability/food prices.

QF2a Please tell me which of these actions you are currently doing? READ OUT EACH ACTION. SINGLE CODE FOR EACH.

	QF2a Currently doing		
	Yes	No	Not applicable
Keeping food for longer	1	2	3
Changing diet (e.g. using less expensive ingredients)	1	2	3
Borrow food items from other community members	1	2	3
Borrow money from local micro-finances services or other community members	1	2	3
Reducing food waste (e.g. the amount of food I throw out)	1	2	3
Growing different types of crops/ having different livestock	1	2	3
Rotating crops (e.g. changing fields that crops are grown in)	1	2	3

Using technologies to improve soil fertility (e.g. using harvesting machinery)	1	2	3
Use pesticides to increase crop yields	1	2	3
Seek technical support from governments services or NGOs to improve production of crops/livestock	1	2	3

SECTION G: RESPONDING TO EXTREME WEATHER EVENTS

READ OUT: In the next part of the interview, we will discuss how people prepare for extreme weather.

ASK ALL

QG1 How at risk do you feel your local area is for experiencing an extreme weather event e.g. storms/strong winds, lightning/thunder, drought, floods/intense rains, extreme temperatures, where 1 is your local area is at no risk and 10 your local area is at high risk? SHOWCARD FOR SCALE. SINGLE CODE.

1	2	3	4	5	6	7	8	9	10	DK
---	---	---	---	---	---	---	---	---	----	----

ASK ALL

QG2 How can people prepare/get ready for extreme weather like storms/strong winds, lightning/thunder, drought, floods/intense rains, extreme temperatures DO NOT READ OUT. CODE ALL THAT APPLY AND RECORD VERBATIM IN OTHER CATEGORY. MULTIPLE CODE.

a) Make permanent adjustments to my home, e.g. flooding: using stilts to raise the home	1
b) Make temporary adjustments to my home, e.g. flooding: using sandbags	2
c) Have disaster preparedness plan (for family or local area / community)	3
d) Learn a skill, e.g. how to swim, first aid, how to build a shelter.	4
e) Sign up for early warning alerts	5
f) Watch or listen to weather forecasts	6
g) Check weather forecasts on their phone	7
h) Store food	8
i) Save money	9
j) Take actions to make sure people can get easily to a place of safety (e.g. repair routes to shelters, make shelters safer, relocate to safe area's)	10
k) Join a local/village/community disaster committee	11
l) Take out insurance in case of a disaster	12
m) Plant trees	13

n) Construct dams/roads/footpaths	13
o) Other (specify)_____	14
p) Don't know	88
q) Not applicable	99

ASK ALL

READ OUT: Here are some more actions people can take to help them deal with extreme weather events like storms/strong winds, lightning/thunder, drought, floods/intense rains, extreme temperatures.

QG3a Please tell me which of these actions you are currently doing? READ OUT EACH ACTION. SINGLE CODE FOR EACH.

	QF2a Currently doing	
	Yes	No
a) Have disaster preparedness plan (for family or local neighbourhood)	1	2
b) Make permanent adjustments to my home (e.g. using stilts to raise the home)	1	2
c) Make temporary adjustments to my home (e.g. using sandbags to prevent flooding)	1	2
d) Learn new skill e.g. how to swim or how to stay safe, first aid	1	2
e) Sign up for early warning alerts. Specify_____	1	2
f) Watch or listen to weather forecasts	1	2
g) Store food	1	2
h) Save money	1	2
i) Join a local/village/community disaster committee	1	2

IF CODED 1 AT Q3GA e) ASK RESPONDENT TO SPECIFY

SECTION S: BARRIERS TO RESPONDING

ASK ALL

QS1 We have been some ways that people can respond/take actions to respond to changes in the availability of water, food, electricity and fuel and changes in weather. I am now going to read some statements. They are reasons why some people do not respond/take action.

For each statement I read out, please say whether you agree or disagree with it as a reason for why you would not respond/take action.

READ OUT (EXCEPT NEITHER AGREE/DISAGREE) SINGLE CODE FOR EACH.

RANDOMISE ORDER OF RESPONSES FOR QS1 FOR EACH RESPONDENT.

Agree		Disagree	
Strongly	Tend to	Tend to	Strongly

QS1	Strongly agree	Tend to agree	Neither agree or disagree	Tend to disagree	Strongly disagree	Don't know	Refused/No answer
You would not response or take action because ...							
a) Taking action/responding will not make any difference	5	4	3	2	1	88	99
b) You don't know how to respond/take action	5	4	3	2	1	88	99
c) You don't have enough resources (money and equipment) to respond/take action	5	4	3	2	1	88	99
d) You don't have access to information	5	4	3	2	1	88	99
e) It is not a problem for you now	5	4	3	2	1	88	99
f) No one you know is responding/taking action e.g. neighbourhood, friends/relatives	5	4	3	2	1	88	99
g) Your family wouldn't approve if you responded/took action	5	4	3	2	1	88	99
h) It is not your responsibility to respond/take action	5	4	3	2	1	88	99
i) You have other priorities	5	4	3	2	1	88	99
j) You need support from the Government to respond/take action	5	4	3	2	1	88	99
k) You need support from NGOs/groups	5	4	3	2	1	88	99
l) It does not fit with your religion or beliefs/community culture	5	4	3	2	1	88	99
m) You are fearful of discussing your actions with others	5	4	3	2	1	88	99
n) It is too risky to try something new	5	4	3	2	1	88	99
o) You do not want to try anything new	5	4	3	2	1	88	99

ASK ALL

QS2 Some people have given reasons for why they have responded to impacts felt.

For each statement I read out, please say whether you agree or disagree with it as a reason for why you would respond/take action.

READ OUT (EXCEPT NEITHER AGREE/DISAGREE) SINGLE CODE FOR EACH.

Agree		Disagree	
Strongly	Tend to	Tend to	Strongly

QS3	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Refused/No answer
a) A man should have the final word about decisions in his home related to adaptation practices.	5	4	3	2	1	88	99
b) A woman's role is taking care of her home and family.	5	4	3	2	1	88	99
c) Women should voice their opinions more in community decision making and public meetings	5	4	3	2	1	88	99

SECTION Y: INSTITUTIONAL AND COMMUNITY RESPONSE

READ OUT: I would now like to ask you about institutions that might respond to these events or disasters.

ASK ALL

QY0 Who do you talk to in your local area / community about taking actions to cope /deal changes in water, food, energy supplies or weather you might be facing?

UNPROMPTED. MULTIPLE CODE.

Family	1
Relatives	2
Friends/colleagues	3
People in your local neighbourhood	4
Neighbourhood role model	5
Neighbourhood elders	6
Village/commune authority	7

Religious leaders	8
Agricultural extension workers	9
Health workers	10
NGOs	11
Local community-based organisations/cooperative	12
Teachers	13
I don't talk to anyone about taking action	14
Other (specify)_____	15
Don't know	88

QY1 How often do you talk to others in your local area / community about taking actions to cope /deal changes in water, food, energy supplies or weather you might be facing?
SINGLE CODE.

PLEASE NOTE THE NEUTRAL COLUMN IS AT THE END OF THIS SCALE.

Often		Not often	
Very	Fairly	Not very	Never

QY1	
Very often	5
Fairly often	4
Not very often	2
Never	1
Neither/Nor	3
Don't know	88
Refused/No answer	99

ASK ALL

QY2 How confident do you feel that each of the following institutions are taking the necessary actions to help respond to changes in water, food, energy supplies or weather? Are you confident or not confident? READ OUT (EXCEPT NEITHR/NOR) SINGLE CODE FOR EACH.

Confident		Not confident	
Fairly	Not very	Not at all	Never

QY2	Very	Fairly	Neither/ Nor	Not very	Not at all	Don't know	Refused/ No answer
a) National, provincial and district institutions	5	4	3	2	1	88	99
b) Local authority/commune council	5	4	3	2	1	88	99
c) NGO's/other organisations	5	4	3	2	1	88	99
d) My local neighbourhood	5	4	3	2	1	88	99
e) Company/factory in the region	5	4	3	2	1	88	99

ASK ALL

QY3a Do you know/heard of these institutions? READ OUT EACH COMMITTEE AND SINGLE CODE FOR EACH.

QY3a	Yes	No
a) Commune committee for disaster management	1	2
b) Village disaster management group	1	2

QY3b Have you participated in a training/meeting related to disaster management and preparedness?

QY3b	
Yes	1
No	2
Don't know	88
No answer/refused	99

ASK ALL

QY4 What can the government do to address the problems related to changes in water, food, energy supplies or weather? DO NOT READ OUT. CODE ALL THAT APPLY AND RECORD VERBATIM IN OTHER CATEGORY. MULTIPLE CODE.

QY4	
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
Ban illegal fishing activities	9
Other (specify) _____	10

ASK ALL

QY5 What have people in your village or area done in response to changes in water, food, energy supplies or weather? READ OUT. CODE ALL THAT APPLY AND RECORD VERBATIM IN OTHER CATEGORY. MULTIPLE CODE.

Building irrigation canals	1
Building dykes	2
Building water control structures	3
Building storm resistant house	4
Using air conditioner/fan	5
Changing/diversifying crops	6
Planting crops as usual	7
Arranging religious/ritual ceremonies	8
Seeking advice from friends and neighbours	9
Planting more vegetation	10
Plating trees	11
Wearing hat/using umbrella	12
Other (specify)_____	13
Nothing	14
Don't know	88
Not applicable	99

SECTION J: COMMUNICATION OF ISSUES

READ OUT: We are now going to talk about information to help you cope /deal with changes in water, food, energy supplies or weather.

ASK ALL

QJ1 Where do you get this information from? DO NOT READ OUT. MULTIPLE CODE

QJ2 As a general source of information, whether you trust this source or not? READ OUT.
 SINGLE CODE FOR EACH (EXCEPT CODES 11, 88, 99 AT QJ2)

	QJ1 Source	QJ2 General trust in information			
		Yes	No	Don't know	Refused/No answer
Family/friends/colleagues	1	1	2	88	99
People in your local neighbourhood	2	1	2	88	99
Village/commune authority	3	1	2	88	99
Religious leaders	4	1	2	88	99
Agricultural extension workers	5	1	2	88	99
NGOs	6	1	2	88	99
Local organisations/cooperative (example: fisheries community, community forestry, agriculture cooperative)	7	1	2	88	99
Teachers	8	1	2	88	99
Media (e.g. TV, radio)	9	1	2	88	99
Social media (including Facebook)	10	1	2	88	99
I don't talk to anyone or get any information on these issues	11				
Other (specify)____	12	1	2	88	99
Don't know	88				
Refused/No answer	99				

QJ3 How well informed do you feel about the things you could do to cope /deal with the
 changes in water, food, energy supplies or weather you might be facing? [Show card]

Well		Not well	
Very	Fairly	Not very	Not at all

Very well informed	5
Fairly well informed	4
Neither/Nor	3
Not very well informed	2
Not at all informed	1
Don't know	88
Refused/No answer	99

ASK ALL

QJ4 How well do you think the media covers information about changes the availability of water, food, electricity and fuel and changes in weather? SINGLE CODE.

Well		Not well	
Very	Fairly	Not very	Not at all

Very well	5
Fairly well	4
Not very well	2
Not at all well	1
Neither /Nor	3
Don't know	88
Refused/No answer	99

ASK ALL

QJ5a Where do you get information on changes in the availability of water, food, electricity and fuel and changes in weather that we have previously discussed? SPONTANEOUS – DO NOT READ OUT. MULTIPLE CODE.

QJ5b If you were to get information about the changes in water, food, energy supplies or weather you might be facing, how would you like to be provided with this information? SPONTANEOUS – DO NOT READ OUT. MULTIPLE CODE.

	QJ5a	QJ5b
Television	1	1
Radio	2	2
Newspaper (printed)	3	3
Mobile phone – SMS	4	4
Mobile phone – apps	5	5
Social media	6	6
Internet	7	7
Posters, leaflets	8	8
Local area / community meetings	9	9
Schools	10	10
Film screenings	11	11
Public events	12	12
Street theatre	13	13

Traditional entertainment (e.g. puppet show)	14	14
Religious institutions	15	15
Local /community radio	16	16
From members of my community	17	17
Agricultural extension worker/health worker	18	18
NGO's	19	19
Other (specify)_____	20	20
None	21	21
Don't know	88	88
Refused/No answer	99	99

SECTION M: MEDIA CONSUMPTION

READ OUT: Now we will discuss sources of information and entertainment.

ASK ALL

QMC1a In the last 12 months, which of the following items can you access/use (at home or elsewhere)? READ OUT EACH ITEM. SINGLE CODE. ASK MC1c IF 'YES' in MC1a. IF 'NO' in MC1a, MOVE ON TO ANOTHER ITEM.

QMC1c How frequently do you use the following, if at all? ASK MC1c IF 'YES' in MC1a.

READ OUT ITEM. READ OUT RESPONSES. SINGLE CODE ONLY

	Media Type	MC1a		MC1c								
		Yes	No	Several times a day	Once a day	Several times a week	Once a week	Several times a month	Once a month	Less often than once a month	Don't know	Refused
a	TV	1	2	1	2	3	4	5	6	7	88	99
b	Internet	1	2	1	2	3	4	5	6	7	88	99
c	Radio	1	2	1	2	3	4	5	6	7	88	99
d	Mobile phone/cell	1	2	1	2	3	4	5	6	7	88	99
e	Computer/laptop/tablet	1	2	1	2	3	4	5	6	7	88	99
f	Social media (e.g. Facebook, Twitter)	1	2	1	2	3	4	5	6	7	88	99
g	Online messaging service (e.g. WhatsApp)	1	2	1	2	3	4	5	6	7	88	99

ASK FOR THOSE WHO CODED 'YES' ON MC1a - a

MC2a Please tell me what television channels you have watched since Khmer New Year?

DO NOT READ OUT OPTIONS. MULTIPLE CODES POSSIBLE.

Probe once: Any other?

FOR THOSE MENTIONED AT MC2a ASK MC2b and MC2c

MC2b How frequently do you watch that TV channel?

MC2c Do you watch that TV channel on TV or online (App/Web TV)?

	MC2a		MC2b										MC2c		
	Yes	No	Several times a day	Once a day	Several times a week	Once a week	Several times a month	Once a month	Less often than once a month	Never	Don't know	Refused	Online	TV	Both TV and online
V5 (Khemarak Phomin TV)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Municipal TV (TV3)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
National TV (TVK)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Khmer TV (CTV9)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Apsara TV (TV11)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Bayon TV (TV27)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Bayon TV (News)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
ETV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
CTN	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
MyTV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
CNC	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
SEA TV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Hong Meas TV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Battambang TV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
French TV (TV5 Asia)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Vietnam TV (VTV)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
PNN	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Satellite TV	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3

Watch TV, but can't identify channel	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Other (please specify)	1	2	1	2	3	4	5	6	7	8	88	99	1	2	3
Don't know	88														
Refused	99														

MC3a Have you ever watched the following TV programmes (via TV or online)?

[Show card of the TV programme] Single Code for each

	MC3a	
	Yes	No
Don't wait for rain	1	2
TV weather forecast programme	1	2
Cambodia climate change talk show (TVK)	1	2
Agriculture program (Bayon TV)	1	2
Klahan9 house	1	2
Don't know	88	
Refuse	99	

ASK FOR THOSE WHO CODED 'YES' ON MC1a - c

MC4a Please tell me what radio stations you have listened to since Khmer New Year?

DO NOT READ OUT OPTIONS. MULTIPLE CODES POSSIBLE.

FOR THOSE MENTIONED YES AT MC4a ASK MC4b and MC4c

MC4b How frequently do you listen to that radio station? Would you say you use it several times a day, once a day, several times a week, once a week, several times a month, once a month or never?

MC4c Do you ever listen to that radio station online?

	MC4a		MC4b									MC4c	
	Yes	No	Several times a day	Once a day	Several times a week	Once a week	Several times a month	Once a month	Less often than once a month	Don't know	Refused	Listen online	Not online
Sweet FM 88 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Meanchey FM 88.25 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Christian FM 89.50 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Reach Sey Radio FM 90 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Taprum FM 90.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Sek Meas FM 91.25 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
RFI FM 92.0 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Sam Rainsy Radio FM 93.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Bayon Radio FM 95 (PP)—Kcham (FM91.5, SReap (FM93), SVille (FM92), Pursat	1	2	1	2	3	4	5	6	7	88	99	1	2
(FM93), BTChey (FM93), K Thom (FM91.5)	1	2	1	2	3	4	5	6	7	88	99	1	2
National Radio FM 96 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Apsara Radio FM 97 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
LOVE Radio FM 97.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Khemarak Phone in Radio FM 98 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Kaksekar FM 98.25 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
National Radio Wat Phnom FM 105.75 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Radio FM 99 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Family FM Radio FM 99.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
WMC Radio FM 102(PP)--Srieng (FM94.5), KThom (FM102.2)	1	2	1	2	3	4	5	6	7	88	99	1	2
Municipal Radio FM 103 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Sovanna Phum FM 104 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Sambok Khmum Radio FM 105 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Free Asia Voice (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2

Star FM (106.5)	1	2	1	2	3	4	5	6	7	88	99	1	2
Khmer Radio FM 107 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
ABC Traffic Kampuchea (FM107.5)	1	2	1	2	3	4	5	6	7	88	99	1	2
ABC Australia FM 101.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
National Radio Kampuchea AM 918 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Hang Mas FM 104.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Tonle radio FM 102.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Chinese, RNK FM 96.5 FM (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Solida FM 108 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
KCF 105.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Meatophum Yung radio (our homeland radio) 101. 25	1	2	1	2	3	4	5	6	7	88	99	1	2
Traffic FM 94.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Phnom Penh Thmey FM 91	1	2	1	2	3	4	5	6	7	88	99	1	2
Sarika FM 106.5 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
South East Asia Voice Fm106 (PP)	1	2	1	2	3	4	5	6	7	88	99	1	2
Kampong Cham radio (FM 92.5)	1	2	1	2	3	4	5	6	7	88	99	1	2
Sweet FM 100.5 (KCham)	1	2	1	2	3	4	5	6	7	88	99	1	2
Klang Meurng radio FM 90.3 (BTB)	1	2	1	2	3	4	5	6	7	88	99	1	2
Khemera FM 91(BTB)	1	2	1	2	3	4	5	6	7	88	99	1	2
Radio National Kampuchea FM96 (BTB)	1	2	1	2	3	4	5	6	7	88	99	1	2
SweetFM 103.25 (BTB)	1	2	1	2	3	4	5	6	7	88	99	1	2
Paillin radio FM 90.5 (Pailin)	1	2	1	2	3	4	5	6	7	88	99	1	2
Chamkar Chek	1	2	1	2	3	4	5	6	7	88	99	1	2
Listen to radio, but can't identify channel	1	2	1	2	3	4	5	6	7	88	99	1	2
Other (please specify) _____	1	2	1	2	3	4	5	6	7	88	99	1	2
Don't know	88												
Refused	99												

ASK ALL CODED 1 AT b, f or g IN QMC1a

QMC5 On which devices do you have an internet connection? READ OUT DEVICES. MULTIPLE CODES.

Device		Yes	No
a	Computer/laptop	1	2
b	Mobile phone	1	2
c	Tablet	1	2
d	Other (specify) ____	1	2
Don't know		88	
Refused		99	

QMC6 When you use the Internet (on any device), how much time do you usually spend online per day? DO NOT READ OUT. SINGLE CODE.

Less than 10 minutes	1
More than 10 minutes but less than 30 minutes	2
More than 30 minutes but less than 1 hour	3
More than 1 hour but less than 3 hours	4
More than 3 hours	5
Don't know	88
Refused/No answer	99

QMC7a Could you tell me for which social media or messaging apps or platforms you have an active profile?

READ OUT OPTIONS. SINGLE CODE FOR EACH.

Probe Once: Any other?

FOR THOSE 'MENTIONED' AT MC7a, ASK MC7b

QMC7b How often do you use it? Would you say you use it several times a day, once a day, several times a week, once a week, several times a month, once a month, less than once a month or never?

		MC7a		MC7b								
		Yes	No	Several times a day	Once a day	Several times a week	Once a week	Several times a month	Once a month	Less often than once a month	Don't know	Refused
a	Facebook	1	2	1	2	3	4	5	6	7	88	99

b	Instagram	1	2	1	2	3	4	5	6	7	88	99
c	YouTube	1	2	1	2	3	4	5	6	7	88	99
d	WhatsApp	1	2	1	2	3	4	5	6	7	88	99
e	Others	1	2	1	2	3	4	5	6	7	88	99

ASK ALL CODED 1 AT b, f or g in QMC1a

QMC8 Do you have a smart phone?

Yes	1
No	2
Don't know	88
Refused/No answer	99

ASK ALL CODED 1 AT b, f or g in QMC1a

QMC9 How much time do you spend on a mobile phone per day (including texting, phoning, using social media and surfing the web)? DO NOT READ OUT. SINGLE CODE.

Less than 10 minutes	1
More than 10 minutes but less than 30 minutes	2
More than 30 minutes but less than 1 hour	3
More than 1 hour but less than 3	4
More than 3 hours	5
Don't know	88
Refused/No answer	99

ASK ALL CODED 1 AT d in QMC1a

QMC10 What is/are the main reason/s for you using a mobile phone? DO NOT READ OUT. MULTICODE.

Listening to music/radio	1
Making calls / Receiving calls	2
Play or download games	3
Play or download music / songs / videos	4
Recording Audio	5
Send/receive Email	6
Send/Receive SMS (text)	7
Social networking (e.g. Facebook, Twitter, WhatsApp, etc.)	8
Surfing internet	9

Taking photos	10
Audio information services (for example, listening to news and sport update)	11
Other (specify) _____	
Don't know	88
Refused/No answer	99

SECTION K: CLIMATE CHANGE SPECIFIC QUESTIONS

READ: I would like to ask you more questions about environmental issues.

ASK ALL

QK1a Have you heard of the phrase “climate change”? READ OUT, SINGLE CODE.

INSTRUCTION: IF RESPONDENT SAYS “Yes”, PLEASE ASK “And do you know what it means?” TO DECIDE WHETHER IT FALLS TO CODE 1 OR 2.

Yes, and I know what it means	1
Yes, but I don't know what it means	2
No	3
Don't know	88
Refused/No answer	99

ASK ALL

QK1b Have you heard of the phrase “global warming”? READ OUT, SINGLE CODE.

INSTRUCTION: IF RESPONDENT SAYS “Yes”, PLEASE ASK “And do you know what it means?” TO DECIDE WHETHER IT FALLS TO CODE 1 OR 2.

Yes, and I know what it means	1
Yes, but I don't know what it means	2
No	3
Don't know	88
Refused/No answer	99

ASK ALL

QK2 Climate change refers to “a change in climate and whether that persists for decades or longer”. Do you think that climate change is happening in Cambodia? DO NOT READ OUT. SINGLE CODE.

Yes	1
No	2
Don't know	88
Refused/No answer	99

ASK ALL

QK2X Do you think climate change will affect Cambodia in the future? DO NOT READ OUT. SINGLE CODE.

Yes	1	
No	2	Go to demographics
Don't know	88	Go to demographics
Refused/No answer	99	Go to demographics

ASK IF YES IN QK2X (CODE 1)

IF NO or DON'T KNOW (CODE 2 OR 88) IN QK2X SKIP TO DEMOGRAPHICS

QK3 Which of the following do you think are the main causes of climate change? READ OUT, MULTIPLE CODE.

Human activity leading to the emission of gases called greenhouse gases	1
A hole in a protective layer of gas that covers the planet called the ozone layer	2
Forces of nature	3
Faith reasons (God also cover)	4
Loss of trees	5
Population growth	6
Migration into cities	7
Don't know	88
Refused/No answer	99

QK3X Some say human activities are the main causes of climate change. Do you agree or disagree with this statement?

READ OUT, SINGLE CODE.

Agree		Disagree	
Strongly	Tend to	Tend to	Strongly

QK3X	
Strongly agree	5
Tend to agree	4
Tend to disagree	2
Strongly disagree	1
Neither/Nor	3
Don't know	88
Refused/No answer	99

QK3Y Do you think your actions contribute to climate change? READ OUT, SINGLE CODE.

Yes	1	
No	2	Go to demographics
Don't know	88	Go to demographics
Refused/No answer	99	Go to demographics

ASK IF YES IN QK3Y (CODE 1)

QK3Z If yes, ask: How do you think your actions contribute to climate change? DO NOT READ OUT, MULTIPLE CODE.

Cutting wood for cooking	1
Burning waste	2
Using machines	3
Doing agriculture	4
Using chemicals	5
Cooking	6
Bad management of waste	7
Other (specify)	8
Don't know	88
Refused/No answer	99

DEMOGRAPHICS

READ OUT: I would like to ask some final questions about your household.

INTERVIEWER: CHECK AGE AND GENDER IS RECORDED IN SCREENER

ASK ALL

QDE4 What is your marital status? DO NOT READ OUT. SINGLE CODE.

Single	1
Married, living with spouse	2
Married, not living with spouse	3
Divorced/Separated	4
Widowed	5
Living with Partner	6
In a marriage where the husband has more than one wife	7
Other (specify) _____	8
Don't know	88
Refused/No answer	99

QDE4a What is your main occupation? DO NOT READ OUT. SINGLE CODE

QDE4b What is your second occupation? DO NOT READ OUT. SINGLE CODE

	QDE4a	QDE4b
Lawyer/Magistrate	1	1
Accountant	2	2
Engineer	3	3
Teacher	4	4
Journalist/ working in Media	5	5
Managing business with 20 employees or more	6	6
Managing business with less than 20 employees but 1 or more employee	7	7
Petty trader/shopkeeper (no employees)	8	8
Government official/civil servant in position of management	9	9
Mid-level/senior office worker (non-government)	10	10
Other Government worker	11	11
Junior office worker (non-government) (non-government)	12	12
Agricultural labourer/farmer	13	13
Fisherman	14	14
Agricultural extension worker	15	15
Health worker	16	16
Cleaner/domestic servant	17	17
Transport worker (bus driver, auto rickshaw driver, taxi driver, etc.)	18	18
Religious leader	19	19
Large landowner	20	20
Housewife	21	21

Student	22	22
Retired	23	23
Unemployed	24	24
Garment/factory Worker	25	25
Other specify _____	26	26
Don't know	88	88
Refused	99	99

QDE5 What is your religion? DO NOT READ OUT. SINGLE CODE (ASK ALL)

Buddhism	1
Muslim	2
Christian	3
Folk religion/animism	4
No religion	5
Don't know	88
Refused/No answer	99

ASK ALL

QDE6 What do you consider to be your main ethnic group? DO NOT READ OUT. SINGLE CODE.

Khmer	1
Vietnamese	2
Lao	3
Chinese	4
Highlander ethnic groups	5
Cham	6
Mixed Blood	7
Other	8
Refused	99

ASK ALL

QDE7 How easy is it for you to read a paper written in Khmer? SINGLE CODE FOR EACH LANGUAGE

Easy	1
Difficult	2
Do not read at all	3

QDE8 What is the highest level of education you have completed? DO NOT READ OUT. SINGLE CODE. (ASK ALL)

No schooling – illiterate (Cannot read/write)		1
No schooling – literate (Can read/write)		2
Primary-school level	Kindergarten	4
	First standard	5
	Second standard	6
	Third standard	7
	Fourth standard	8
	Fifth standard	9
	Sixth standard	10
Secondary-school level	Seventh standard	11
	Eighth standard	12
	Ninth standard	13
High-school level	Tenth standard	14
	Eleventh standard	15
	Twelfth standard	16
Vocational school/Diploma		17
University student		18
Under- or post-graduate courses completed		19
Other (specify) ____		20
Don't know		88
Refused/No answer		99

QDE9 What category does your household income fall within? READ OUT. SINGLE CODE. (ASK ALL)

We don't have enough money, even for food	1
We can afford food but purchasing of clothes is a serious problem	2
We can afford food and clothes, but purchasing of durables such as TV set or a refrigerator is difficult for us	3
We can afford main household appliances, but purchasing a car is beyond our means	4
What we earn is sufficient to buy anything except such expensive purchases as an apartment or house	5
We do not face financial problems. If necessary, we can buy an apartment or a house	6
Don't know	88
Refused/No answer	99

QDE10 What is your average monthly household income? SHOWCARD. READ OUT. SINGLE CODE. (ASK ALL)

No household income	0
Below 200 USD	1
201-500 USD	2
501-1000 USD	3
1001-2000 USD	4
2001-3000 USD	5
Over 3000 USD	6
Don't know	88
Refused/No answer	99

QDE11 How much has your household income changed over the last 5 years? READ OUT. SINGLE CODE. (ASK ALL)

Increased		Decreased	
A lot	A bit	A bit	A lot

Increased a lot	1
Increased a bit	2
Stayed the same	3
Decreased a bit	4
Decreased a lot	5
Don't know	88
Refused/No answer	99

QDE13 What is the main source of drinking water for members of your household? SHOWCARD. READ OUT. SINGLE CODE. (ASK ALL)

Piped water	1
Tube well or borehole	2
Dug well	3
Water from river/spring	4
Collected rainwater	5
Tanker truck	6
Cart with small tank	7
Surface water	8
Bottled water	9
Other ___	

Don't know	88
Refused/No answer	99

QDE14 Do you have to pay to access water for household use (drinking, washing, cooking but NOT including bottled water)? DO NOT READ OUT. SINGLE CODE. (ASK ALL)

Yes	1
No	2
Don't know	88
Refused/No answer	99

QDE18a How long have you been living in your local area / community? DO NOT READ OUT. SINGLE CODE. (ASK ALL)

0-2 years	1
3-5 years	2
6-8 years	3
9-11 years	4
12-14 years	5
15 or more years	6

READ OUT: The next questions ask about difficulties you may have doing certain activities because of a health problem. (ASK ALL)

QDE20 Do you...

		No - no difficulty	Yes - some difficulty	Yes - a lot of difficulty	Cannot do at all	Refused/No answer
a	Do you have difficulty seeing, even if wearing glasses?	1	2	3	4	99
b	Do you have difficulty hearing, even if using a hearing aid?	1	2	3	4	99
d	Do you have difficulty walking or climbing steps?	1	2	3	4	99
e	Do you have difficulty remembering or concentrating?	1	2	3	4	99
f	Do you have difficulty (with self-care such as) washing all over or dressing?	1	2	3	4	99
g	Using your usual (customary) language, do you have difficulty communicating, for example understanding or being understood?	1	2	3	4	99

INTERVIEWER EXPLAIN:**THE INTERVIEW IS NOW FINISHED. THANK RESPONDENT FOR THEIR TIME.****ANSWER ANY FINAL QUESTIONS THE RESPONDENT MAY HAVE.**

Would you be willing to participate in future research? (ASK ALL)

Yes	1
No	2

IF YES (CODE 1) PLEASE RECORD NAME AND CONTACT TELEPHONE NUMBER

NAME_____

TELEPHONE NUMBER _____

CLOSE THE INTERVIEW

END OF INTERVIEW – INTERVIEWER PLEASE COMPLETE THE FOLLOWING OBSERVATIONS

QIN1 Which of the following statements best describes the interview situation?

Private, only the respondent and I were present	1
One or several family members / friends were present, but did not interrupt the interview	2
One or several family members / friends were present, and did interrupt the interview	3

QIN2 In answering the questions in this questionnaire, the respondent generally seemed to be:

Comfortable/ at ease	1
Nervous/awkward	2

QIN3 Which, if any, questions did the respondent have trouble answering?

IDENTIFY UP TO THREE QUESTIONS THAT THE RESPONDENT HAD TROUBLE ANSWERING. IF THEY DIDN'T HAVE ANY TROUBLE, LEAVE BLANK.

QIN3a	First question →	
QIN3b	Second question →	
QIN3c	Third question →	

QIN4 Does your family have an ID poor card?

Yes, ID Poor I	1
Yes, ID Poor II	2
Yes, but not sure ID Poor I or II	3
No, my family doesn't have	4
Don't know	88
Refused/No answer	99

Appendix 4: KAP3 Data Tables

QK1a Have you heard of the phrase “climate change”?										
N = 1558	Total	Location		Gender		Region				
		Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Heard of climate change and know the meaning	33%	39%	30%	36%	30%	36%	35%	39%	28%	30%
Heard of Climate Change, but doesn't know the meaning	39%	38%	39%	37%	40%	41%	38%	37%	38%	43%
Not heard of climate change	28%	23%	31%	27%	29%	22%	26%	24%	34%	26%
Don't know/No answer	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%

QK1b Have you heard of the phrase “global warming”?										
N = 1558	Total	Location		Gender		Region				
		Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Heard of climate change and know the meaning	31%	38%	28%	33%	30%	32%	34%	34%	27%	26%
Heard of Climate Change, but doesn't know the meaning	40%	38%	40%	41%	39%	42%	40%	40%	37%	45%
Not heard of climate change	29%	24%	31%	27%	31%	26%	26%	26%	35%	28%
Don't know/No answer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

QX2 In your opinion, have these changes (availability of water, food, electricity and fuel, and changes in weather) affected your ability to...?											
N = 1558	Total	Location		Gender		Region					
		Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal	
Earn money/ do your work	Yes	79%	79%	79%	75%	82%	84%	75%	77%	83%	75%
	No	20%	20%	20%	23%	17%	16%	24%	19%	17%	22%
	Don't know	1%	1%	1%	1%	1%	0%	1%	4%	0%	3%
Keep healthy	Yes	78%	77%	78%	76%	79%	80%	75%	76%	80%	80%
	No	22%	23%	22%	24%	20%	20%	25%	22%	20%	20%
	Don't know	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Eat what you want to eat	Yes	58%	57%	59%	58%	58%	64%	60%	50%	55%	68%
	No	41%	43%	41%	42%	41%	36%	40%	49%	45%	31%
	Don't know	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%
Use water for your daily life	Yes	44%	42%	45%	44%	44%	52%	40%	42%	44%	57%
	No	56%	57%	55%	56%	56%	47%	60%	58%	56%	43%
	Don't know	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%

QE2a Please tell me which of these actions you are currently doing to cope with water shortages?

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Storing/saving water	Yes	23%	30%	19%	21%	24%	36%	24%	18%	18%	26%
	No	77%	70%	81%	79%	76%	64%	76%	82%	82%	74%
Recycling water/re-using wastewater	Yes	63%	61%	64%	67%	59%	61%	64%	65%	61%	63%
	No	37%	39%	36%	33%	41%	39%	36%	35%	39%	37%
Making water safe to drink	Yes	23%	26%	21%	27%	19%	20%	21%	18%	24%	38%
	No	77%	74%	79%	73%	81%	80%	79%	82%	76%	62%
Finding a new water supply	Yes	59%	78%	50%	58%	60%	89%	48%	59%	65%	56%
	No	41%	22%	50%	42%	40%	11%	52%	41%	35%	44%
Pay for water	Yes	43%	33%	48%	42%	44%	31%	47%	34%	41%	62%
	No	57%	67%	52%	58%	56%	69%	53%	66%	59%	38%
None of the above	Yes	98%	98%	99%	98%	99%	98%	99%	97%	98%	99%
	No	2%	2%	1%	2%	1%	2%	1%	3%	2%	1%

QF2a Please tell me which of these actions you are currently doing to cope with changes in food availability/food prices?

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Keeping food for longer	Yes	51%	60%	47%	53%	49%	71%	56%	55%	41%	40%
	No	48%	39%	53%	46%	50%	29%	44%	45%	58%	60%
	Not Applicable	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%
Changing diet	Yes	70%	70%	71%	70%	71%	71%	74%	70%	67%	66%
	No	29%	29%	29%	30%	29%	28%	26%	30%	32%	34%
	Not Applicable	0%	1%	0%	0%	0%	1%	0%	0%	1%	0%
Borrow food items from other community members	Yes	9%	7%	10%	9%	9%	5%	10%	15%	8%	10%
	No	90%	91%	90%	90%	90%	92%	90%	85%	92%	90%
	Not Applicable	1%	2%	0%	1%	1%	4%	0%	0%	0%	0%
Borrow money from local micro-finance services or other community members	Yes	38%	36%	39%	36%	40%	35%	43%	44%	32%	32%
	No	62%	63%	61%	63%	60%	64%	57%	56%	67%	68%
	Not Applicable	0%	1%	0%	1%	0%	1%	0%	0%	1%	0%
Reducing food waste	Yes	79%	82%	78%	77%	82%	85%	80%	70%	84%	62%
	No	20%	17%	22%	23%	18%	15%	19%	30%	16%	38%
	Not Applicable	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Growing different types of crops/ having different livestock	Yes	76%	57%	86%	76%	77%	37%	83%	83%	79%	73%
	No	19%	29%	14%	19%	18%	29%	16%	17%	18%	23%
	Not Applicable	5%	14%	0%	5%	5%	34%	1%	0%	3%	4%

Rotating crops	Yes	43%	29%	49%	42%	44%	18%	52%	52%	37%	36%
	No	49%	51%	48%	50%	48%	38%	45%	43%	58%	57%
	Not Applicable	8%	20%	2%	8%	8%	44%	3%	5%	5%	7%
Using technologies to improve soil fertility	Yes	32%	13%	41%	34%	30%	8%	40%	35%	29%	29%
	No	58%	62%	56%	55%	60%	46%	56%	58%	63%	57%
	Not Applicable	11%	25%	3%	11%	10%	46%	4%	7%	8%	14%
Use pesticides to increase crop yields	Yes	41%	19%	52%	44%	38%	7%	50%	39%	42%	38%
	No	48%	55%	44%	45%	51%	46%	45%	54%	51%	48%
	Not Applicable	11%	25%	4%	11%	11%	47%	5%	7%	8%	14%
Seek technical support from governments services or NGOs to improve production of crops/ livestock	Yes	16%	11%	19%	20%	12%	4%	20%	19%	16%	8%
	No	74%	67%	77%	70%	78%	54%	77%	74%	76%	78%
		10%	22%	4%	10%	10%	42%	4%	7%	8%	13%

QG3a Please tell me which of these actions you are currently doing to cope with extreme weather events?

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Have disaster preparedness plan	No	66%	68%	65%	64%	67%	71%	64%	57%	66%	82%
	Yes	34%	32%	35%	36%	33%	29%	36%	43%	34%	18%
Make permanent adjustments to my home	No	64%	65%	63%	63%	64%	70%	58%	62%	64%	83%
	Yes	36%	35%	37%	37%	36%	30%	42%	38%	36%	17%
Make temporary adjustments to my home	No	81%	82%	81%	80%	83%	81%	76%	80%	89%	74%
	Yes	19%	18%	19%	20%	17%	19%	24%	20%	11%	26%
Learn new skills	No	81%	77%	82%	76%	86%	76%	76%	80%	87%	85%
	Yes	19%	23%	18%	24%	14%	24%	24%	20%	13%	15%
Sign up for early warning alerts	No	100%	100%	99%	99%	100%	99%	99%	100%	100%	100%
	Yes	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%
Watch or listen to weather forecasts	No	36%	34%	37%	33%	39%	37%	29%	30%	43%	53%
	Yes	64%	66%	63%	67%	61%	63%	71%	70%	57%	47%
Store food	No	53%	44%	57%	52%	53%	37%	49%	47%	60%	71%
	Yes	47%	56%	43%	48%	47%	63%	51%	53%	40%	29%
Save money	No	42%	37%	45%	41%	43%	36%	36%	41%	48%	59%
	Yes	58%	63%	55%	59%	57%	64%	64%	59%	52%	41%
Join a local/village/ community disaster committee	No	78%	80%	77%	77%	79%	77%	78%	71%	79%	91%
	Yes	22%	20%	23%	23%	21%	23%	22%	29%	21%	9%
None of the above	No	91%	91%	91%	92%	90%	91%	94%	95%	89%	83%
	Yes	9%	9%	9%	8%	10%	9%	6%	5%	11%	17%

QD4a What are you currently doing to cope /deal with changes in the availability of water, food, electricity and fuel, and changes in weather?

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Change job/business location	Yes	30%	27%	31%	33%	26%	28%	34%	37%	21%	37%
	No	70%	73%	69%	67%	74%	72%	66%	63%	79%	63%
Supplement income in other ways	Yes	47%	49%	46%	53%	41%	42%	52%	60%	40%	40%
	No	53%	51%	54%	47%	59%	58%	48%	40%	60%	60%
Migrate for work	Yes	7%	7%	7%	9%	6%	8%	10%	8%	4%	6%
	No	93%	93%	93%	91%	94%	92%	90%	92%	96%	94%
Learn a new skill/trade/agricultural technique	Yes	21%	25%	18%	24%	17%	24%	27%	22%	13%	17%
	No	79%	75%	82%	76%	83%	76%	73%	78%	87%	83%
Work together more/share resources with people in my community	Yes	25%	25%	25%	30%	20%	24%	28%	27%	19%	30%
	No	75%	75%	75%	70%	80%	76%	72%	73%	81%	70%
Use renewable sources of energy	Yes	14%	11%	16%	15%	13%	12%	13%	19%	14%	14%
	No	86%	89%	84%	85%	87%	88%	87%	81%	86%	86%
Use electricity/fuel more efficiently	Yes	74%	76%	73%	75%	73%	71%	77%	70%	74%	70%
	No	26%	24%	27%	25%	27%	29%	23%	30%	26%	30%

QD4a What are you currently doing to cope /deal with changes in the availability of water, food, electricity and fuel, and changes in weather?

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
Building irrigation canals	No	54%	69%	47%	54%	54%	73%	51%	65%	49%	52%
	Yes	46%	31%	53%	46%	46%	27%	49%	35%	51%	48%
Building dykes	No	60%	74%	53%	60%	60%	84%	56%	58%	59%	60%
	Yes	40%	26%	47%	40%	40%	16%	44%	42%	41%	40%
Building water control structures	No	62%	69%	59%	62%	62%	72%	59%	59%	65%	54%
	Yes	38%	31%	41%	38%	38%	28%	41%	41%	35%	46%
Building storm resistant house	No	60%	64%	58%	56%	63%	76%	62%	49%	57%	57%
	Yes	40%	36%	42%	44%	37%	24%	38%	51%	43%	43%
Using air conditioner/fan	No	21%	27%	18%	21%	21%	38%	30%	19%	6%	15%
	Yes	79%	73%	82%	79%	79%	62%	70%	81%	94%	85%
Changing/diversifying crops	No	49%	67%	40%	45%	52%	83%	50%	41%	38%	55%
	Yes	51%	33%	60%	55%	48%	17%	50%	59%	62%	45%
Planting crops as usual	No	27%	45%	18%	23%	30%	70%	30%	19%	13%	24%
	Yes	73%	55%	82%	77%	70%	30%	70%	81%	87%	76%
Arranging religious/ritual ceremonies	No	42%	55%	36%	38%	47%	70%	50%	33%	30%	31%
	Yes	58%	45%	64%	62%	53%	30%	50%	67%	70%	69%
Seeking advice from friends and neighbors	No	59%	66%	55%	56%	61%	69%	62%	49%	53%	71%
	Yes	41%	34%	45%	44%	39%	31%	38%	51%	47%	29%
Planting more vegetation	No	42%	58%	34%	38%	45%	71%	43%	34%	35%	36%
	Yes	58%	42%	66%	62%	55%	29%	57%	66%	65%	64%

Planting trees	No	55%	61%	52%	51%	59%	67%	56%	43%	55%	49%
	Yes	45%	39%	48%	49%	41%	33%	44%	57%	45%	51%
Wearing hat/using umbrella	No	25%	31%	22%	23%	27%	41%	38%	25%	7%	17%
	Yes	75%	69%	78%	77%	73%	59%	62%	75%	93%	83%
Others	No	99%	97%	99%	98%	99%	98%	98%	99%	99%	100%
	Yes	1%	3%	1%	2%	1%	2%	2%	1%	1%	0%

QS1 We have been some ways that people can respond/take actions to respond to changes in the availability of water, food, electricity and fuel, and changes in weather. I am now going to read some statements. They are reasons why some people do not respond/take action. For each statement, please say whether you agree or disagree with it as a reason for why you would not respond/take action.

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
a) Taking action/ responding will not make any difference	Strongly disagree	15%	17%	14%	15%	15%	16%	15%	15%	17%	8%
	Tend to disagree	23%	25%	23%	24%	23%	25%	24%	25%	21%	26%
	Neither agree nor disagree	1%	1%	1%	1%	2%	1%	2%	1%	1%	1%
	Tend to agree	43%	42%	43%	46%	41%	45%	41%	42%	44%	47%
	Strongly agree	14%	12%	15%	12%	16%	11%	15%	10%	16%	16%
	Don't know	3%	3%	3%	2%	3%	2%	4%	5%	1%	3%
	No Answer	0%	0%	0%	0%	1%	1%	0%	1%	0%	0%
b) You don't know how to respond/take action	Strongly disagree	10%	12%	9%	10%	10%	12%	11%	9%	10%	3%
	Tend to disagree	24%	23%	24%	25%	22%	25%	25%	23%	22%	24%
	Neither agree nor disagree	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%
	Tend to agree	44%	42%	45%	45%	44%	44%	41%	43%	47%	49%
	Strongly agree	19%	17%	20%	17%	20%	13%	18%	21%	20%	21%
	Don't know	3%	4%	2%	2%	4%	5%	4%	2%	1%	3%
	No Answer	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%
c) You don't have enough resources (money and equipment) to respond/take action	Strongly disagree	9%	10%	9%	9%	10%	7%	10%	12%	10%	5%
	Tend to disagree	20%	20%	19%	21%	18%	21%	22%	25%	15%	18%
	Neither agree nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	45%	47%	45%	48%	43%	46%	44%	39%	48%	55%
	Strongly agree	25%	22%	26%	21%	28%	25%	24%	21%	27%	22%
	Don't know	1%	1%	0%	0%	1%	1%	1%	1%	0%	1%
	No Answer	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%

i) You have other priorities	Strongly disagree	13%	16%	11%	13%	12%	14%	13%	12%	13%	7%
	Tend to disagree	24%	20%	26%	23%	25%	21%	20%	30%	28%	18%
	Neither agree nor disagree	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%
	Tend to agree	44%	46%	43%	46%	42%	44%	46%	41%	41%	53%
	Strongly agree	17%	16%	17%	16%	17%	19%	17%	14%	17%	19%
	Don't know	2%	1%	2%	1%	2%	2%	3%	2%	1%	1%
	No Answer	0%	0%	1%	0%	0%	0%	1%	1%	0%	2%
j) You need support from the Government to respond/take action	Strongly disagree	6%	7%	6%	8%	5%	7%	7%	6%	7%	6%
	Tend to disagree	11%	10%	11%	11%	11%	10%	10%	10%	12%	8%
	Neither agree nor disagree	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%
	Tend to agree	41%	44%	40%	41%	41%	47%	42%	46%	37%	35%
	Strongly agree	40%	36%	41%	39%	40%	33%	38%	37%	43%	48%
	Don't know	2%	2%	2%	1%	2%	2%	3%	1%	1%	2%
	No Answer	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%
k) You need support from NGOs/groups	Strongly disagree	8%	8%	8%	10%	6%	7%	9%	5%	8%	6%
	Tend to disagree	14%	14%	14%	15%	14%	14%	14%	13%	15%	17%
	Neither agree nor disagree	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
	Tend to agree	43%	44%	43%	44%	42%	48%	44%	49%	40%	33%
	Strongly agree	32%	31%	33%	30%	35%	28%	29%	31%	36%	40%
	Don't know	2%	2%	2%	1%	2%	2%	2%	1%	1%	2%
	No Answer	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
l) It does not fit with your religion or beliefs/ community culture	Strongly disagree	25%	28%	24%	25%	26%	26%	23%	22%	31%	17%
	Tend to disagree	31%	28%	32%	33%	28%	29%	30%	31%	29%	39%
	Neither agree nor disagree	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%
	Tend to agree	28%	31%	26%	29%	27%	30%	30%	28%	24%	28%
	Strongly agree	11%	10%	12%	10%	13%	9%	10%	12%	14%	9%
	Don't know	3%	3%	4%	3%	4%	4%	4%	4%	1%	7%
	No Answer	1%	1%	1%	1%	1%	1%	1%	3%	0%	0%
m) You are fearful of discussing your actions with others	Strongly disagree	18%	17%	19%	19%	18%	19%	19%	17%	20%	7%
	Tend to disagree	32%	34%	32%	32%	33%	33%	34%	35%	30%	28%
	Neither agree nor disagree	0%	1%	0%	1%	0%	1%	0%	0%	1%	0%
	Tend to agree	35%	35%	36%	37%	34%	32%	33%	37%	36%	49%
	Strongly agree	12%	12%	12%	10%	14%	13%	11%	9%	13%	13%
	Don't know	1%	2%	1%	1%	2%	3%	2%	1%	1%	1%
	No Answer	0%	1%	0%	1%	0%	0%	1%	1%	0%	1%

c) You need to do something to maintain my lifestyle/ way of living/ livelihood	Strongly disagree	1%	1%	1%	1%	1%	1%	2%	0%	1%	0%
	Tend to disagree	2%	3%	2%	2%	2%	5%	2%	2%	2%	4%
	Neither agree/ Nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	44%	48%	42%	46%	42%	51%	46%	43%	40%	43%
	Strongly agree	52%	47%	54%	50%	54%	43%	50%	53%	57%	53%
	Don't know	1%	0%	1%	1%	1%	0%	1%	1%	0%	0%
	No Answer	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
d) You would feel good if you take action	Strongly disagree	2%	2%	2%	2%	3%	5%	3%	1%	2%	1%
	Tend to disagree	5%	7%	4%	5%	5%	9%	4%	3%	6%	4%
	Neither agree/ Nor disagree	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%
	Tend to agree	50%	48%	51%	52%	48%	50%	53%	50%	45%	54%
	Strongly agree	41%	39%	42%	39%	42%	31%	38%	45%	46%	40%
	Don't know	1%	2%	1%	1%	2%	3%	2%	1%	0%	0%
	No Answer	0%	1%	0%	1%	0%	2%	0%	1%	0%	1%
e) You want to be healthy	Strongly disagree	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
	Tend to disagree	1%	2%	1%	1%	1%	1%	1%	2%	1%	2%
	Neither agree/ Nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	24%	25%	24%	26%	22%	24%	25%	27%	24%	19%
	Strongly agree	74%	73%	75%	72%	77%	74%	74%	71%	75%	80%
	Don't know	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	No Answer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
f) You want a better future for your children	Strongly disagree	1%	1%	0%	1%	0%	0%	1%	0%	0%	0%
	Tend to disagree	1%	1%	2%	2%	0%	1%	1%	2%	2%	3%
	Neither agree/ Nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	22%	22%	22%	24%	20%	24%	23%	22%	22%	18%
	Strongly agree	76%	76%	76%	73%	79%	75%	75%	76%	76%	78%
	Don't know	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	No Answer	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
g) You have enough information to respond/take action	Strongly disagree	3%	4%	3%	2%	4%	5%	4%	2%	4%	0%
	Tend to disagree	12%	13%	11%	13%	11%	11%	9%	15%	14%	13%
	Neither agree/ Nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	52%	53%	52%	54%	50%	53%	53%	50%	51%	56%
	Strongly agree	30%	26%	32%	29%	31%	25%	32%	31%	29%	30%
	Don't know	1%	2%	1%	1%	2%	5%	2%	1%	0%	0%
	No Answer	0%	0%	1%	0%	1%	1%	0%	1%	0%	1%

h) It's something that everyone else is doing	Strongly disagree	2%	3%	2%	2%	2%	4%	2%	1%	2%	2%
	Tend to disagree	8%	8%	7%	9%	7%	9%	7%	5%	8%	10%
	Neither agree/ Nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	54%	53%	55%	55%	54%	56%	55%	57%	50%	62%
	Strongly agree	34%	34%	34%	33%	35%	29%	33%	34%	38%	25%
	Don't know	1%	1%	2%	1%	1%	2%	2%	3%	0%	0%
	No Answer	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%

QS3 I am now going to read some statements, which pertain to women's ability to adapt to changes in the availability of water, food, electricity and fuel, and changes in weather. For each statement I read out, please say whether you agree or disagree with it.

N = 1558		Total	Location		Gender		Region				
			Urban	Rural	Men	Women	Phnom Penh	Plain	Mountain	Tonle Sap	Coastal
a) A man should have the final word about decisions in his home related to adaptation practices.	Strongly disagree	10%	11%	9%	11%	9%	14%	10%	5%	10%	11%
	Tend to disagree	15%	17%	15%	11%	19%	20%	14%	13%	16%	18%
	Neither agree nor disagree	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
	Tend to agree	45%	45%	45%	48%	42%	41%	49%	47%	41%	46%
	Strongly agree	27%	25%	29%	28%	26%	23%	24%	32%	31%	24%
	Don't know	1%	2%	1%	1%	2%	1%	2%	2%	0%	1%
	No Answer	0%	1%	0%	0%	1%	1%	1%	1%	0%	0%
b) A woman's role is taking care of her home and family.	Strongly disagree	4%	6%	3%	4%	4%	6%	4%	3%	4%	3%
	Tend to disagree	6%	8%	5%	7%	5%	7%	6%	9%	6%	3%
	Neither agree nor disagree	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
	Tend to agree	29%	31%	28%	32%	26%	29%	30%	28%	29%	26%
	Strongly agree	60%	55%	63%	56%	64%	57%	60%	59%	61%	68%
	Don't know	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
	No Answer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
c) Women should voice their opinions more in community decision making and public meetings	Strongly disagree	1%	1%	2%	1%	2%	1%	1%	1%	2%	1%
	Tend to disagree	4%	4%	5%	5%	3%	2%	5%	4%	5%	3%
	Neither agree nor disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Tend to agree	41%	39%	42%	41%	42%	42%	41%	42%	42%	40%
	Strongly agree	52%	55%	51%	52%	52%	54%	52%	52%	50%	56%
	Don't know	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%
	No Answer	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%



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