Welfare Component

ROLE AND VALUE OF FISH IN THE WELFARE OF RURAL COMMUNITIES IN CAMBODIA

QUESTIONNAIRE DEVELOPMENT

**Joshua NASIELSKI[1], Olivier JOFFRE[1],
EL Sotheary[2], SVAY Sinarong[2], CHEACH Monyda[2]
Gareth JOHNSTONE[1], Eric BARAN[1], Rudolph WITT[3]
TAN Sokhom[1], SARAY Samadee[1]**

[1] WorldFish Center, Phnom Penh, Cambodia.
[2] Cambodian Agricultural Research and Development Institute
[3] Center for World Food Studies, Amsterdam, the Netherlands

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Abstract

Freshwater capture fisheries in the Lower Mekong Basin are an important source of food, income, jobs and livelihood opportunities for Cambodians (e.g. 2 million people in Cambodia alone). However there has never been a solid estimate of the total economic value of inland fisheries. As a consequence the importance of these fisheries remains poorly recognized by institutions and governments and in development plans, which hampers rural development. Furthermore the role of fish resources in promoting household welfare, as well as its place in the livelihood strategies of Cambodian households, has never been quantified.

The welfare valuation component is part of the "Valuation of Fisheries in Cambodia" project, funded by the Australian Center for International Agricultural Research (ACIAR). By assessing welfare values of fishery resources, this project hopes to increase the prominence of fishery resources in broader agriculture and rural development strategies and programs within Cambodia. The welfare valuation component is made up of two integrated research methods: a large fish-focused household welfare survey along with integrated focus group discussions.

This report details the development of the household welfare survey questionnaire. It provides an in-depth treatment of the rationale behind the questionnaire design, sources and materials used in its creation and modifications made after field testing and expert input.

Keywords:
Cambodia; welfare; household survey; inland fisheries; livelihood analysis

1. INTRODUCTION: PURPOSE OF THE STUDY

The WorldFish Center supporter by ACIAR launched a project in 2012 called "Valuation of Fisheries in Cambodia".

The overall objective of the project is to quantify the multiple values of fish resources and convey information to national decision-makers and development agencies for sustainable and improved rural livelihoods. The objectives of the project are to:
   i.   assess the economic value of capture fisheries in Cambodia;
   ii.   assess the welfare value of fish for rural populations in Cambodia and identify strategies that maximize this value;
   iii. establish a coordinated monitoring of fish resources through a network of universities;
   iv.   improve national statistics about fisheries resources;
   v.   inform a large range of stakeholders about the actual role of fisheries in national economy and livelihoods.

The Welfare Valuation Component is designed to address objective ii. Our approach integrates two research methods: a household welfare survey and village-level focus group discussions. This report describes the survey questionnaire and makes explicit for readers the rationale behind its development. It will be of use for readers of future reports derived from the "Valuation of Fisheries in Cambodia" project who are looking for a detailed explanation of the questionnaire. It will also be of use to researchers who plan on developing a fish-focused household welfare survey of their own.

This report is split into two parts. The first part of this report describes the theoretical underpinnings of the questionnaire itself. There were a number of possible questions and themes that could have been included and explored in the questionnaire (and subsequent data analysis). Why did the welfare valuation team choose the questions we eventually did? Why does this questionnaire focus on certain themes and not on others? Our first section discusses the rationale behind these important choices, highlighting the importance of conventional welfare economic theory and the relatively new Sustainable Livelihoods Approach (SLA) in informing our decisions.

The second part of this report explores in detail, module by module, the reasoning behind specific questions included in the questionnaire. Because most of the questions and modules included in the survey were taken from previous welfare surveys done in developing countries, we provide the sources of these questions as well.

2. PART 1: THE THEORY BEHIND THE SURVEY QUESTIONNAIRE

The contribution of small-scale fisheries in developing countries to both household welfare and macroeconomic growth has interested researchers since at least the beginning of recorded history, when Herodotus described the fishery and fishermen of the Egyptian Nile. Research concerning the proper role of fisheries in economic development has continued in increasingly sophisticated fashion well into the modern era (e.g. The WorldFish Center was founded in 1975 as ICLARM). Beliefs about the nature of small scale fisheries and their role in economic development have continued to evolve. In turn, the types of research questions considered relevant for fishery-related policy development have continued to change. A short overview of the history of small scale fishery-focused development practice is presented before examining the Sustainable Livelihoods Approach and conventional economic welfare theory in more detail, both of which informed the development of our survey.

2.1. THE ROLE OF FISHERIES IN INTERNATIONAL DEVELOPMENT PRACTICE

During the 1950's and 1960's development projects were almost exclusively focused on increasing the production efficiency of fishers by improving fishing techniques and technologies (Sainsbury, 1977 from Smith, 1979). Developing countries were urged to industrialize their fishing industry and to expand the market for their fish products by increasing exports (Smith, 1979; Bailey and Jentoft, 1990). Small-scale fishers were thought to be poor because they were fishers; their low productivity and the open access nature of fishery resources prevented them from climbing out of the poverty trap (Béné and Friend, 2011). Artisanal fishers were urged to "professionalize" and invest in higher productivity technology and expand markets for their catch (e.g. Lampe et al, 1974). During the 1970's and 1980's fears of over-fishing led to the promotion of governance regimes based around exclusion and barriers to entry (Allison and Ellis, 2001). The consensus was that governments and development agencies should urge small-scale (i.e. low productivity) fishermen to transfer into land-based jobs while granting access rights to a smaller group of more productive commercial fishers (Béné and Friend, 2011; Pauly, 2005). The reasoning behind exclusion was that by restricting access to fisheries to those who can harvest it most productively, the economic rents of the fisheries will be captured, wealth will be produced and an incentive to sustainably exploit the fishery will be created (Pauly, 1990).

The theoretical and empirical evidence for rent maximization and exclusion in fisheries has been critiqued in recent years and over time the basis of this approach to fishery management in developing countries has eroded (Bailey and Jentoft, 1990; Béné et al, 2010)[1]. Over the past decade, researchers, policy makers and development professionals have begun to reconsider the role of fisheries in economic development and household welfare. The work of scholars such as Christophe Béné, Edward Allison, Frank Ellis, Elinor Ostrom and others have reoriented the discourse surrounding small-scale fisheries. Rather than shifting from one simplified framework to another, this new orientation provides a more sophisticated view of the role of small-scale fisheries in people's lives and of the relationship between poverty and fishery dependence. This body of work has contributed to the development of the Sustainable Livelihoods Approach.

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[1] It should be noted that because of the difficulty of establishing exclusion-based management regimes, especially in developing countries, they have never been widely adopted; however the theory and reasoning that underlie them are commonly held by policy makers, development professionals and scholars (Wilson and Boncoeur, 2008)

2.2.   THE SUSTAINABLE LIVELIHOODS APPROACH

Governments of developing countries have tended to view fishing as a full-time occupation and fisheries as a well-defined sector (such as farming and forestry), a paradigm that is reflected in the sector-based divisions of responsibility in government and the design of nation censuses (Allison and Ellis, 2001)[2]. This view, consistent with earlier approaches to fishery development that focused on increasing fisher productivity while promoting alternative livelihoods that shifted fishers out of fishing, ignores the cross-sectoral nature of how people in developing countries actually conduct their lives (Allison and Ellis, 2001).

SLA provides an alternative to previous sector-specific policy frameworks that focused on either increasing fisher efficiency or regulating fish catches (Allison and Ellis, 2001). It recognizes that small-scale fishing is part of a diverse portfolio of occupations or livelihoods that households pursue opportunistically and seasonally (Béné and Neiland, 2003b; Keskinen, 2003). Household fishing effort is not only dependent on biological considerations such as fish migrations, but is modulated through involvement in other occupations such as farming, livestock rearing or timber collection (Keskinen, 2003; Shams and Ahmed, 2000).

SLA allows for a more nuanced evaluation of fishing dependence, beyond the binary fisher/non-fisher household classification system that characterizes previous fishery-focused research, especially in Cambodia (e.g. Ahmed et al, 1998). Rather, household fishing dependence is best modelled on a spectrum that changes over time. A variety of metrics can be used to characterize fishing dependence, such as income derived from fishing activities, food and nutrition from fish and investment in fishing-specific assets.

Previous studies have tended to correlate fishing with poverty, characterizing fishing as an occupation of last resort with limited development potential (Béné and Friend, 2011). This simple correlation has morphed into a commonly held causative narrative that "fishers are poor because they fish and fish because they are poor" and development efforts have focused on helping shift small-scale fishers out of the sector (Béné, 2003). Again, the SLA offers a more nuanced framework for analyzing fishing and poverty. Allison and Ellis (2001) argue that apart from poverty, livelihoods such as fishing can be further characterized by the attributes of *vulnerability and marginalization*. Marginalization refers to the exclusion of certain groups from community decision-making and planning, economic contracts and other forms of social discrimination (Béné and Friend, 2011). Vulnerability is described as the ability of households to adapt to external shocks such as health shocks or the risk of resource depletion. It is generally characterized as a function of three variables (Allison and Ellis, 2001):

- **Exposure** to risks
- **Sensitivity** of the household livelihood portfolio to those risks
- **Adaptability** of the livelihood portfolio and its ability to cope with external shocks

The thrust of this framework is that policy makers and development professionals should look beyond the conventional link between poverty and fishery resources to other causes related to vulnerability and marginalization. Having no access to land leads people to rely heavily on

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[2] Cambodia's Ministry of Agriculture, Forestry and Fisheries seems to be the exception to this rule, although each of agriculture, forestry and fisheries maintain separate departments within the ministry.

common access resources such as fisheries (Béné and Friend, 2011). If fishing communities are located in remote areas, their distance to markets, low levels of public service delivery and poor access to economic opportunities may increase the risk of chronic poverty regardless of whether the inhabitants fish (Mills et al, 2011;Bird et al 2002). In these cases fishing may be one of the few alternatives left. The SLA approach views household livelihood diversification as a strategy to cope with external shocks and highlights the importance of small-scale subsistence fishing in poverty prevention, acting as an accessible source of income and food in times of crises and thereby preventing households from falling into poverty in the first place (Jul Larsen, 2003; Béné et al; 2010). Fisheries can also acts as an absorber of rural labour, providing a livelihood to rural workers who lack the capital (human or otherwise) to access alternatives[3] (Béné et al, 2010).

Béné (2006) points out that if poverty was sector-specific (i.e. specific to the fishery sector) then fishers should be demonstrably poorer than non-fishers in the same community. However no empirical evidence has shown this to be the case (Béné 2006). In fact, a study in the Mekong basin in southern Lao PDR found that the importance of fishing was similar across socio-economic groups (Garaway 2005). According to Allison and Ellis (2001):

> *Understanding how people succeed or fail in sustaining their livelihoods in the face of shocks, trends and seasonality can help to design policies and interventions to assist peoples' existing coping and adaptive strategies. These may include improving access to education and health care facilities, strengthening rights to land for settlement and agriculture (i.e. not just rights of access to fish stocks), reforming local tax and license systems, providing financial and enterprise development services (and not just credit for purchase of fishing gear) and promotion of diversification₃—all issues seldom addressed in fisheries management and policy.*

Development organizations and governments have successfully incorporated SLA into fisheries management and fish-focused development project; the Welfare Valuation Component is not breaking new ground by incorporating SLA into the questionnaire design. The sustainable livelihoods approach has been successfully applied to fisheries management, for example by the United Nations in Africa with the 7-year long Sustainable Fisheries Livelihood Program (Allison and Horemans, 2006). The livelihoods approach to fisheries management has also been promoted in WorldFish publications (e.g. Béné and Neiland, 2003a).

2.3. FROM THEORY TO SURVEY QUESTIONNAIRE

Broadly, the Sustainable Livelihoods Approach has influenced the development of our survey questionnaire in three ways, all of which make our survey unique among large-scale fish-focused household welfare surveys in Cambodia. First, the survey is longitudinal and will monitor households over two years. This allows us to design a questionnaire that can track trends, changes and household shocks. Second, our baseline questionnaire focuses on calculating net income from almost all conceivable sources of income. Income is a traditional welfare proxy variable and will allow us to disaggregate welfare down to specific livelihoods and occupations as well as individuals. Third, the SLA approach emphasizes that households maintain a livelihood portfolio and that fishing dependence must be placed within the context

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[3] Note that the labor absorbing function of fisheries and the imperative of increasing fisher productivity through technology and improved techniques are mutually exclusive

of the livelihoods available to the household. In addition, this livelihood portfolio changes seasonally and in response to external shocks. The questionnaire includes detailed modules investigating resource-based livelihoods as well as household shocks.

2.3.1. Longitudinal

The SLA emphasizes that household livelihoods are dynamic and vary seasonally, in response to external shocks, etc. It also places importance on monitoring trends and changes to understand how livelihoods such as fishing allow households to adapt to shocks. Our survey will follow households over two years, interviewing each household four times over the duration of the study. This will allow for a more nuanced assessment of the impact of fisheries on household welfare and how this impact varies through time and as an adaptation to trends, changes and shocks. Specifically, our questionnaire is designed to monitor changes in household wealth, income and livelihood strategies and to uncover the causes of these changes (i.e. external shocks).

2.3.2. A focus on net income and productive livelihood-specific assets

Because welfare (or well-being) cannot be measured directly and because subjective self-valuation by household members is problematic, welfare surveys must measure proxy variables to estimate household welfare. Most studies rely on one of three welfare proxies: consumption, household assets or income. Although household welfare comprises more than material household wealth or the household's ability to consume goods and services, these proxies have become standard welfare metrics.

Our survey has chosen to focus on measuring household net income and the monetary value of productive (i.e. livelihood) assets. Because our survey is aimed at discovering the importance of fisheries *relative* to other livelihoods and occupations, we must use a welfare variable that can be disaggregated down to individual household members and different income sources. Household consumption, although less problematic as a measure, wouldn't allow for this comparison. Thus, by looking at the income a household receives from different livelihoods, our questionnaire will allow us to derive the importance of fishing activities to total household income and hence to total household welfare.

Measuring household investment in productive assets and classifying them according to livelihood gives us an additional measure of the relative importance of livelihoods to household welfare[4]. As household investments in fishing assets increase, so does the proportion of income derived from fishing activities (e.g. Rab et al., 2006). In other words, investment in productive livelihood-specific assets is another measure of livelihood dependence.

Measuring income is of course necessary if we wish to study its seasonal fluctuations and to trace income back to individuals and livelihoods but there are several drawbacks to be aware of in using this approach (Deaton and Zaidi, 2002). The first is that households have a tendency to smooth their consumption over time by saving income during periods of plenty and spending savings during periods of need (Deaton and Zaidi, 2002). Households can then maintain stable levels of consumption while household income fluctuates. Therefore a welfare survey may detect large seasonal income variations and mistake that for large seasonal welfare variation

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[4] We explain how we deal with assets used in multiple occupations in the LIVELIHOOD ASSET SECTION

where there is none (Deaton and Zaidi, 2002)[5]. A second drawback to using income indicators has to do with their accuracy: respondents tend to underreport their income and interviewee recall for highly variable income flows is imperfect (Ravallion, 1992). These problems can be mediated somewhat by well-designed (i.e. highly detailed) questionnaires but the problem cannot be avoided entirely . Indeed, as Ravallion (1992) writes:

Much of the data we now routinely use in poverty analysis is full of errors, and that is unlikely to change. And there are unavoidable value judgements underlying measurement practice. Our policy assessments and prescriptions may or may not depend on these errors and assumptions; an important task for the poverty analyst is to find out just how confident we can really be in forming poverty comparisons.

2.3.3.   A holistic view of livelihood dependence

The sustainable livelihoods approach acknowledges that most rural households engage in a wide variety of livelihood strategies, which is clearly the case in Cambodia (World Food Programme, 2012). The tropical climate consists of two main seasons which have a clear impact on the selection of livelihood strategies: the wet season from May to November and the dry season from December to May (Keskinen, 2003). In general, rural households cultivate rice during the wet season and collect natural resources from forests and water bodies throughout the year depending on their availability (World Food Programme, 2012). Agriculture, livestock production, forestry and fishing comprise the primary occupations for 72% of Cambodian households although non-farm income such as remittances, casual labour and petty trade are also important (World Food Programme, 2012).

SLA recognizes that fishing dependence cannot be modelled using the binary fishing/non-fishing dependent classification scheme used in the Cambodian national censuses and previous fish-focused welfare surveys. Rather, fishing dependence is best modelled on a spectrum and the questionnaire uses net income (specifically the proportion of net income earned from fishing activities) as a rough estimate of household fishing dependence. Because our survey is aimed at discovering the importance of fisheries *relative* to other livelihoods and occupations, we must calculate net income for all other income sources as well. The questionnaire includes modules that specifically cover farming, fishing (including aquaculture and other aquatic animal collection), forestry (timber and NTFP collection), non-natural resource based income as well as remittances (because of their importance to Cambodian households). The questionnaire disaggregates income sources down to individual household members, avoiding a problem common to SLA which tends to focus solely on the income sources of the household head (Allison and Ellis, 2001). Aside from calculating income from a variety of livelihoods, we also collect production data for farming, livestock rearing, fishing, timber and NTFP collection.

The Sustainable Livelihoods Approach emphasizes the importance of household vulnerability as a determinant of poverty. Rural households in Cambodia are highly vulnerable to external shocks such as crop failures and health crisis and several studies done in Cambodia have examined the main causes of these shocks and how households tend to adapt and cope with them (Chan Sophal and Sarthi Acharya, 2002, Kenjiro, 2005). Our questionnaire contains modules that measure external shocks: their causes, magnitude and coping strategies used. A related module measures health expenditures and specifically asks questions related to

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[5] In other words income is a proxy for consumption, which itself is a proxy for welfare.

occupational health to measure the exposure of households to occupation-related health risks (a component of vulnerability). The questionnaire also measures household wealth (i.e. household assets) since asset sales remain a commonly used household coping strategy in Cambodia (World Food Programme, 2012; Kenjiro, 2012).

Apart from a source of income and potential coping mechanism for external shocks, fisheries can play an additional role in household welfare as a source of food (specifically as a source of animal protein) (Murshid, 1998; Ahmed et al, 1998; Béné and Friend, 2011). The questionnaire module on food security is designed to ascertain the proportion of household animal protein derived from fish (either caught or purchased).

2.4. A UNIQUE OPPORTUNITY TO STUDY LIVELIHOOD DYNAMICS

The welfare impacts of Cambodia's inland fishery on rural households have been studied previously in two large household surveys (one published in 1998 and another in 2006) and in numerous smaller case studies. The Welfare Valuation Component has a unique opportunity to address the research questions arising from the Sustainable Livelihood Framework due to the sample size and panel approach of the household survey (720 households visited four times over two years) and its integration with the qualitative focus group interviews.

Specifically, our survey differs from previous fish-focused household welfare surveys done in Cambodia in three ways:

1) Incorporating a Sustainable Livelihood Approach into the survey requires a questionnaire that is significantly longer and more comprehensive than those of previous studies. For example, our survey will calculate net income for a variety of livelihood activities (not only fishing), something that previous household welfare studies have not done, even for fishing, because of its difficulty. This fact presents us with three main of challenges that have not been faced before, all of which appeared during field testing of the questionnaire:

   - Enumerators must have expert knowledge of a variety of livelihoods, not just one. Expert enumerators have the ability to elicit accurate answers from respondents in a shorter time than non-expert enumerators. Expert enumerators will be able to prompt and probe respondents for better answers while non-experts will not be able to. Because our survey covers multiple livelihoods, enumerator training will be more in-depth and complicated than otherwise.
   - The large volume of data collected from each household will make data cleaning, data entry and data management more complex and error prone than smaller and less detailed surveys.
   - The survey typically takes 3 to 4 hours to complete. Nearing the end of the survey, respondents have the tendency to grow tired and restless, likely decreasing the accuracy of their answers.

2) Our survey is longitudinal and will follow more than 700 households over a period of 2 years. This will result in an entirely new dataset that will allow us to identify critical seasonal features and the permanent or evolving role of fish in household welfare (in particular its role as a financial trigger, a bridge of financial and nutritional gaps and an absorber of rural surplus labor). Because the sustainable livelihood approach

emphasizes that livelihood portfolios change over time in response to seasonal changes and other shocks, it is essential that households are followed over a period of time.

3) Previous fish-focused household welfare surveys done in Cambodia have tended to either sample exclusively in areas with high fishing dependence (e.g. Ahmed et al., 1998) or stratify their sampling areas into binary fishing/non-fishing classes[6]. The Welfare valuation team created a new approach by developing a continuous stratification variable (mirroring the Sustainable Livelihood approach) to classify villages in the sample frame according to their fish dependence. Villages with a fishing dependence score of 0 were placed in one category and all villages with a dependency score greater than 0 were grouped into quartiles. Villages selected for the survey come from each quartile and include villages with a fish dependency score of 0. This approach ensures that villages and households included in the survey have a wide variation of fishing dependence. This approach will allow the Welfare valuation team to compare the *relative* contribution of fishing across a wide range of fishing dependencies.

2.5.   THE ORGANIZATION OF THE SURVEY QUESTIONNAIRE

Consistent with the Sustainable Livelihoods Approach our survey has designed a questionnaire based on the following components adapted to the Cambodian context:

1) **Livelihood Component:** The purpose of this component is to assess the importance of fishing relative to other livelihoods. The livelihood component will measure income, livelihood-related expenses, individual involvement and fixed asset investment associated with fishing, other aquatic animal collection, farming, livestock rearing, timber and non-timber forest product collection, remittances and all other sources of income for all household members.

2) **Vulnerability Component:** The purpose of this component is to measure household vulnerability and to assess if and how fish-based livelihoods affect vulnerability. It comprises the response of households to shocks (e.g. crop loss), work-related injuries or illnesses, access to health care and food and nutrition.

3) **Poverty Component:** The purpose of this component is to assess the poverty of the household in order to relate it to the livelihood portfolio of the household and the vulnerability of the household. This component investigates household assets, credit and debt, education, health-related expenditures and other consumption measures.

Every module and question within our questionnaire can be grouped into one of these three components. Part 2 of this report examines the modules and specific questions within them in greater detail.

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[6] For more information about problems with previous survey design approaches as well as an in-depth treatment of the Welfare Valuation Survey methodology, please see the Methodology Report

3. PART 2: THE QUESTIONNAIRE IN DETAIL

3.1. INTRODUCTION

The questionnaire developed by the Welfare Team contains over 500 questions and sub-questions, organized into 12 modules. Each module is based on a particular theme that fits within one of the three components (poverty, livelihoods, vulnerability) of the welfare questionnaire. This section of the report is meant to be read alongside a copy of the questionnaire, to avoid confusion and to aid in understanding the motivation behind the questionnaire design.

The overall structure of the questionnaire is as follows:

A. Cover Sheet
B. Personal Information
C. Housing and household assets
D. Livelihood assets
E. Farming livelihoods
F. Livestock livelihoods
G. Fish livelihoods
H. Forestry livelihoods
I. Non-resource based income
J. Food consumption
K. Borrowing and lending
L. Expenditure and Income Shocks
M. Household health

Part 2 of this report is organized into 12 sections, each corresponding to a different module, and each section of the report is organized with a similar structure:

- Overall objective of the module (i.e. what information will be extracted or analyzed from this module);
- Specific objectives of the questions, justification and comparison with questionnaires used in other studies;

We copy questions and modules freely from several sources. Often, we modify questions and modules by adapting them to the Cambodian context or shortening them if they include extraneous material. The primary sources of questions and modules are the following.

- The Cambodia Socio-Economic Census 2009
  - Referred to as CSES 2009 in this report

- The Economic Evaluation of Fisheries in the Logone flood plain, Cameroon (2007)
  - Referred to as Cameroonian questionnaire in this report
  - WorldFish implemented this project with the Cameroonian government and the expertise gained from implementing this project assisted the efforts of the Welfare valuation team

- Challenge Project Water and Food MK 2, Mekong Basin, Project 2[7]
  - WorldFish implemented this project with the Laotian government and the expertise gained from implementing this project assisted the efforts of the Welfare valuation team

This report references the sources of specific questions and modules so that readers can consult the source material.

3.2. THE COVER SHEET

The starting prompt in the cover sheet was designed specifically to put respondents at ease with the enumerators and to promote accurate and honest responses. We explicitly state that:

- We are not government officials and none of the information we will collect will be given to the government or anyone else
- The information we collect will in no way affect your taxes
- We are not going to be implementing a development project and this data will not be used for other development projects
- This survey is completely anonymous

3.3. MODULE A: PERSONAL INFORMATION

3.3.1. Overall objective

In this module we want to capture personal and demographic information of the households. As in all household socio-economic survey this baseline information is required to understand the household composition and human capital of the households. In addition, this information is used as reference in other part of the questionnaire regarding the involvement of each household's member in the different livelihood activities (fisheries, farming etc...) or health expenses.

The initial design of the module was taken from the MK 2 questionnaire, but was modified significantly by the welfare valuation team.

3.3.2. Specific questions

Q1: This is our first question. In field testing we noticed that asking a friendly personal question puts respondents at ease and increases rapport with the enumerators. In addition, if respondents have only resided in their home for a short time, enumerators can prompt about why they moved as well as if the household still owns property in the area where they came from.

Q4 (column 5): Because education is a form of consumption and children in poor households may be withdrawn from school in order to work, this question (in conjunction with others) gives additional evidence concerning the poverty level of the household.

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[7] For more details on Challenge Program Water and Food in the Mekong see *http://mekong.waterandfood.org/*

Q4 (column 7-9): Concerns the occupations of the different household members. We distinguish between fishery-related occupations and non-fishery related occupation. We made this distinction in order to capture the direct, but also indirect role of fisheries in livelihoods (for example skilled worker in boat construction or fishing net). In addition, our survey makes a distinction between fishing and fish-based occupations. If a household member engages in an activity where their daily wages are variable and dependent on the fish catch (along with other endogenous and exogenous factors), they are considered fishers. If their income is not variable and independent of the fish catch, they are not considered fishers but employed in a fish-based livelihood. Examples of fish-based livelihoods include boat builders and fishers working for someone else, earning a wage instead of the value of their catch. This distinction is made for all other natural-resource based occupations (i.e. farming, livestock and forestry). For example if someone is employed as farm labour on a farm they don't own, they are not considered farmers, but employed in a farming-based occupation.

The choice of using *Primary* (**column 7**) and *Secondary A and B* (**8&9**) occupations may seem odd for a questionnaire that has placed so much emphasis on the sustainable livelihoods approach, which eschews static and binary primary/secondary occupational designations. However, there are important reasons for including these questions. Firstly, it will be useful to compare self-stated occupations (i.e. what respondents perceive as their primary/secondary occupation) to the proportion of total income derived from them. Many surveys in Cambodia, such as the National Census and the Cambodian Socio-Economic Survey, currently rely on respondents to identify their main occupations. By comparing this method to the sustainable livelihood approach, using income as a measurement of occupational importance, we will be able to test the correlation between the two. Second, self-selected occupations provide information that enumerators can use in later modules as prompts to gain more information concerning

Q4 (column 9,10): We want to capture the importance of migration for wage labour, which was describe as a common pattern in Cambodian rural communities (Joffre and Sheriff, 2011). We consider all absences of at least 1 month in duration over the past 12 months to be a temporary absence and our questionnaire inquires about absences longer than this.

3.4. MODULE B: HOUSING AND LIVELIHOOD ASSETS

3.4.1. Overall objective

The objective of this module is to assess poverty level via assets and housing construction material. Using specific assets as indicators of household wealth (e.g. building material of house, radio ownership) have been used in several large-scale welfare surveys as an alternative approach to measuring household welfare (Falkingham and a Namazie, 2002). Typically, for these types of analyses, an asset index is constructed and household welfare is calculated based on ownership of these specific indicator assets (Falkingham and a Namazie, 2002). Because of the problems associated with using income as a welfare proxy, we wanted an additional method of ranking household welfare and the information collected in this module will allow us to do this. In addition, during follow up surveys, the welfare valuation team can quantify how many assets have been sold or purchased within the project period and thus indentify changing levels of poverty.

The initial design of the module was taken from the *MK 2* questionnaire, but was modified significantly by the Welfare valuation team and incorporated aspects of the Cameroonian questionnaire. In general, we simplified this section to only include questions that provided information about household poverty and indicator assets (and removed questions about sanitation and well-being).

We decided not to ask directly for the value for the house, since it was extremely difficult for respondents to estimate this value according to previous socio-economic surveys (Challenge Program Water and Food Mekong 1 and Mekong 2 projects).

3.4.2. Specific questions

Q2: Field testing highlighted the importance of including questions about ownership of more than one house.

Q7: We decided to ask about the value of household assets to arrive at an approximate determination of household wealth. Both the MK 2 and the Cameroonian questionnaire contained a significant number of assets for respondents to value, for example in the Cameroonian questionnaire respondents are asked to impute the value of chairs, tables and "lingerie". We focus on major assets that indicate the level of wealth (**Q8**). Assets not consider as significantly representative of wealth in the Cambodian context were removed, thus shortening the questionnaire[8].

3.5. MODULE C: LIVELIHOOD ASSETS

3.5.1. Overall objective

We investigate the ownership and value of productive assets used in resource-based livelihoods. In order to facilitate the interview we re-group productive assets in 5 categories: farming (**Q1**); livestock (**Q2**), fisheries (**Q3**), aquaculture (**Q4**) and forestry (**Q5**) assets. For each asset we ask for the number owned and their present value. Only in the case of livestock assets do we ask about the cost of the asset, since we assume fencing and pens cannot be sold afterward.

Measuring investments in productive assets is important for two main reasons: First, it provides an additional measure of household wealth. Second, it can provide an additional measure of livelihood dependence: households with a significant proportion of their wealth tied up in livelihood-specific assets are more likely to be increasingly dependent on it. However, there are many context-specific exceptions to this rule and productive asset investment is not by itself an accurate measure of livelihood dependence. For example, households located close to fishery resources may not need an expensive boat to access them. Or fishers near turbulent river rapids can use inexpensive cast nets for fishing instead of more expensive gill nets. Investments in livelihood-specific productive assets are therefore only a rough guide to dependence

Assets with multiple uses can be double counted in the questionnaire, such as a generator that can be used as an irrigation pump (farming) and an engine for a fishing boat. Enumerators must

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[8] The Welfare valuation team, in consultation with national partners and previous livelihood assessments done in Cambodia, decided which assets were most important for determining household wealth

be trained to prompt and discover which assets are used in multiple livelihoods to ensure double counting, which doubles the value of a single asset, does not occur.

This module borrows heavily from the Cameroonian survey and was modified to fit the Cambodian context. CARDI, our national partner with expertise in agriculture, helped list important farming assets (**Q1, Q2**). WorldFish developed the list of fishing and aquaculture assets (**Q3,Q4**). For forestry-related assets (as well as the forestry module itself) we consulted with the Cambodian Non-Timber Forest Products Working Group, who was kind enough to provide input.

3.5.2. Specific questions

Q3 (Fishing Assets): In order to avoid confusion due to different naming conventions between enumerators and respondents, a flipchart with pictures of fishing equipment will be provided to enumerators. Because of the importance of gill nets as fishing gears in Cambodia, our survey disaggregates them into different sizes; gill nets of different sizes vary in their price and the type of fish they are used to catch, so making this size distinction is important.

We decided not to ask about the number of asset sold and purchased during the past year in the baseline survey, since such aspect will be monitored during the following two years of continuing surveys.

3.6. OVERVIEW OF THE NATURAL RESOURCE-BASED LIVELIHOOD MODULES: FARMING, LIVESTOCK REARING, FISHING AND FORESTRY/NTFP COLLECTION

3.6.1. Overall objective

The four livelihood modules are designed primarily to elicit net income from resource-based livelihood activity and the seasonality of income cash flows. In addition, they measure individual household member involvement in each activity. Respondents in developing countries are frequently unable to provide accurate estimates of net income when asked directly, so these modules contain numerous prompts designed to help respondents think clearly about sources of income and sources of costs.

All modules contain questions that ask about individual household member involvement in the specific livelihoods activities and are often broken down further within the module. For example individual involvement in livestock related activities is broken down by animal type (e.g. poultry, cows). This will give us specific information about individual involvement and allow us to measure how age and gender affects which livelihood activities are engaged in.

Seasonality is also heavily incorporated into the modules since the timing of income cash flows and expenditures may have a large impact on household welfare. That is, if households are living hand-to-mouth then the timing of revenues and expenses will cause household welfare to vary in response.

3.7. FARMING MODULE

3.7.1. Overall objectives

This module covers all agriculture related activities (not including livestock). This module was initially based on the Cameroonian Welfare questionnaire and the MK II questionnaire, modified for the Cambodian context. CARDI modified this module heavily after field testing: the questionnaire was simplified to make it easier for respondents to answer and focused only on the most important sources of income for farmers. CARDI also developed a very detailed prompt for crop-related expenses and created questions that allowed us to look at individual involvement in farming and the seasonality of cash flows (which other surveys lacked).

3.7.2. Specific questions

Q1-Q6: We ask respondents to provide estimates of their agricultural land area, broken down into four categories: paddy fields (rice), chamka land (non-paddy crops such as maize, soybean and cassava), fallow land and home/market garden land. We also categorize farmland land based on ownership and capture rental income for leased farmland and rent paid for rented farmland. Farmland is a productive (and with proper title a highly liquid) asset so land area and farmland productivity (measured later) is an important measure of household wealth.

Q7-Q8: These questions cover all the field crops, fruit crops and vegetable crops grown by the household. We selected the list of the crops based on CARDI experience and the list of the main crops in Cambodia. Vegetables include all sort of vegetable farmed in homestead gardens and other plots. Detailed crop type was not needed. For the most important crops in Cambodia (namely rice, maize and soybeans), we ask for more detailed information about quantities harvested (and the proportion kept by the household and sold). In general however, we need only revenue and costs for each crop. To measure crop-related expenses, we use a detailed cost prompt developed by CARDI. During field testing we found that respondents had trouble coming up with an overall total cost for each crop but had a much easier time when total costs were broken down into their constituent parts. To understand the seasonality of the cash flows, we also ask for the harvest date (only if applicable, since households typically harvest market garden vegetables and fruits continuously).

Q9: We also ask about the amount of stored crops. Stored crops, particularly rice, are typically consumed by the household and are drawn down over time until the next harvest. As such, they are important indicators of household food security. Properly stored crops are also a liquid asset that is part of household wealth. This particular question was taken directly from the CSES 2009.

Q10: The household member list (including gender and age) will be used to understand the level of involvement in the different farming activities. We separate farming activities into three categories: rice, chamka crops and homestead garden. This question also provides information for the gender analysis. We decided to use 3 modalities to estimate the level of involvement, a decision based on our field test experience. Using percentage to measure household involvement or increasing the complexity of he modalities was too difficult for respondents to answer.

3.8.   MODULE D: LIVESTOCK PRODUCTION

3.8.1.   Overall objective

This module estimates net income (i.e. revenues and expenses) from all livestock related livelihood activities. This includes raising and selling livestock as well as income earned from non-terminal animal products (e.g. eggs). This module is taken from the CSES livestock module, although we have shortened it to reduce the length of time it takes to complete and have included questions about seasonality and individual household member involvement.

3.8.2.   Specific questions

Q2 (column 2-6): investigates the variability of livestock ownership and its importance to income generation and household food security. It is necessary to understand how livestock holdings vary throughout the year and why. Unlike the CSES, we inquire about why livestock numbers have changed (e.g. sales, slaughter) to better understand how livestock owned by the household are being used.

Q2 (column 8): assesses any seasonal pattern in revenue related to livestock (e.g. is there a time of year when households tend to sell their livestock?). The estimation of the total operational cost related to each type of animal uses the same technique as in the farming module, with a check list of the cost (feed, vaccine etc...) in order to prompt the respondent.

Q3: use the same approach as in the *Farming module* to assess the role of each member in the household in livestock production. Here, to simplify the question, we divided livestock in 3 main categories: large livestock (cow and buffalo); poultry (duck and chicken) and other (goat, pigs).

3.9.   MODULE E: FISHERIES ACTIVITIES

3.9.1.   Overall objective

This module includes all fisheries activities: capture fisheries (fish and other aquatic animal) as well as aquaculture (pond and cage). Like other modules we assess net income from fisheries, the seasonality of the income and the role of household members for each activity. This livelihood module is much more detailed than the others, since this is a fish-focused welfare survey. We asses net income from fish-based livelihoods such as selling fish based product (e.g. dried fish, fish sauce, prahoc). Because of the importance of other aquatic animals (e.g. snakes, insects, crabs, snails) in Cambodia for both a source of income and food security, we include several questions that relate to OAA capture and usage (e.g. Brooks et al., 2008)

This survey was based loosely on the MK II questionnaire, the Ahmed questionnaire and the Aquaculture Future in Cambodia (WorldFish Center, 2011) questionnaire. However the module was heavily modified by the welfare valuation team based on results from field testing. In most cases we modified questions so that they were easier for respondents to answer (resulting in more accurate answers). The questions in the fisheries module are mostly quantitative.

Qualitative data will be gathered during the focus group discussions, which are integrated with the Welfare survey.

3.9.2. Specific questions

Q2-Q8: concerns average daily fish catch and inquires about how the daily catch is used (e.g. for selling, for eating). Monthly fish catch is estimated by asking for the average daily catch for each fishery. The choice of this approach is due to results from field testing and feedback from respondent. Based on our experience, estimating the number of fishing days in a month and the average daily fish catch was the most accurate and easiest method to capture seasonal variation in the fish catch. Catch usage (e.g. sale, consumption) was estimated using kilograms instead of percentage of total catch since field testing revealed that respondents had trouble thinking in percentage terms. Also, in order to make fish catch estimates easier for respondents to answer (and also to make these estimates more accurate), our questionnaire asks for different catch estimates for different fisheries. Depending on the season, the local environment and the aquatic ecology, fishers target different fish species during different times of the year. By breaking down fish catch by fisheries (which is how Cambodian fishers typically think about it), our survey hopes to elicit more accurate answers. Note that prior to the household survey we will gather data about what fisheries are exploited by the village inhabitants, so that enumerators will have prompts ready before the interview. Capturing the average selling price (riel/kg) was difficult since price varies significantly even within a month. Asking the average daily revenue per month and per fishery was found to be easier for respondents.

Q9: is similar to the six previous questions but is concerned with annual catch of other aquatic animals (not disaggregated by species). Because children play a large role in the capture of OAA, and because most household heads do not consider OAA to be important, we include a prompt to remind enumerators that children and women should be consulted for this question.

Q10-12: asks qualitative questions about the usage of fish income. These types of questions are rarely asked in household surveys; a large sample may reveal interesting information.

Q13-14: details fixed and variable costs (e.g. petrol, ice) associated with fishing activities. This information is necessary to calculate a net income figure for fishing and OAA capture activities. During field testing we found that the cost of repair, replacement and maintenance of fishing assets were non-trivial and needed to be included in the questionnaire to generate accurate expense estimates.

Q16-17: concern household production, consumption and sale of processed fish products. Processed fish products represent a viable value-added livelihood for fisher folk and it is important to estimate net income from this activity.

The list of products (e.g. dried fish, prahoc) is based on WorldFish expertise in the Cambodian context. Like other livelihood activities, we use a prompt (developed by the welfare valuation team) to help respondents estimate expenses related to fish processing (Hortle 2007).

Q18-25: concern household production, consumption and sale of cultured fish. Aquaculture is divided into the two main production systems found in Cambodia: pond culture (**Q18-20**) and cage culture systems (**Q20-23**). We initially broke down cost and revenue further, down to

individual fish species. During field testing this question proved to be troublesome and we decided instead to disaggregate costs and revenue down to individual ponds and cages, since this proved to be easier. Q23-25 inquires about the seasonality of cash income and individual household involvement in aquaculture activities.

3.10.   MODULE F: FORESTRY

3.10.1.   Overall objective

Depending on the local environment, timber and non-timber forest product (NTFP) can play an important role in supporting household welfare. This module measures the household use of forest products (i.e. consumption) and generates net income from forestry products (in raw or finished form) that are sold by the household. Because Cambodian households use a variety of forestry resources (e.g. nuts, medicinal plants, wild animals, rattan), we include prompts for a large number of forest-derived products. These prompts were developed with the gracious assistance of the Cambodia NTFP Working Group (CNWG), a Cambodian NGO's focusing on NTFP's[9]. The forestry and NTFP expense prompt was taken from the CSES.

3.10.2.   Specific questions

Q1: covers a wide variety of timber and NTFP's. Because of the length of time it would take to gather detailed information for each product (35 in total), we decided to re-group those items into 5 sub-groups: *i)Timber, ii)Food, iii) Construction/handicraft, fence material; iv) medicinal, aromatic plants; v)resin extraction*. Detailed information is collected at the sub-group level (not the individual forest product level) to save time.

Q2-3: asks respondents for cost estimates and household member involvement in forestry and NTFP collection.

3.11.   MODULE G: NON RESOURCE BASED INCOME

3.11.1.   Overall objective

This module captures income from activities that do not directly involve harvesting/capturing natural resources[10]. Examples of these income sources include wage labour, salaried office work, petty trade and small businesses. We also ask about grants from NGOs, scholarships, large gifts as well as income from the sale of assets such as land (**Q2**). We include a section on remittances from family members abroad as well since this is an important source of income in Cambodia. As in previous modules we gather information about the seasonality of these income sources.

This module was influenced by the MK 2 questionnaire as well as the Cameroonian questionnaire. However, it was heavily modified by the welfare valuation team after field testing.

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[9] Errors or omissions in this module remain the responsibility of the welfare valuation group
[10] Note that resource-based livelihood activities where the individual earns a fixed wage rather than a variable income dependent on the amount/type of resources captured or harvested are captured here in this module.

3.11.2. Specific questions

Q1: We estimate the annual income from occupations other than farming, fishing, aquaculture and forestry, for all household members. We prompt individuals based on their responses to the questions in **Q7-9** in Module A.

3.12. MODULE H: FOOD SECURITY

3.12.1. Overall objective

In this module we assess the level of food security within the household, as well as the contribution of fish to total household consumption of animal protein. This module will allow us to understand how household food security and animal protein consumption varies with fishing dependence (if at all) and poverty.

This module is quite short; during questionnaire development we realized that an in-depth food security module would have taken too much time (e.g. using a detailed food consumption recall, relating fish to micronutrient consumption). We decided to incorporate the 9-question *Household Food insecurity Access Scale (HFIAS) Measurement Tool*, a qualitative measure of household food (in)security. Although qualitative measures of food insecurity are simple and quick relative to quantitative food consumption recalls, they are robust and compare favourably with in-depth quantitative food insecurity assessments (Coates et al., 2006; Frongillo and Nanama, 2006). The *Household Food insecurity Access Scale* was developed by USAID and is used in Cambodia by, for example, UNICEF. The welfare valuation team believes that the *HFIAS* will provide us with the information we need (i.e. is this household food insecure?) while taking less time to complete than a more in-depth food consumption recall.

3.12.2. Specific questions

Q1: The *Household Food insecurity Access Scale (HFIAS)* is a 9-question tool that provides a qualitative overview of household food insecurity. WorldFish created two additional questions (**Q10-11**) that ask households specifically about the role of fishing and OAA in their coping strategies.

Fish (including processed fish) as a source of animal protein is assessed in **Q2** using a 7-day recall of the sources and quantity of animal protein consumed by the household. 7-day consumption recalls are considered standard in household welfare surveys and we did not wish to deviate from the norm (reference the WB study I read 4 times).

The importance of fish in the diets of rural Cambodians has been studied in several previous surveys (e.g. Ahmed et al., 1998; Chamnan et al., 2009). More than 50% of animal protein consumed in Cambodia comes from fish and other aquatic animals (Kawarazuka and Béné, 2011). Because fish protein is 5-15% % more digestible than plant protein and also increases the absorption of plant protein when eaten together, this figure likely underestimates the importance of fish in overall protein consumption (Kawarazuka and Béné, 2011).

3.13. MODULE I: BORROWING AND LENDING

3.13.1. Overall objective

A 2011 study of household debt in Cambodia, surveying more than 5000 rural households, found that 58% of respondents were in debt, and that debt was positively correlated with household wealth (Ramage et al., 2011). Several smaller studies have revealed similar findings (e.g. Bullen and Corita, 2012; Van Damme et al., 2004).

Because household debt is an important component of household wealth (actually negative wealth) we include a module aimed at measuring the total debt level of the household. Households are typically reluctant to discuss household debts and therefore we placed this module near the end of the survey, when some rapport with the enumerator has been built.

This module is based off of the CSES 2009 Household Liabilities modules but was modified by the welfare valuation team by including several fish-specific debt questions from Ahmed et al., 1998.

3.13.2. Specific questions

Because in Cambodia debts are sometimes denominated in rice or other commodities such as fish (kilograms), we pay particular attention to non-monetary debts. We also inquire about the loan provider, the duration of the loan and the reason it was taken. In Cambodia, fish traders sometimes act as moneylenders for the fishers they purchase fish from and commonly engage in contractual arrangements resembling loans with them. We include several questions (**Q2-6**) in this module specific to these sorts of loan arrangements. These questions will be integrated with the findings of the Market Valuation survey component of the project.

3.14. MODULE J: EXPENDITURE AND INCOME SHOCKS

3.14.1. Overall objective

The SLA emphasizes that the household livelihood portfolio allows the household to adapt to shocks. This module investigates external income and expenditure shocks faced by the household in the past year. Because we are not measuring expenditure (i.e. consumption) in this survey, we are more interested in the timing the cause and the actions taken to cope with the shock, rather than the monetary value of the shock. We are interested in measuring the relationship between household shocks and livelihood activities. This module will provide information about resilience and adaptation capacity of household and also assess the role of the fisheries within those mechanisms.

This module was developed by the welfare valuation team specifically for this survey and was influenced by the Cameroonian questionnaire.

3.15. MODULE K: HEALTH

3.15.1. Overall objective

Health is an obvious component of welfare. Access to health care is thus an indicator of household welfare as well as being a measure of household vulnerability. Without access to health care, households remain more vulnerable to illnesses and accidents. This module is aimed at soliciting the availability and affordability of health care in responding households.

The relationship between health and fishing activities has been investigated by development professionals and researchers. A study of Cambodian fishing villages along the Mekong River found that poor health and lack of access to health care were key factors in determining household vulnerability (ActionAid/*Mekong Wetlands Biodiversity Programme*,2006 cf. Béné and Friend, 2011). A smaller Cambodian study found that fishing is a common response to exogenous household shocks such as emergency health expenditures, probably because fishing can generate income immediately and has relatively low barriers to entry (Kenjiro, 2005). This module aims to contribute to the understanding of the relationship between fishing dependence and health care access.

In theory, fishing activities themselves come with additional health risks. Fishing is a physically intense activity that exposes fishers to water-borne diseases and fishing trips tend to take fishers to remote areas without easy access to care (Béné and Friend, 2011). The health module also includes questions about work related accidents or illnesses to understand how livelihood activities (including fishing) affect individual health.

Q1: This question is a shortened version of the CSES 2009 Health Care Seeking and Expenditure module. **Q2** was developed by the Welfare valuation team specifically for this module.

3.15.2. Specific questions

Q1: This question asks households for information about illnesses or injuries sustained by individual household members. We ask respondents to distinguish between chronic and acute conditions[11], the type of health care provider they sought (if they received medical attention in the first place) as well as total treatment costs (including transportation cost to the health provider).

Q2: This question asks respondents about disabilities, injuries, accidents or illnesses sustained during work/livelihood activities.

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[11] Field testing revealed that the module was easier for respondents to answer when we articulated and separated illnesses into acute and chronic categories.

4. CONCLUSIONS

This report has covered the rationale behind the design of the Welfare Valuation Component's household survey questionnaire. The first part of this report explained the theory that informed our rationale, namely the sustainable livelihoods approach and conventional economic theory. The second part of this report explored our questionnaire in detail. It gave the sources of the questions and modules and explained how and why we modified them to adapt them to the Cambodian context before and after field testing.

It is hoped that readers of this report will have a better understanding of the Welfare Valuation Component overall and that our experiences will help in the development of future fish-focused welfare surveys in Cambodia and around the world.

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6. ANNEX- QUESTIONNAIRE

ASSESSING ECONOMIC AND WELARE VALUES
OF FISH IN THE LOWER MEKONG BASIN

Dear Interviewee,

My name is _____. I am here as a researcher studying the contribution of fisheries to household welfare. Our study is funded by the Australian Centre for International Agricultural Research (ACIAR) and is jointly conducted by the World Fish Center, Cambodian Agricultural Research and Development Institute (CARDI) and Inland Fishery Research and Development Institute (IFReDI).

To complete our study, more than 700 households have been chosen at random. Yours is one of them. The authenticity of the results of the study will depend upon the sincerity and accuracy of your answers to the questions on this questionnaire. Please be aware of the following:
- We are not goverment officials and none of the information we will collect will be given to the government or anyone else
- The information we collect will in no way affect your taxes
- We are not going to be implementing a development project and this data will not be used for other development projects
- It is completely anonymous.

We mention this so that you will give answers that are as accurate as possible.

Our questions cover several subjects relating to yourself, to members of your family, and your daily activities (your activities, the expenses involved in carrying out these activities, your food consumption, your savings, other household consumption, etc.). It is a complex survey and will take between 3 and 4 hours, so please relax and get comfortable. An incentive of 20,000 Riels will be presented to you for spending time with us. You will

CONFIDENTIALITY	Participation is completely voluntary. You are free to ask questions at any time. If there is any question you intend not to answer, please tell the enumerator. We assure you that the information collected during this study is confidential, and will be used exclusively for this study. You answers will not be revealed to your neighbours or to other parties without your permission. Following the assessment of this questionnaire, done by computer, neither your name

Does the respondent agree to be interviewed and understand that the survey is voluntary? (Yes or No)	

Enumerator name	
HOUSEHOLD Identification Number	
Respondents / Interviewees Name(s) (include family name)	
Contact number:	
Types of survey: 1 = Baseline; 2 = Follow up	
Date of interview (dd/mm/yyyy)	
Village	
Commune	
District	
Province	

A person is counted as a household member if:

1) He/she currently lives within this household

2) He/she is the offspring of the household head BUT is temporarily/permanently absent for reasons such as work or study

Q1 How long have you been living here (in years)? [____]

Q2 What is the ETHNICITY of the household? [____] Codes: 1: Khmer, 2: Vietnamese; 3: Cham; 4: Mix; 5: Others (Specify)

Q3 What is the family name of the household head [____]

Q4 Enter the following information for all members usually residing in this household.

ID CODE	Personal Information				Education	Occupation			Temporary/Permanent Absence	
	Name:	Gender	How old is he/she in completed years?	Relationship to the household head	How many years of education has he/she successfully completed?	Primary Occupation of this person	Secondary Occupation of this person (A)	Secondary Occupation of this person (B)	How many months in the past 12 months has he/she been absent?	What is the cause of absence?
ID CODE OF FAMILY MEMBER	List **first** names	1 = Male 0 = Female	Enter "99" if don´t know	USE CODES	USE CODES	USE CODES	USE CODES	USE CODES	(0 = HAS NOT BEEN ABSENT)	USE CODES
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Codes for Relationship (4)

Household head = 1

Spouse = 2

Son/Daughter = 3   Sibling= 7

Son/Daughter -In-Law = 4   Grand child = 8

Parent = 5   Aunt / Uncle = 9

Grand-parent = 6   Niece / Nephew = 10

                                    Other male = 11

                                    Other female = 12

Codes for Education (5)

0=no education

1 year = 1

2 year = 2

...

13 = Technical post-secondary diploma/certificate

14 = College/university undergraduate

15 = Bachelor degree (B.A., BSc, etc.)

Codes for Occupation (6), (7), (8)

Rice farmer= 1   Skilled labour/artisan realted to fisheries (boat builder, net repairs) = 8

Farmer (any other than rice)= 2   Skilled labor non related to fishieries = 9

Fisher = 3   Entrepreneur/small business/petty Trade not related to fisheries(palm wine, moto driver) = 10

Salaried employee not related to fishieries (government worker, office worker) = 4

Salried worker related to fisheries = 5   Entrepreneur/small business/petty trade related to fisheries= 11

Wage labour related to fisheries= 6   Student = 12

Wage labor not related to fisheries = 7   No occupation = 13

Codes for Migration (10)

Wage labour in Cambodia =1

Wage labour in other country = 2

Student = 3

Module B: HOUSING AND ASSETS

B1: HOUSING

Q1 Do you own the house you currently live in? 1 = Yes 0 = No	
Q2 Do you own a second home? 1 = Yes 0 = No	
Q3 What is the construction material of the WALL of the house? 1 = Wood 4 = Plastic 7 = Others (specify) 2 = Metal 5 = Thatch 3 = Concrete 6 = Fiber	
Q4 What is the construction material of the ROOF of the house? 1 = Wood 4 = Plastic 7 = Tiles 2 = Metal 5 = Thatch 8 = Others (specify) 3 = Concrete 6 = Fiber	
Q5 What is the toilet facility of the house? 1 = Toilet is inside the house 2 = Toilet is outside the house 3 = Household does not own a toilet	
Q6 What is the primary source of drinking water for your household? 1 = River, stream, lake, pond 2 = Pump/mixed well 5 = Piped water/tap water 3 = Opened dug wells 6 = Others (specify) 4 = Rain water	

Q7	Does the household have the following assets?		
	Items	How many items do you own?	How much could you sell each item for? (Riels)
	(1)	(2)	(3)
	Bicycle		
	Mobile Phone		
	Motorbike		
	Car/Truck/Van		
	Television		
	Radio		
	CD player/DVD player / Karaoke system		
	Electric Fan		
	Gas Stove		
	Sewing Machine		
	Other (specify)		
	Other (specify)		

Q8	Household Electricity Sources				
	Items	Does your household use electricity from this source?	How much do you spend on electricity from this source per month?	How many items do you own?	How much could you sell each item for? (Riels)
	(1)	(2)	(3)	(4)	(4)
	Electricity from electrical grid				
	Car battery for electric appliances (light, television)				
	Generator for electricty				
	Solar Panel				

B2-Livelihood Assets

Q1	Does the household have the following assets?		
FARMING AND HOME GARDEN	Items	How many items do you own?	How much could you sell each item for? (Riels)
	(1)	**(2)**	**(3)**
	Ox cart		
	Plough		
	Insecticide sprayer		
	Motor pump (electric or engin)*		
	Drum seeder		
	Rickshaw/cart		
	Spades, shovels, hoe, etc.		
	Rice Miller for Local Consumption(single stage or two stage)		
	Evaporative cooler/Cooler box for vegetable		
	Motorized Thresher		
	Hand Thresher		
	Hand tractor (e.g. power tiller)		
	Other (specify)		
	Other (specify)		

Do not count the engine if already counted as Generator in the HH asset section

Q2	Does the household have the following assets?		
LIVESTOCK ASSETS	Items	Do you have? (YES = 1, NO = 0)	How much did this item cost you? (Riels)
	(1)	**(2)**	**(3)**
	Chicken fencing		
	Duck fencing		
	Pig pen		
	Cow fencing/shed		
	Other (specify)		

For this question, use a flip chart of fishing gears

Q3	Does the household have the following assets?		
FISHING ASSETS	Items	How many items do you own?	How much could you sell each item for? (Riels)
	(1)	**(2)**	**(3)**
	Boat		
	boat*		
	Harpoon		
	Bamboo/rattan traps		
	Gillnet (morng) 2.5		
	Gillnet (morng) 3-4		
	Gillnet (morng) 5-7		
	Gillnet (morng) 8-11		
	Gillnet (morng) 12-16 cm		
	Gillnet (morng) 17+		
	Seine/drag net (uorn/neam/anh chourn)		
	Castnet (samnah)		
	Scoop/liftnet		
	River trawl (magn)		
	Hand net/cast net		
	Hooked line (santouch)		
	Bamboo barrage		
	Bagnet (non-motorized) (dai trey)		
	Funnel trap		
	Small Cage to carry fish		
	Cage(s) for		
	Pond(s) for		
	Barrel (thung tram)		
	Cooler Box		
	Smoke Griller		
	Jar for fish		
	Other (specify)		

*Do not count the engine if already counted as Generator in the HH asset section or in motor pump.

Q4	Does the household have the following assets?		
AQUACULTURE ASSETS	Items	How many items do you own?	How much did these items cost you?
	(1)	**(2)**	**(3)**
	Cage(s) for aquaculture		
	Pond(s) for aquaculture		
	Other (specify)		

Q5	Does the household have the following assets?		
FORESTRY ASSETS	Items	How many items do you own?	How much could you sell each item for? (Riels)
	(1)	**(2)**	**(3)**
	Chainsaw		
	Axe		
	Other (specify)		

FARMING ACTIVITIES

Land asset includes all the land owned by the household, **including in** other communes, districts or provinces.

	Unit of Measureme	Land Area
Q1 What is the total area of your paddy fields		
Q2 What is the total area of your chamka land		
Q3 What is the total area of your fallow land		
Q4 What is the total area of home garden land		
Q5 What is the total area of your homestead		

	Unit of measure for area	Agricultural land under ownership	Agricultural land that is rented to others	Rental Income (Riels)	Agricultural land that is rented from others
	(1)	(2)	(3)	(4)	(5)
Q6 Agriculture Land What is the area of land on which you have grown crops, fruits and trees on during the last 12 months? This includes paddy field land and chamka land					

Q7 In the past 12 months how many types of crops have you harvested and how many times have you harvest each crop?	Crop	Number of harvests	Month of harvest(s)
	(1)	(2)	(3)

Q8 Revenues and costs of crop harvests in the past 12 months

Crop	Month of Harvest	Quantity harvested (rice, maize and soybean only) (number/unit of measure)	Quantity sold (rice, maize and soybean only) (number/unit of measure)	Cash Revenue from Sale of Crops (Riels)	Total Approximate Cost (riel) (see note)
(1)	(2)	(3)	(4)	(5)	(6)
DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.					

Check List to Estimate the Cost for Column (7): For each crop harvested, please approximate the total cost using the follwoing list. Please indicate a total cash value of the cost for each crop. If payment was made in something other than cash, enumerator should impute a cash value.

Costs include rental of equipment or labour hiring costs

Land preparation				
seed	ploughing	second ploughing	harrowing	land leveling

Inputs			
Pesticide	Pesticide Application (Labour)	Herbicide	Herbicide Application (Labour)
Fertilizer	Fertilizer Application (Labour)	Plant hormone	weeding

Harvesting			
Harvesting (labour)	Threshing (labour)	Harvesting Machine (cutting machine)	Harvesting Machine (automatic cut and

Transportation	
Rice packaging (bag)	Transport of threshed rice

Q9 Does your household have any crops in storage?	Crop(s) that your household had in storage Today	How much of...[CROP]... does your household have in storage?
	Crop Item - Use Code For Crops	KILOGRAMS
	[1]	[2]
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		

Q10: In the months farming occurs what is the involvment of this person in farming-related activities

ID CODE ID CODE OF FAMILY MEMBER	Name List the first names	Gender 1 = Male 2 = Female	How old are you in completed years? Enter "99" if don't know	What is the level of involvment in Rice farming 0: not involved 1: partialy involved 2: Fully	What is the level of involvment in Chamka crops 0: not involved 1: partialy involved 2: Fully	What is the level of involvment in homestead garden 0: not involved 1: partialy involved 2: Fully
	(1)	(2)	(3)	(4)	(5)	(6)
1						
2						
3						
4	DO NOT FILL OUT THIS SECTION. THIS					
5	SECTION WILL BE AUTOFILLED ON TABLET.					
6						
7						
8						
9						
10						

* include other annnual and cash crops other than rice, homestead gardens and perenial crops

LIVESTOCK PRODUCTION

Q1 Has your household or anyone in your household bought, sold, or owned livestock in the past 12 months? (1 = yes, 0 = No)

Q2 (for the number of livestock it include both juvenile and adult livestock)

Type of animal	Number of livestock currently owned	Number of livestock purchased in last 12 months	Number of new livestock born on the farm by animals you own	Number of livestock sold or bartered in past 12 months	Total revenue earned from sale of livestock in past 12 months IN RIELS	Number of livestock killed by accident, lost, or given away for free in past 12 months	Which months were the livestock sold?	Total input cost per year for animal production (vaccination, fencing, feeding, others) IN RIELS USE PROMPTS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cow								
Buffaloes								
Pigs								
Goats								
Chickens								
Ducks								
Eggs (specify anir								
Dairy (specify anir								
Other (specify)								

If "No", Continue to Module E.

Q3 In the months livestock activities occur what is the involvment of this person in the following livestock-related actvities

ID CODE	Name	Gender	How old are you in completed years?	What is the level of involvment in cow and buffalo livestock related activities	What is the level of involvment in poultry* related activities	What is the level of involvment in other livestock activities?
ID CODE OF FAMILY MEMBER	List the first names	1 = Male 2 = Female	Enter "99" if don´t know	0: not involved 1: partialy involved 2: Fully involved	0: not involved 1: partialy involved 2: Fully involved	0: not involved 1: partialy involved 2: Fully involved
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
1						
2						
3						
4						
5	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.					
6						
7						
8						
9						
10						

Prompts for (9)
Please consider the following costs when answering column (9)

Feed and feed supplements (e.g. rice straw)	Service /technical support from government/other .
Hired labour to care for the livestock/poultry	Transporting livestock/poultry and livestock poultry products
Veterinary services and medicine	feed and feed suppliments to/from market
Service /technical support from government/other	

MODULE E: FISHERIES ACTIVITIES

| Q1 | In the last 12 months did your household go fishing or take fish? (do not include labour in commercial fisheries) | | [Yes = 1, No = 0] | | | | | | | | | | IF "NO" Then go to Module F. | |

Q2: FISHERY 1	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Poos	Mesk	Phalkun	Cheth	Pisak	Chfe	Aseth	Sraph	bnaklnaka	Assok	Kadrak	Hikore
	During What Months do You Fish for this Fishery												
Total monthly catch can also be used if it is in easier for respondents to	What is the average weight (kg) of your catch in one DAY? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q3: Fishery 2	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Poos	Mesk	Phalkun	Cheth	Pisak	Chfe	Aseth	Sraph	bnaklnaka	Assok	Kadrak	Hikore
	In this month - APPROXIMATELY how many times did you go fishing for your household?												
Total monthly catch can also be used if it is in easier for	What is the average weight (kg) of your catch in one DAY? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q4: Fishing 3	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Bone	Meak	Phalkun	Chelh	Pisak	Chfa	Aseth	Srap	Assblrakr	Assak	Kadrah	Mikere
Total monthly catch can also be used if it is easier for...	In this month - APPROXIMATELY how many times did you go fishing for your household?												
	What is the average weight (kg) of your catch in one **DAY**? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q5: Fishing 4	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Bone	Meak	Phalkun	Chelh	Pisak	Chfa	Aseth	Srap	Assblrakr	Assak	Kadrah	Mikere
Total monthly catch can also be used if it is easier for...	In this month - APPROXIMATELY how many times did you go fishing for your household?												
	What is the average weight (kg) of your catch in one **DAY**? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q6: Fishing S	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Bees	Meak	Phalken	Cheth	Pisak	Chfe	Assth	Srapk	kraktraka	Assak	Kadrak	Mikass
Total monthly catch can also be used if it is easier for	In this month - APPROXIMATELY how many times did you go fishing for your household?												
	What is the average weight (kg) of your catch in one **DAY**? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q7: Fishing S	Month	January	February	March	April	May	June	July	August	September	October	November	December
		Bees	Meak	Phalken	Cheth	Pisak	Chfe	Asuth	Srapk	kraktraka	Assak	Kadrak	Mikass
Total monthly catch can also be used if it is easier for	In this month - APPROXIMATELY how many times did you go fishing for your household?												
	What is the average weight (kg) of your catch in one **DAY**? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q4: Fishing 7

Total monthly catch can also be used if it is easier for ...

Q4: Fishing 7	Month	January / Pous	February / Mesh	March / Phalhen	April / Chrih	May / Pisak	June / Chfin	July / Asalh	August / Srapb	September / brablrnbn	October / Ansok	November / Kadrak	December / Hikerr
	In this month - APPROXIMATELY how many times did you go fishing for your household?												
Total monthly catch can also be used if it is easier for	What is the average weight (kg) of your catch in one **DAY**? - for your household												
	Kg of daily catch that is processed by the household												
	Kg of daily catch that is given away or bartered												
	Kg of daily catch that is sold												
	Total daily sale value of fish catch on AVERAGE day (Riels)												

Q5: Other Aquatic Animals

Q5: Other Aquatic Animals	Month	January / Pous	February / Mesh	March / Phalhen	April / Chrih	May / Pisak	June / Chfin	July / Asalh	August / Srapb	September / brablrnbn	October / Ansok	November / Kadrak	December / Hikerr
	In this month, how many Kg of Snails, Shellfish, Crabs and Snakes did you collect in 1 DAY? *												
	Kg of daily catch of snails, crabs, shellfish and snakes that is for household consumption												
	Kg of daily catch of snails, crabs, shellfish and snakes that is given away or bartered												
	Kg of daily catch of snails, crabs, shellfish and snakes that is sold												
	Total daily sale value of snails, crabs, shellfish and snake catch on AVERAGE day												

* Prompt about the role of all household members including children and women in collecting these resources

		Yes – 1, No – 0
Q10a: How does your household market/sell fish?	Sell directly to consumers at a market	
	Sell to wholesaler at landing site	
	Sell to middlemen at the fishing ground	
	Sell to wholesale buyer from whom you borrowed money	
	Other (specify)	
	Other (specify)	

Q11b: What is the income from fisheries used for? (3 main uses)

Use 1	
Use 2	
Use 3	

Prompt for question 14b		
1- Spend income on daily expenses	4- Invest income in agriculture inputs (seeds, fertilizer) or	8- Other
2- Use income to payback debts	5 Invest income in livestock inputs (seeds, fertilizer) or	8 - Other
3- Spend income on health expenditures	6 - Invest income in fishing inputs or assets	
8- Spend income on schooling and education	7 - Spend income on festivals and religious events	

Q12	In general, what do you do with high value fish that you catch?	

Q13 What are the input costs of a typical fishing trip?	Value RIELS	
	(1)	**(2)**
	High Season	Low Season (if different)

Q14 How much did your household spend on the following items during the past 12 months on FISHING	Item	Value RIELS
	(1)	**(2)**
	Repair and maintenance of nets and traps etc.	
	Repair and maintenance of boat(s)	
	Replacement of stolen or broken fishing gear	
	Other (specify)	
	Other (specify)	

Q15 In the months fishing and aquatic animal collection occurs what is the involvment of this person in the following actvities

ID CODE ID CODE OF FAMILY MEMBER	Name:	Gender:	How old are you in completed years?	What is the level of involvment in fishing?	What is the level of involvment in fish processing?	What is the level of involvment in catching snails, crab, shellfish and	What is the level of involvment in marketing fish
	List the first names	1 = Male 2 = Female	Enter "99" if don't know	0: not involved 1: partialy involved 2: Fully involved	0: not involved 1: partialy involved 2: Fully involved	0: not involved 1: partialy involved 2: Fully	0: not involved 1: partialy involved 2: Fully involved
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
1							
2							
3	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.						
4							
5							
6							
7							
8							
9							
10							

	Q16	Do you process fish to make the following products (see Q21 for list of products). This includes fish you catch and fish you buy If NO skip to Q21	Yes =1 , No = 0)

Q17 What fish products did you process last year?	Product	Quantity processed by household IN KILOGRAM	Quantity coonsumed by household IN	Quantity Barter or given IN KILOGRAMS	Quantity sold IN KILOGRAM	Price sold for IN RIELS/KG	Total cost of production IN RIELS (Use Prompt)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Salted dried fish						
	Dried fish						
	Smoked fish						
	Fermented fish						
	Fish filleting						
	Prahoc						
	Semi-final prahoc						
	Fish sauce						
	Fish ball						
	Other (specify)						

Prompt for Question 17 column (7)

Fish
Salt
Sugarx
Firewood
Charcoal
Fuel
Other (specify)

Q18	Do you culture fish in ponds (aquaculture)? If NO, Skip to Q24	Yes =1 , No = 0)

Q19	How many fish ponds do you own?	What is the total area of the ponds you own? SQUARE METERS		Prompt for Aquaculture Pond cost (Q20)
				Maintenance labour Harvest labour Maintenance of machinery and gear Fish feed Fingerling cost Medecine Other input costs

Q20 Total pond aquaculture production per year (kg) and selling price during the past 12 months	Pond Number	Quantity Produced IN KILOGRAM	Quantity consumed by household IN KILOGRAM	Quantity bartered or given away IN KILOGRAMS	Quantity sold IN KILOGRAM	Average sale price IN RIELS/KG	Operational cost over past 12 months IN RIELS (Use Prompt)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Pond 1						
	Pond 2						
	Pond 3						
	Pond 4						
	Pond 5						
	Pond 6						
	Pond 7						
Total for Pond aquaculture	DO NOT FILL IN THIS SECTION. THIS SECTION WILL BE FILLED AUTOMATICALLY BY TABLET						

		Yes =1 , No = 0)
Q21	Do you culture fish in cages? If NO, Skip to Q27	

		What is the total volume of cages you own? IN CUBIC METERS
Q22	How many fish cages do you own?	

Prompt for Aquaculture Cage-cart (Q23)

Maintenance labour
Harvest labour
Maintenance of machinery and gear
Fish feed
Fingerling cost
Medecine
Other input costs

Q23 Total cage culture production per year (kg) and selling price during the past 12 months	Cage Number	Quantity Produced IN KILOGRAM	Quantity consumed by household IN	Quantity bartered or given away IN KILOGRAMS	Quantity sold IN KILOGRAM	Average selling price IN RIELS/KG	Operational cost over past 12 months IN RIELS (Use Prompt)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Cage 1						
	Cage 2						
	Cage 3						
	Cage 4						
	Cage 5						
	Cage 6						
	Cage 7						
Total for cage aquaculture	DO NOT FILL IN THIS SECTION. THIS SECTION WILL BE FILLED AUTOMATICALLY BY TABLET						

Q24 In the months pond and/or cage culture occurs what is the involvment of this person in the following actvities

ID CODE ID CODE OF FAMILY MEMBER	Name: List the first names	Gender: 1 = Male 2 = Female	How old are you in completed years? Enter "99" if don't know	What is the level of involvment in pond aquaculture? 0: not involved 1: partially involved 2: Fully involved	What is the level of involvement in cage aquaculture? 0: not involved 1: partialy involved
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
1					
2					
3	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.				
4					
5					
6					
7					
8					
9					
10					

Q25: Which months do you receive income from pond and/or cage aquaculture
tick the box(es)

Month	Income from pond and cage aquaculture
Jan	
Feb	
Mar	
Apr	
May	
Jun	
Jul	
Aug	
Sep	
Oct	
Nov	
Dec	

FORESTRY

Q1 Do you collect timber or other Non-Timber Forest Products (NTFP)? Please consider the following forest products. Fill out all of column (2). If NO to all in Column (4), skip to next section	Forest product	Do you collect this item? (Yes = 1, No = 0)	Does your household consume these items (Yes = 1, No = 0)	Does your household sell these items in raw form OR in a finished form? (Yes = 1, No = 0)	Total annual revenue from sale of raw AND finished items (IN RIELS)	Total annual cost of collection and incidental costs IN RIELS Use Prompt
	(1)	(2)	(3)	(4)	(5)	(6)
	Timber					
	Firewood					
	Wood for charcoal					
	Food					
	Bamboo shoot					
	Palm shoot					
	Rattan shoot					
	Tuber/rhizome					
	Fruits					
	Flower					
	Palm Juice					
	Resin					
	Nuts/seeds					
	Mushrooms					
	Insects					
	Wild animal (mammal, bird, reptile/amphibian)					
	Others					
	Construction materials/handicraft materials /utensils/fence					

Prompt for Annual Cost (column 8)

Transport costs (including transport to market)
Fuel
Draft animal feed
Hired labour charges
Tools, equipment, including maintenance
Other (specify)

Rattan					
Bamboo					
Palm leaves/stem					
Bark					
Leaves					
Thatch					
Pole					
Medicinal and aromaticplants					
Root/typer/rhizome					
Flowers/leaves					
Nuts					
Animal					
Insect					
Ornamental plants					
Extraction					
Liquid resin					
Solid resin					
Lac					
Gum					

Q2 In the months timber and NTFP collection occurs what is the involvment of this person in the following actvities

ID CODE / ID CODE OF FAMILY MEMBER	Name: / List the first names	Gender: / 1 = Male / 2 = Female	How old are you in completed years? / Enter "99" if don't know	What is the level of involvment in Timber collection / 0: not involved / 1: partialy involved / 2: Fully involved	What is the level of involvment in NTFP collection for FOOD / 0: not involved / 1: partialy involved / 2: Fully involved	What is the level of involvment in NTFP collection for CONSTRUCTION MATERIALS / 0: not involved / 1: partialy involved / 2: Fully involved	What is the level of invol / 0: not invol	What is the level of involvment in NTFP collection for EXTRACTION / 0: not involved / 1: partialy involved / 2: Fully involved
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1								
2								
3								
4								
5	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.							
6								
7								
8								
9								
10								

Q3 Which months do you receive income from timber or NTFP collection tick the box(es)

Month	Tick box if income received that month
Jan	
Feb	
Mar	
Apr	
May	
Jun	
Jul	
Aug	
Sep	
Oct	
Nov	
Dec	

Non-livelihood (farming, livestock, fishing, NTFP) Income

Q1 Non-livelihood labour income What are the income from activities other than farming, fishing, livestock and NTFP for each household members not permanently absent

ID CODE	Name:	Gender:	How old are you in completed years?	Primary non-livelihood occupation of this person	Annual Income (primary occupation)	Secondary non-livelihood occupation of this person (A)	Annual Income secondary occupation (A)	Secondary non-livelihood occupation of this person (B)	Annual Income secondary occupation (B)
ID CODE OF FAMILY MEMBER	List the first names	1 = Male 2 = Female	Enter "99" if don't know	USE CODES	RIELS/YEAR	USE CODES	RIELS/YEAR	USE CODES	RIELS/YEAR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1									
2									
3									
4	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.								
5									
6									
7									
8									
9									
10									

Q2 Non-livelihood returns to capital During the last 12 months has your household received income from the following sources:

	Total income from other sources IN RIELS
Sale of land	
Sale of household or livelihood asssets greater than 40,000	
One time transfers (assistance/support) from NGO or other	
Rental income from equipment and machinery	
Income from lottery and gamblings	
Pension (work, government, military, etc...)	
Scholarships or stipends for any member of the household (from	
Other (specify)	
Other (specify)	

Q3 Remittances from household members (absent for more than 12 month) and relatives not living in the household

ID CODE ID CODE OF FAMILY MEMBER	Name: List the first names	Gender: 1 = Male 2 = Female	Enter "99" if don´t know	What is the cause of absence?	Has {NAME} sent money to the household within last 12 months? 1 = Yes 2 = No	What is the total value of money {NAME} has remited to the RIELS/ YEAR	What,if any, is the value of the money the household has sent to RIELS/ YEAR
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
1							
2							
3							
4							
5	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET. LEAVE SPACE FOR NON-HH MEMBERS WHO REMIT INCOME TO THE HH						
6							
7							
8							
9							
10							

List all persons who have remitted money to the household (include absent household members and non-household members).

Also include persons absent from the household who have received money (include absent household members and non-household members)

Q4. Which months do you receive remittances, income from non-farm labour or capital returns (tick the boxes)		
Month	Tick box if income received that month	Tick box if remittances are received that month
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

MODULE H: FOOD AND NUTRITION

Q1	Table 1. Household Food Insecurity Access Scale (HFIAS) Measurement Tool					
For each of the following questions, consider what has happened in the past 4 weeks. Consider if this happened: 1) Never (not even once) 2) Seldom (once or twice) 3) Sometimes (3-10 times) 4) Often (more than 10 times) 5) Daily						
Questio	QUESTION	Never	Seldom	Sometime	Often	Daily
1	In the past four weeks, did you worry that your household would not have enough food?	1	2	3	4	5
2	In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	1	2	3	4	5
3	In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?	1	2	3	4	5
4	In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	1	2	3	4	5

5	In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	1	2	3	4	5
6	In the past four weeks, did you or any other household member have to eat fewer meals in a day because there was not enough food?	1	2	3	4	5
7	In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?	1	2	3	4	5
8	In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?	1	2	3	4	5
9	In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?	1	2	3	4	5
10	In the past four weeks, did you or any household member engage in fishing activities because your household did not have enough food that day?	1	2	3	4	5
11	In the past four weeks, did you or any household member gather/hunt snails, crabs, sellfish because your household did not have enough food that day?	1	2	3	4	5

Q2 Please recall if you ate the following food items over the past 7 days. Items could be smoked, dried, salted, fermented or have undergone any other preservation	Food item	Number of days eaten over last 7 days	Main source (use codes)	Quantity IN KILOGRAM (last 7 days)
	[1]	[2]	[3]	[4]
	Rice			
	Fish			
	Snails, Shellfish, Crabs and Snakes			
	Beef			
	Pork			
	Chicken and duck			
	Other meat (e.g. wild meat)			
	Wild meat			
	Eggs			
	Prahoc and fish sauce			

Codes for Column (3)

Own production = 1
Fishing, hunting, gathering = 2
Purchased = 3

Other = 4

BORROWING AND LENDING MONEY

Q1	Does your household have outstanding debts to other households or institutic 1 = Yes 0 = No **(SKIP TO NEXT SECTION)**

TABLE 1

LOAN NUMBER	How many loans do you currently have? Identify the amount	How old is the debt? (In completed months) Put "0" if less than one month	In how many months will the debt be fully paid back? Put "0" if less than one month Leave blank if Don't know	household obtain the loan? 01 = Relatives in Cambodia 02 = Relatives who live abroad 03 = Friends/neighbours 04 = Moneylender 05 = Fish Trader (ASK Q4-Q6) 06 = Other Trader 07 = Landlord 08 = Employer 09 = Bank 10 = NGO 11 = Other (specify) If more than one enter the most important	What was the primary purpose for which your household borrowed the money? If household borrowed in rice or other consumable, replace RIELS with KILOGRAMS when answering columns (6), (7) and (8) 01 = Agricultural activities 02 = Fishing activities 03 = Non-agricultural and non-fishing related activities 04 = Household consumption needs 05 = Illness, injury, accident 06 = Other emergencies (fire, flood, theft) 07 = Rituals (marriage ceremony, funeral etc) 08 = Purchase/improvement of dwelling 09 = Purchase of consumer durables 10 = Servicing and existing debts 11 = Other (specify)	What was the total amount borrowed? If debt is in rice or another commodity, denominate in kilograms	How much is the outstanding loan now (this Interest should not be included	If interest is charged, what is the monthly rate of interest? the outstanding loan in Col 7 If an interest, If don't know, leave it blank
		MONTHS	MONTHS		RIELS	RIELS/KG	RIELS	PERCENTAGE
[19]	[19]	[2]	[3]	[4]	[5]	[5]	[7]	[8]
01								
02								
03								
04								
05								
06								

Q2 Are you obliged to sell fish to your trader/money lender? (1 = Yes, 0 = No) IF NO SKIP TO **Q5**

Q3 If yes, do you get the market price for your fish from the fish trader? (1 = Yes, 0 = No) IF YES SKIP TO **Q5**

Q4 How much less per kg?_____

Q5 Over the past 12 months, has your household lent money (or rice) (1 = Yes, 0 = No)

Q6 Do you have any cash deposits in a banking institution or microfinance scheme (1 = Yes, 0 = No)

INCOME and EXPENDITURE SHOCKS

Income Shock	Has the household faced any major income shortfalls unexpectedly large expenditures during the past 12 months? Crop Loss - 1 Livestock Loss - 2 Land Loss (expropriation) - 3 Productive Asset Loss - 4 Non-Productive Asset Loss - 5 Wedding or Other Costly Social Event - 6 Job Loss - 7 Death - 8 Illness or health emergency in household member - 9 If (7) or (8), express sympathy and prompt: I recognize that the loss or injury of a loved one is for more than simply the money spent.	What month(s) did this shocks occur? 1= January 2= February 3= March 4= April 5= May 6= June 7= July 8= August 9 = September 10= October 11= November 12= December	What was the total loss incurred or the expenditure	How did your household cope with this shock? Sold non-productive household asset(s) - 1 Sold Productive Household Assets - 2 Borrowed Money from Friends - 3 Borrowed Money from Financial Institution - 4 Borrowed Money from Money Lender - 5 Spent cash savings - 6 Received Support from NGO - 7 Received Support from Friends/Relatives - 8 Received Support from Government - 9 Increased Household Farming Activity - 10 Increased Household Livestock Activity - 11 Increased Household Fishing Activity - 12 Increased Household NTFP Collection Activity - 13 Increased Household Wage Labour Activity - 14 Increased Household petty trade/Semi-Skilled Labour Activity - 15 Reduce Household Spending - 16 Have a household member begin working (who was not working before) - 17 Decreased educational-related expenses (e.g. school fees) - 18 Decreased non-food expenditures (items, entertainment, etc) - 19	Q2: Have you reduced consumption of any of the following items in response to your sudden cash need/job loss? Decreased amount of rice consumption - 1 Decreased amount of fish consumption - 2 Decreased amount of meat consumption - 3 Decreased other food consumption - 4 Decreased consumption of luxury goods (e.g. cigarettes, Alcohol, washing powder) - 11
	List all shocks that occurred	MONTHS	RIELS OR KILOGRAMS	LIST the 3 main coping strategy	LIST the 3 main coping strateg
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
01					
02					
03					
04					
05					
06					

HEALTH

Q1 Health expenditures for the three most important acute and chronic conditions during the past 30 days

Household Member ID NUMBER	Name	Gender	How old are you in completed years?	Please tell me if any member of your household is sick, has an illness or injury now or at any time in the last 12 months	Did...[Name] ...have this illness for more than one year already?	Was consultation or treatment sought for this illness/injury?	How much in total was spent on transport to go to and return from any health provider in the past year days?	How much in total was spent on treatment at any health provider in the past 30 days?
	List the first names	1 – Male 2 – Female	Enter "99" if don't know		It should be the same illness that comes and goes (chronic) 1 - Yes 0 - No	Refer to the last 30 1 - Yes 0 - No	Write "0" if nothing RIELS	Write "0" if nothing RIELS
				1				
				If more than 3, list three most serious illnesses or injuries				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(8)**	**(9)**
01								
02								
03								
04								
05	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.							
06								
07								
08								
09								
10								

Q2 Work related accidents and illnesses in the past 12 months

Household Member ID NUMBER	Name: List the first names	Gender: 1 - Male 2 - Female	How old are you in completed years? Enter "99" if don't	Does ..[NAME].. have any of the disabilities, accidents, injuries or illnesses due to work? Enter the 2 most important 01: Permanent disabilities 02: Injuries 03: illness Enter "0" if none, (>> NEXT PERSON) The 2 most important		Was this njuriy, disability or ilness 1 - Mild 2 - Moderate 3 - Severe Enter one code for each of the	What work was being done when the injury was sustained? Use additional code to specify 01 - Farming 02 - Livestock 03 - NTFP collection or timber harvesting 04 - Fishing 05 - Wage Labour 06 - Other work (specify) Enter one code (the most important) for each of st .	What work was being done when the injury was sustained? Use additional code to specify livelihood that caused injury or death 01 - Farming 02 - Livestock 03 - NTFP collection or timber harvesting 04 - Fishing 05 - Wage Labour 06 - Other work (specify) Enter one code (the most important) for each of the difficulties reported in Col 2a- >z	
	(1)	(2)	(3)	(4a)	(4b)	(5)	(6)	(7)	(7)	(8)
01										
02										
03										
04										
05	DO NOT FILL OUT THIS SECTION. THIS SECTION WILL BE AUTOFILLED ON TABLET.									
06										
07										
08										
09										
10										