



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Integrating Gender and Nutrition within Agricultural Extension Services

# CAMBODIA Landscape Analysis

Working document

June 2016



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# **CAMBODIA**

## Landscape Analysis

Working document

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## Acronyms

|                 |                                                                         |
|-----------------|-------------------------------------------------------------------------|
| <b>ACR</b>      | Australian Catholic Relief                                              |
| <b>ADB</b>      | Asian Development Bank                                                  |
| <b>CARD</b>     | Council for Agriculture and Rural Development                           |
| <b>CARDI</b>    | Cambodian Agricultural Research and Development Institute               |
| <b>CIA</b>      | Central Intelligence Agency                                             |
| <b>CPI</b>      | Corruption Perception Index                                             |
| <b>CDCS</b>     | Country Development Cooperation Strategy                                |
| <b>CSES</b>     | Cambodia Socio-Economic Survey                                          |
| <b>CRG</b>      | Cambodian Royal Government                                              |
| <b>CMDG</b>     | Cambodia Millennium Development Goal                                    |
| <b>DAE</b>      | Department of Agricultural Extension                                    |
| <b>DAO</b>      | District Agriculture Office                                             |
| <b>DHS</b>      | Demographic and Health Survey                                           |
| <b>EAS</b>      | Extension and Advisory Services                                         |
| <b>FANTA</b>    | Food and Nutrition Technical Assistance                                 |
| <b>FAO</b>      | Food and Agriculture Organization                                       |
| <b>FHH</b>      | Female Headed Household                                                 |
| <b>GDI</b>      | Gender Development Index                                                |
| <b>GFRAS</b>    | Global Forum for Rural Advisory Services                                |
| <b>GII</b>      | Gender Inequality Index                                                 |
| <b>GHI</b>      | Global Hunger Index                                                     |
| <b>GNI</b>      | Gross National Income                                                   |
| <b>HDI</b>      | Human Development Index                                                 |
| <b>HDR</b>      | Human Development Report                                                |
| <b>ICT</b>      | Information and Communication Technology                                |
| <b>IFAD</b>     | International Fund for Agricultural Development                         |
| <b>IFPRI</b>    | International Food Policy Research Institute                            |
| <b>INGENAES</b> | Integrating Gender and Nutrition within Agricultural Extension Services |
| <b>LFPR</b>     | Labor Force Participation Rate                                          |
| <b>MEAS</b>     | Modernizing Extension and Advisory Services                             |
| <b>MAFF</b>     | Ministry of Agriculture, Forestry, and Fisheries                        |
| <b>MHH</b>      | Male Headed Household                                                   |
| <b>MoWA</b>     | Ministry of Women's Affairs                                             |
| <b>MOP</b>      | Ministry of Planning                                                    |

|               |                                                                  |
|---------------|------------------------------------------------------------------|
| <b>NIS</b>    | National Institute of Statistics                                 |
| <b>NSDP</b>   | National Strategic Development Plan                              |
| <b>NNS</b>    | National Nutrition Strategy                                      |
| <b>NSFSN</b>  | National Strategy for Food Security and Nutrition                |
| <b>OPHE</b>   | Office of Public Health and Education                            |
| <b>PDA</b>    | Provincial Departments of Agriculture                            |
| <b>RGC</b>    | Royal Government of Cambodia                                     |
| <b>RUA</b>    | Royal University of Agriculture                                  |
| <b>SAW</b>    | Strategy on Agriculture and Water                                |
| <b>SMS</b>    | Subject Matter Specialist                                        |
| <b>SUN</b>    | Scaling Up Nutrition                                             |
| <b>UNDP</b>   | United Nations Development Program                               |
| <b>UNESCO</b> | United Nations Educational, Scientific and Cultural Organization |
| <b>USAID</b>  | United States Agency for International Development               |
| <b>USDA</b>   | United States Department of Agriculture                          |
| <b>VAWG</b>   | Violence Against Women and Girls                                 |
| <b>WEAI</b>   | Women's Empowerment in Agriculture Index                         |
| <b>WFP</b>    | World Food Programme                                             |

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## Table of Contents

|                                                                                    |    |
|------------------------------------------------------------------------------------|----|
| Acronyms.....                                                                      | 1  |
| Table of Contents .....                                                            | 1  |
| Introduction.....                                                                  | 1  |
| Country Background.....                                                            | 2  |
| Gender Equity .....                                                                | 3  |
| Agriculture Sector in Cambodia .....                                               | 7  |
| Women in Agriculture .....                                                         | 9  |
| Food Security and Nutrition .....                                                  | 11 |
| Overview of Extension and Advisory Services in Cambodia.....                       | 14 |
| Major Institutions Providing Extension and Advisory Services in Cambodia .....     | 16 |
| Feed the Future Multi- Year Strategy 2011-2015.....                                | 17 |
| Feed the Future/Cambodia Core Investment Areas .....                               | 19 |
| USAID Country Development Cooperation Strategy .....                               | 1  |
| Conclusions.....                                                                   | 2  |
| Annex 1: Active Feed The Future Projects in Cambodia.....                          | 4  |
| Annex 2: Other Funded Initiatives on Food Security and Agricultural Extension..... | 6  |
| References.....                                                                    | 1  |

## Introduction

The INGENAES (Integrating Gender and Nutrition within Agricultural Extension Services) project is funded through the Bureau for Food Security of USAID (the United States Agency for International Development) to support the Presidential Feed the Future Initiative, which strives to increase agricultural productivity and the incomes of both men and women in rural areas who rely on agriculture for their livelihoods.

This landscape study provides an overview of agriculture in Cambodia as well as the country's extension system. It also provides information on the prevalence of poverty, nutrition, and gender-related issues in the country with special focus on rural areas. In addition, it summarizes Cambodia's current agriculture and nutrition policy, and it also reviews several on-going projects by the U.S. government and other donors in the country related to agriculture extension, gender, and nutrition.

INGENAES supports the development of improved extension and advisory services (EAS) to reduce gender gaps in agricultural extension services, increase empowerment of women farmers, and improve gender and nutrition integration within extension services. The program aims to directly and indirectly assist multiple types of stakeholders within a country, such as farmers, producer groups, cooperatives, policy makers, technical specialists, development non-governmental organization (NGO) practitioners, and donors, with the overall goal of empowering women and engaging men.

INGENAES efforts will strengthen the capacity of key stakeholders and provide the fora and networks for them to coordinate and reach agreement on policies and strategies to implement improved EAS that better meet the needs of men and women farmers. While the INGENAES project will not directly monitor beneficiary impact, it will focus on changes in institutions that directly impact men and women who access agricultural information, training, technologies and nutrition information.

INGENAES will strengthen institutions by identifying their needs and strengthening their capacity to effectively integrate gender- and nutrition-sensitive information and activities into agricultural extension systems with the aim to promote gender equality, improve household nutrition, and increase women's incomes and, subsequently, household food security. Based on the identification of four main gaps in extension services in terms of gender and nutrition integration, INGENAES activities are divided into the following action areas:

- Building more robust, gender-responsive, and nutrition-sensitive institutions, projects, and programs capable of assessing and responding to the needs of both men and women farmers through EAS;
- Identifying and scaling proven mechanisms for delivering improved EAS to women farmers;
- Disseminating technologies that improve women's agricultural productivity and increase household nutrition; and,
- Applying effective, nutrition-sensitive extension approaches and tools for engaging both men and women.

Indicative activities of the INGENAES project include: learning exchanges, assessments, curricula development, training into action, mentoring relationships, internship experiences, and networks that focus on identifying gender-responsive and nutrition-sensitive innovations that can be promoted by EAS organizations and adopted by men and women farmers. Developing these outputs collaboratively with agricultural extension experts and other partners will transform extension-relevant institutions working directly with men and women farmers.

In each country, INGENAES will examine relationships, identify the key change actors, build their capacity, and provide them the incentives to make changes (e.g., set new policies, employ new management practices, modify organizational structures, make changes in practice, and adopt innovations). The key actors will vary from country to country, although policy makers, the Ministries of Agriculture and Health,

NGOs, the private sector, and of course, women farmers, are likely to be involved in most countries. Key actors will be identified as part of the needs and scoping assessments.

The consortium gathers information and key contacts to develop a landscape study of the agricultural sector in that country: a description of the pluralistic extension system, nutrition-related initiatives, and gender issues. The landscape study is intended as a preparatory tool and handy reference document for work in country. Each landscape study will be updated periodically as INGENAES continues to engage in that country and identifies new key contacts, organizations, and initiatives.

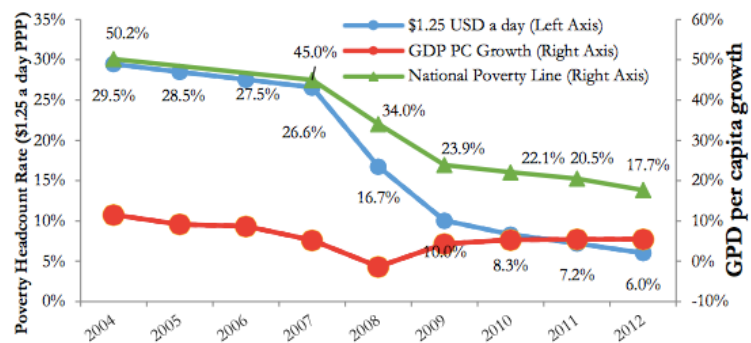
## Country Background

This section reviews aspects of Cambodia that are relevant to Feed the Future and INGENAES initiatives including geography, culture, income, gender equity, agriculture and women’s involvement in agriculture, food security and nutrition.

Cambodia is located on the Indochina Peninsula in South-Eastern Asia. It shares borders with Thailand and Laos to the north and Vietnam to the east and south, with the Gulf of Thailand bordering to the southwest. It is slightly smaller than the U.S. state of Oklahoma and has a population of just over 15 million (CIA, 2015). The topography of Cambodia resembles a basin; lowlands gradually rise into hills and highlands. The lowest elevation is in the center of the country around the Mekong River and the highest elevation is Phnom Aural, a peak in the southwestern Cardamom Mountains. More than two-thirds of the population resides in the Central Plains, a highly agricultural region characterized by fertile soil and seasonal flooding (Naron, 2012). Over 96% of the population speaks the official language, Khmer, which is heavily influenced by Thai, Lao, and Vietnamese due to geographical proximity; the remaining 4% speak Cham, an indigenous Malayo-Polynesian language. The largest ethnic group is Khmer (90%); other groups include Vietnamese (5%), Chinese (1%), and Cham, Thai and Lao (4%). The official religion of Cambodia is Buddhism (96.9%) and the secondary religion is Islam (1.9%), which is almost exclusively practiced by Chams (CIA, 2008).

Cambodia has experienced consistent economic growth of about 7% per annum over the past 10 years (CIA, 2015). However, due to political instability, corruption, high-income inequality, and limited education, Cambodia remains one of the poorest countries in the Asia. About 18% of the population is below the national poverty line and 2.66 million people live in extreme poverty (less than \$1.25 USD per day) (CIA, 2015). However, the situation in Cambodia does appear to be improving. Recent economic growth has encouraged a rapid expansion in job opportunities and higher wages, leading to considerable poverty reduction. Figure 2 shows declining trends in poverty, at both national and international (\$1.25 per day) poverty lines (Ly, Mejia, and Aldaz-Carroll, 2015).

**Figure 2: Cambodia/ GDP per capita growth and poverty rate headcount**



Source: Ly, Mejia, and Aldaz-Carroll, 2015 using CSES data

Whether or not Cambodia’s improved economic stability is sustainable, however, is debated. Vulnerability, particularly within poorer households, is steadily increasing, opposite the declining trends in poverty. More Cambodian’s now sit just above the poverty line (between \$2.00 and \$3.00 USD per day) (Joosu-Palu, 2015). However, income inequality in Cambodia has been declining, contrary to the increasing trend



observed in much of East Asia and the Pacific (Asian Development Bank [ADB], 2014). According to 2013 World Bank estimates, inequality remains moderately high as indicated by a GINI<sup>1</sup> coefficient of 36%.

### Gender Equity

The United Nations Development Programme (UNDP) designed the Gender Development Index (GDI) to measure gender inequality. More specifically, GDI investigates how gender inequality influences overall development progress within a country (Bardhan and Klasen, 1999). This measure is based on sex-disaggregated data and allows Human Development Indices (HDIs) to be compared as a women-to-men ratio according to three indicators: life expectancy, expected years of schooling after 25 years of age, and per capita Gross National Income (GNI). These indicators give information on relative health, education opportunity, and access to economic resources. Out of the 161 countries for which GDI is calculated, Cambodia is ranked 143, with an index of 0.89 (UNDP, 2015). This score falls within the “medium development” group according to the 2014 Human Development Report (HDR) but is considerably below average for that category. Table 1 illustrates how Cambodia’s GDI and sex-disaggregated GDI components compare to the Southeast Asia region and countries of similar HDI.

**Figure 1: Map of Cambodia (CIA, 2015)**



**Table 1: GDI values and indicators relative to Cambodia and selected regions/groups**

|                           | Life expectancy at birth |      | Expected years of schooling |      | Mean years of schooling |      | GNI per capita |        | HDI values |       | Female-Male ratio |
|---------------------------|--------------------------|------|-----------------------------|------|-------------------------|------|----------------|--------|------------|-------|-------------------|
|                           | Female                   | Male | Female                      | Male | Female                  | Male | Female         | Male   | Female     | Male  | GDI value         |
| Cambodia                  | 70.3                     | 66.2 | 10.3                        | 11.5 | 3.2                     | 5.4  | 2,526          | 3,393  | 0.519      | 0.584 | 0.890             |
| East Asia and the Pacific | 76.0                     | 72.2 | 13.0                        | 12.8 | 6.9                     | 8.0  | 9,017          | 13,780 | 0.692      | 0.730 | 0.948             |
| Medium HDI*               | 70.6                     | 66.8 | 11.5                        | 11.8 | 4.9                     | 7.3  | 3,333          | 9,257  | 0.574      | 0.667 | 0.861             |

Source: Data from the UNDP Human Development Report (2015)

\*Cambodia is included in the “medium” HDI category according to the UNDP; this row depicts the average values for GDI indicators of other countries under that category.

The Gender Inequality Index (GII), interpreted as the loss of human development due to gender inequality, was developed by the UNDP to account for shortcomings of the GDI. According to a critique by Bardhan and Klasen, the GDI focuses too strongly on gender gaps in earned income, which has an indirect affect on

<sup>1</sup> The GINI coefficient indicates the level of income inequality and is measured on a scale of 0 to 1; 0 indicates perfect equality and 1 indicates perfect inequality.

wellbeing. GDI also tends to downplay more important gaps in education and mortality, indicators shown to have a more central role in the determination of wellbeing. The GII differs from the GDI in that it is a relative measure that evaluates an extensive array of inequality variables while addressing the pitfalls of data disaggregation. Table 2 shows several indicators of empowerment, reproductive health, and economic participation on which the GII is based. Cambodia is ranked 104 out of 155 with a value of 0.477, which falls at the lower end the “medium development” category like its GDI score (UNDP, 2015).

**Table 2: GII of Cambodia compared to EAP Region and countries of similar HDI**

|                           | GII value | GII rank | Maternal mortality ratio <sup>2</sup> | Adolescent birth rate | Female seats in parliament (%) | Population with secondary education (%) |      | Labor force participation rate (%) |      |
|---------------------------|-----------|----------|---------------------------------------|-----------------------|--------------------------------|-----------------------------------------|------|------------------------------------|------|
|                           |           |          |                                       |                       |                                | Female                                  | Male | Female                             | Male |
| Cambodia                  | 0.477     | 104      | 170                                   | 44.3                  | 19.0                           | 9.9                                     | 22.9 | 78.8                               | 86.5 |
| East Asia and the Pacific | 0.328     | —        | 72                                    | 21.2                  | 18.7                           | 54.7                                    | 66.3 | 37.5                               | 79.8 |
| Medium HDI                | 0.506     | —        | 168                                   | 43.4                  | 18.8                           | 34.8                                    | 55.3 | 37.5                               | 79.8 |

Source: Adapted by author from Table E of UNDP's 2015 HDR Report

**Table 3: Gross Enrollment Ratio by Geographical Area and Sex, 2005/2006\***

|             | Lower secondary |        | Upper secondary |        |
|-------------|-----------------|--------|-----------------|--------|
|             | Total           | Female | Total           | Female |
| Urban area  | 88.5%           | 81.3%  | 46.0%           | 40.9%  |
| Rural area  | 50.2%           | 45.2%  | 13.1%           | 6.9%   |
| Remote area | 17.8%           | 16.0%  | 0.7%            | 0.5%   |

Source: EMIS, 2006

\*Table adapted by author from UNESCO: Bangkok, 2008

From the GII indicators, we can discern two gender issues of particular concern in Cambodia: women's health and education. Maternal mortality rate and adolescent birth rate are considerably higher in Cambodia than in the surrounding regions and countries of similar HDI. In terms of education, both men and women have very low rates of secondary school completion; however, a gender gap of 13% puts women and girls at an increased disadvantage (Velasco, 2004; UNDP 2015). The gender gap in education is reflected by women's considerably lower literacy rate (73.2% of women are literate compared to 86.9% of men), university acceptance, waged employment (Velasco, 2004; ADB, 2015). Residence (rural or urban) strongly influences maternal health, adolescent fertility, level of education and literacy. Access to clinics and

<sup>2</sup> Maternal mortality ratio expressed as deaths per 100,000 live births; adolescent birth rate is expressed in births per 1,000 women ages 15-19.

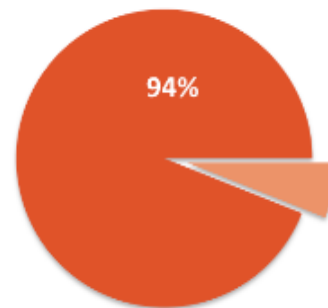
family planning services are limited in rural areas, resulting in a higher incidence of maternal mortality and larger family size.

According to UNICEF Cambodia, the country has made significant progress toward narrowing the gender gap in primary education. During the 2010-2011 school year, the national primary enrollment rate for girls was 94.6 and 95.8 for boys, showing a nearly nonexistent gender gap (UNICEF, 2015). However, these improvements have not reached secondary nor higher education, where regional disparities and a highly agricultural economy push many children out of schools. Children in rural and remote regions often have reduced access to consistent, quality education or are needed at home to help with chores or fieldwork (Booth, 2014; Madhur, 2014; UNICEF, 2015). Table 3 depicts the effect of rural and remote living on the secondary education of girls and boys, as well as the gender gap in secondary education. Gross enrollment of girls in lower secondary schools is 36.1% less in rural areas than in urban areas. Gross enrollment of girls in upper secondary schools follows the same pattern, with girls in urban areas having a higher likelihood of enrollment. Girls living in remote areas are at a further disadvantage, with a maximum enrollment of 16% in lower secondary schools. Note that the gender gap in lower and upper secondary education practically vanishes within remote populations due to extremely low enrollment of boys and girls overall.

Although the Cambodian Socioeconomic Survey (CSES) has reported an increased literacy rate among men and women over the past 10 years, a considerable gender gap of about 16% is maintained on a national level (Hang, 2012). Literacy rate, like access to education, exhibits regional variation. Rural and remote Cambodia experiences significantly lower literacy in comparison to urban areas. This disparity is even more apparent among women in rural areas (ADB, 2015).

The Labor Force Participation Rate (LFPR) of Cambodian women is high at 78.8% and represents the highest female LFPR in East Asia. Female participation in the labor force has been increasing, minimizing the gender gap. Despite the decreased gender gap in participation, however, the steadily increasing wage gap favors men. Furthermore, the high female LFPR is not indicative of quality employment. Approximately 73% of women are in vulnerable employment, usually as contributors to family labor or own-account workers, compared to 64.1% of men (ADB, 2013). Women in agriculture, who account for nearly 75% of all female waged workers, are particularly at risk to vulnerable employment (ADB, 2013). Although women are disadvantaged in the labor market, they do have control over their earnings. According to a national survey, the vast majority of women felt they had a say in how their income is spent (See Figure 3 on the previous page).

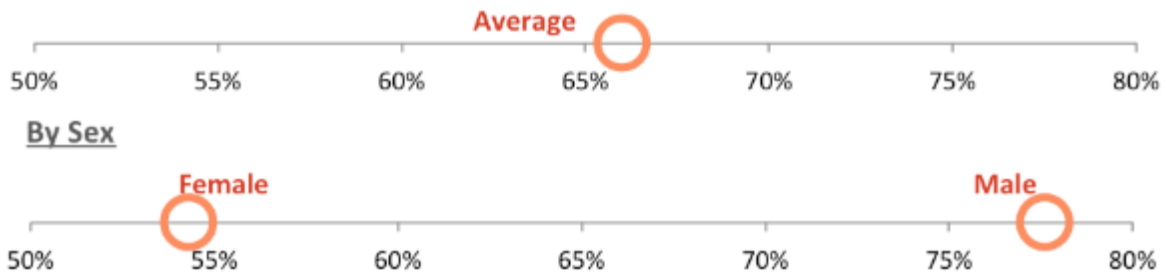
**Figure 3: Percent of married women who feel they have a say in how their income is spent**



Source: Ministry of Planning and Ministry of Health (2010)

Women's involvement in power and decision-making is extremely limited in Cambodia. Women occupy about 20% of lower parliamentary seats and 16% of upper parliamentary seats, which is on par with the regional average of 18.7% (Inter-Parliamentary Union [IPU], 2016). Although Cambodia outranks the United States and several developed nations with respect to parliamentary representation, the representation of women in parliament is still considered low compared to the ideal of 50% (IPU, 2016).

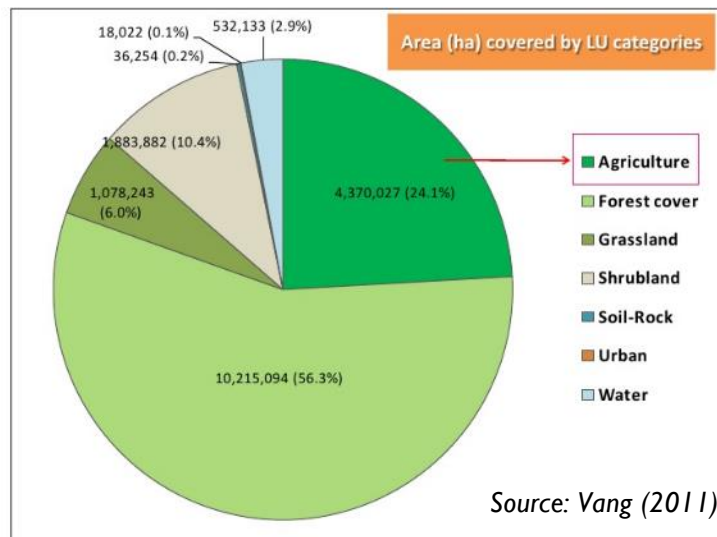
**Figure 4: Percentage of the population who believe that beating one’s wife cannot be justified**



Source: Demographics and Health Survey, 2010; Cited UNESCO, 2015

Corruption within the government has consistently stunted progress towards gender mainstreaming on multiple fronts. For example, corruption affects women’s ability to gain access to formal employment positions and equal remuneration for their work because the government has failed to thoroughly include gender-sensitive policies within its constitution and lacks sufficient oversight to implement policies on the ground (Booth, 2014; ADB, 2013). Corruption most strongly affects women with respect to the gender gap in education and remuneration for agricultural work. A more detailed review is needed to address the impact of corruption on women’s equality within public administration though this is a suspected driver of women’s lack of participation in public offices and other positions of power (UNDP, 2012). In 2014, Cambodia received a Corruption Perception Index<sup>3</sup> (CPI) score of 21 and a CPI ranking of 156 out of 175 countries, making Cambodia’s government one of the most corrupt in the world (Transparency International, 2015).

**Figure 5: Land use by area**



Source: Vang (2011)

Traditional beliefs of male dominance are likely drivers behind the discouraging trend of violence against women and girls (VAWG) in Cambodia. VAWG affects all age groups, classes, cultures, and incomes and is present in both the private and public spheres. Within marital relationships, violence is often accepted and expected by both husband and wife. Figure 4, below, shows the results of a 2009 survey by the Ministry of Women’s Affairs (MoWA) that found that less than 2/3 of the population agreed that beating one’s wife cannot be justified. Even more startling is that domestic violence is more accepted among women, with 46% stating that beating can be justified. The widespread nature and general acceptance of domestic violence are problematic to women’s empowerment and wellbeing as well as the economic and social growth of Cambodia (UNESCO, 2013).

<sup>3</sup> CPI indicates the level of corruption in a country based on public perception, control of corruption by private institutions, transparency, and bribery, and is measured on a scale of 0 to 100, 0 being completely corrupt, and 100 being completely “clean.”

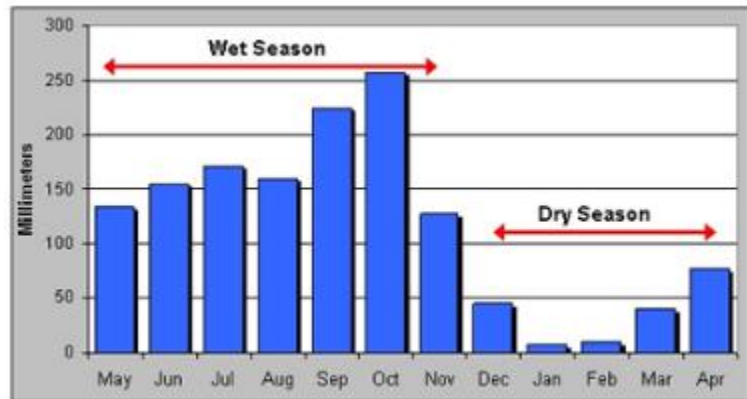
## Agriculture Sector in Cambodia

Despite increased industrialization and growth of textile and manufacturing sectors, Cambodia remains a highly agrarian society. About 80% of the total population lives in a rural setting and over 70% of the population is financially dependent on agriculture (ADB, 2012). In 2012, agriculture contributed about 37% to the GDP (FAO, 2014). Figure 5 illustrates that the majority of Cambodia's land is forest (56%) followed by agriculture (24%); The remaining major land uses include shrubland (10%) and grassland (6%). General trends in land use show expansion of agricultural lands and reduction in forest cover (Vang, 2011).

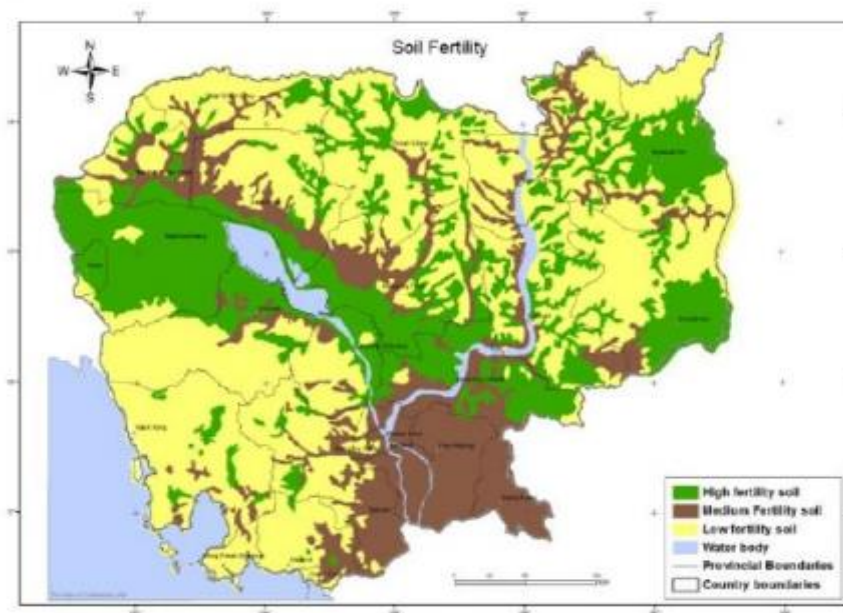
After a civil war that devastated much of the country's economy in the 1970s, the Cambodian government is focused on rebuilding the agriculture sector (ADB, 2012). For the past 20 years, the government has adopted ambitious policy frameworks for recovering food self-sufficiency and Cambodia's status as a major rice exporter. Key among these policies is the Strategy on Agriculture and Water (SAW), which aims to enhance agricultural productivity through expansion of physical infrastructure (FAO, 2014). Currently, Cambodia's rice yield ranks the lowest in comparison to the world's largest rice-producing countries, predominantly because of inefficient land management. In the past, farmers focused on expansion as the primary way of increasing productivity, a strategy that led to severe deforestation and soil depletion. Now, many frameworks like the National Strategic Development Plan (NSDP) focus on land intensification instead of expansion, using less land more effectively. Mainly due to high cost, only 20% of farmland in Cambodia is irrigated and only 30% receives fertilizer applications (USDA, 2010). The NSDP also seeks to increase access to affordable fertilizers and irrigation. Fortunately, Cambodia has plentiful land and water resources to reach its productivity goals; Reaching targets, however, will depend on effective use and management of those resources (FAO, 2014; ADB, 2012).

Cambodia's growing seasons are highly dependent on rainfall due to lack of infrastructure for irrigation technology (IFAD, 2013a). Figure 6 depicts Cambodia's growing seasons by month. The wet season is most important for meeting subsistence needs and is characterized by heavy rainfall during the planting season from June to November followed by a harvest season from November to January. The dry season lasts from December through April and is essential for market-bound crops due to higher yields (USDA, 2010). Improved productivity during the dry season has a greater potential to improve incomes of farmers (1.85% annual growth from dry season in comparison to 1.62% from the wet season) though both are essential to address poverty rates and food security (Sophea, 2012).

**Figure 6: Growing Seasons in Cambodia**



Source: Vang (2011); presented at the 5<sup>th</sup> World Congress of Conservation Agriculture

**Figure 7: Distribution of soil fertility in Cambodia**

Source: Veng, 2011; 5<sup>th</sup> World Congress of Conservation Agriculture

The majority of Cambodia is covered with low quality, sandy soil, making soil fertility a major concern for the agriculture sector. Most agricultural activity is concentrated around the Tonle Sap Lake and the attached Mekong River because of seasonal floods that deposit nutrient-rich sediments and raise soil quality in the area (See figure 7). Despite generally poor soil fertility in most of the country, fertilizer use remains extremely low. Only 30% of farmers use minimal fertilizer applications, representing the lowest rate of fertilizer use in Southeast Asia (USDA, 2010).

Poor soil quality is the result of both natural and anthropogenic factors including native, sandy soils and poor land management. Sandy soils tend to leech nutrients and have rapid drainage rates that are not conducive to rice production and the conversion of land for agriculture has significantly reduced forest cover over the past 20 years, increasing the rate of erosion and loss of nutrients (Bell and Seng, 2005; European Union [EU], 2012). Additional constraints on agricultural production include insecure land rights, limited access to credit for farmers, insufficient extension, and poor water management and irrigation practices (Vang, 2011). Finally, the Mekong River Basin is particularly at risk to the impact of climate change and forecasted to be seriously affected within the next 50 years. A UNDP study found that seasonal flooding and drought around the Mekong and Tonle Sap is becoming more unpredictable and severe; These events will directly effect rural communities that are reliant on agriculture (EU, 2012).

Rice is undoubtedly the country's most important crop, making up 90% of total agricultural output (ADB, 2012). The importance of rice is further reflected in the amount of land devoted to its production. Table 4 illustrates the amount of land dedicated to each of Cambodia's major food crops; rice is clearly dominant, taking up nearly 75% of Cambodia's farmland. The vast majority of rice is produced during the wet season and is used primarily for subsistence; 40% of growers are able to produce enough to generate market surplus (USDA, 2010). Rubber, an industrial crop, comes second in terms of overall importance to the agriculture sector. In contrast to rice, rubber is highly export-focused (FAO, 2014). Cambodia also produces maize, cassava, sweet potato, cashews, mung bean, soybean and vegetables for consumption. Aside from rubber, important cash crops include soybean, peanut, sesame, sugarcane, tobacco and jute, though these items represent less than 4% of cultivated land (CIA, 2015; IFAD, 2013b).

## Women in Agriculture

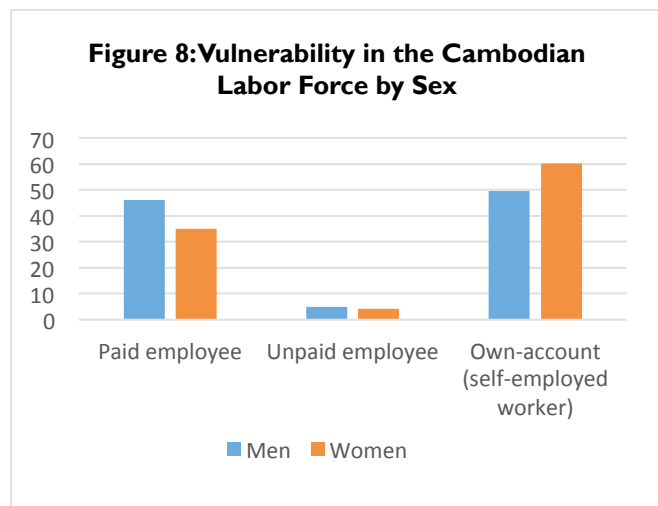
As discussed earlier, rice is the dominant crop in Cambodian agriculture and women and men are about equally dependent on its production as both primary and secondary sources of income and subsistence (Feed the Future, 2011). However, roles in rice production remain highly gendered. Men are involved in land preparation and maintenance activities, including water and pest control. In areas where access to improved post-harvest technology is not available, men are also responsible for manually threshing harvested rice (a process which loosens the edible grain from the chaff) (ADB, 2015; International Rice Research Institute [IRRI], 2013). Women manage responsibilities that span pre- and post-harvest. Women prepare and plant seeds, maintain beds, harvest and transport crops, and implement low-technology pest control by planting repellent grasses. Vegetables grown for subsistence are tended by women while vegetables bound for market are tended by men; though women are responsible for selling the vegetables at market. Small livestock operations sometimes supplement household income and diet. Women are traditionally responsible for pigs and poultry while men care for larger animals like buffalo and cattle (ADB, 2015). With respect to fishing, the majority of rural households participate in wild catching rather than raising ponds (FAO, 2010). Men typically catch fish and women clean them and sell them at market (ADB, 2015).

As a whole, women are more active in agriculture than men; they represent 74% of the agricultural workforce and produce 80% of Cambodia’s food (ADB, 2013). It is important to keep in mind that the majority of women’s labor is unpaid work, usually as family contributions for subsistence. Though men also participate in unpaid labor, women are more likely to be involved in vulnerable employment like unpaid labor on family farms, low-paying and seasonal employment, and jobs with poor working conditions, representation of voice, and worker’s rights (ADB, 2013). The graph to the right compares employment security between men and women throughout Cambodia. Men occupy considerably more paid positions than women. However, unpaid positions are more comparable, with a gender gap of only .7% favoring men. Finally, own- account employment, which is considered vulnerable according to the Asian Development Bank, maintains a gender gap of 11% (NIS, 2013). Interestingly, there are considerably more unpaid female laborers in male-headed households (MHH) in comparison to those in female-headed

**Table 4: Amount of Land Devoted to Cambodia’s Major Food Crops**

| Crop Production in 2010 (MAFF, 2011) |                  |              |
|--------------------------------------|------------------|--------------|
| Crops                                | Area (ha)        | (%)          |
| Rice                                 | 2,795,892        | 74.9         |
| Maize                                | 213,622          | 5.7          |
| Cassava                              | 206,226          | 5.5          |
| Soybean                              | 103,198          | 2.8          |
| Mungbean                             | 69,206           | 1.9          |
| Vegetable                            | 52,732           | 1.4          |
| Sesame                               | 43,206           | 1.2          |
| Peanut                               | 20,041           | 0.5          |
| Sugar cane                           | 17,207           | 0.5          |
| Sweet potato                         | 11,452           | 0.3          |
| Tobacco                              | 10,062           | 0.3          |
| Jute                                 | 594              | 0.0          |
| Fruit tree                           | 190,629          | 5.1          |
| <b>Total</b>                         | <b>3,734,067</b> | <b>100.0</b> |

(Source: MAFF, 2011; cited Vang, 2011)



Source: Data from 2013 Cambodia Socio-Economic Survey; Graph by author.

households (FHH), a difference of 17%. The division of labor is less equitable in MHH; female members of MHH tend to have more responsibilities and less time (FAO, 2010).

Table 5, on the following page, depicts the gender wage gap throughout various occupations in Cambodia. In situations where women are employed as skilled agricultural laborers, their wage is 6% lower than that of similarly skilled men (ADB, 2013). This shows that, while female participation in agriculture is high in Cambodia, women see fewer benefits from their labor than men.

Women face many constraints that limit their benefits from labor including: family responsibilities, lack of access to land, financial services, skill-building opportunities, and vague legislation on women's property and labor rights (FAO, 2010; ADB, 2013). Domestic labor and family care are designated as women's work in Cambodian culture. Despite women's increased participation as paid laborers, these traditional thoughts on gender roles have changed very little. The combination of the unchanging belief system and increased female participation in the workforce has led to an increased labor burden on women. On average, women contribute 3.5 more hours to domestic and family care per day relative to men. This severely decreases women's capacity to partake in paid labor or acquire skills and training (ADB, 2013).

**Table 5: Average Wage and Wage Gap by Occupation in Cambodia**

| Occupation                                     | Average Monthly Nominal Earnings, Employees Only (riels) |         | Gender Wage Gap (%) |
|------------------------------------------------|----------------------------------------------------------|---------|---------------------|
|                                                | Men                                                      | Women   |                     |
| Legislators, senior officials, and managers    | 329,980                                                  | 233,910 | 29                  |
| Professionals                                  | 553,589                                                  | 406,659 | 27                  |
| Technicians and associate professionals        | 767,718                                                  | 491,017 | 36                  |
| Clerks                                         | 610,702                                                  | 560,862 | 8                   |
| Service workers, shop and market sales workers | 356,925                                                  | 282,616 | 21                  |
| Skilled agriculture and fisheries workers      | 226,052                                                  | 213,214 | 6                   |
| Craft and related trade workers                | 384,987                                                  | 285,315 | 26                  |
| Plant and machine operators and assemblers     | 458,427                                                  | 266,302 | 42                  |
| Elementary occupations                         | 267,932                                                  | 182,770 | 32                  |
| Armed forces                                   | 432,065                                                  | 432,465 | 0                   |
| All occupations                                | 376,542                                                  | 274,079 | 27                  |

Source: International Labour Organization. 2012. *Decent Work Country Profile: Cambodia, 2011–2015*. Phnom Penh. Table 3.1.

While the gender gap with respect to ownership of agricultural land is not large, favoring men by about 3%, there is a considerable difference between the amount of land held by women and men (ADB, 2013). The proportion of MHH operating on more than one plot of land is 10% higher than FHH operating on more than one plot. Furthermore, men appear to have more buying power in the land market indicated by a gender gap of 8% with respect to number of plots acquired through purchase (ADB, 2013). Purchasing power can be increased through improved access to credit, though women typically lack sufficient access to financial services. The Cambodia Socio-Economic Survey (CSES) found that 37% of rural households took out loans in 2008, out of which only one loan out of six was given to a FHH (FAO, 2010). Furthermore, loans given to women are small, 61% the size of those given to men (ADB, 2013).

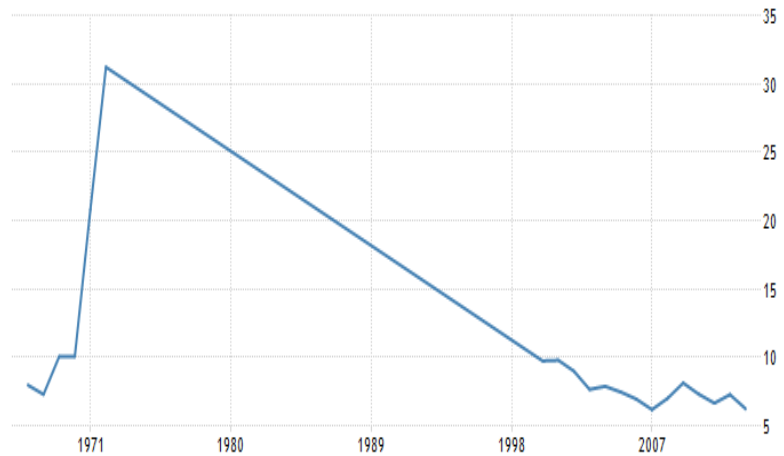


Tied strongly to women's lack of access to land is Cambodia's unclear land reform legislation. Since the late 1980s, Cambodia has been transitioning from a user-rights to a private-property system. This is problematic because many landowners, particularly women and vulnerable landholders, do not have formal documentation of land titles. It is difficult for women to obtain formal land titles because they often lack information on their land rights and sufficient literacy (ADB, 2013). Inheritance rights increase marginalization due to patriarchal beliefs, which discourage women from independent ownership of lands. As a result, lands inherited from parents are often registered jointly in the husband's name, without consent of the wife. Unclear legislation on labor rights also negatively affects women, though the impact is less visible within the agricultural sector. Though Cambodia has taken positive steps to mainstreaming gender into policy, significant changes are still needed. Neither the Cambodian Law on Labor nor its Constitution provides clear policy for "equal remuneration for men and women for work of equal value." There is a common theme to the problems women are facing with landownership rights and labor rights: antidiscrimination legislation exists but it is vague and insufficiently enforced; Thus, gendered land-grabbing and wage gaps persist (ADB, 2015).

### Food Security and Nutrition

The average Cambodian diet consists primarily of rice, which accounts for two-thirds of the daily caloric intake (IFADa, 2013). Fish constitutes 80% of consumed animal protein and is considered the secondary staple food. Rice and fish are supplemented with sparing amounts of vegetables, fruit, poultry, and meat (IFADa, 2013). Fruit and vegetable consumption is limited in rural areas, despite the fact that they are both widely produced. Instead, they are an important source of additional income, being that they are highly profitable at market; the added income from those sales is used to supplement rice needs (ADB, 2012).

**Figure 9: Food Imports by Percent of Merchandise Imports in Cambodia**

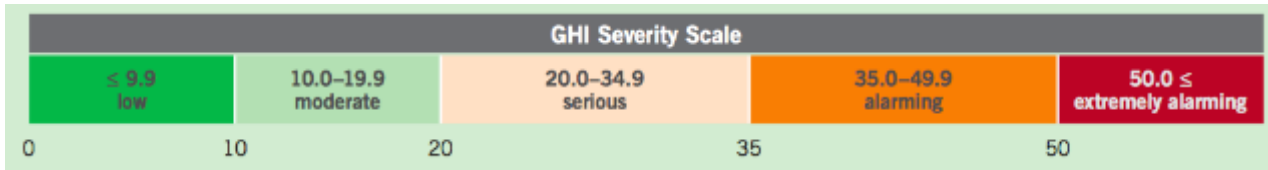


Source: Trading Economics; data from World Bank (2013)

Figure 9 illustrates the sharp increase in food imports during the 1970s. The country's violent civil war led to the near collapse of the agriculture sector and subsequent dependence on international food crops. Today, Cambodia is approaching food self-sufficiency thanks to consistent growth in agricultural production and reduced poverty. For the first time in 40 years, food imports dropped below pre-war quantities in the late 2000s (ADB, 2012). However, a recent decline in the agricultural growth-rate has raised concerns about the sustainability of Cambodia's improved status. Cambodia's agriculture sector is highly vulnerable to external factors, such as increased food prices, drought, floods, climate change, etc., which cause fluctuations in productivity and, therefore, inconsistent food availability and access. Considerable public investments in irrigation infrastructure and EAS are hoped to reduce this vulnerability by increasing consistency of access to water and diversification of crops (Sokhorng, 2015; Sokheth, 2012). However, it is clear that Cambodia's food security issues are highly multifactorial and a solution that targets women's empowerment, education, and equitable distribution of land among social classes is also needed to holistically and sustainably address food insecurity (CARD, 2014).

The International Food Policy Research Institute (IFPRI) classifies Cambodia’s food security situation as “serious” as indicated by a Global Hunger Index<sup>4</sup> (GHI) score of 22.6. The GHI is based on four component indicators: undernourishment, child wasting, child stunting, and child malnutrition. Figure 10, on the following page, illustrates relative severity of hunger based on the GHI scale. This is the highest burden of food insecurity in the South-Asia and Pacific region (IFPRI, 2015).

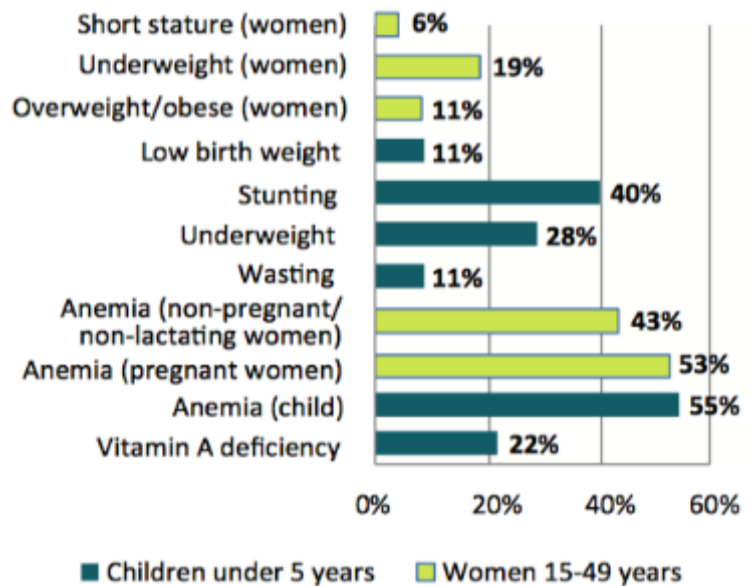
**Figure 10: Severity of Hunger Situation Relative to GHI Score**



Source: IFPRI (2015)

The primary concerns resulting from food insecurity in Cambodia are maternal and child malnutrition (FANTA, 2014). About 1 in 5 women in Cambodia is underweight, the majority of which are of reproductive age. Anemia, usually from vitamin A or iron deficiencies, affects 53% of pregnant women. Both anemia and underweight among pregnant women are linked to the high prevalence of low birth weight, which occurred in 11% of births in 2005. Stunting (low height-for-age) in children under 5 years of age is significant at 32%. Wasting affects 10% of children under 5 years old, though children under 6 months are most severely affected (16% wasted) (FANTA, 2014). Stunting and wasting among children are associated with maternal nutrition status and postnatal feeding practices. Child anemia affects half of children under 5 and 75% of children under 2 years of age, making anemia the most prevalent nutritional health problem in Cambodia (FANTA, 2014).

**Figure 11: Maternal and Child Malnutrition Indicators in Cambodia.**



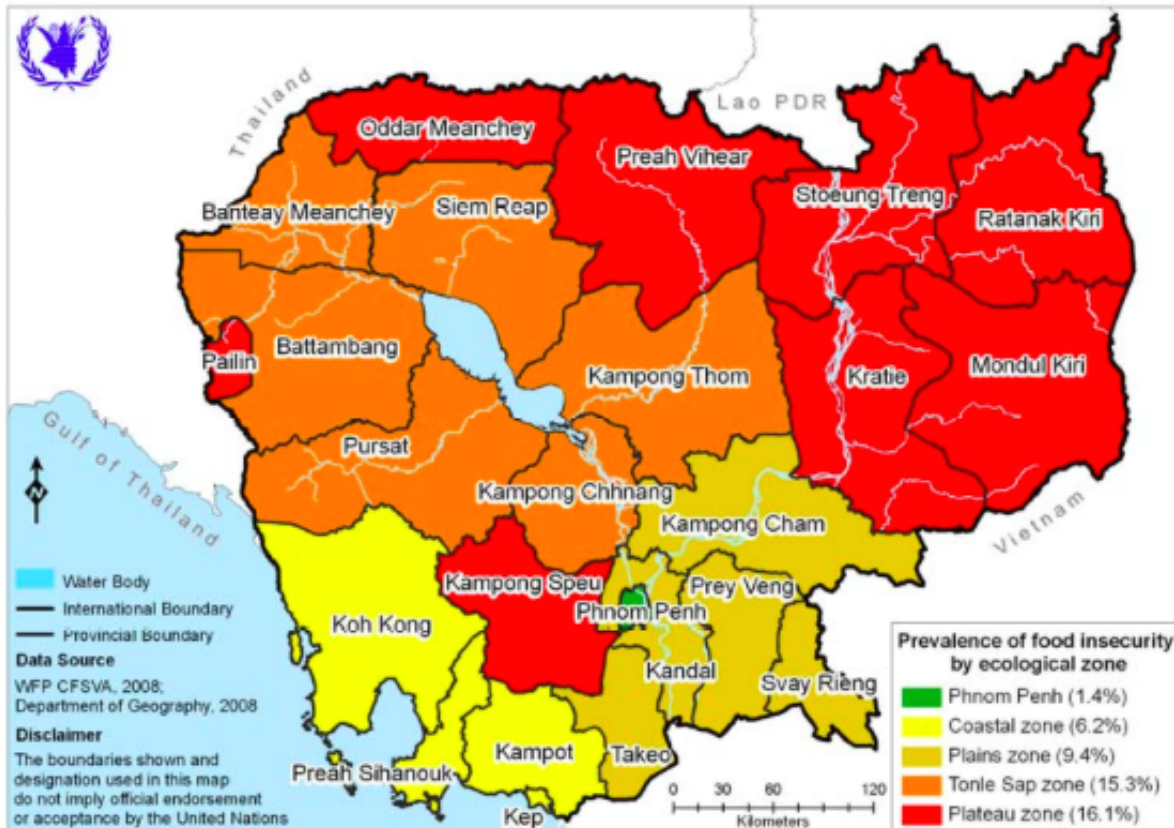
Sources: FANTA, 2014 (cited DHS, 2010; UNSCN, 2010)

Food affordability is a major driver of food insecurity in Cambodia. The average household spends over 70% of its income on food (Blackie, 2014). This makes Cambodians particularly vulnerable to fluctuations in prices. In 2007 and 2008, the Asian Food Crisis caused rice prices to increase by nearly 100% and other staple foods, like fish and vegetables, to increase 20 - 70% depending on the region. It is no surprise that food poverty is more concentrated in rural provinces, where 90 percent of Cambodia’s poor reside (World Food Programme [WFP], 2010). Food insecurity is concentrated in rural provinces (See Figure 12) and many rural farmers do not produce sufficient yield to reach consumption requirements and are unable to supplement home-grown foods with purchased items due to lack of sufficient cash income. It is

<sup>4</sup> GHI scores are on a 100-point scale, where 0 represents no hunger and 100 represents complete hunger.

estimated that only 35% of rural households own enough land to support family rice consumption needs. Landless poor are, understandably, the most food-insecure (WFP, 2010).

**Figure 12: Prevalence of Food Insecurity by Ecological Zone (CFSVA)**



Source: WFP/CFSVA, 2008 via WFP 2010

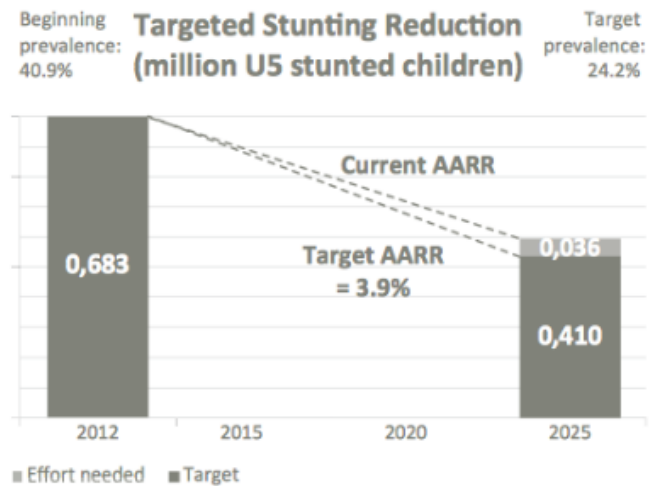
Cambodia has made remarkable growth in the last decade. Poverty decreased by nearly 30% between 1992 and 2011 (FANTA, 2014) and reliance on rice for consumption is also slowly declining, as indicated by a decrease in the proportion of daily calories attributed to rice and increased consumption of vegetables, fruit, and maize. However, Cambodia still faces significant challenges in malnutrition. In 2014, Cambodia joined the Scaling Up Nutrition (SUN) initiative, which seeks to connect governments, civil society, donors, the UN, businesses and researchers as a part of a collective effort to improve global nutrition. SUN works collaboratively with the National Strategy for Food Security and Nutrition (NSFSN), a plan laid out by Cambodia's Council for Agriculture and Rural Development (CARD). The primary focus of SUN and NSFSN is malnutrition. The 2014 - 2018 strategies seek to improve access and availability of food, reduce child and maternal nutritional health problems, and improve the stability of the food supply chain (CARD, 2014; SUN, 2015). Figure 13 illustrates SUN targets on childhood stunting, progress made, and effort still needed to reach goals. SUN objectives are aligned with those of the NSFSN.

Below is a list of shared activities between SUN and the Royal Government of Cambodia that are designed to reach priority targets, as outlined in the strategic framework of NSFSN:

- Improved irrigation infrastructure and water management
- Improved access to quality inputs and technologies for farmers
- Diversification of small-scale agricultural production
- Expand distribution of land among the poor and food-insecure
- Strengthen nutrition services including nutrition education
- Improve access to fortified foods and micronutrient supplements
- Build capacity for crisis preparedness at the individual, community, and government levels (preparedness for economic and natural disasters as well as adaptability to climate change)

Goals and activities outlined in the NSFSN also coincide with Cambodia’s Rectangular Strategy, which has been the government’s primary means of laying out long-term development strategies since 2004 (FAO, 2014). Thus far, Cambodia has carried out phases I and II of the Rectangular Strategy and is moving into stage III, which is highly focused on meeting the 2015 Cambodia Millennium Development Goals (CMDGs) along with the more long-term goal of Cambodia reaching high-income status by 2050 (CRG, 2013). Other government nutrition programs in collaboration with SUN include the Fast Track Road Map for Improving Nutrition 2014-2020 and the National Nutritional Strategy (NNS). Both projects have a strong focus on the nutritional status of women and children with the ultimate goal of reducing mortality in those individuals (SUN, 2015; Ministry of Health, 2009).

**Figure 13: SUN Targets on Childhood Stunting**



Source: SUN, 2015

## Overview of Extension and Advisory Services in Cambodia

EAS in Cambodia is managed by the Department of Agricultural Extension (DAE), a governmental department within the Ministry of Agriculture, Forestry, and Fisheries (MAFF). Cambodia’s EAS system began in the early 1950s though it was quickly disrupted in 1967 by the country’s civil war. From 1974 to 1979 extension services and the agriculture sector as a whole collapsed due to the Khmer Rouge reign (GFRAS 2016). After the fall of the Khmer Rouge, EAS services were reintroduced and carried out by various technical departments of the Ministry of Agriculture. The Australian Catholic Relief (ACR) initiated specialized training of MAFF officers in extension services in the 1980s, which, combined with contributions from other NGOs, spurred the formal introduction of the DAE in 1995. The DAE is the central body that mandates extension responsibilities to Provincial Departments of Agriculture (PDAs), District Agricultural Offices (DAOs), Subject Matter Specialist (SMS) departments and institutions, and field extension agents like NGOs. The DAE collaborates with the various contributors in the following activities:

“Extension for a better well-being”  
MAFF, 2015

1. Organization of EAS training
2. Farming system and technology development
3. Farmer organization development
4. Dissemination of information to farmers
5. Promotion of food security and income generation

The above activities are intended to achieve the DAE's ultimate, four-fold goal: to provide comprehensive support to farmers and rural communities as a means of enabling the efficient production and processing agricultural goods, the increase of food insecurity, and increase of incomes country-wide from an environmentally sustainable and gender-sensitive perspective (Soeun, 2012).

Aside from the public sector, the private sector, NGO and donor projects, and farmer organizations also provide extension services. Private sector firms in Cambodia tend to focus on input supply for farmers and investment in foreign trade. NGOs and other donors are more involved in agricultural production and agribusiness development at the farm level. Because of Cambodia's particularly weak infrastructure and input supply chain, NGOs may participate in improving access to quality seeds, fertilizers, and irrigation. Finally, farmer-based organizations are formed around the shared interests of smallholder families. Common activities of such organizations include pooling resources to gain access to credit, joint production of a given crop (usually rice), marketing, and water-use projects (Global Forum for Rural Advisory Services [GFRAS], 2016).

## Major Institutions Providing Extension and Advisory Services in Cambodia

### Public Institutions

- Ministry of Agriculture, Forestry, and Fisheries (MAFF) <http://www.maff.gov.kh/>

### Department of Agricultural Extension (DEA)

- Ministry of Rural Development (MRD) <http://www.mrd.gov.kh/>

### Public Research and Education Institutions

- Adventist Development and Relief Agency (ADRA) <https://adra.org/>
- Royal University of Agriculture (RUA) <http://www.rua.edu.kh/>
- Prek Leap Agriculture College <http://www.pnsa.edu.kh/>

### Private Sector Firms

- Angkor Kasekam Roonroeung Co Ltd (AKR) <http://www.angkorrice.com/>

### Non-Governmental and Donor Projects

- International Fund for Agricultural Development (IFAD)
- Agricultural Quality Improvement Project (AQUIP) [http://www.ifad.org/lrkm/region/pi/kh\\_423.htm](http://www.ifad.org/lrkm/region/pi/kh_423.htm)
- Cambodia Agriculture Research and Development Institute – Assistance Project (CARDI—AP) <http://aci-ar.gov.au/project/asem/2003/007>
- Centre d'Etude et de Développement Agricole Cambodgienne (CEDAC) <http://www.cedac.org.kh/>
- Human Resource and Rural Economic Development Organization (HURREDO) <http://www.hurredo.org/>
- International Development Enterprise (IDE) [http://www.ideorg.org/OurResults/SuccessStories/Cambodia\\_FBA\\_Story.aspx](http://www.ideorg.org/OurResults/SuccessStories/Cambodia_FBA_Story.aspx)

### Farmer-based Organizations and Cooperatives

- Cambodia Farmer Association Federation of Agricultural Producers (CFAP Cambodia) <http://www.cfap-cambodia.org/>

Source: IFPRI/FAO/IICA Worldwide Extension Study (2011); cited GFRAS (2016)

Cambodia's public extension system includes 1,244 staff members, 58 of which are senior managers, 66 are subject matter specialists, and 1,120 are field-level extension staff. The majority of extension personnel are concentrated at the provincial level. District offices have minimal staff support and lack annual budgets with which to deliver services to farmers and instead collaborate with NGOs and other donors (GFRAS, 2016). Because of the high concentration of extension workers at the provincial level, public EAS has limited coverage on the ground. The few staff members who do work at the district or municipal level are responsible for delivering services to as many as 5,000 households each (Sothath and Sophal, 2010). Extension staff are typically young and inexperienced in extension and have no background in Information and Communication Technology (ICT). ICT is lacking at all levels of the extension system, and it is particularly absent in the public sectors. Major extension department, for example, the Royal University of Agriculture (RUA), DAE, and the Cambodian Agricultural Research and Development Institute (CARDI), all have their own websites but do not share information with each other (Modernizing Extension and Advisory Services [MEAS], 2014). The effectiveness of Cambodia's EAS is further affected by availability of support from donors and NGOs as well as budgetary allocations. All in all, the Cambodian extension

system is stretched thin and is unable to provide sufficient EAS coverage to smallholder farmers or commercial farm operations (Sothath and Sophal, 2010).

Additionally, agricultural extension in Cambodia holds significant gender disparities (see Table 6), both within the EAS workforce and access among farmers. With regards to extension personnel, only 13% of public workers are women. The highest percentage of women is present at the senior management level (26%) and the lowest percentage are field-level staff (12%), meaning there are very few women working directly with farmers (GFRAS, 2016).

**Table 6: Human resources by in public EAS in Cambodia according to gender**

| Total number of extension staff  | Men   | Women |
|----------------------------------|-------|-------|
| Senior management staff          | 46    | 12    |
| Subject matter specialists (SMS) | 49    | 17    |
| Field-level extension staff      | 1,000 | 120   |
| Total                            | 1,095 | 149   |

Source: IFPRI/FAO/IICA Worldwide Extension Study (2011); cited GFRAS (2016)

The fact that the overwhelming majority of extension workers are men is a considerable disadvantage for women. Male extension workers tend to concentrate their activities on male farmers and traditionally male agricultural activities (ADB, 2015). According to the Food and Agriculture Organization, women only receive 10% of extension services. As a result, women have reduced access to agricultural technologies like plows, which has an average gender gap of 17% though provinces in the northeast of Cambodia have gender gaps over 23%. Finally, women are more disconnected from the EAS system than men. For example, 27% of households headed by men have access to a telephone while only 15% of those headed by women access. This significantly limits the information capable of reaching female farmers (FAO, NIS, MOP, 2010).

## Feed the Future Multi- Year Strategy 2011-2015

Feed the Future supports the development strategy of the Royal Government of Cambodia (RGC) to help “increase agricultural productivity and diversification as well as improve the well-being of the rural poor and promote sustainable management of the country’s rich natural resources” (Malapit et al., 2014). Feed the Future focuses its efforts on the Tonle Sap region, Cambodia’s agricultural hub, particularly the provinces of Battambang, Siem Reap, Kampong Thom, and Pursat (see Figure 14). The Feed the Future Cambodia Strategy (Feed the Future-C) concentrates on scaling up rice, horticulture, and fish production for the ultimate goal of improving food security. To address Cambodia’s major agricultural value chains, Feed the Future-C seeks to increase productivity in those areas, improve rural incomes, and improve nutritional knowledge and practices (Feed the Future, 2011).

Gender equality is one of Feed the Future-C’s cross-cutting issues, alongside global climate change, water, sanitation and

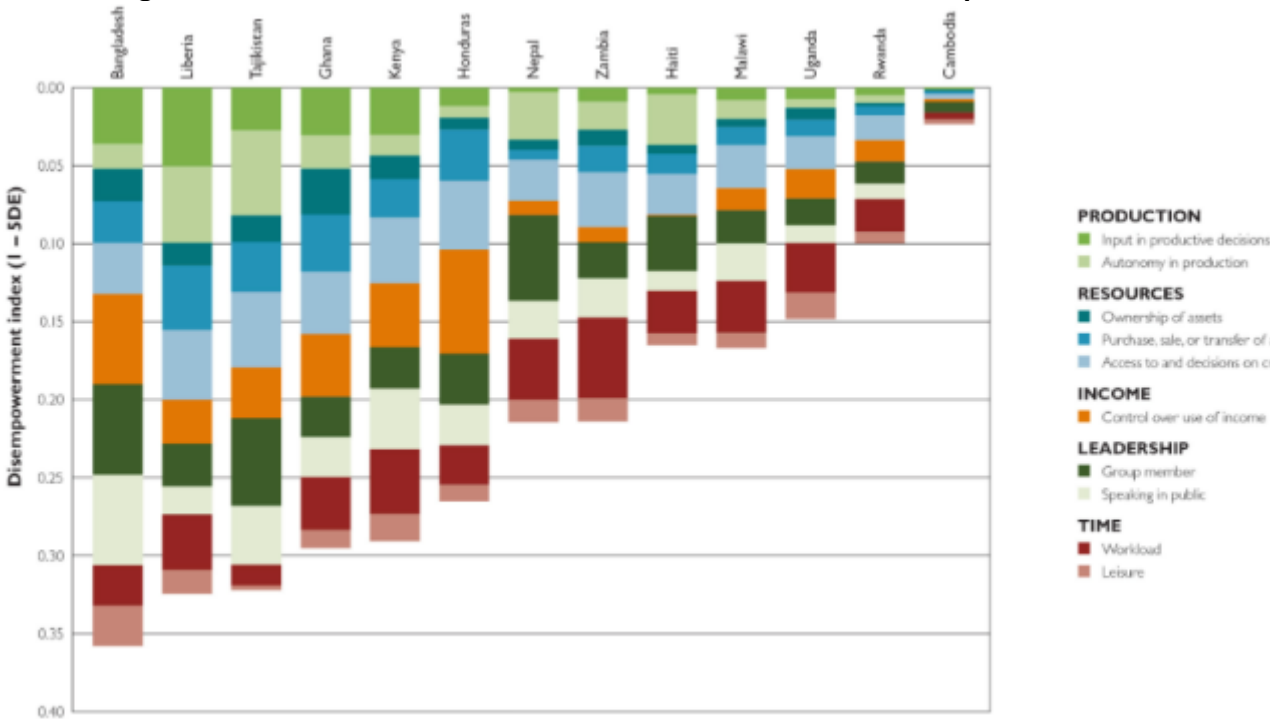
**Figure 14: Feed the Future target Regions (in green).**



Source: Feed the Future Country Fact Sheet <http://www.feedthefuture.gov/country/cambodia>

hygiene, youth, civil society, capacity building of public and private sector, law, human rights, and corruption. Feed the Future-C programs primarily address the economic disadvantages of women. Gender-focused activities concentrate on maximizing women’s decision-making power, access to credit and skill training, and maximizing household income. Gender-sensitive projects push to expand the employment opportunities that are available to women; Primarily by increasing their access to formal, long-term, higher paying enterprises (Malapit et al., 2014). In addition to improving women’s economic position, Feed the Future-C targets maternal and child nutrition through programs that improve utilization of food. Such programs concentrate on improved dietary diversity, child feeding practices, and quality of nutrients. Additionally, Feed the Future-C works in collaboration with the Cambodian Office of Public Health and Education (OPHE) and U.S. Peace Corps to improve distribution of micronutrient supplements and nutrition education and messaging respectively (Malapit et al, 2014).

**Figure 15: Contribution of Each WEAI Indicator to Women’s Disempowerment**



Source: Feed the Future (2015)

Feed the Future utilizes the Women’s Empowerment in Agriculture Index (WEAI)<sup>5</sup> to assess the progress made toward women’s empowerment and compare success with other Feed the Future countries. Of the 13 countries for which WEAI is calculated, Cambodia ranks highest at 0.98. Feed the Future cautions the interpretation of this data as Cambodia is a clear outlier; As a result, Cambodia’s WEAI is not directly comparable with other Feed the Future countries. Although, in this case, the WEAI should not be used to make cross-country comparisons, the breakdown of indicators (See Figure 15) allows us to see which

<sup>5</sup> Empowerment is measured according to five domains (production, resources, income, leadership, and time), each of which having one or more indicators. The WEAI analyzes both contributing and resulting factors of empowerment, and takes into consideration empowerment and disempowerment of both men and women. The WEAI ranges from 0 to 1, with higher values representing greater empowerment (Feed the Future, 2015).



constraints impact women the most. The major constraints on women in Cambodia are time allocation and community leadership<sup>6</sup> (Malapit et al, 2014).

## Feed the Future/Cambodia Core Investment Areas

### **Food Availability: Sustainable production**

- a. Improved access to high quality inputs (technology, fertilizer, pesticides, irrigation, seeds, credit, etc.)
- b. Adoption of improved varieties and cultivation techniques (high-yield, drought and flood tolerant crop varieties, seed storage techniques, expansion of private and public extension services)
- c. Diversification of crops (reduce dependence on rice, increase production of vegetables, fruits, nuts, fish, wild forest products)
- d. Improved agricultural policy (assist RGC in drafting laws and regulations related to agriculture, animal health, environment, and food security)

### **Food Access: Increase and diversify rural income**

- e. Strengthen post-harvest systems
  - i. Reduce crop spoilage
  - ii. Improve connections between farmers and processing industry through partnerships
  - iii. Develop post-harvest processing enterprises
- f. Improved market access
  - i. Build connections between producers (producer groups)
  - ii. Build connections between producers and market (example: producer group+ miller's association)
- g. Expand rural employment
- h. Increased investment in marketing infrastructure
  - i. Small-scale transportation technology
  - ii. Food storage and processing facilities
  - iii. Cost sharing between public and private-sector entities

### **Food Utilization: Meeting nutritional needs**

- i. Improve maternal and child nutrition and infant feeding practices
  - i. Nutrition education and messaging
  - ii. Micronutrient supplements
- j. Improve access to nutrition enhancing goods and services

(Feed The Future, 2011)

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<sup>6</sup> FTF did not acquire data on public speaking for Cambodia; this may have led to underestimation of Cambodian women's disempowerment.

As of 2014, Cambodian agriculture has seen significant improvements through Feed the Future initiatives. Across all three focus areas (aquaculture, horticulture, and rice production), Feed the Future beneficiaries have improved their production yields. For example, yields have increased 37% among rice farmers, 111% among aquaculture farmers, and 344% among horticulture farmers. Furthermore, Feed the Future helped farmers shift production methods away from unsustainable practices by increasing their access to education, particularly with respect to conservation farming techniques that improve soil quality and reduce workload. Now, more farmers within the Tonle Sap Feed the Future target region utilize drip irrigation, only minimally disturb soil and seal in nutrients with a mulch covering, and plant a diverse array of crops (Feed the Future, 2015b). Producer groups further improve income security for farmer and increase knowledge sharing, bargaining power with buyers, and access to high quality inputs (Feed the Future, 2015c).

Feed the Future is on track to meet 2015 goals in food security and nutrition. Over 180,000 Cambodians have been trained in on-farm nutrition education that employ a variety of techniques to change the way rural families view their diet. Many nutrition-sensitive programs target women by helping them establish food security and nutrition groups, which increase their participation as community leaders. Feed the Future has registered over 5,000 members in nutrition education groups, 93% of which are women (Feed the Future, 2015b). Such programs have helped Feed the Future surpass its 2017 target for child stunting. According to the Demographic Health Survey (DHS), Feed the Future-C's interventions have lowered child stunting by 21%, compared to the 18% decrease observed outside of Feed the Future's zone of influence (Feed the Future, 2015a). Feed the Future's core investment areas are summarized in below table; more detailed information regarding on-going Feed the Future projects in Cambodia are detailed at the end of this brief.

## USAID Country Development Cooperation Strategy

USAID's Country Development Cooperation Strategy (CDCS) for Cambodia is comprised of three Development Objectives (DOs) and several Intermediate Results (IRs) and sub-IRs. The strategy overlaps significantly with Feed the Future initiatives, particularly with respect to DO 3, which targets poverty reduction. DO3 utilizes Feed the Future resources to reduce poverty through agricultural development. The USAID CDCS does not discuss Cambodia's extension system or a clear plan to improve access to services.

Many objectives in gender are identical to Feed the Future projects and will not be discussed in this section. USAID's goals in gender mainstreaming and women's empowerment differ from Feed the Future with respect to its focus on women's position in government and policy, as well as Cambodia's ongoing problems with domestic violence (USAID, 2014).

The last two DOs and their IRs relate most closely with Feed the Future as they cover agriculture, nutrition, and gender (IRs with most relevance to EAS and gender issues in bold):

DO2: Improved health and education status for vulnerable populations

IR2.1: Improved maternal and child health services

IR2.2: Capacity and accountability of healthcare services

IR2.3: Effectiveness and efficiency of disease control programs

IR2.4: Protection and education of children

DO3: Poverty reduced in selected geographic areas and targeted populations

IR3.1: Improved food security

IR3.2: Equitable and rational management of natural resources

IR3.3: Improved economic enabling of environment

## Conclusions

INGENAES aims to reduce gender gaps in agricultural extension and advisory services in Feed the Future countries. Cambodia faces several internal obstacles that must be addressed in order for INGENAES objectives to be successful:

- Education and literacy rates are low among men both and women
- Poverty rate and vulnerability to poverty are high
- Irrigation, land management, and marketing infrastructure are all extremely limited
- Soil quality is poor
- Climate change vulnerability is high and is causing more frequent severe weather (floods and drought)
- High levels of corruption in the government

As INGENAES maintains a strong focus on gendered issues, it is important to consider those barriers facing women in Cambodia as well:

- Cultural beliefs more highly value men over women
- Women and girls have higher rates of illiteracy and achieve lower levels of education
- Women have less access to extension services
- Women own smaller plots of land
- Cambodian labor laws do not explicitly demand equal pay for equal work, thus women are severely underpaid
- Cambodia maintains high rates of domestic violence
- Women have a limited voice in community and national politics

Cambodian agriculture is dominated by rice production, which is produced for sale and subsistence. Rubber is the secondary cash crop, the majority of which is exported. Cassava, sweet potatoes, and vegetables provide additional income and are secondarily used to meet subsistence needs. Cambodia's National Strategy for Food Security and Nutrition (NSFSN) maintains a strong focus on rice production and export to reduce poverty and improve nutritional status of rural households. Fewer than 20% of plots are irrigated, making Cambodian agriculture highly dependent on rain.

Although both men and women in rural areas earn their livelihoods from agriculture, women make up the majority of the agricultural workforce. Agricultural activities are gendered, with women focusing on both pre- and post-harvest activities such as:

- Preparation of seeds, maintain beds
- Planting
- Transport and harvest crops
- Subsistence farming
- Marketing of produce

Diet in Cambodia reflects the agriculture sector's dependence on rice. Rice is the uncontested staple food of Cambodia as it comprises over 65% of daily caloric intake. Rice is supplemented with fish and vegetables, which are often important sources of additional income as well. Most rural households are unable to produce sufficient food in home gardens and are at least partially reliant on foods bought at markets.

The food security situation in Cambodia is “serious” and represents the highest burden of food insecurity in the Southeast Asia and Pacific region, according to the International Food Policy Research Institute (IFPRI). The major concerns stemming from food insecurity in Cambodia are maternal and child health. Both women and children experience high rates of anemia that typically result from Vitamin A and iron deficiencies. Underweight is an issue facing women, particularly those of reproductive age. Stunting and wasting are common among children under 5 years old, though cases are most frequent and severe among children under 6 months of age. Cambodia takes part in several nutrition interventions including the Scaling Up Nutrition (SUN) movement which works collaboratively with multiple stakeholders and alongside Cambodia’s NSFSN to address malnutrition in vulnerable populations.

Cambodia’s extension and advisory services are predominantly managed by public institutions, NGOs and other donors; the private sector is somewhat limited and is mostly comprised of contract rice farming organizations. The Ministry of Agriculture, Forestry, and Fisheries (MAFF) founded the Department of Agricultural Extension (DAE) to oversee EAS in Cambodia. The DAE is a hierarchy of provincial, district, community, and on-farm staff, though the vast majority of extension workers are present at the provincial level, severely limiting more specialized field visits. In general, Cambodia’s extension system is ineffective, providing services to a small minority of farmers. Women receive significantly less access to EAS in comparison to men because they are facing several barriers that prevent their participation:

- Limited participation in farming cooperatives
- Low presence of female staff in EAS
- Male EAS staff tend to focus on male farmers and traditionally male agricultural activities
- Women have less access to Information and Communication Technologies (ICT) like telephones

Feed the Future concentrates its activities on the Tonle Sap region of Cambodia, a rural area home to the bulk of Cambodia’s agricultural production. Feed the Future activities are centered around improving income and food security through Cambodia’s three major agricultural value chains: rice, horticulture, and fish. Feed the Future targets women by:

- Maximizing women’s decision-making power
- Improving women’s access to credit
- Expanding income generating opportunities
- Focusing on maternal and child nutrition

Feed the Future has helped Cambodia increase production yields across all three value chains. Conservation farming techniques introduced by Feed the Future are expected to more effectively utilize Cambodia’s natural resources, shifting land use away from extensive expansion to intensive productivity.

INGENAES initiatives overlap with several other projects supporting nutrition, agriculture, food security, and gender mainstreaming in Cambodia. These external projects include U.S. government-funded programs, NGOs and other donors, and small-scale grassroots operations. Detailed information about on-going Feed the Future and non-USAID funded projects can be found at the end of this brief.

## Annex I: Active Feed The Future Projects in Cambodia

| Project Name                                                                                                                                                                                                                                                                                                                          | Link(s)                                                                              | Goal(s)/ Objective(s)                                                                                                                                                                               | Activities                                                                                                                                                                                 | Contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Feed the Future Innovation Labs (USAID)</p> <p>Five labs working in Cambodia:</p> <ol style="list-style-type: none"> <li>1. Aquaculture and fisheries</li> <li>2. Horticulture</li> <li>3. Pest management</li> <li>4. Sustainable agriculture and natural resources management</li> <li>5. Sustainable intensification</li> </ol> |                                                                                      | <p>Agricultural research and capacity building focused on nutrition, extension, land management, and gender.</p> <p>Reduce poverty and malnutrition through improved agricultural productivity.</p> |                                                                                                                                                                                            | <p>Sustainable Intensification Lab</p> <p>Kansas State University</p> <p>siil@k-state.edu<br/>(785) 532-7072</p> <p>Horticulture Lab</p> <p>UC Davis</p> <p>horticulture@ucdavis.edu<br/>(530) 752-7182</p> <p>Pest Management Lab</p> <p>Virginia Tech</p> <p>rmuni@vt.edu</p> <p>Muni Muniappan, Director<br/>(540) 231-3516</p> <p>AquaFish Innovation Lab—<br/>Oregon state Univ:<br/>(541) 737-6426</p> <p>SANREM</p> <p>VA Tech</p> <p>sanrem@vt.edu<br/>(540) 231-1230</p> |
| <p>Helping Address Rural Vulnerabilities and Ecosystem Stability (HARVEST)</p>                                                                                                                                                                                                                                                        | <p><a href="http://www.cambodiaharvest.org/">http://www.cambodiaharvest.org/</a></p> | <p>Reduce poverty and malnutrition through improved agricultural productivity.</p>                                                                                                                  | <p>Agricultural intensification and diversification through education and training of farmers and extension workers; facilitate formation of gender-mainstreamed producer cooperatives</p> | <p><a href="mailto:harvest@fintrac.com">harvest@fintrac.com</a></p> <p>Headquarters</p> <p>Tel +855 23 996 418<br/>Fax +855 23 996 418</p>                                                                                                                                                                                                                                                                                                                                        |

|                                                               |                                                                                                                                                                                                                                                           |                                                                                                                          |                                                                                                                                                                                                                                     |                                                                                                                                                  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Global Agriculture and Food Security Project (GAFSP)          | <a href="http://www.gafspfund.org/content/cambodia">http://www.gafspfund.org/content/cambodia</a>                                                                                                                                                         | Improve food security and reduce poverty through improving water quality and management.                                 | Agricultural intensification, diversification of crops, enhanced water management infrastructure and increased farmer access to markets and skill building opportunities                                                            | Piseth Long (Senior Project Officer):<br><br>plong@adb.org<br><br>+ 855 23 215 805, ext. 220<br>(Based in Cambodia)                              |
| Rice Field Fishery Enhancement Project                        | <a href="http://tcocambodia.org/our-project/rice-field-fishery-enhancement-project/">http://tcocambodia.org/our-project/rice-field-fishery-enhancement-project/</a>                                                                                       | Develop sustainable rice field fishery practices for vulnerable households dependent on aquatic resources.               | Improve understanding and management of rice field fishery systems/ aquatic agricultural systems and the benefits of improved practices.                                                                                            | chanrattana@hotmail.com,<br><br>+855 12 943 110<br><br>Borie Seang Nam, Khna Thmei Village, Sang Kat Chreav, Krong Siem Reap, Siem Reap Province |
| Cambodia NOURISH                                              | <a href="https://cambodia.savethechildren.net/news/save-children-nourish-project-launched-combat-chronic-malnutrition-cambodia">https://cambodia.savethechildren.net/news/save-children-nourish-project-launched-combat-chronic-malnutrition-cambodia</a> | Improve health and well-being of women and children in Cambodia through increased access to diverse and nutritious foods | Improve nutrition and child development practices during the first 1,000 days of pregnancy through 2 years of life (“critical window”); increase use of sanitation facilities and hygiene practices; governmental capacity building | info.cambodia@savethechildren.org<br><br>Tel: +855 23 223 403/4/5/6<br>Fax: +855 23 223 406                                                      |
| InnovATE (Innovation for Agricultural Training and Education) | <a href="http://www.oired.vt.edu/innovate/resources/official-reports/">http://www.oired.vt.edu/innovate/resources/official-reports/</a>                                                                                                                   | Improve quality of agricultural labor force at all levels.                                                               | Agricultural training (at primary/ vocational, university, and post-graduate levels) and education including: youth, gender, and workforce development.                                                                             | innovateprogram@vt.edu<br>(project led by Virginia Tech), 504 231 6338                                                                           |
| USDA McGovern-Dole Food for Education Program                 | <a href="http://www.fas.usda.gov/programs/mcgovern-dole-food-education-program">http://www.fas.usda.gov/programs/mcgovern-dole-food-education-program</a>                                                                                                 | Improve food security, literacy, and primary education, especially for girls.                                            | Provide school meals and teacher training; Provide nutritional programs for pregnant and nursing women, and mothers of young children.                                                                                              | ppded@fas.usda.gov (FAS Food Assistance Division), 202 720 4221                                                                                  |

## Annex 2: Other Funded Initiatives on Food Security and Agricultural Extension

| Project Name                                                        | Link(s)                                                                                                                                                                                                                                                                                                                                                                                                        | Goal(s)/ Objective(s)                                                                                                                                                        | Activities                                                                                                                                                                                                                                                  | Contact                                                                                                                                  |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Climate Resilient Sustainable Agriculture (CRSA)                    | <a href="http://www.actionaid.org/publications/climate-resilient-sustainable-agriculture-crsa-experiences">http://www.actionaid.org/publications/climate-resilient-sustainable-agriculture-crsa-experiences</a><br><br><a href="http://www.actionaid.org/sites/files/actionaid/exhibition_document_-_final_draft.pdf">http://www.actionaid.org/sites/files/actionaid/exhibition_document_-_final_draft.pdf</a> | Promote sustainable agricultural practices, with an emphasis on soil and water quality and management, to increase productivity and adaptability to climate change.          | Increase crop diversification and improve water reservoirs like ponds and canals. Promote terracing and bund dikes for soil conservation. Increase number of farmer-to-farmer exchanges and farmer associations (Note: activities target smallholder farms) | Kimthen Sen<br>(Program and Policy Coordinator/<br>Actionaid Cambodia):<br><br>kimtheng.sen@actinaid.org                                 |
| Building Self-Reliant Family Farm Communities in Cambodia           | <a href="http://www.cedac.org.kh/imgs/file/Project_Profile/Building_Self-Reliant_Family_Farm_Communities_in_Cambodia.pdf">http://www.cedac.org.kh/imgs/file/Project_Profile/Building_Self-Reliant_Family_Farm_Communities_in_Cambodia.pdf</a>                                                                                                                                                                  | Decrease poverty and reduce income gap through increased agricultural productivity and promote farmer investment in cooperative rice mills and pro-farmer social enterprises | Improve financial knowledge of farmers (save according to income capacity), increased sale of milled rice over paddy rice to increase bargaining power, increase access to agricultural technology and high quality inputs                                  | cedacinfo@cedac.org.kh +855 12 447 599                                                                                                   |
| Professional Training in Agri-Enterprise Development and Management | <a href="http://www.cedac.org.kh/imgs/file/Project_Profile/Professional_Training_in_Agri-Enterprise_Development_and_Management.pdf">http://www.cedac.org.kh/imgs/file/Project_Profile/Professional_Training_in_Agri-Enterprise_Development_and_Management.pdf</a>                                                                                                                                              | Train farmers in leadership and agricultural skills for dissemination of knowledge within their own villages and with neighboring farmers                                    | Training workshops, skill building through demonstrations, classes, and support missions on agricultural techniques, business, and entrepreneurship.                                                                                                        | cedacinfo@cedac.org.kh +855 12 447 599                                                                                                   |
| OXFAM Cambodia                                                      | <a href="http://www.oxfam.org.uk/what-we-do/countries-we-work-in/cambodia">http://www.oxfam.org.uk/what-we-do/countries-we-work-in/cambodia</a>                                                                                                                                                                                                                                                                | Facilitate increased women's access to natural resources, increase their power in markets, and strengthen their representation and leadership                                | Help women secure rights to land and other resources, increase access to credit/ financing, and gain gender-mainstreaming support from public and private sector to facilitate fair business.                                                               | Cambodia Office:<br>+855 232-10357                                                                                                       |
| Community Development Program (Caritas)                             | <a href="http://www.caritasCambodia.org/index.php/our-programs/livelihood-food-security">http://www.caritasCambodia.org/index.php/our-programs/livelihood-food-security</a>                                                                                                                                                                                                                                    | Decrease poverty and increase food security with emphasis on rural provinces                                                                                                 | Improve rural infrastructure and water resources including dams, water gates, road construction, and drinking water facilities. Promote grassroots development projects.                                                                                    | <a href="mailto:caritas@caritascambodia.org">caritas@caritascambodia.org</a><br><br>Tel: (855) 23 210 757, 213 529 Fax: (855) 23 216 258 |

|                                                               |                                                                                                                                                                                                                                                                                                                                               |                                                                                                                    |                                                                                                               |                                               |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <p>Securing Mothers and Infants Lives with Equity (SMILE)</p> | <p><a href="http://www.acdicida.gc.ca/cidaweb/cpo.nsf/vWebCSAZEn/DAA5DE5B8F9E199E85257E2100374C08">http://www.acdicida.gc.ca/cidaweb/cpo.nsf/vWebCSAZEn/DAA5DE5B8F9E199E85257E2100374C08</a></p> <p><a href="http://pp.adracambodia.org/en_US/our-programs/health/smile/">http://pp.adracambodia.org/en_US/our-programs/health/smile/</a></p> | <p>Promote women’s empowerment by improving the health and nutritional needs of underserved women and children</p> | <p>Training local village health groups and women of reproductive age on nutrition and feeding practices.</p> | <p>+23 880 693;<br/>info@adracambodia.org</p> |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------|



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