

# THE ROLE OF WOMEN'S HOME GARDENS IN THE HOUSEHOLD ECONOMY OF COCONUT FARMING HOUSEHOLDS IN TIMES OF RECURRENT TYPHOONS

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## Abstract

This qualitative and descriptive study examines the issue of food security of farm working households in a rural community hit by an average of 17 typhoons a year. It provides a glimpse of how women living in poverty ensure the food security of their households on a daily basis. It examined the lives of women from farm working households in a rural barangay and the multiple roles they play in their households' food security. It highlights women's survival strategies in coping with chronic poverty and the adverse effects of repeated destructive typhoons – loss of livelihoods and incomes, high prices of basic commodities and food insecurity. In such difficult circumstances, the home garden was seen as playing a major role in maintaining the food security of their households.

**Key words:** poverty, survival strategies, food security, recurrent typhoons, home gardens, women

## Introduction

Agriculture is one of the most vulnerable sectors to typhoons due to its dependence on weather and climatic variability. At the same time, a large proportion of people living in poverty belong to this sector (IBON, 2013 as cited in Barrameda, 2015). The lack of access to and control over land further aggravates the vulnerability

of rural women and men to recurrent typhoons and disasters, since their livelihoods depend largely on this resource. In rural agriculture, women comprise the majority of the workforce as low-paid farm workers or as unpaid farm workers in family farms or in subsistence agriculture. In particular, women living in poverty in rural areas are doubly vulnerable in times of recurrent typhoons and especially in times of 'small' or 'negligible' disasters. These disasters are not usually covered by media and nor generate external emergency support. Yet the frequency of its occurrence affects the community in the long-term almost just as greatly as large-scale disasters.

Like other social development issues such as health, disability, peace, climate change, etc., food security is also a development issue that is of critical importance. Amidst poverty and climactic variability such as recurrent typhoons, food security is a primary problem faced by poor farming households, especially the farm working households. Food security, according to the FAO is the continuous accessibility, availability and affordability of sufficient, safe and nutritious food. A household is considered food insecure when it lacks available, accessible, adequate, and appropriate food. Although the discourse on food security has been continuing at the global level since the World Food Summit in 1996, the targets set have not yet been achieved. In a 2001 press release, the FAO noted that very little progress has been achieved by governments regarding commitments to implement the agreements. Particularly in the Philippines, the government has initiated several programs to address food security and hunger. However, these services rarely benefited farm working households. Given such a scenario, this study highlights the initiatives and crucial role of women in farm working households in ensuring the food security of their families in everyday survival and in times of recurrent typhoons.

This paper is structured as follows: Section I introduces the concepts of poverty, vulnerability and food security. Section II discusses the links of gender, food security and the right to food. Section III highlights the policies and programs of the Philippine government in relation to food security and the right to food. Section IV presents cases documenting how ten women cope with poverty and recurrent typhoons and the role of their home gardens in responding to the food insecurity brought about by recurrent typhoons. Lastly, Section V provides the study's conclusions and recommendations.

## Poverty, Vulnerability and Food Security

Food security is defined as a condition in which “all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, as cited in HLPE, 2012: p.21). Food security has three pillars, namely: (1) food availability, or the physical presence of food in a particular area, (2) food access, or the capacity of a household to acquire sufficient amounts of food, and (3) food utilization or how households and/or individuals use food (Ofreneo and Narito, 2012). However, there are factors, such as poverty, that affect people’s food security in one or all of these pillars.

The poor are deemed vulnerable to food insecurity (i.e. the inability of securing adequate food today and the risk of the same in the future) because they lack the necessary resources to meet basic needs and are highly sensitive to economic shocks (HLPE, 2012). According to Zia and Gadi (2001), two types of food insecurity may be experienced by people. One is transitory food insecurity which refers to a “temporary lack of access to food caused by such factors as decline in food production or household incomes, instability in food prices, natural as well as human-made disasters or seasonal unavailability of food” (p.73). The other is chronic food insecurity, a situation in which “people face a continuous lack of ability to produce or acquire food” (p.73). As such, poverty is a condition that increases people’s vulnerability to food insecurity.

Vulnerability to food insecurity operates at the national, household, and individual levels. Although social protection responses are available for each level, absence [or lack of] social protection will intensify food insecurity and vulnerability (HLPE, 2012).

The first semester of 2013 registered a poverty incidence level of 24.9 percent, according to the Annual Poverty Indicator Survey (APIS) conducted by the Philippine Statistics Authority (PSA) (GOVPH, 2014). Using the Family Income and Expenditure Survey (FIES), poverty incidence in the Philippines as of the first semester of 2015 registered at 26.3 percent (PSA, 2016). Although the two surveys are incomparable because they have “income and consumption modules [that] are not the same” (ADB, 2009: p.11), both surveys show that the poverty level in the country remains above 20 percent.

For the first semester of 2015, the Food and Nutrition Research Institute (FNRI) set a food threshold (minimum income needed to ensure

basic food needs) of at least Php 6,365 a month for a family of five, expanded to at least Php 9,140 a month to include both basic food and non-food needs (PSA, 2016)—although household poverty might be underestimated with this index as “it does not take into account that the poor may pay more because they cannot afford to buy in bulk” (ADB, as cited in ADB, 2009: p.11). This “underestimation” may mean that poor families may actually need more than the estimated food threshold in order to obtain their basic food needs.

Looking at Filipino families living in poverty, the PSA also reported an estimated 21.1 percent poverty incidence among Filipino families and a 9.2 percent subsistence incidence (extreme poverty) for the first semester of 2015 (PSA, 2016). Around 80 percent of poor people in the Philippines live in rural areas, with the poorest of the poor in the country being composed of indigenous peoples, small scale farmers, landless workers, fishers, people in upland areas, and women (IFAD, n.d.). The Bicol region is one of the regions where poverty incidence has been persistently high (ADB, 2009). The results of the 2011 Annual Poverty Indicator Survey (APIS) showed that 9.5 percent of families in Bicol experienced poverty three months prior to the conduct of the survey and, if one would only look at poor families, hunger experience would rise to 16.2 percent (PSA, 2013).

To assess the vulnerability of families to food insecurity, possible sources of food and other factors, such as poverty, that affect access to said food sources must be looked into. Amartya Sen (in HLPE, 2012) classified food sources using his entitlement approach and identified four food sources: (1) production (food one grows), (2) labor (food one has worked for), (3) trade (food bought), and (4) transfers (food one is given). When food gathered from all sources is still inadequate for daily needs, food insecurity occurs, but this can be countered with social protection responses at all levels of the entitlement category (Devereux, 2008 as cited in HLPE, 2012).

As stated earlier, food insecurity operates at various levels. Food insecurity at the national level occurs when there is a lack of adequate scalable social protection systems in place. At the household level, food insecurity vulnerability is related to threats to livelihood (whether means of livelihood are inadequate or susceptible to collapse). At the individual level, food insecurity vulnerability can be analyzed by using a life-course framework looking at social protection measures throughout one’s lifespan disaggregated by gender and

disability (HLPE, 2012). On all levels, poverty can be theorized as one of the major factors affecting quality access to food sources, thereby affecting food insecurity at all levels of resources and benefits, taking into consideration the different needs of women throughout the life cycle; division of labor in the household; and decision-making powers).

**TABLE 1: Food Security Entitlement Categories and Social Protection Measures (Devereux, 2012)**

Entitlement category	Social protection instruments	Food security objectives
<b>Production</b>	2.1 Input subsidies 2.2 Crop and livestock insurance	<ul style="list-style-type: none"> <li>• Promote food production</li> <li>• Protect against harvest failure or livestock mortality</li> </ul>
<b>Labour</b>	2.3 Public works programmes	<ul style="list-style-type: none"> <li>• Provide temporary employment</li> <li>• Create useful infrastructure</li> <li>• Promote agricultural production</li> </ul>
<b>Trade</b>	2.4 Food price stabilization 2.5 Food subsidies 2.6 Grain reserves	<ul style="list-style-type: none"> <li>• Maintain market access to food</li> <li>• Keep food affordable for the poor</li> <li>• Ensure adequate market food supply</li> </ul>
<b>Transfers</b>	2.7 School feeding  2.8 Supplementary feeding 2.9 Conditional cash transfers  2.10 Unconditional cash transfers	<ul style="list-style-type: none"> <li>• Reduce hunger</li> <li>• Promote access to education</li> <li>• Promote local food production</li> <li>• Enhance food consumption</li> <li>• Reduce hunger or poverty</li> <li>• Promote children's access to education and healthcare</li> <li>• Reduce hunger or poverty</li> </ul>

The study builds on the above framework to integrate a gender perspective and enhance analysis in the study of farm working households (i.e., disaggregation of data; access to and control)

**TABLE 2: Food Entitlement Categories and Social Protection from a Gendered Perspective**

Entitlement category	Social protection instruments	Food security objectives
<b>Production</b>	land distribution targeting both women and men in farming and farm working households as beneficiaries and supplemented with the provision of capital and technical assistance	ensure food production
<b>Labour</b>	public works programs in times of pre-, during and post disasters targeting both women and men	provide alternative employment in addition to farming and farm work for both women and men
<b>Trade</b>	food subsidies to both women and men taking into consideration the different gender needs over their life cycle	ensure available and accessible food for women and men in all phases of their life cycles
<b>Transfers</b>	<ul style="list-style-type: none"> <li>• school and supplementary feedings targeting both females and males in all phases of their life cycles</li> <li>• conditional cash transfers – responsibilities in regard to CCTs should be shouldered by both women and men as(?) household beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• reduce hunger of girl/adult females and boy/adult males in all phases of their life cycles</li> <li>• promote local food production of women</li> <li>• reduce hunger and poverty of both women and men in all phases of their life cycles</li> </ul>

## Gender, Food Security and the Right to Food

Ofreneo and Narito (2012) cited that the International Covenant on Economic, Social, and Cultural Rights (ICESCR) on the Right to Food imposed three levels of obligations on State parties, namely: (1) to respect, (2) to protect, and (3) to fulfill. The obligation to respect requires the State not to take measures preventing use of existing access to adequate food; the obligation to protect requires the State to ensure that enterprises and/or individuals do not take measures that divest individuals from their access to food; the obligation to fulfill requires the State to engage in measures that improve people's access to and utilization of resources to ensure livelihood and food security; and in cases wherein individuals are not able to enjoy the right to adequate food for reasons beyond their control (such as in disaster situations), the State is obliged to fulfill the right to adequate food directly (Ofreneo and Narito, 2012).

Being a signatory to the ICESCR, the Philippines has the obligation to enact policies that ensure the right to adequate food. However, an assessment conducted in 2008 (as cited in Ofreneo and Narito, 2012) showed that there is still much room for improvement. Some of the laws and policies that adversely affect food security include the following: (1) the Agricultural Tariffication Act (which eliminated restrictions on the importation of cheap or dumped agricultural products, thus exposing local farmers to unfair competition); (2) the Biofuel Act (which can affect food producers by converting farm lands into land utilized for non-food products); (3) Agrarian Reform (which still has not finished disbursing lands to farmers); (4) income laws (which do not ensure wage-earners sufficient economic power to purchase adequate food). On the other hand, there are also positive initiatives such as the social protection programs that target children and provide food discounts for the elderly – although other sectors of the population such as persons living with human immune virus (PLHIVs) and persons with disabilities (PWDs) do not have access to the same much needed benefits (Ofreneo and Narito, 2012). Likewise, gender is not given attention, despite the fact that women and men have different food needs over their life cycles.

While the poor in general have problems accessing food resources, there are gendered differences in what little access the poor do have. The annexes in the FAO's Joint Programmes guidelines (2010) state that there are gender inequalities in the entire food

production chain, citing unequal access to productive resources as an example; and that, in determining food insecurity and vulnerability, gender relations should be considered important. The FAO (2010) also mentioned that different gender roles affect women's and men's roles and responsibilities in the agricultural sector, thus affecting how they utilize and benefit from the agricultural sector.

### **Current Policy Environment Related to Food Security and the Right to Food**

The Philippines has been a signatory to various international instruments that promote the right to food for everyone, the ICESCR in particular. Likewise, the Philippine Constitution explicitly guarantees the right to adequate food. It has provisions that both explicitly and implicitly protect the right to adequate food for all its citizens: the right of children to proper care and nutrition, the right of the family to a living wage and income (Article XV, Section 3), and the rights of all workers to a living wage (Article XIII, Section 3).

Recognizing the food security constraints in the country, various government agencies have developed programs and services to address such through these mechanisms: 1) comprehensive and integrated food security programs (to foster productivity and enhance beneficiaries' purchasing capacity); 2) food production programs (to foster self-sufficiency and mitigate hunger); 3) support to farmers and subsidies through grants and assistance; 4) feeding programs (to reduce hunger among school children; 5) nutrition fortification programs (to address micro-nutrient deficiency); and 6) information, education and nutrition awareness programs (to promote enhancement of nutritional status through information drives). In particular, these include

**TABLE 3: Government Programs and Services Related to Food Security**

Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
<b>1. Comprehensive and Integrated Food Security Programs</b>			
1.1. Accelerated Hunger Mitigation Program	<p>an anti-hunger program that addresses food insufficiency (supply) and inability to buy food (demand)</p> <p>Lead Agencies: National Nutrition Council (NNC), Anti-Hunger Task Force (AHTF) &amp; local government units (LGUs)</p>	Executive Order (EO) 616 S. 2007	2006-2010
1.2. KANIB Enterprise Development Program	<p>related to the national goals of poverty reduction, attainment of socio-economic development and inclusive growth in coconut-farming communities and towards transforming small coconut farmers from subsistence farming to agribusiness entrepreneurs.</p> <p>Lead agency: Philippine Coconut Authority (PCA)</p>		2011-2016
1.3. National Livestock Program	<p>ensures food security and safety, to alleviate poverty, to enhance incomes &amp; profitability, and to achieve global competitiveness for the livestock and poultry sub-sectors under a sustainable environment.</p> <p>Lead agency: Department of Agriculture (DA)</p>		On-going
1.4. Food Staples Sufficiency Program (FSSP)	<p>to ensure food security and to raise incomes for the agriculture sector under the Philippine Development Plan 2011-2016</p> <p>Lead agency: DA</p>	AFMA (RA8435)	2011-2016

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Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
1.5. Support to Food Staples Sufficiency Program	promotes the consumption of white corn and other food staples under the FSSP  Lead agency: DA		2011-2016
<b>2. Food Production Programs</b>			
2.1.Organic Agriculture Program	promotes, propagates, develops ,and implements the practice of organic agriculture in the country  Lead agency: Bureau of Plant Industry (BPI)	Organic Agriculture Act of 2010 (RA10068)	2010-present
2.2.Gulayan sa Paaralan	to promote food security in schools and communities through self-help food production activities  Lead Agency: BPI		2011-2015
2.3. Agri-Pinoy Urban Agriculture	to attain self-reliance and sufficiency by enhancing the capabilities of people in the production of their own food; to mitigate hunger and to ensure family food security; to integrate farming into the lifestyle of urban dwellers through values formation related to basic food production, healthy food system and clean urban environment.  Lead agencies: DA, Congressional Districts & LGUs		2012- present
2.4 Dairy Farm Accreditation	an National Dairy Authority (NDA) program in response to the creation of the Livestock and Poultry Farm Accreditation Program for all food animal	Administrative Order (AO) #09, 4 March 2005	2006-2010

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Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
<b>3. Support to Farmers and Subsidies</b>			
3.1.Stabilization of Farm gate Prices	domestic procurement in peak seasons when farm gate prices are the lowest but ensure that farmers get 30-35% return on investments  Lead agency: National Food Authority (NFA)		1972 –present
3.2. Emergency Relief Operations	provision of rice supply by the NFA to relief agencies such as the Department of Social Welfare and Development, National Disaster Coordinating Council, LGUs and other sectors participating in relief organizations  Lead agencies: NFA, DSWD, NDCC and LGUs		1972-present
3.3. Buffer Stacking	to monitor anytime a minimum volume of staples for distribution during emergencies/relief operations and total stocks held to determine volume for importation  Lead agency: NFA		1972 –present
3.4. Consumer Protection	to ensure prices of staples (rice and corn) are reasonable & affordable to the public  Lead agency: NFA		1972-present
3.5.Direct Marketing Intervention Program	to ensure that market accommodates farmers' produce and to enable farmers a fair return on production investment Lead agency: NFA		1972-present

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Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
<b>4. Feeding Program</b>			
4.1.Milk Feeding Program	to address malnutrition and to create livelihood opportunities that build asset base and increase farm incomes	National Dairy Development Act of 1995 (RA 7884)	1995-present
<b>5. Nutrient Fortification Policies and Program</b>			
5.1.Mandatory Food Fortification Law (RA 8976)	mandates the compulsory fortification of rice with iron, flour with vitamin A and iron, oil with vitamin A to ensure steady supply of the essential micro-nutrients  Lead agencies: Department of Health (DOH), NNC and Food Industry (FI)	Philippine Fortification Act of 2000 (RA 8976)	2000-present
5.2. National Salt Iodization Program (RA 8172)	mandates the compulsory fortification with iodine  Lead agencies: DOH, NNC and FI	RA 8172	1995-present
5.3. Milk Standardization	Philippine National Standard on Fresh Milk In which the standard covers milk products such as fresh milk of cow, buffalo and goat for direct human consumption or further processing in conformity with this standard.  Lead agency: NDA	Memorandum Circular dated 6 November, 2007 related to the implementation of the National Standard	2007-present
5.4. Cooking/ Edible Oil Fortification	requires oil manufacturers/ refineries and importers to add vitamin A to oil as prescribed by law and compliance of the concerned sectors to the Standard  Lead agency: PCA	RA 8976	2005-present

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Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
5.5. Rice Fortification Program	requires the mandatory fortification of rice except brown rice, and locally produced glutinous rice, including those distributed by the NFA  Lead agencies: NFA and DOH	RA 8976	2004-present
<b>6. Information, Education and Nutrition Awareness Programs</b>			
6.1. Nutriskuwela Community Radio Network	to empower the community through the dissemination of correct, relevant and up to date nutrition and health information		2008-present
6.2. Promote Good Nutrition Program	to improve the nutrition knowledge, attitudes and practices of families to increase demands for adequate, nutritious and safe food  Lead agencies: NNC, State Universities and Colleges, LGUs	SDC Resolution No. 1 S. 2003; EO 616 S. 2007	2007-present
6.3. Plant Audit and Inspection	to ensure that local milk and milk products made available for consumers are safe and hygienically processed/produced; satisfactory compliance of a plant during the audit in order to obtain a license to operate and renewal from the Food and Drug Administration (FDA)  Lead agency: NDA	Bureau of Food and Drugs and pursuant to DA Administrative Order No. 9 (S-2006)	2005-present
6.4. Milk Quality Assurance Program	to ensure quality control through quality-based milk payment, regular laboratory tests of raw milk, finished products and plant audit.  Lead agency: NDA	Bureau of Food and Drugs and pursuant to DA Administrative Order No. 9 (S-2006)	1995-present

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Food Security Policy/Program	Description/ Objective/s	Legal Basis	Year/s Implemented
6.5. Food and Nutrition Researches Towards Policy Development	to open opportunities for the FNRI researches to continuously reach the national and local policy makers towards action in addressing malnutrition among vulnerable groups.  Lead agency: Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST)		2010-2014

Sources: PhilFSIS (n.d.a., n.d.b., n.d.c., n.d.d., n.d.e., n.d.f., n.d.g.).

As viewed from the various policies and programs related to food security, it could be gleaned that the country has a well-developed policy environment as well as adequate measures to address food insecurity. However, in practice, the implementation of these policies and programs has rarely benefited those most vulnerable groups, particularly women and men farm workers in rice and coconut farming communities. For one thing, the programs of agencies related to farmer support and subsidies to increase productivity only target farmers who have farms to till (either as tenants or owner-cultivators), thus excluding those women and men farm workers who only have labor power to sell. Further, despite the presence of programs on comprehensive/integrated food security that aim to foster productivity and to enhance people's purchasing capacity and nutrient fortification to address nutrient deficiency, the purchasing power of farm working households is too low for them to actually benefit from these programs. Finally, the feeding programs intended for the benefit of school children from poorer households are dependent on the budget of the local government units (LGUs) – which in most cases are from fifth and fourth class municipalities having a very small allotment for feeding programs – resulting to intermittent implementation.

And most importantly, these programs and services lack a gender perspective to take into consideration the unequal gender relations in households – particularly the unequal access to food and other resources, access to work and incomes, division of labor in the household, and control over resources and benefits. Evidently, these programs assume that women and men farmers have the same needs and conditions. Likewise,

there is no program that focuses on the special needs of women over their life cycles (i.e., adolescent girls, lactating and pregnant women, and older women), except for the feeding program for children.

## **Women's Home Gardens and Their Roles in the Household Economy of Coconut Farm Workers**

### *A. The Research Objectives, Methods Used and Profile of Respondents*

This qualitative and descriptive study examines the issue of food security of farm working households in a rural community hit by an average of 17 typhoons every year. Drawing from the life stories of ten women, the study examines the coping strategies of farm working households in their day-to-day struggles with poverty and with recurrent typhoons. The study further highlights the role of women in addressing food insecurity as well as the role of women's home gardens in recovering from the aftereffects of repeated typhoons. The study used the 'life story' research method that draws out data on a certain topic or theme from the personal narratives and experiences of the respondents using their own perspectives. Since the study wanted to find out the perspectives of women in making sense of their lived experiences of poverty and recurrent typhoons, the life story was chosen as the most appropriate method to achieve this end. The life story was complemented with the participant observation method, done by the author while immersing in the community during the research period. The study was conducted from June 2014 to December 2015.

The study used purposive sampling. The research participants were all women who have lived in the community for 20 years, and experienced at least one typhoon-related disaster. A total of ten women participated in the study. This number is considered adequate in feminist research, specifically when using the personal narrative method. Hesse-Biber and Piatelli (2007) justified the use of small samples in feminist research in this way, "in situations of oppression, where it may not be safe or possible for an oppressed group to speak, the testimony of one becomes representative of the testimony of many others" (p. 508). At the same time, the sample size of the study is also one of its limitations: it cannot claim to provide a general picture of rural women living in poverty and their conditions in times of recurrent typhoons.

Of the ten women participants, seven are married, two are widows

and one is single, having been abandoned by her husband. The average age is 46.7 with the oldest woman being 57 years old while the youngest is 39 years old. The participants' age distribution is as follows: three are in their 50s, six are in their 40s and one is in her late 30s. The average years spent in school of the women is 6.7, of which the highest level of educational attainment is a completion of secondary education while the lowest is Grade 2. Their educational attainment is slightly higher than that of their husbands. They have been residents of the community for an average of 29.6 years; two are not originally from the area but they are married to local residents.

Of the ten women participants, seven belong to households that are beneficiaries of the 4Ps. Like their husbands, the women are engaged in several livelihoods such as piece-rate work, subsistence gardening, backyard hog and poultry-raising, and providing services in the informal economy. During lean periods, both the women and their husbands shift to piece-rate coco coir twining and net weaving as 'fall back' sources of income. In like manner, when the demand for coco coir twining and net weaving work is low, members of their households look for other sources of income in most cases, informal work. Eight of the research participants are into coco coir piece-rate work as their primary source of livelihood, while the remaining two work in rice or coconut farms. One of the women is a regular farm worker in a nursery, and earns a daily wage of Php 80.00. Although the other farm worker prefers coco coir work over farm work, the distance of her residence from the coco coir factory deterred her from engaging in such work.

#### B. *The Research Context:*

This study was conducted in Barangay Monbon, one of the 28 rural barangays in the municipality of Irosin in the province of Sorsogon. Brgy. Monbon is a rural barangay composed of seven *puroks* (zones) covering a total land area of 736 hectares. Based on 2014 data, it has a total of 802 households with a total population of 3,999 (no sex-disaggregated data available) and the average household size is five (Monbon Barangay Profile, n.d. as cited in Barrameda, 2015).

It is mainly an agricultural community in which the primary source of livelihood is farming (rice and coconut). Farmers include tenants, small owner-cultivators and landless farm workers. Other stakeholders in the agricultural economy include the informal moneylenders as well as the big and petty entrepreneurs who own the two *palay* and copra buying

stations in the community. In tenanted farms planted to rice and coconuts, the common sharing arrangements are the 60:40 (owner: tenant) and the *tersiohan* (one third of the net harvest goes to the tenant). In both sharing systems, the production cost is shouldered by the tenants. Another sharing arrangement is the *tadiya* system in which a farm worker, in agreement with a farm owner or tenant, works in a parcel of farm lot and is paid half the current daily farm wage but is entitled to harvest the lot and is given one-third share of the gross harvest (Barrameda, 2015).

Both the tenant farmers and the small owner cultivators have farms with sizes ranging from one hectare to one and a half hectares. In most of the rice farming households, rice produced from the small lots is used for household consumption which lasts only for three months. On the other hand, coconut farmers harvest every 45 days. However, with the high cost of copra processing, many of the farmers sell the coconuts to buying stations for immediate cash. In the case of the farm workers, both male and female workers earn a daily wage of Php 200.00. In most cases, they are provided with free snacks or free lunch (Barrameda 2014).

Since incomes from the farm produce, as well as from farm work, are not enough to feed their households, both women and men engage in multiple livelihoods as a strategy for survival. Other sources of livelihood include both on- and off-farm activities such as piece-rate work, backyard hog and livestock-raising, subsistence gardening, and provision of varied services in the informal economy (Barrameda, 2015).

Of the 802 households, 50 percent are engaged in coco coir twining and net weaving which are paid on a piece-rate basis. Because of the seasonality of farm work as well as the vulnerability of farming to extreme climactic variability such as typhoons and droughts, male farmers choose coco coir piece-rate work rather than farm work because of the regular income. They are also not exposed to variable weather conditions which can result to health issues in the future. On the other hand, women prefer the piece-rate work over other work because it is home-based and complementing their reproductive responsibilities. The daily income from this piece-rate work is between Php 80.00 to Php 150.00, depending on the length of time devoted to the work as well as the pace of the worker. In most cases, the work is a household enterprise in which adult and children members are involved (Barrameda, 2014).

The community is one of the five barangays in the municipality of Irosin that registered the highest number of documented poor households based on the poverty estimates of the National Statistical Coordination

Board (2014 Comprehensive Land Use Plan Municipal Planning Office-Irosin, as cited in Barrameda, 2015). But despite the high poverty incidence in the community, only 265 or 33.04% of the households are beneficiaries of the *Pantawid Pamilyang Pilipino Program* or the 4Ps, a national conditional cash transfer program implemented by the Department of Social Welfare and Development (Barrameda, 2014; 2015).

The barangay has a long wet season with an annual average of 234 rainy days, with the heaviest rains being from November to January while May has the lightest rainfall. Since the province of Sorsogon lies within the country's typhoon belt, an average of 17 typhoons hit the barangay every year (Municipal Planning and Development Office Local Government Unit-Irosin, 2014, as cited in Barrameda, 2015). Moreover, the municipality of Irosin is considered by the Meteorological and Geoscience Bureau of the Department of Environment and Natural Resources (MGB-DENR) as geologically hazardous due to the flooding and landslides triggered by typhoons, tropical storms and strong winds that hit the Bicol Region every year. In addition, the barangay is prone to volcanic hazards as it lies within a seven-kilometer radius around Mt. Bulusan (MPDO LGU-Irosin, 2014, as cited in Barrameda, 2015).

### *C. Household Food Security Strategies for Daily Survival and in Times of Recurrent Typhoons*

The gender division of labor in both reproductive and productive work is evident in farming households. Reproductive work pertains to childbearing/rearing and house maintenance responsibilities which are mostly done in the private space of the home. Productive work covers work that earns income or contributes labor to family enterprises which are done either in the private space of the home (e.g., home-based piece-rate work) or in public spaces outside the home (e.g., farm or community). In terms of reproductive work, the adult males as well as boy-children are responsible for fetching water, repairing the house, gathering firewood and fruits from the forest, and fishing in a nearby river, while adult females and girl-children are in charge of child and elderly care, food preparation, and house maintenance. In terms of productive work, the male adults are responsible for producing income for 'bigger' expenses like children's school fees, farm production and utilities, while the females are responsible for the household's incidental expenses such as the purchase of food and other daily household needs.

In the case of coco coir work, which is considered a household enterprise, the gender division of labor is blurred. Whoever engages in coco coir work, regardless of gender, is exempt from doing housework, particularly tasks that require contact with water because it will result to *pasma* (spasms thought to result from wetting the hands or body after doing long repetitive work). For households with adult children, those who are not into piece-rate work are the ones responsible for the housework. For those households without adult children, the men are the ones who wash and cook, especially when the men have no farm work or are out of work. But in households with young children and with men engaged in productive work, the women do piece-rate work only after the housework is done.

With the meager earnings derived from their multiple livelihoods, these households have established strategies for daily survival. Since putting food on the table is part of a woman's responsibilities, the women respondents are the ones that lead their households in instituting such strategies. These strategies can be categorized into economic, social and resource management.

Economic strategies include: (1) *engaging in multiple livelihoods* that would generate cash or in-kind earnings; (2) *economizing resources* that include limiting food intake, limiting the number of meals, eating only what is available, skipping snacks, and recycling left-over food; (3) *food substitution and changing food patterns* such as root crops in place of rice, eating porridge during meals, using root crops as food add-ons (*sabag*), using food additives like *Magic Sarap* as meat or fish substitute, toasted rice as coffee, and herbal infusion as tea; (4) *postponement of purchase of non-immediate needs* such as clothes, house repairs and medical needs; (5) *tight budgeting* that includes prioritizing fixed expenses such as utilities and school allowances of children, buying only the basic necessities like food, salt and kerosene for cooking; (6) *prioritizing expenses* such as deferment of schooling of smaller children in favor of the older children; (7) *extending working hours for productive work* such as working on weekends whenever there is a work opportunity and working on piece-rate work at nights; and (8) *tending home gardens* to grow food for subsistence and to provide herbal medicines.

On the other hand, social strategies include: (1) *household pooling of resources and earnings*; (2) *in-kind and in-cash intra- and inter-household transfers* from family members, relatives and friends that include cash gifts and contributions, handed-down clothes, etc.; (3) *minimizing*

*expenses* (children work as unpaid farm workers in households with small farms); and (4) *intra- and inter-household food sharing and exchange* from family, relatives and friends. In addition, the farm households rely on available natural resources such as the forest, open fields, mountain springs and rivers as sources of food, drinking water and firewood. The women respondents noted that they initiated these bundles of strategies to refrain from making loans. But in times of emergencies, they resort to asking for loans from relatives, neighbors, friends and informal moneylenders.

However, a more nuanced gendered coping is evident in situations of recurrent typhoons. For the women respondents, the strategies used for daily survival as discussed above are again utilized to tide them over and to eventually recover from the effects of the typhoons. Since food insecurity is an immediate concern, they mobilize their households to gather whatever crops are available in their home gardens and *banti* (small upland plots). Then, they immediately plant crops that could be harvested within a shorter period to ensure that there is food in the coming months. On the other hand, the men migrate to other places, either on a temporary or short-term basis, leaving their wives behind to fend for their households. As noted by the women respondents, right after a typhoon, work is non-existent in the community, except for the food-for-work and public work programs such as cleaning debris, paving roads and repairing public buildings. Since the work is only for a short period, not all men have access to it, except for a few who are able bodied. Aside from the work being limited, the pay is limited to rice and canned sardines with no provision for salt and kerosene. The women respondents also complained that relief work does not target women. But, because they have to feed their families, most of the women respondents are pressured to employ various strategies for them to survive the aftereffects of typhoons. They also noted that recovery is very difficult when the men migrate for work, and there is no government assistance besides. Outside of their households, they only rely on social networks – relatives, neighbors and friends – for support.

#### *D. The Role of Home Gardens in the Farm Working Households' Food Security*

Home gardens are a usual feature of rural households', especially among poorer families. Women are often the ones who are responsible

for these gardens. Of the 802 households in Barangay Monbon, 498 households (62.1%) have home gardens. Although there is no data available regarding the nutrition status of the households, the BNS pointed out that the presence of home gardens as well as the barangay feeding program contribute to the low incidence of underweight among school children (N. Bercasio, personal communication, June 3, 2014). Of the 536 total pre-schoolers, 71 (13.2%) are underweight and 2 (0.37%) are severely underweight; while of the 679 school children, 38 (5.6%) are underweight and 9 (1.32%) are severely underweight (N. Bercasio, personal communication, June 3, 2014). According to the women respondents in this study, none of their children or grandchildren have been beneficiaries of the barangay feeding program. Although this program is a crucial strategy in food security of growing children, the limited budget of the barangay cannot guarantee its implementation on a sustained basis. The budget is so small that it cannot even sustain the program within a six-month period. On the other hand, majority of the households have home gardens which serve as sources of food and vegetables for daily consumption, especially when their purchasing capacity is limited.

In this study, the home gardens tended by the research participants are small, ranging from 20 to 50 sq. meter plots, and located at the back of their houses. Some women take care of a *banti*, which are located in nearby upland areas. Since most of the women respondents belong to landless households, the *banti* are established either in public lands or in unutilized private land owned by their relatives, neighbors or friends. The *banti* size ranges from 100 to 1,000 sq. meters. Home gardens and *banti* have common features: small size, diversified crops, low tillage, low intensive labor, use of horizontal and vertical planting systems.

There are more than six varieties of crops in home gardens of the research participants to maximize land utilization. Crops also have different maturity periods to provide a year-round source of food for consumption and for immediate cash. Root crops planted in home gardens include cassava, sweet potato, taro, yam, and arrow root which are sources of food, especially in times when rice is unavailable or limited. Vegetables grown include water spinach, gourd, chili pepper, okra, and eggplant. Different varieties of legumes are also planted. Herbs and ornamentals are also found in the gardens such as lemon grass, wild basil, mint, marigold, and mugwort (*damong maria*). The crops are intercropped with one or two fruit trees like guava,

jackfruit, and horse radish (*maluggay*). The varying heights of crops and trees ensures that all receive adequate sunlight.

According to the women, each crop has a particular purpose. The fruit trees are integrated in the home gardens not only as sources of fruits and fuel but to serve as wind breakers and provide shade as well as support for vines such as yams, gourd and beans. The wood from *kakawati* trees are used as fences and for fuel, while cassava and arrowroot are interspersed with the *kakawati* trees as fence reinforcement. Legumes and vegetables are used for viands and to bring in immediate cash. Herbs are used as medicines for common ailments; and ornamentals, like marigold, are planted to repel pests.

Given their limited available time, the women respondents practice minimum tillage as the gardens are covered by runners like sweet potato and squash that serve as ground cover as well as natural mulch to discourage weed growth in the rainy season and water evaporation during the summer. The women also barter or exchange seeds with neighbors and friends to propagate, conserve and preserve the seeds. Having experienced recurrent typhoons in their area, the women respondents prefer to raise root crops and typhoon-resistant vegetables like *sigarilyas* (winged beans), *batao*, *kadios* (pigeon pea), *patani* (lima bean), squash, *kangkong* (water spinach) and chili pepper, instead of bananas and papayas which are not typhoon-resistant crops.

For the women participants, their home gardens play crucial roles in the survival of their households i.e., these gardens serve as their 'fall back' in lean periods. For instance, root crops which they make into snack food become their food staple or rice extenders (*sabag*) when there is no rice available in the market or their budget is tight. Living in a community hit by an average of 17 typhoons every year, the farming households have difficulty recovering from the effects of one storm after another. According to one of the women, it takes three to six months for coconut trees to recover, depending on how strong the typhoon was (L. Astillero, personal communication, June 2, 2014).

Further, the women participants noted that the aftereffects of a typhoon on their households are often devastating: loss of livelihood and income, destruction of houses, inability to purchase basic commodities due to high prices, and months of hunger. In response, some adult members of these farming households are forced

to migrate in search of work. It usually takes six months to a year for them to get a job and send money. In many cases, it is the women who stayed with the family to address their day-to-day needs. Women's home gardens, as a source of food and income, supplemented the meager household income from doing piece-rate work in coco coir twining and net weaving until the situation normalizes, i.e., when the coconut trees have recovered or migrant family members start to send cash transfers.

Although home gardens are established by women out of necessity, these are also sites of women's control. The decisions on the kind of crops to plant, the allocation of family labor in the garden, the utilization of the produce (what is for consumption and what is for selling), and the utilization of the cash derived from the sale are the women's domain. At the same time, women's agency is in full play as they apply their local knowledge of plants, herbs and agricultural practices in their home gardens.

## **Recommendations**

The study highlighted several themes in its examination of the lives of women in farm working households situated in a typhoon-prone area:

One, throughout their life cycles, these women had experienced poverty in various ranges and dimensions. Having lived in poverty since childhood, they had developed coping strategies for day-to-day survival. Amidst a situation of recurrent typhoons, their lives are further burdened by the aftereffects of these storms' destruction – loss of livelihood and income, high prices of food, and food insecurity, to name a few. However, these women make full use of survival strategies learned in childhood, as well as their social networks – relatives, friends and neighbors – that women traditionally rely on during emergency situations.

Two, women's coping and survival strategies to respond to food insecurity on a daily basis and after recurrent typhoons are complemented by the presence of home gardens. This is particularly crucial as feeding the household is regarded as women's responsibility. At the same time, women's knowledge and capacities are harnessed and applied in the management of their home gardens: what to plant;

how to propagate, preserve and conserve seeds; what is for food for consumption and what is for selling; etc. Through these home gardens, then, the food security concerns of their households are addressed, with or without the presence of men.

Three, recovery from the aftereffects of recurrent typhoons is gendered. As productive or income-generating work is non-existent for both women and men during the post-typhoon period – except for food-for-work programs that only target able-bodied men – they have adopted different income-generating strategies. Men, together with other adult household members, tend to migrate in search for work. Women are left behind to fend for the households. In the absence of men, the women are burdened with both productive and reproductive responsibilities. At the same time, however, this creates an opportunity for women to develop their agency and decision-making capacity. Part of women's agency is their creativity in ensuring food security for their households through their home gardens.

Four, since the women are unorganized, they have neither voice nor claim over their entitlements as far as the right to food is concerned. Instead, the women – on an individual basis – put much effort into ensuring the food security of their households. At the same time, their home garden initiatives are not even recognized as crucial to household food security in times of recovery. Further studies regarding home gardens as a food security mechanism can be done to provide information on how to factor in home gardens in disaster risk reduction programs as preventive and recovery measures.

Five, though the women are able to respond to the food security needs of their households, the occurrence of one typhoon after another also puts them in a particularly difficult circumstance. As such, women are in dire need of support, especially from the government which has the obligation to protect, promote and fulfill the right to food of every citizen.

Following this, the study underscores the role and obligation of the government to address food security issues in typhoon-prone areas beyond the macro level. Using the entitlement approach of Sen (1981, as cited in HLPE, 2012), that is further developed into a framework by Devereux (2008, as cited in HLPE, 2012), the study forwards what the government can do to ensure that all aspects of the households' food entitlements are addressed.

**TABLE 4. Proposed Government Response to Address Food Security of Farm Working Households.**

Entitlement Category	Impact of Recurrent Typhoons	Household Response	Proposed Government Response
<b>Production</b>	<ul style="list-style-type: none"> <li>• decline in rice and coconut harvest</li> </ul>	<ul style="list-style-type: none"> <li>• revival of home gardens as source of food and daily cash</li> </ul>	<ul style="list-style-type: none"> <li>• provision of seeds and tools for home gardens for both women and men</li> <li>• provision of technical assistance for both women and men who have home gardens and farms</li> <li>• land distribution to women and men in farm working households</li> </ul>
<b>Labor</b>	<ul style="list-style-type: none"> <li>• loss of livelihoods</li> <li>• loss of income</li> </ul>	<ul style="list-style-type: none"> <li>• migration of husbands and adult male and female children in search of work</li> <li>• engagement of household members in work with cash or in-kind payment</li> </ul>	<ul style="list-style-type: none"> <li>• public work and relief programs to target both men and women</li> </ul>
<b>Trade</b>	<ul style="list-style-type: none"> <li>• rise in food prices</li> </ul>	<ul style="list-style-type: none"> <li>• home gardens as source of all food needs</li> <li>• home gardens as source of cash</li> </ul>	<ul style="list-style-type: none"> <li>• policy on price regulation</li> <li>• food price subsidies</li> </ul>
<b>Transfer</b>	<ul style="list-style-type: none"> <li>• decline in social network support</li> <li>• decline in informal food support network</li> </ul>	<ul style="list-style-type: none"> <li>• intra and inter-household food sharing and exchange</li> <li>• cash and in-kind transfers from members who migrated</li> </ul>	<ul style="list-style-type: none"> <li>• improve the national conditional cash transfer program through prompt grant releases</li> <li>• food aid and relief aid to consider the life cycle vulnerabilities of female and male household members</li> </ul>

Alongside the above, the study also asserts that the food security should be framed as a woman's issue, especially because women bear the brunt of the day-to-day struggle for their household's food access in post-disaster situations. Thus, the following recommendations: (1) women must be given a voice in decision-making bodies disaster risk reduction and management at all levels, especially on food security concerns of households; (2) women should have participation in decision making in economic/livelihood

programs at the community level; (3) NGOs and LGUs need to integrate women's home gardens in designing economic/livelihood programs for typhoons and climate change adaptation of households in poorer communities; (4) food security must be a key component in DRR programs; and, (5) organize and empower women to claim their entitlements to food and land ownership.

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