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## Poverty and Access to Microfinance with Gender Dimension

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Philippine Institute for Development Studies  
*Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas*

## Poverty and Access to Microfinance with Gender Dimension

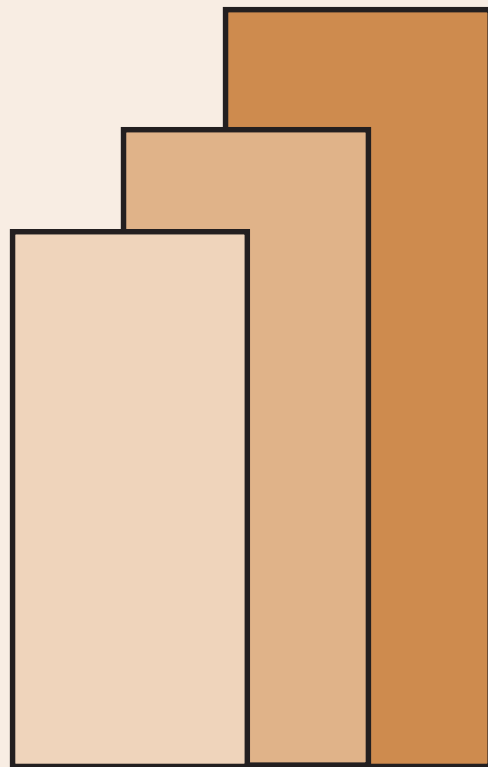
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# POVERTY AND ACCESS TO MICROFINANCE WITH GENDER DIMENSION

*Mario B. Lamberte and Ma. Chelo V. Manlagñit*

## Abstract

This paper examines the development of microfinance market from the household perspective as it relates to poverty alleviation. It employs poverty decomposition and dominance analysis. The analysis was divided into four components: comparison between beneficiaries of community-oriented financial institutions (COFIs) and non-beneficiaries; comparison between male-headed and female-headed households; comparison between male-headed and female-headed *beneficiary* households; and comparison between male-headed and female-headed *non-beneficiary* households. Results show that there is a large disparity in poverty incidence between COFI beneficiaries and non-beneficiaries while the results on the comparison between male-headed and female-headed households reveal that there is hardly any difference between these two groups. Among COFI beneficiaries, female-headed households appear to be poorer than male-headed households while among non-beneficiaries, male-headed households appear to be poorer than female-headed households.

Keywords: microfinance, poverty measures, gender

# POVERTY AND ACCESS TO MICROFINANCE WITH GENDER DIMENSION

*Mario B. Lamberte and Ma. Chelo V. Manlagñit\**

## **I. Introduction**

Although admittedly still small relative to the size of the entire domestic financial market, the Philippine microfinance market has been developing quite rapidly in the last few years. This can be attributed mainly to two factors. First, microfinance technologies, such as the Grameen Bank technology and its variants which used to be promoted only by non-government organizations (NGOs), have now invaded formal financial institutions. Community-oriented financial institutions (COFIs), such as rural and cooperative rural banks and credit cooperatives or credit unions, are in the forefront of this initiative. In a survey conducted by the Microfinance Council of the Philippines, Inc. (2002), 88 microfinance institutions (MFIs) consisting of 41 rural banks and cooperative rural banks, 24 credit cooperatives and 23 NGOs responded to the survey on time. There could be more MFIs than the number that responded to the survey that have also contributed to the vibrancy of the microfinance market.

A much improved policy and regulatory environment as reflected in the newly enacted General Banking Law of 2000 and circulars issued by the Bangko Sentral ng Pilipinas (BSP), the country's central bank, is another reason for the rapid development of the microfinance market. Even thrift banks, which are typically larger than rural banks in terms of size and geographic coverage, have been encouraged to go into microfinance because of the economic opportunities they have perceived from this new policy and regulatory environment.

The development of the microfinance market should be able to make a significant contribution to poverty alleviation in the country. The poor who have been left out by the formal financial market for so long a time will have a greater chance of tapping additional resources from the microfinance market at reasonable prices, which they can use to expand their earning capacity and/or meet emergency needs of their families.

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The literature on microfinance has indeed been a booming industry in recent years. However, most of the studies on microfinance have focused on the sustainability of microfinance institutions. This is understandable because in the past governments around the world had used financial institutions as conduits of their subsidized credit programs. This approach had undermined the credit and deposit markets and more importantly had adversely affected the viability of financial institutions, thereby continually leaving the poor with very little access to financial services from the formal financial system. Few studies have examined the development of microfinance market from the household perspective as it relates to poverty alleviation. This study therefore tries to partly fill up this gap with the aim of providing policymakers with additional information that can help them refine their policies and regulations for the microfinance market. Results of this study can also assist MFIs in developing their programs and internal policies to improve their services particularly to poorer clients or beneficiaries.

The next section presents the major hypotheses of this paper. Section III discusses the main source of data and methods of analysis. Section IV presents a description of the characteristics of the sample households and discusses the results of the poverty decomposition and dominance analyses. The last section summarizes the major findings and policy implications.

## II. Hypotheses

This paper is going to test four hypotheses. The *first hypothesis* is that households who have no access to or are not beneficiaries of the COFI system tend to have higher poverty incidence than those who have access to or are beneficiaries of the COFI system. This is in line with the view that those who have access to financial services are in a better position to improve their economic conditions than those who have no access to such services.

After decades of implementing poverty alleviation programs, policymakers and planners had come to realize that their programs, including those that were well funded, had been less effective in combating poverty. Poor targeting of program beneficiaries was identified as one of the reasons for the low level of effectiveness of these programs. “Better targeting” has now become one of the important features of poverty alleviation programs. In this regard, female-headed households would immediately be identified as a potential target of poverty alleviation programs. This is because “[H]ouseholds headed by women are viewed as being at greater economic disadvantage than male or joint-headed households because females generally have lower earnings than males, and because time constraints imposed by having to fulfill both home and market work responsibilities often restrict their access to social and health services” (Rosenhouse 1994). Thus, the *second hypothesis* this paper wants to examine is that female-headed

households tend to have higher poverty incidence than male-headed households.

Two additional hypotheses can be examined by separately focusing on households who are beneficiaries of the COFI system, on the one hand, and households who are non-beneficiaries, on the other, and disaggregating them by household heads' gender. More specifically, the *third hypothesis* to be addressed in this study is that among household beneficiaries of the COFI system, female-headed households tend to have higher poverty incidence than male-headed households. The *fourth hypothesis* is that among non-beneficiaries of the COFI system, female-headed households also tend to have higher poverty incidence than male-headed households. These two hypotheses flow from the discussion above regarding the vulnerability of female-headed households and from the view that the position of female-headed households in the economic ladder is independent of their being able to access financial services or not because of the relatively higher constraints they face in participating in the labor market.

### **III. Methodology**

#### **A. Source of Data: Description of the Survey**

This study is not meant to come up with a more accurate statistics on incidence of poverty in the country nor duplicate what existing institutions do as far as generating statistics on incidence of poverty is concerned. The Philippines' National Statistical Coordination Board (NSCB) comes up with more detailed estimates of poverty incidence once every 3 years and keeps on revising its methodology to improve its estimates of poverty. However, the NSCB data on poverty could not be used to test the hypotheses of this study. Thus, a small sample survey was conducted from August to November 2002, employing a multi-stage sampling scheme in the selection of the survey areas and households.

Two regions with the lowest per capita income were first selected from each of the three major island groups in the country.<sup>1</sup> Then, a province with an operating cooperative rural bank was selected from each of the six regions. Two towns from each province that are classified by the Bureau of Local Government Finance as third and fourth class and have operating credit unions were selected. From the 12 towns chosen, two credit unions were selected on the basis of the following criteria: (1) length of operation - at least 3 years in operation; and (2) outreach - greatest number of clients/members and largest loan portfolio. Since credit unions within a town usually cover

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<sup>1</sup> There are 16 administrative regions in the country. Each region includes several provinces. Most recently, Region IV was divided into two regions, namely Region IV-A and Region IV-B.

several barangays (villages), 2 barangays were randomly chosen from the 12 selected towns. In selecting households who have access to the COFI system, a list of borrowers who have completed at least one loan term cycle from each chosen credit union per barangay was obtained from the 24 sample credit unions. Seven (7) households per barangay were randomly drawn from said list. Finally, in selecting households who do not have access to the COFI system, a list of households residing in the selected barangays was obtained from the Municipal Office, and those whose names that were not included in the list of credit union members were all considered as non-beneficiaries. Seven households per barangay were randomly drawn from the list of non-beneficiaries. It should now become clear that “COFI system” in this paper has a very limited meaning in that it refers only to the credit cooperative system.

The sample for the survey was originally designed to focus on the poorer areas of the country that represent the three major island groups. However, due to budget and time constraints, unavoidable circumstances and pre-existing conditions in the localities, some deviations from the original plan in selecting the survey areas were made. Thus, the selection was narrowed down to (a) less well-off but otherwise peaceful areas; (b) areas with the highest population and number of households; and (c) location of the COFIs. Since presence of operating credit unions in a town is crucial to this study, several poor towns that do not have actively operating credit unions could not be included in the sample. Most of the relatively large credit unions happen to be situated in urban areas of the provinces.<sup>2</sup> Needless to say, the sample households for this study predominantly belong to urban areas of poorer regions and may be relatively well off compared to the household survey conducted by the National Statistics Office (NSO) which forms the basis of NSCB’s estimates of poverty. Nevertheless, this does not diminish the strength of the analyses being conducted below because the main focus is on

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<sup>2</sup> Guidelines in classifying urban areas (adopted from NSO’s 1980 Census of Population and Housing):

1. In their entirety, all cities and municipalities having a population density of at least 1,000 persons per square kilometer.
2. Poblaciones or central districts of municipalities and cities which have a population density of at least 500 persons per square kilometer.
3. Poblaciones or central districts (not included in 1 and 2), regardless of the population size, which have the following: (a) Street pattern, i.e. network of streets in either parallel or right angle orientation; (b) At least six establishments (commercial, manufacturing, recreational and/or personal services); (c) At least three of the following: (i) A town hall, church or chapel with religious services at least once a month; (ii) A public plaza, park or cemetery; (iii) A public market or building where trading activities are called on at least once a week; (iv) A public building like school, hospital and health center or library.
4. Barangays having at least 1,000 inhabitants which meet the conditions set forth in (3) above, and where the occupation of inhabitants is predominantly non-farming or non-fishing. All areas not falling under any of the above classifications are considered rural.

comparing characteristics and performance of two groups of households rather than on coming up with a more precise measure of poverty incidence that represents the entire population.

Taking into consideration the criteria in the sampling design as well as the existing constraints, the survey was undertaken in the following provinces: Albay (Region V) and Pangasinan (Region I) in Luzon; Iloilo (Region VI) and Leyte (Region VIII) in Visayas; and Misamis Oriental (Region X) and Davao (Region XI) in Mindanao. In Luzon, 37.5 percent of the selected municipalities/towns belong to second class; 25 percent to first class; and 12.5 percent each to third to fourth classes. Two selected cities belong to second class while one belongs to first class. In Visayas, 41.7 percent of the towns belong to fourth class; 33.3 percent to third class; and 8.3 percent each for second, fifth and sixth classes. All the cities selected are classified as first class. In Mindanao, the town selected is classified as third class while the two cities are classified as first class.

The survey targeted 168 households that have access to the COFI system (BHHS for short) and the same number of households that are non-beneficiaries (NBHHS for short), thereby bringing the total number of respondents to 336 households. However, 333 households were successfully interviewed using a structured interview schedule. The distribution of respondents according to survey area is shown in **Table 1**.

<b>Table 1. Distribution of Sample Households</b>		
<b>Survey Areas</b>	<b>Beneficiaries</b>	<b>Non-Beneficiaries</b>
<b>Luzon</b>		
Pangasinan (Region I)	28	28
Albay (Region V)	25	28
<b>Visayas</b>		
Iloilo (Region VI)	29	27
Leyte (Region VIII)	28	27
<b>Mindanao</b>		
Misamis Oriental (Region X)	29	28
Davao (Region XI)	28	28
<b>Total</b>	<b>167</b>	<b>166</b>

The interview schedule or questionnaire included a question that would enable one to identify whether the household is male- or female-headed. It is to be noted, however, that there is no clear-cut way of determining headship of a household.<sup>3</sup> The conventional definition of headship is the “reported headship”; that is, one who is recognized by the

<sup>3</sup> See Rosenhouse (1994) for a detailed discussion on this issue.



interviewee as the head of the household at the time of the interview is the accepted household head. There are other ways of defining headship. One is the extent of economic contribution he/she makes to his/her household. Economic contribution can be measured either in terms of income or in terms of the amount of market work (including goods produced at home but excluding housework) one contributes to his/her household. One who has contributed the most either in terms of income or the number of hours worked is considered as the household head. Another way of determining headship is by identifying who among the members of the households controls the household resources.

This paper does not attempt to settle the issue of what definition of headship is most appropriate. Instead, it adopts the conventional definition of headship as described above.

## **B. Methods of Analysis**

The paper has employed descriptive analysis to describe the characteristics of the households. It has also used logit analysis to determine the differential effects of household characteristics on access to the COFI system.

To test the four hypotheses discussed above, this paper does not conduct rigorous statistical tests. Rather, it merely makes a comparison of the extent of poverty of COFI beneficiaries (BHHs) and non-beneficiaries (NBHHs) as well as their relative contributions to total poverty. To perform this task, the paper has utilized three measures of poverty: the *head-count index*, which is a measure of the prevalence of poverty; the *poverty-gap index*, which is a measure of the depth of poverty; and the  $P_2$ , which is a measure of the severity of poverty.<sup>4</sup> These three measures of poverty may not necessarily yield consistent orderings of the two groups of households. That is, *head count index* may indicate that COFI beneficiaries are better off than non-beneficiaries but the *poverty-gap index* may yield the opposite result.

The three measures of poverty mentioned above give orderings of the two groups of households that are dependent on one designated poverty line. It is, however, possible that other poverty lines, which may be slightly lower or higher than the designated poverty line, can produce different orderings of the two groups of households. To examine this issue, a poverty dominance analysis has been performed.<sup>5</sup>

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<sup>4</sup> See Ravallion (1992) for a full exposition of these different measures of poverty.

<sup>5</sup> See also Ravallion (1992). The poverty decomposition and poverty analyses were performed using the Distributive Analysis/Analyse Distributive (DAD) software version 4.2 prepared by Duclos et al. (2002).

The sample households are also categorized into two groups: male-headed and female-headed households. The same poverty analyses described above are performed for these two groups.

To perform the analyses described above, a poverty threshold has to be used. In the Philippines, the NSCB is responsible for producing statistics on poverty in the country. Poor families/individuals are those whose incomes fall below the poverty threshold income, which is the income required to meet basic food and non-food requirements. The basic food requirements or food threshold is measured by costing low-cost menus constructed by region and by urban-rural area, which meet 100 percent adequacy of the Recommended Dietary Allowance (RDA) for energy (2,000) and 80 percent of the per capita RDA for vitamins, minerals and other nutrients, as recommended by the Food and Nutrition Research Institute (FNRI). The poverty threshold is then derived by multiplying the food threshold by a raising factor to provide for the basic non-food requirements.

The latest Family Income and Expenditure Survey (FIES) on which statistics on poverty incidence are based was conducted in 2000. Given the annual per capita poverty threshold of PhP13,823 in 2000, poverty incidence in the country was estimated at 33.7 percent, up from 31.8 percent in 1997 before the East Asian financial crisis but well below the 1985 poverty incidence of 44.2 percent. The NSCB also provides estimate of poverty incidence for each region and province, broken down into urban and rural areas. Poverty incidence in rural areas was high at 46.9 percent, compared to only 19.9 percent in urban areas.<sup>6</sup>

The numerous poverty thresholds calculated by the NSCB pose some problems to this study, which intends to do a comparison of two household groups using only one poverty threshold as a reference point. To arrive at one poverty threshold for all the sample households, the simple average of the urban poverty thresholds of the above-mentioned six regions was obtained.<sup>7</sup> The reason for using the urban poverty threshold is that most of the credit unions selected for this study are situated in relatively well off areas as earlier pointed out. The simple average poverty threshold is PhP13,567 for 2000. Since the survey for this study was conducted towards the third and fourth quarter of 2002, the average poverty threshold was adjusted by the inflation rates in 2001 and 2002, which posted at 6.1 percent and 3.1 percent,

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<sup>6</sup> Most recently, the NSCB revised its methodology for estimating poverty threshold. Under this new methodology, the national poverty incidence is estimated to be 28.4 percent, urban areas, 15 percent, and rural areas, 41.4 percent. Some academics have raised issues with this new methodology. In his latest update of poverty profile in the country, Balisacan (2002), who prefers to use current consumption instead of current income, estimated the national poverty incidence in 2000 to be 27.5 percent, urban areas, 13.2 percent, and rural areas, 41.3 percent.

<sup>7</sup> The urban poverty thresholds in 2000 were: Region I - PhP15,421; Region V - PhP14,630; Region VIII - PhP12,011; Region X - PhP12,906; and Region 11 - PhP13,737.

respectively. Thus, the estimated poverty threshold for this study is PhP14,841.

#### IV. Results

##### A. Profile of Households: A Comparison Based on COFI Beneficiaries and Household Headship

###### 1. Demographic Characteristics and Educational Attainment

Male-headed households comprise 82 percent of the total sample while female-headed households, 18 percent. These proportions of headship are comparable with the existing studies in the country that employed household-based sample surveys and censuses. A study on the saving behavior of the rural households in the Philippines by Rodriguez and Meyer (1988) used a household survey that showed that 12 percent of the 980 sample households selected were headed by females. The study of Varua (1999), which examined the nature of women's invisible work, found that 17 percent of the 100 sample households were headed by females. A recent study by Morada et al. (2001) investigated the features of female-headed households in the country and compared their findings to the usual characteristics of the male-headed households. Utilizing the 1997 Labor Force Survey of the National Statistics Office (NSO), the study shows that out of the 14.6 million households in the country 15 percent were headed by females. Bovinic and Youssef (1978) counted 49 countries whose female heads of households accounted for 10-20 percent of total heads of households, 17 countries with 20-24 percent and 5 countries with 25 percent and over.<sup>8</sup>

Going back to the household survey in this study, the average age of household heads is 46.2 years. There is no statistical difference between the average age of household heads of COFI beneficiaries and those of non-beneficiaries (**Table 2**). However, male heads of households appear to be younger on average than female heads of households.

The mean household size is 4.73, which is close to the national average of 5 reported in the 2000 census of population. The average household size of household heads of COFI beneficiaries (BHHs) is not statistically different from that of non-beneficiaries (NBHHs). Male and female household heads also appear to have more or less the same average household size. The average number of adult members of the households (i.e., those who are more than 15 years old) is 3.3.

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<sup>8</sup> This is reported in Rosenhouse (1994).

<b>Table 2. Age of the Household Head and Household Size Mean</b>		
	<b>Age</b>	<b>HH Size</b>
<b>Beneficiaries</b>		
Male	46.015	4.810
Female	51.633	4.367
<b>Total</b>	<b>47.030</b>	<b>4.731</b>
<b>Non-Beneficiaries</b>		
Male	44.293	4.887
Female	50.500	4.033
<b>Total</b>	<b>45.436</b>	<b>4.730</b>
<b>Total</b>	<b>46.240</b>	<b>4.730</b>
<b>P-value (t-test)</b>	0.877	0.501

In terms of educational attainment, household heads on the average spent 12.8 years in school. The household heads of the BHH have an average of 13.5 years spent in school compared to the 12 years spent by the household heads of the NBHH. Regardless of the household type, female heads of households appear to have spent more number of years in school than male heads of households. This is consistent with the findings of other studies using much larger data sets.<sup>9</sup>

A logit analysis was performed to determine whether demographic factors have effects on households' access to the COFI system. The results shown in **Table 3** suggest that household size, age of household heads and sex of household heads could not explain households' access to the COFI system.

<b>Table 3. Results of Logit Analysis: Demographic Characteristics</b>						
<b>BNB: Beneficiary=1; Non-Beneficiary=0</b>						
<b>BNB</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt; z </b>	<b>[95% Conf. Interval]</b>	
HH size	(0.010)	0.064	(0.150)	0.879	(0.136)	0.116
Age	0.011	0.009	1.190	0.233	(0.007)	0.029
Sex	0.101	0.295	0.340	0.733	(0.478)	0.680
Constant	(0.518)	0.574	(0.900)	0.367	(1.643)	0.607

## 2. Economic Activities and Income

Around 90 percent of household heads are economically active. Retired household heads comprise 5.2 percent of the total. The rest are housewives, students and economically inactive. Some 78 percent of female

<sup>9</sup> For example, see Orbeta (2002).

heads of households are economically active; 12 percent are housewives; 7 percent are retired; and the rest are economically inactive. Meanwhile, some 92 percent of male heads of households are economically active; 5 percent are retired; and the rest are economically inactive. **Table 4** presents a more detailed distribution of BHHs and NBHHs according to their dominant activity.

Activity	Beneficiary			Non-Beneficiary			Grand Total	P-value
	Male Head	Female Head	Total Share*	Male Head	Female Head	Total Share*		
Currently active	90.44	82.76	89.09	93.28	73.33	89.63	89.36	0.3216
Inactive but searching for job	0.00	0.00	0.00	1.49	3.33	1.83	0.91	0.0398**
Housewife	0.00	10.34	1.82	0.00	13.33	2.44	2.13	0.3428
Student	0.74	0.00	0.61	0.00	0.00	0.00	0.30	0.8388
Retired	6.62	3.45	6.06	2.99	10.00	4.27	5.17	0.7600
Inactive	2.21	3.45	2.42	2.24	0.00	1.83	2.13	0.6393

\* Computed separately regardless of the sex of the household head.

\*\* Significant at 5% level

Although results of the t-test show that there is no significant difference between BHHs and NBHHs in terms of dominant economic activity, nevertheless the results of the logit analysis show that the dominant economic activities of household heads do matter when it comes to access to the COFI system (**Table 5**).

BNB	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Currently active	(18.20)	0.77	(23.56)	0.00*	(19.72)	(16.69)
Housewife	(18.49)	1.08	(17.12)	0.00*	(20.61)	(16.37)
Retired	(17.85)	0.91	(19.63)	0.00*	(19.63)	(16.07)
Inactive	(17.92)	.	.	.	.	.
Constant	18.20	0.76	23.83	0.00	16.71	19.70

\*Significant at 5% level

Taking a closer look at the employment status of the household heads, results show that employees account for 70 percent of the total number of household heads, followed by self-employed with 24 percent (**Table 6**). Very few are employers or unpaid family workers. Two things are worth noting.

First, BHHs have a higher proportion of employees than NBHHs. Second, the proportion of employees among female heads of households is higher than that among male heads of households.

<b>Table 6. Employment Status By Household Type and Head In percent</b>							
Status	Beneficiary			Non-Beneficiary			Grand Total
	Male Head	Female Head	Total Share*	Male Head	Female Head	Total Share*	
Employer	3.25	0.00	2.72	3.36	4.35	3.52	3.11
Employee	76.42	83.33	77.55	59.66	78.26	62.68	70.24
Own-account worker	17.89	16.67	17.69	33.61	13.04	30.28	23.88
Unpaid family worker	2.44	0.00	2.04	0.84	0.00	0.70	1.38
Member of producers' coop.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contributing family member	0.00	0.00	0.00	2.52	4.35	0.00	1.38

\* Computed separately regardless of the sex of the household head.

Respondents were asked whether their households plan to invest and borrow funds for the next twelve months. Results show that BHHs have higher proportion with positive response than NBHH in both aspects: 45.3 percent and 56.8 percent, respectively, of BHHs compared to 38.9 percent and 45.6 percent, respectively, of NBHHs. BHHs' annual gross income is on average higher than that of NBHHs by 12.3 percent. Among BHHs, male-headed households' average gross income is higher than that of female-headed households by 40.2 percent. However, the opposite is true among NBHHs in which female-headed households' average gross income exceed that of male-headed households by 22.4 percent.

### 3. Characteristics of Housing and Facilities

**Table 7** presents a comparison between BHHs and NBHHs in terms of the characteristics of housing and facilities available to them. More than 80 percent of BHHs live in houses made up of concrete/brick/stone, compared to only 76 percent for NBHHs. Interestingly, 98 percent of the female-headed households belonging to NBHHs live in concrete/brick/stone houses compared to only 80 percent for BHHs. The opposite is true in the case of male-headed households.

Some 75 percent of the total sample households own their houses. However, BHHs appear to have higher proportion of households owning their houses than NBHHs. The latter have higher proportion of households occupying rent-free houses than the former. Other characteristics include the facilities and appliances available to both BHHs and NBHHs. Overall, it can be gathered from the table that BHHs are better off than NBHHs in terms of housing and facilities.

<b>Table 7. Characteristics of Housing and Facilities</b>						
<b>In percent</b>						
<b>Characteristics</b>	<b>Beneficiaries</b>			<b>Non-Beneficiaries</b>		
	Male Head	Female Head	Total	Male Head	Female Head	Total
<b>Type of structure</b>						
Concrete/Brick/Stone	88.32	80.00	86.83	71.64	98.10	75.46
Number of bedrooms	2.83	2.43	2.76	2.56	2.86	2.61
<b>Type of Ownership</b>						
Owned	77.37	86.67	79.04	69.40	75.86	70.55
Rented	16.79	6.67	14.97	14.93	6.90	13.50
Rent-free	5.84	6.67	5.99	15.67	17.24	15.95
<b>Facilities owned</b>						
Kitchen	72.26	46.67	67.66	61.19	62.07	61.35
Toilet	70.07	53.33	67.07	63.43	62.07	63.19
Shower/Bathroom	67.15	50.00	64.07	58.21	62.07	58.90
Refrigerator	91.24	83.33	89.82	74.63	89.66	77.30
Gas/Electric Oven	70.80	66.67	70.06	51.49	72.41	55.21
Stove	96.35	83.33	94.01	85.82	96.55	87.73
Radio	99.27	93.33	98.20	97.01	93.10	96.32
Television	97.81	96.67	97.60	87.31	96.55	88.96
Phone (portable and fixed)	23.36	10.00	20.96	24.63	24.14	24.54
Man/Animal-driven vehicle	22.63	6.67	19.76	20.90	13.79	19.63
Motorcycle	20.59	13.33	19.28	15.91	20.69	16.77
Another vehicle	5.88	0.00	4.82	6.72	10.34	7.36
Sceptic Tank	80.88	63.33	77.71	73.88	79.31	74.85
Public Disposal	62.50	66.67	63.25	52.24	53.57	52.47

Regarding access to water, more than 60 percent of the households are found to be connected to a public water network. Results from the t-test show that there are significant differences between BHHs and NBHHs in terms of the source of potable water. These findings are supported by the results of the logit analysis (Table 8).

<b>Table 8. Results of Logit Analysis: Source of Potable Water</b>						
<b>BNB: Beneficiary=1; Non-Beneficiary=0</b>						
<b>BNB</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt; z </b>	<b>[95% Conf. Interval]</b>	
Drinking water network	18.37	0.81	22.62	0.00*	16.78	19.96
Paid public fountains/faucet	18.37	0.90	20.40	0.00*	16.61	20.13
Unpaid public fountains/faucet	16.59	0.97	17.09	0.00*	14.69	18.50
Public well or spring	16.95	.	.	.	.	.
Own well or spring	18.35	0.89	20.69	0.00*	16.61	20.08
Constant	(18.20)	0.80	(22.70)	0.00*	(19.77)	(16.63)

\*Significant at 5% level

The principal source of lighting by BHHs and NBHHs is through electricity network (Table 9). The results of both the t-test and logit analysis indicate that there are no significant differences between the two types of households in terms of the mode of lighting.

Source	Beneficiary			Non-Beneficiary			Grand Total
	Male Head	Female Head	Total Share*	Male Head	Female Head	Total Share*	
Electricity network	97.08	93.33	96.41	94.78	96.55	95.09	95.76
Owned generator	2.19	0.00	1.80	1.49	0.00	1.23	1.52
Gas/oil/candles	0.00	0.00	0.00	2.99	0.00	2.45	1.21
Others	0.73	6.67	1.80	0.75	3.45	0.61	0.30

\* Computed separately regardless of the sex of the household head.

#### 4. Characteristics of the Business

Households with a business enterprise constitute 26 percent and 25 percent of NBHHs and BHHs, respectively. The proportion of households with business is higher for male-headed households than for female-headed households, at 26 percent and 22 percent, respectively. Thirty-one (31) percent of the BHHs have paid employees engaged in the household business compared to 15 percent of NBHHs. Meanwhile, 27 percent of the female-headed households have paid employees compared to 22 percent of male-headed households.

Among those who have a business enterprise, 73 percent of the BHHs and 52 percent of the NBHHs are sole owners. Amortizing owners of land constitute 13 percent of the total sample while leaseholders comprise 12 percent. Among households with a business enterprise, NBHHs own larger agricultural lands on the average and have higher average estimated value of real estate assets and annual market value of last year's production than BHHs.

#### 5. Outstanding Credit

BHHs were asked regarding their outstanding credit. Excluding loans they obtained from COFIs, BHHs obtained on the average 3 loans. Female-headed households' outstanding loan averages 2, compared to 3 for male-headed households. The main reason mentioned by respondents why female-headed BHHs are able to obtain loans is that they are wage earners.

As regards loans from COFIs, male-headed BHHs obtained loans that were on the average 42 percent higher than those of female-headed BHHs. The average loan maturity and annual interest rate were 19 months and 18.24



percent, respectively, for male-headed BHHs, and 10 months and 10 percent, respectively, for female-headed BHHs.

In terms of the collateral presented to obtain a loan, real estate accounts for 100 percent mentioned by female-headed households while salary garnered the highest share of responses mentioned by male-headed households.

Results of the survey show that it is not necessary for women to have their husbands' consent to avail of a loan. However, respondents pointed out that the source of income to service the loan comes equally from both the women's and husbands' income.

## 6. Financial Assets

Both BHHs and NBHHs have several financial assets (**Table 10**). Aside from share capital in COFIs and deposits in COFIs or other financial institutions, a large proportion of households have insurance policies such as life, casualty and health insurance. A notable proportion of households have also pre-need plans, which consist mostly of educational plans for their children and memorial plans.

Type	Beneficiary			Non-Beneficiary		
	Male Head	Female Head	Total	Male Head	Female Head	Total
COFI	55.97	67.86	58.20	9.52	6.67	8.97
Other financial institutions	58.39	50.00	56.89	44.27	66.67	48.45
Prepaid saving plans	10.22	13.33	10.78	8.33	3.33	7.41
Share capital in COFI	40.00	5.30	48.80	5.30	3.33	4.94
Informal rotating saving	2.19	3.33	2.40	3.03	6.67	3.70
Other financial assets	4.38	6.90	4.82	0.76	0.00	0.62
Pre-need plans	12.41	10.00	11.98	8.33	3.33	7.41
Insurance						
Life	73.72	56.67	70.66	47.29	73.33	52.20
Casualty	56.93	43.33	54.49	41.09	70.00	46.54
Private health	20.44	13.33	19.16	6.82	13.33	8.02
Other	2.19	6.67	2.99	3.03	3.33	3.09
Other financial instruments	0.73	6.67	1.80	0.76	0.00	0.62

## 7. Effect of Credit on Income and Household Expenses

Survey results show that, after a credit is obtained, NBHHs allocate on the average 5.3 percent of their income to savings while BHHs, 7.3 percent. Interestingly, female-headed households of both BHHs and NBHHs allocate more money to savings when a credit is obtained than female-headed

households. Among NBHHs, female-headed households allocate 7.2 percent of their income to savings while male-headed households, 4.9 percent. With respect to BHHs, female-headed households save 8.2 percent of their income while male-headed households, 7.1 percent. This behavior could make women better prepared to service loans. This finding lends support to the view that women are more conscious in repaying their loans, which make them better credit risk. On the other hand, the share of total expenses spent for children's schooling is higher for male-headed households of both BHHs and NBHHs than for female-headed households.

The change in household income after the credit is obtained is on the average higher for BHHs (5.6%) than for NBHHs (1.3%). Eighty-two (82) percent of NBHHs and 81 percent of BHHs have simultaneous loans from various sources. Among NBHHs, all female-headed households and 75 percent of male-headed households have several simultaneous loans. Among BHHs, 85 percent of the male-headed households have simultaneous loans from various sources while none of the female-headed households have reported such condition.

The accumulated yearly amount borrowed by BHHs and NBHHs average PhP106,965 and PhP27,833, respectively. Results show that male-headed households of both BHHs and NBHHs obtain higher accumulated amount of loans from all sources than female-headed households.

## **B. Poverty Decomposition and Dominance Analysis**

### **1. Comparison between COFI beneficiaries and non-beneficiaries**

Using the head count index, the poverty incidence of the total sample is 13.7 percent, which is way below the national urban poverty incidence of 19.9 percent (**Table 11**). There is a large disparity in poverty incidence between BHHs and NBHHs, with the latter obtaining a poverty incidence of 17.3 percent, which is close to the national average for urban areas, compared to only 10.2 percent for the former. The difference is found to be statistically significant. NBHHs contribute 62 percent to total poverty.

The measured poverty gap is 5.2 percent, which is half of the national (including rural and urban areas) poverty gap, while the computed poverty severity index is 2.6 percent. These two measures of poverty yield results consistent with that of the head count index; that is, NBHHs are worse off than BHHs and contribute significantly to poverty.

The poverty dominance analysis shown in **Figure 1** indicates that there are several 5 crossing points: 4 for per capita income below PhP7,000 and 1 at

<b>Table 11. Poverty Decomposition Analysis</b>			
<b>COFI Beneficiaries vs. Non-Beneficiaries</b>			
<b>Poverty Measures</b>	<b>Groups</b>	<b>Estimate (%)</b>	<b>Relative Contribution (%)</b>
<b>1. Head Count Index</b>	a. Beneficiaries	10.18 (2.34)	37.78
	b. Non-beneficiaries	17.28 (2.98)	62.22
	<b>ALL</b>	<b>13.68</b> <b>(1.90)</b>	<b>100.00</b>
<b>2. Poverty Gap</b>	a. Beneficiaries	3.99 (1.10)	38.85
	b. Non-beneficiaries	6.48 (1.30)	61.15
	<b>ALL</b>	<b>5.21</b> <b>(0.85)</b>	<b>100.00</b>
<b>3. Poverty Severity</b>	a. Beneficiaries	2.16 (0.72)	41.21
	b. Non-beneficiaries	3.17 (0.78)	58.79
	<b>ALL</b>	<b>2.65</b> <b>(0.53)</b>	<b>100.00</b>

*Note: Poverty Line = PhP14,841.00. Figures in parentheses are standard deviations.*

PhP92,000 per capita income.<sup>10</sup> In other words, the rankings of the two groups of households change, depending on the poverty threshold that will be used aside from the one designated as the poverty threshold for this study. However, in between, NBHHs are clearly worse off than BHHs.

The results discussed above seem to confirm the hypothesis that households who do not have access to the COFI system tend to have higher poverty incidence than those who have access to the COFI system.

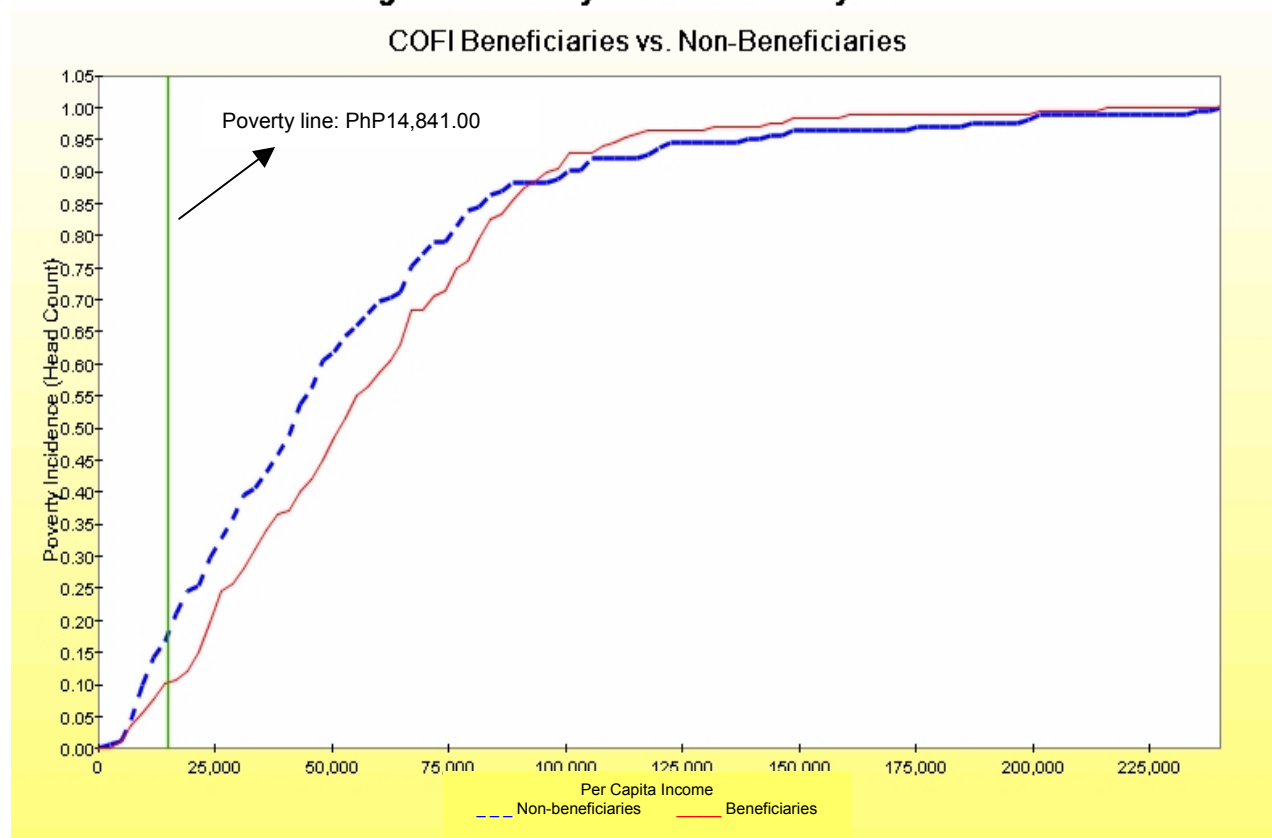
## **2. Comparison between male-headed and female-headed households**

**Table 12** shows that there is hardly any difference between male-headed and female-headed households in all three measures of poverty. The result of a statistical test also confirms this observation. The results of the poverty dominance analysis shown in **Figure 2** indicate that there are 8 crossing points below the per capita income of PhP33,000. In other words, the two groups do not have consistent orderings within this income range with respect to extent of poverty. For per capita income beyond PhP33,000, male-headed households appear to be poorer than female-headed households. The

<sup>10</sup> The DAD software also calculates the crossing points.

results do not seem to support the hypothesis that female-headed households tend to have higher poverty incidence than male-headed households.

**Figure 1. Poverty Dominance Analysis: All**



### 3. COFI beneficiaries: male- vs. female-headed households

Among COFI beneficiaries (BHHs), female-headed households appear to be poorer than male-headed households in all three measures of poverty, albeit they contribute less to total poverty than the latter mainly due to the fact that male-headed households comprise 82 percent of the total number of BHHs (**Table 13**). Looking at head count index alone, poverty incidence among female-headed households belonging to BHHs registers 16.7 percent compared to only 8.8 percent among male-headed households. The result of a statistical test finds the difference significant.

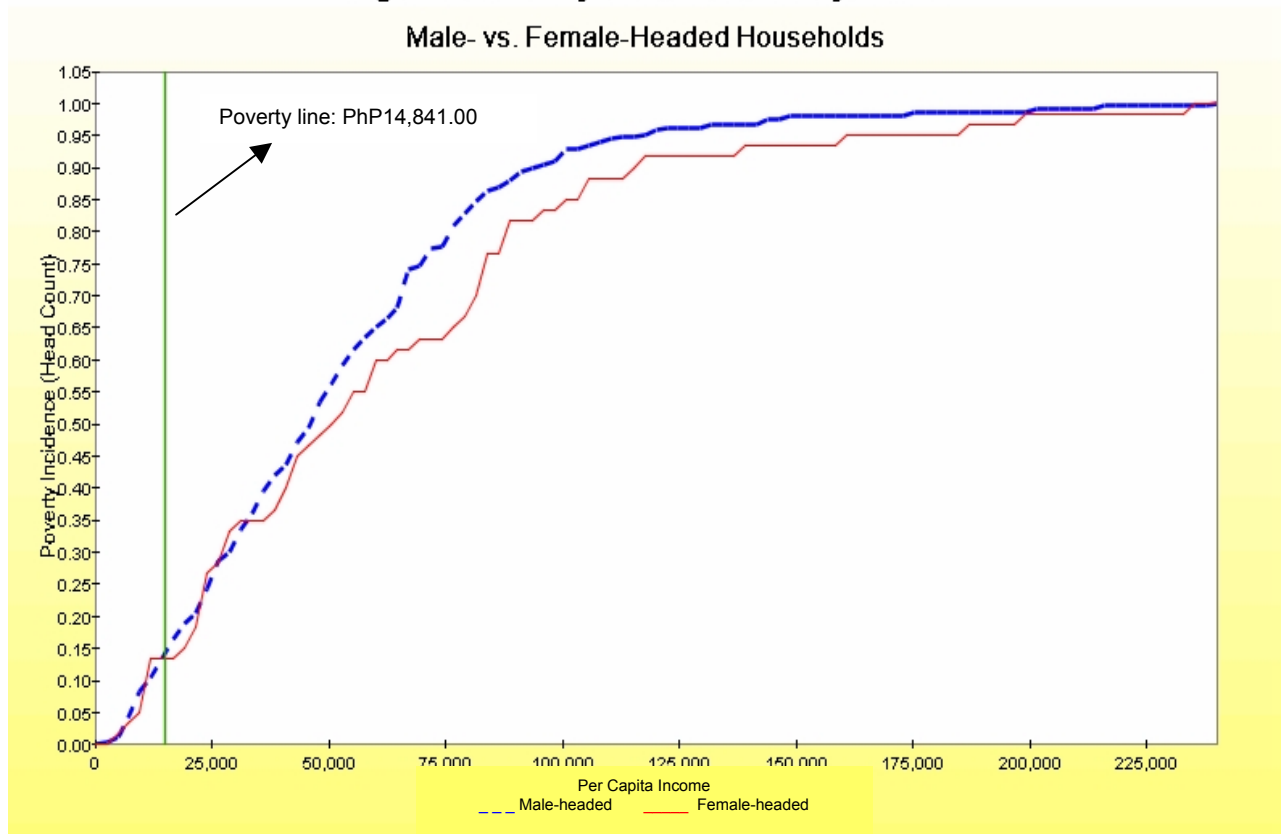
The results of the poverty dominance analysis shown in **Figure 3** indicate that female-headed households who are COFI beneficiaries are consistently ranked poorer than male-headed households up to the per capita income of about PhP66,000.

In sum, the results seem to confirm the hypothesis that among beneficiaries of COFI, female-headed households tend to have higher incidence of poverty than male-headed households.

Table 12. Poverty Decomposition Analysis Male vs. Female-Headed Households			
Poverty Measures	Groups	Estimate (%)	Relative Contribution (%)
1. Head Count Index	a. Male-headed	13.75 (2.10)	82.22
	b. Female-headed	13.33 (4.40)	17.78
	<b>ALL</b>	<b>13.68</b> <b>(1.90)</b>	<b>100.00</b>
	2. Poverty Gap	a. Male-headed	5.31 (0.96)
b. Female-headed	4.80 (1.87)	16.77	
	<b>ALL</b>	<b>5.21</b> <b>(0.85)</b>	<b>100.00</b>
3. Poverty Severity	a. Male-headed	2.73 (0.59)	84.09
	b. Female-headed	2.32 (1.21)	15.91
	<b>ALL</b>	<b>2.65</b> <b>(0.53)</b>	<b>100.00</b>

Note: Poverty Line = PhP14,841.00. Figures in parentheses are standard deviations.

**Figure 2. Poverty Dominance Analysis: All**  
Male- vs. Female-Headed Households



<b>Table 13. Poverty Decomposition Analysis: Beneficiaries Male vs. Female-Headed Households</b>			
<b>Poverty Measures</b>	<b>Groups</b>	<b>Estimate (%)</b>	<b>Relative Contribution (%)</b>
<b>1. Head Count Index</b>	a. Male-headed	8.76 (2.42)	70.59
	b. Female-headed	16.67 (6.82)	29.41
	<b>ALL</b>	<b>10.18</b> <b>(2.35)</b>	<b>100.00</b>
<b>2. Poverty Gap</b>	a. Male-headed	3.19 (1.08)	65.57
	b. Female-headed	7.65 (3.51)	34.43
	<b>ALL</b>	<b>3.99</b> <b>(1.10)</b>	<b>100.00</b>
<b>3. Poverty Severity</b>	a. Male-headed	1.70 (0.70)	64.55
	b. Female-headed	4.25 (2.37)	35.45
	<b>ALL</b>	<b>2.16</b> <b>(0.72)</b>	<b>100.00</b>

*Note: Poverty Line = PhP14,841.00. Figures in parentheses are standard deviations.*

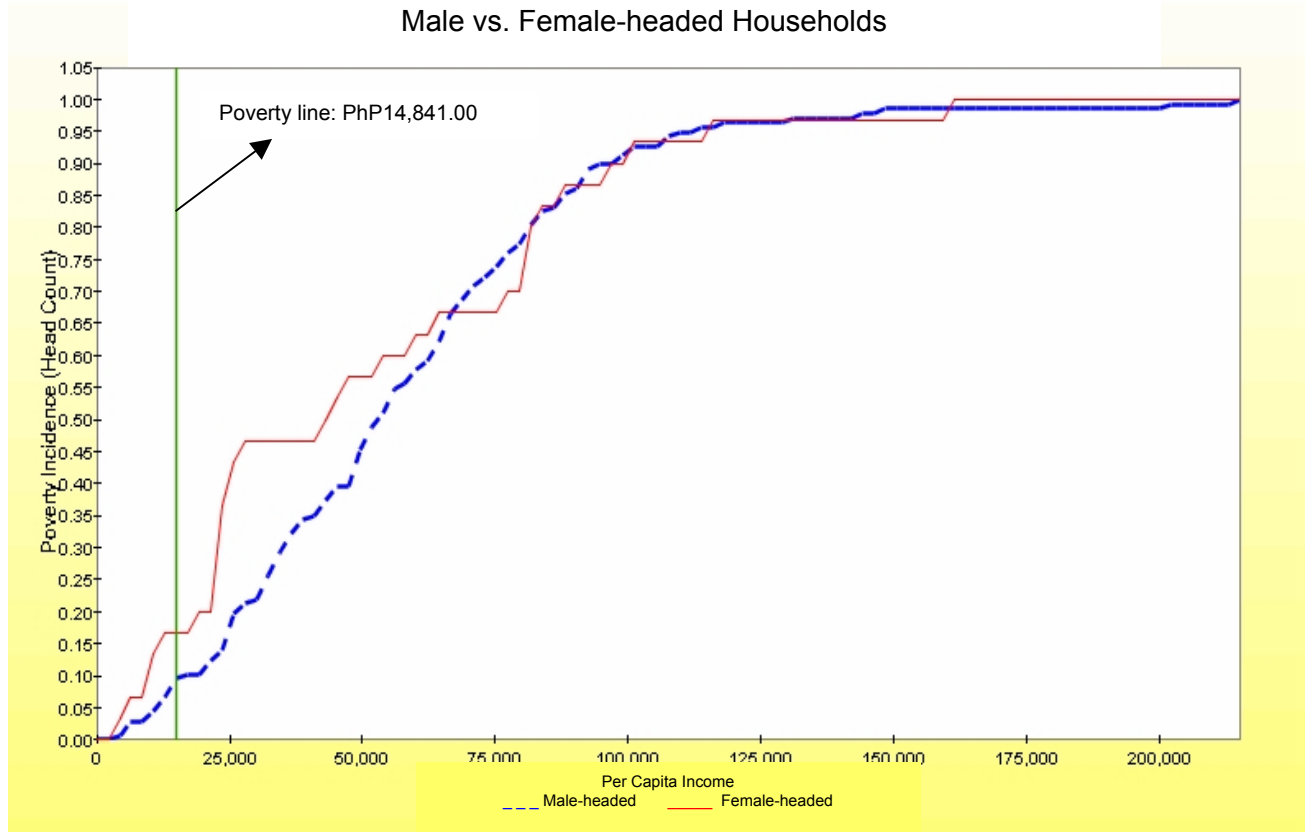
#### **4. Non-beneficiaries: male-headed vs. female-headed households**

Turning to households who are not beneficiaries of COFIs, male-headed households appear to be poorer than female-headed households in all three measures of poverty and significantly contribute to poverty among NBHHs (Table 14). The head count index shows that poverty incidence among male-headed households is 18.9 percent compared to only 10.0 percent among female-headed households. The difference is statistically different. Figure 4 also shows that except at very high per capita income levels, male-headed households are ranked consistently poorer than female-headed households. These results, surprising as they are, do not seem to support the hypothesis that among the non-beneficiaries female-headed households tend to have higher incidence of poverty than male-headed households. In fact, the results are completely opposite to what were found earlier in the case of COFI beneficiaries.

There are several factors that could have contributed to such results. One is that female-headed households who are not beneficiaries of COFI may have several income earners being compelled or voluntarily contributing to household income. Another possible explanation is that female heads of

households could have saved and accumulated income-earning assets before their husbands had passed away. These issues could be explored in greater detail in future research.

**Figure 3. Poverty Dominance Analysis: COFI Beneficiaries**  
Male vs. Female-headed Households



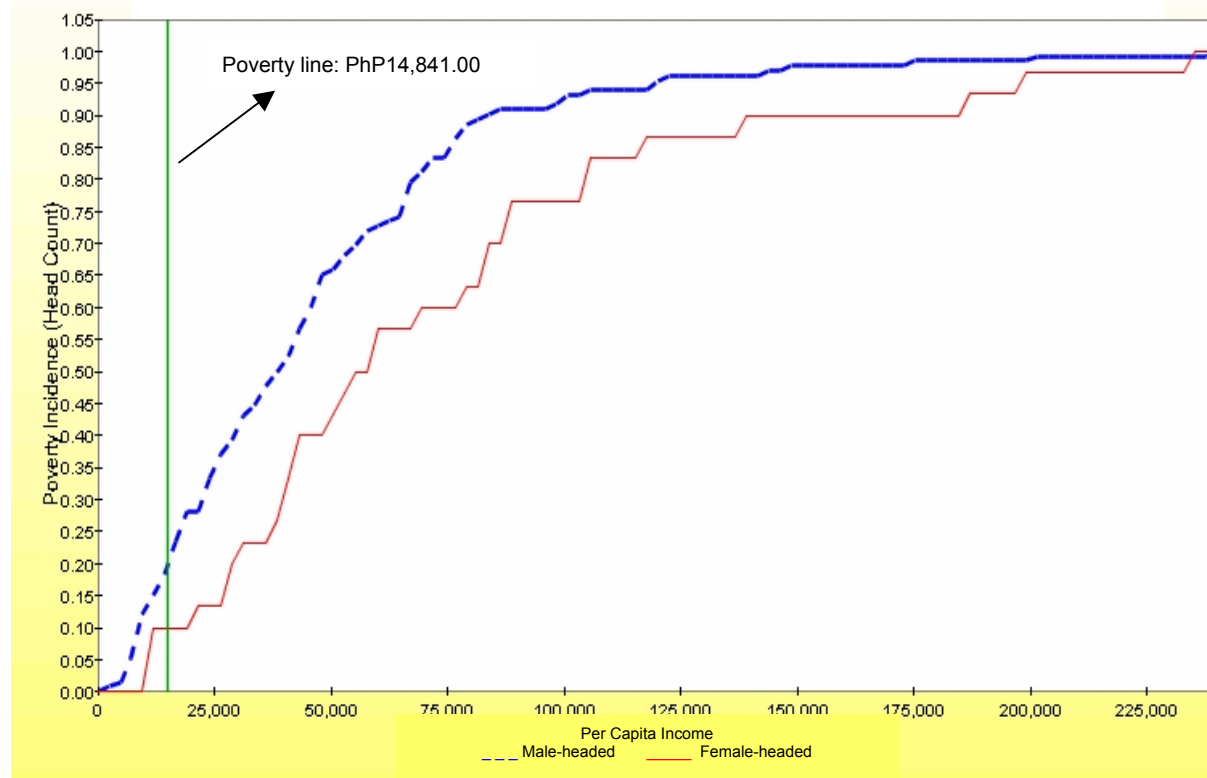
The results discussed above are summarized in **Table 15**. Several observations could be made. First, poverty incidence is clearly high among non-beneficiaries than beneficiaries of the COFI system. However, caution should be exercised in making further interpretations of the results. Due to data limitations, the study has not firmly established a causal relationship between poverty and access to the COFI system. It could be that those who were able to access the COFI system were already economically better off than those who have no access.<sup>11</sup> If this is true, then access to the COFI system could aggravate the income disparity between those who have access and those who do not have access to the COFI system. If the COFI system cannot expand its coverage to include those who are currently excluded from its services, then poverty alleviation programs need to focus on those who currently do not have access to the COFI system. This, however, needs to be qualified further in view of the observation that will be made below.

<sup>11</sup> This is the classic self-selection phenomenon that makes a lot of noise in the analysis.

<b>Table 14. Poverty Decomposition Analysis: Non-Beneficiaries Male vs. Female-Headed Households</b>			
<b>Poverty Measures</b>	<b>Groups</b>	<b>Estimate (%)</b>	<b>Relative Contribution (%)</b>
<b>1. Head Count Index</b>	a. Male-headed	18.94 (3.42)	89.29
	b. Female-headed	10.00 (5.49)	10.71
	<b>ALL</b>	<b>17.28</b> <b>(2.98)</b>	<b>100.00</b>
<b>2. Poverty Gap</b>	a. Male-headed	7.51 (1.57)	94.44
	b. Female-headed	1.94 (1.07)	5.56
	<b>ALL</b>	<b>6.48</b> <b>(1.31)</b>	<b>100.00</b>
<b>3. Poverty Severity</b>	a. Male-headed	3.80 (0.95)	97.79
	b. Female-headed	0.38 (0.21)	2.21
	<b>ALL</b>	<b>3.17</b> <b>(0.79)</b>	<b>100.00</b>

Note: Poverty Line = PhP14,841.00. Figures in parentheses are standard deviations.

**Figure 4. Poverty Dominance Analysis: Non-Beneficiaries  
Male vs. Female-headed Households**





<b>Table 15. Summary of Poverty Incidence: Head Count</b>			
	<b>Male-headed</b>	<b>Female-headed</b>	<b>All</b>
<b>Beneficiaries</b>	8.76 (2.42)	16.67 (6.82)	<b>10.18</b> <b>(2.35)</b>
<b>Non-beneficiaries</b>	18.94 (3.42)	10.00 (5.49)	<b>17.28</b> <b>(2.98)</b>
<b>All</b>	<b>13.75</b> <b>(2.10)</b>	<b>13.33</b> <b>(4.40)</b>	<b>13.68</b> <b>(1.90)</b>

*Note: Poverty Line = PhP14,841.00. Figures in parentheses are standard deviations.*

The second observation is that poverty alleviation programs that purely target female-headed households may be misguided. Not taking into account access to the COFI system, results clearly show that there is virtually no difference in the extent of poverty between male- and female-headed households. Other indicators that could serve as handles for better targeting of poverty alleviation programs must therefore be explored.

The third observation that could be made is that the COFI system also accommodates poor households especially female-headed households. As shown in the results, female-headed households that have access to the COFI system have higher poverty incidence than male-headed households that have the same access to the COFI system. In this regard, the COFIs, if indeed they intend, among others, to contribute to poverty reduction, must adjust their internal policies to provide more and better services to female-headed households.

## **V. Concluding Remarks**

This paper has examined the development of microfinance market from the household perspective as it relates to poverty alleviation. In doing so, this paper employed descriptive and logit analyses to describe the characteristics of the households. To compare the incidence of poverty of two groups of households, the paper utilized three measures of poverty: head-count index, poverty-gap index and P<sub>2</sub> or poverty severity index. In addition, poverty dominance was performed to tackle the issue of consistent orderings between two groups of households at possibly different poverty thresholds.

The findings using the head count index show that there is a large disparity in poverty incidence between households who have access to the COFI system (BHHS) and households who do not have access to the same system (NBHHS). The other two measures of poverty, namely poverty gap and poverty severity index, also yield results consistent with the results

obtained using the head count index. It is evident that NBHHs are worse off than BHHs and contribute significantly to total poverty. These results confirm the hypothesis that households who do not have access to the COFI system tend to have higher poverty incidence than those who have access to the COFI system.

Meanwhile, the results on the comparison between male-headed and female-headed households reveal that there is hardly any difference between these two groups in all three measures of poverty. These results do not lend support to the hypothesis that female-headed households tend to have higher poverty incidence than male-headed households.

Among COFI beneficiaries (BHHs), female-headed households appear to be poorer than male-headed households in all three measures of poverty. These results confirm the hypothesis that among beneficiaries of COFI, female-headed households tend to have higher incidence of poverty than male-headed households.

In contrast, among non-beneficiaries, male-headed households appear to be poorer than female-headed households in all three measures of poverty and significantly contribute to poverty among NBHHs. The results do not support the hypothesis that, among the non-beneficiaries, female-headed households tend to have higher incidence of poverty than male-headed households. Since the results are completely opposite to what were found earlier in the case of COFI beneficiaries, this aspect then needs further investigation.

Although, there are other concerns that should be taken into consideration for future research, this paper, with the above findings, aims to provide additional and recent information on the development of the country's microfinance market from the point of view of the households. It is to be noted that studies of this nature are still quite limited. This paper, therefore, attempted to partially fill this gap so that concerned policymakers and institutions could make use of the results in formulating policies and programs that can improve the performance of the country's microfinance market. In this regard, the results of the study have yielded important insights. One is that the COFI system needs to expand its services to those who are currently excluded from them. This requires a policy environment that would enable COFIs to increase their outreach. At the very least, poverty alleviation programs should target households who currently do not have access to the COFI system so that they can eventually participate in said system. Another insight is that poverty alleviation programs that mainly target female-headed households will be misguided. Other indicators should be explored to improve the effectiveness of poverty alleviation programs. Still another insight is that the COFIs have already accommodated poorer households, especially female-headed households. However, they can

contribute more to the effort to reduce poverty and income disparities within their respective communities by changing their internal policies so that they can provide more and better financial services to their poorer clients.

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