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The Role of Microcredit Access on Environmental Awareness of Poor Women in Davao Oriental

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Abstract

This study examined the role of microcredit access in the environmental awareness of poor women. It also included the socio-demographic characteristics, socio-economic profile, respondents' level of microcredit access, respondents' perceptions of environmental awareness, and the relationship between microcredit access and respondents' environmental awareness. This study was conducted in five (5) municipalities of Davao Oriental with Ad Jesum Development Foundation, Inc. (AJDFI) microcredit access. Results showed that all of the respondents were clients of Ad Jesum Development Foundation, Inc., which is the existing microfinance institution in Davao Oriental. Most (50%) of the respondents were engaged in a sari-sari store, while others were into fishing (17%), farming (28%), poultry (10%), and piggery (33%). Most (35%) of the respondents participated in microcredit activities in the year 2003 and were at the cycle 3 level (32%) of the microcredit program. Results revealed an average increase of weekly income of about Php189.00 per week after microcredit membership. The respondents' level of environmental awareness was high in terms of protection, management, practices, and utilization. They all agreed (4.7 weighted mean) that the environment should be protected and managed accordingly. Their perception of the role of microcredit access had a highly significant relationship with environmental protection (r = 0.606) and management (r = 0.589). Thus, a high perception of microcredit access is associated with a high level of awareness of the environment.

Keywords: Ad Jesum, Awareness, Microcredit, Role, Women

Introduction

A sound environment and sustainable economy have long been the issues as well as the dream of our world today. The goal of a sustainable economy is to alleviate poverty and to provide the basic needs of every individual. However, a sustainable economy depends on the quality and availability of the environment. We cannot deny the fact that the environment is gravely stressed because of over-extraction, constant consumption, and modification according to favorable economic needs (World Commission on Environment and Development, 1987).

Nonetheless, people are also responsible for caring for the environment while fighting to eradicate poverty. Some interventions or alternatives have been emphasized, one of which is to provide financial assistance to the poor, with the hypothesis that this could be of great help in minimizing the destruction of our environment. According to Shrinivas and Pallen (2002-2004), one major reason that communities engage in careless and destructive environmental practices is this: they lack the resources and/or the authority to do otherwise. Again, people without material and financial resources have no hope of arresting escalating environmental problems, which threaten their communities.

In any event, poverty eradication and environmental awareness on its problems and issues could be achieved with those alternatives, by providing financial assistance to those in need, and these are the poor According to Fajardo (1994), considering the enormous needs of the poor countries brought about by low productivity and high birth rate as well as poverty, it is not economically advisable for them to rely solely on their meager resources. The concept of self-reliance or self-help has its own limitations (Chamber, 1983), poor people who have no money or the tools for productio They have to borrow funds for production. The poor need credit, according to Yunus (1983), because they have no cushion to tide them over the adverse situations, which too often arise in meeting social obligations, in productive enterprises, and at times of total disaster for survival. But unfortunately, no formal financial institution is available to cater to the credit they need. However, with the aid of some people and concerned financial institutions, a microcredit program was developed to address this need. Most importantly, this program focused on poor women who play a significant role in the survival of the poor. According to Yunus (1983), women have plans for themselves, for their children, about their home, and the meals. They have vision. Availability of finance to women ensures that the resources and profits generated are ploughed back into the development of the immediate household and family. Protection of family values, of health and safety of household members, and of a more even distribution of income can be seen as a result. Also, women and the physical environment have a direct and unique relationship. According to Rhodda (1991), women are the main providers of water, fuel, and other necessities. Women have a unique and direct relationship to the environment. Although natural resource management and safeguarding the environment are the responsibility of all, the consequences of environmental degradation particularly affect women, who are responsible for obtaining fuel and water and other necessities. Despite close interaction between the environment and women's lives, environmental policies have not been formulated from a gender perspective. As a result, women have tended to suffer the effects of environmental degradation. Where women are involved in environmental management, protection, and conservation, they can be a decisive factor in the success of programs (United Nation, 1994).

The environment plays a prominent role in the well-being of every community, whether small or large, rural or urban. It influences a wide array of social and economic variables that have a decisive impact on the quality of community life. A vibrant environment contributes to a healthier population and a more robust economy (Shrinivas and Pallen). In Davao Oriental, the Ad Jesum Development Foundation, Inc (ADJFI) is one of the existing microfinance institutions that provide financial assistance to the poor, and this is a great help, especially to those who really need its services. The AJDFI envisioned alleviating the socio-economic condition of the target clients, the women (Dollete et al., 2002).

A few studies examined the relationship between microcredit and environmental issues. Thus, this study aimed to determine this link between the economy and the environment. This also looked into the relationship of gender issues, more specifically,

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among poor women, on their awareness about environmental issues as influenced by microcredit. The purpose of this study was to determine the role of microcredit access in promoting the environmental awareness of poor women in Davao Oriental. Specifically, the study aimed to determine the socio-economic and socio-demographic profile of the respondents; assess their level of microcredit access in terms of income and capitalization; evaluate their level of environmental awareness with respect to environmental protection, management, practices, and utilization; and determine the relationship between microcredit access and the respondents' level of environmental awareness. This study would provide insight into how a household economy influenced by microcredit affects environmental awareness among poor women. It aims to determine the household-level economy of poor women and their perceptions on environmental awareness, specifically on protection, utilization, practices, and management, and to determine the role of microcredit access on environmental awareness.

While presenting an overview on environmental awareness and its relation to microcredit access, the study only focused on the household level of poor women, who have access to microcredit and have an enterprise that directly and indirectly affects the environment, and are currently participating in microcredit activities of Davao Oriental. Another limitation was that only one microcredit institution, the Ad Jesum Development Foundation Inc., located in Mati, Davao Oriental, was examined. The study aimed to determine the role of microcredit access on environmental awareness.

Methodology

Study area

This study was conducted in the province of Davao Oriental, particularly in the five (5) municipalities where centers of AJDFI microfinance exist. The municipalities in District 1 are Manay and Baganga, while the municipalities in District II are Mati, Lupon, and Sigaboy. It is accessible via the national highway through public utility bus or jeepney.

Data sources and collection

Both primary and secondary data were utilized to achieve the objectives of the study. Primary data were taken from the respondents through questionnaires In Mati interview was conducted while in the other municipalities questionnaires were sent out through the project officers of AJDFI. Secondary data was taken from journals, books, publications, and unpublished papers from the office of Ad Jesum Development Foundation, Inc. located here in Mati.

AJDFI has 208 centers, using the Slovene's Formula:

$$\frac{N}{1+N(e)^2}$$

with an e 5% error level

The total number of centers sampled at a 5% error level is 136. Taking a simple random sample of 5-10 members per center yields the following number of respondents per branch as the required sample size

Branch	Sample size
Lupon	205
Sigaboy	120

Mati	150
Manay	30
Baganga	170

Analyzing the data

Data was analyzed using descriptive statistical tools such as frequency counts, percentages, and weighted means. One-way analysis of variance was used to examine the levels of environmental awareness according to microcredit cycle level, and Pearson correlation to determine the relationship of the role of microcredit access on environmental awareness. Application of these tools was done using the SPSS Statistical Package.

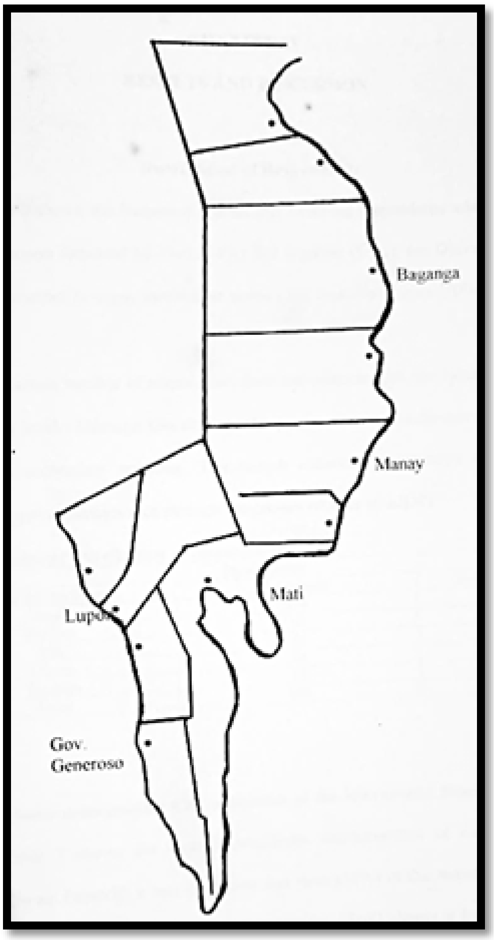

Figure1. Map of the study area.

Results And Discussion

Distribution of respondents

Table 1 shows the frequency distribution of actual respondents, where half (54%) came from Lupon, followed by Mati (14%) and Sigaboy (11%), for District II of Davao Oriental. In District 1, newly established centers are found in Manay (10%) and Baganga (14%). The actual number of respondents does not coincide with the required sample size at a 5% error level. Although this reduces the power of sample inference but can still be valid under convenience sampling. This sample collection inefficiency was due to the unreturned questionnaires sent through the project officers of AJDFI.

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Table 1. Tabular distribution of respondents.

Municipality/Branch	Municipality Frequency (N)	Percentage (%)
Lupon	194	54
Sigaboy	40	11
Mati	52	14
Manay	24	10
Baganga	49	14
Total	**359**	**100**

Socio-demographic characteristics of the microcredit beneficiaries

Table 2 shows the socio-demographic characteristics of the beneficiaries of AJDFI, Davao Oriental. It was found that most (53%) of the respondents were middle-aged (40-59), although the age criterion for AJDFI clients is from 18 to 65 years old (AJDFI). Most of the respondents are married (92%), while a few are single (3%), but they are those who are the breadwinners of the family. The majority (83%) are Roman Catholics, followed by Islam (4%) and Iglesia ni Cristo (4%). Although AJDFI runs as a Catholic welfare and development institution, some of its clients are non-Catholics. But as long as clients meet the institution's criteria, support is the institution's primary aim to eradicate poverty; hence, religion is not a requirement for membership. There were eleven (11) ethnic groups identified (Table 2). Most were Cebuanos (62%) in District II, while Mandaya (20%) dominate in most parts of District 1. In terms of educational attainment, some (25%) are elementary graduates, others (11%) reached college level, and a few (4%) finished college.

Table 2. Socio-demographic characteristics.

Age level	Frequency (N)	Percentage (%)
10-19	1	0.3
20-39	133	39.7
40-59	176	53
60-75	22	7
Total	**331**	**100**
Civil status		
Married	310	92
Single	11	4
Widow	10	3
Separated	4	1
Total	**335**	**100**
Religion		
Roman Catholic	271	83
Islam	12	4
Filipinista	1	0.3
Rizalian	1	0.3
Iglesia Ni Cristo	12	4
Baptist	2	1
Seventh Day Adventists	9	3
Protestant	1	0.3

Faith Tabernacle	6	2
Aglipay	2	1
Four Square	3	0.3
Phil. Independent Church	1	0.3
Pentecostal	2	1
Christian Alliance	2	1
Total	**325**	**100**
Ethnic Group		
Cebuano	167	62
Mandaya	54	20
llokano	1	0.3
Ilonggo	11	4
Calagan	7	3
Surigaonon	1	0.3
Muslim	2	1
Leteño	10	4
Bol-anon	14	5
Waray	1	0.3
Mansaka	1	0.3
Total	**269**	**100**
Educational Attainment		
Elementary Level	43	12
Elementary Graduate	86	25
High school level	84	24
High school graduate	79	23
College level	39	11
College graduate	14	4
Vocational	4	1
Total	**312**	**100**

Note: Total not equal to sample size due to non-response

Microcredit background of the respondents

Table 3 shows the background of the respondents as microcredit clients. Most (35%) of them were participating in microcredit activities in 2003. There were six cycles; the criteria for each cycle level are to be followed in a step-by-step manner. According to Lirio (2002), terms and conditions were based on the operating cycle of the client's business. Most (32%) have availed of cycle 3, and only a few (3%) and (1%) availed in cycles 5 and 6, respectively. The amount loaned by the clients depends on the evaluation, repayment performance, and their business proposals. Many (73%) of the clients loaned the amount of Php 3,001-11,000, and only very few (1%) had availed the loan of about Php 15,000-20,000 and Php 20,000-25,000.

The weekly payment also depends on the amount loaned by the respondents. For those who were able to avail cycle 3 levels they had a weekly amortization of Php198-109 They should pay all of their obligations If one of their groups cannot pay they should help their group before they can loan again. This technique could promote camaraderie among members and ensure the sustainability of the institution.

All clients undergo the compulsory Group Training (CGT). Some underwent leadership training, particularly for the client's center coordinator, rules and regulations of the program and about the services offered and background operations of the institution.

Livelihood impact on environment

Half (50%) of the respondents have a sari-sari store as a livelihood, while others have (10%) had piggery and poultry. Generally, the respondents' responses are multiple, this implies that clients are engaged in multiple livelihoods. It is expected since single microbusiness could hardly sustain a living Livelihood such as sari-sari store and vending can be argued to have no adverse environmental impact. Many (71%) of the respondents are engaged in livelihoods that has direct environmental impacts such as fishing, farming, animal husbandry and trisiboats.

Data on livelihood of the respondents further reveal that they were engaged in multiple livelihoods. This implies that they do not rely on a single livelihood, activity This evident diversification of livelihood brought about by available access to capitalization may somehow help relieve environmental stress and other possible destructive environmental practices.

Table 3. Microcredit background.

Date of membership		
Year	**Frequency (N)**	**Percentage (%)**
1998	4	1
1999	11	4
2000	37	12
2001	80	26
2002	63	21
2003	103	35
2004	3	1
Total	**305**	**100**
Microcredit level (cycle)		
1	70	20
2	108	30
3	115	32
4	53	15
5	9	3
6 (graduate)	2	1
Total	**357**	**100**
Amount loaned		
Php 2,000-3,000	75	22
Php 3,001-11,000	255	73
Php11,001-15,000	10	3
Php15,001-20,000	5	1
Php20,001-25,000	2	1
Total	**357**	**100**
Weekly payment		
Php123-151	80	23
Php152-197	105	30
Php198-399	120	34
Php400-599	36	10
Php600-799	6	2
Php800 above	1	1
Total	**357**	**100**

Total	**357**	**100**
Training involved		
CGT (Compulsory Group Training)	359	100
Livelihood	61	17
Leadership	33	9
Entrepreneurship	17	5
Livelihood		
Sari-sari store	150	50
Vending	75	24
Fishing	53	17
Farming	87	28
Trisiboats	7	2
Poultry	31	10
Piggery	102	33
Others	65	21
Total	**313**	**100**

Note: *Total not equal to sample size due to non-response
**multiple responses

Socio-Economic Impacts of Microcredit

Income distribution before and after AJDFI membership

Figure 2 shows the income distribution of the respondents before and after participating in AJDFI. Generally, there is a slight increase in income after becoming a member of AJDFI, as can be seen by the shift of the skewness of the income distribution. After AJDFI membership, a few clients have an income of less than Php 500.00, compared to the number of clients having this income level before membership. There are more clients having income above 500 per week compared to the number of respondents having this income level before AJDFI membership. On average, net income per week before AJDFI membership is about Php 640.00, and net income after AJDFI membership is about Php 829.00. This gives an average increase in income of about P 189.00 per week.

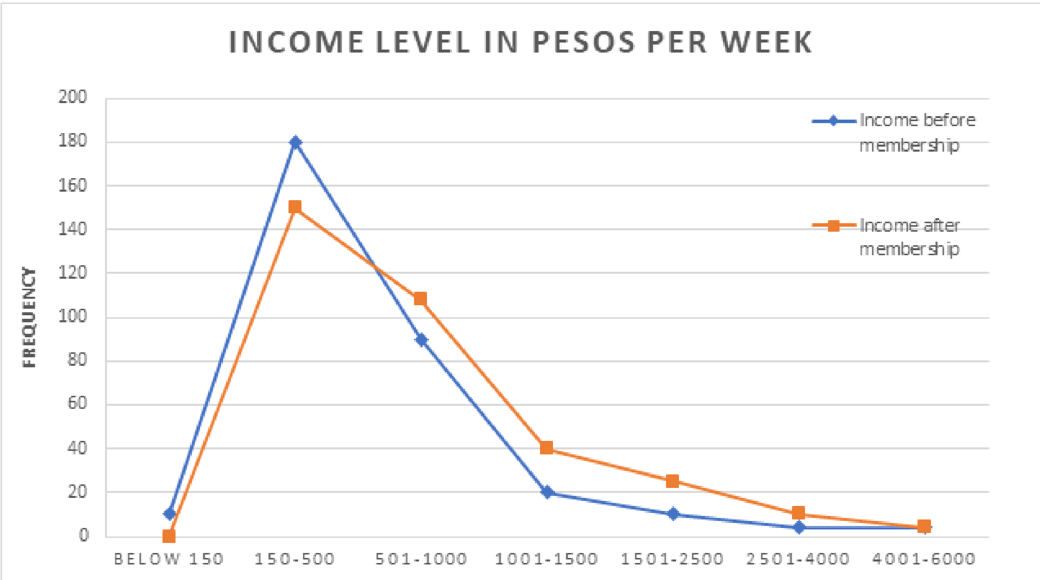

Figure 2. Income distribution before and after AJDFI membership.

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Impact on Asset Accumulation

Asset accumulation can be observed in the respondent's purchases and savings (Table 4). These accumulated assets are fixed assets useful for their businesses, such as a store for sari-sari business, a refrigerator, an ice box for fish vending, and hog and chicken feeds. Some are also used to diversify their micro-businesses, such as pump boats, bangka, and tricycles. Most of them are engaged in multiple micro-businesses, such as an eatery or canteen, and a billiards pool, while having a sari-sari store. This opportunity to accumulate income-generating assets is not usually available apart from microfinance institutions. Appliance companies and department stores do not usually provide credit access to the poor. Accumulated fixed assets from cycle to cycle improve the technical aspects of livelihood; thus, this can be a tool for sustainable livelihood savings, as financial assets are compulsory to the members. This teaches the clients towards the culture of saving, which they can later use for additional investments and emergency purposes. The majority (52%) of the respondents were saving the amount of Php1000-3999, and a few (1%) only saved up to 7000-9999.

Table 4. Savings of the respondents.

Savings Amount	Frequency (N)	Percentage (%)
Less than 100	11	4
100-399	40	15
400-699	11	4
700-999	20	8
1000-3999	137	52
4000-6999	40	15
7000-9999	3	1
Total	**262**	**100**

Note: Total not equal to sample size due to non-response.

Impact on social security and human development

Table 5 shows the services availed by the clients offered by the institution. The AJDFI services provide for social security usually denied to the poor. This is in the form of a mutual aid fund, micro-insurance, and emergency loans. Mutual aid fund and micro-insurance protect poor families from loss of income that may come with mishaps such as sickness, accidents, calamities, and death. These pre-need services, which are not commonly accessible to the poor, are now made available under AJDFI.

Through their membership, the clients now have access to livelihood training and informal education provided by AJDFI. These human development services will increase educational awareness and will somehow raise motivation for economic and social consciousness among the members. However, the majority (32%) of the clients have not yet availed themselves of the mutual aid fund and micro-insurance. Increased access is expected until such time that it can be fully understood by the beneficiaries. Efforts of the AJDFI are still under way of educating the clients on its importance.

Table 5. Services offered by AJDFI

Services offered	Frequency (N)	Percentage (%)
Regular loan	359	100
Savings	359	100
Mutual aid fund	113	32

Mutual aid fund	113	32
Multi-purpose loan	105	24
Mercantile insurance	25	6
Fiesta loan	21	5
Emergency loan	15	4
House repair loan	10	1
Educational loan	8	1
Livelihood insurance	2	0

Note: Multiple responses services offered.

Perception of the respondents towards the socio-economic impact

Respondents have a positive reaction to the microcredit access (Table 6) that is being provided by AJDF1. They highly agreed (4.6) that the program improves their lives. Accordingly, their assets, income, health insurance, training and education (informal education), and social life had improved. As stated by Lirio (2002), there is now more than merely a home for a better life because of the emergence of microfinance. In addition, Creston and Kuhn, as cited by Daley-Harris (2002), said that a reduction in women's vulnerability to poverty can sometimes also be translated into empowerment if greater financial security allows the women to become more assertive in household and community affairs.

Table 6. Perceived Socio-economic Impact.

Socio-economic impact statement	Weighted mean	Remarks
The loaned capital availed in ADJFI had helped build their livelihood.	4.7	Highly agree
We feel some improvement due to the additional materials that could be used for additional income	4.6	Highly agree
We are now secured in times of calamity and of sickness because of insurance and mutual aid services	4.5	Highly agree
We have acquired more knowledge because of the livelihood seminars conducted by ADJFI	4.7	Highly agree
We have acquired more knowledge about improving our family due to the seminar conducted by ADJFI	4.7	Highly agree
We are more aware of the environment because of the seminars conducted by ADJFI	4.6	Highly agree
The income earned from the loan has contributed greatly to our daily life	4.7	Highly agree
We felt self-confident now because of seminars, lectures, and meetings conducted by ADJFI	4.4	Agree
We felt more confident due to some improvement in	4.5	Highly agree

livelihood and in ourselves.		
There are differences in our lives compared those times when we were not involved in microcredit activities	4.6	Highly agree
Total	**4.6**	**Highly agree**

Legend: 0- 1.5 highly disagree; 1.51-2.50 disagree; 2.51-3.50 undecided; 3.51-4.50 agree; 4.51-500 Highly agree;
F- frequency
Note: Translated in the appendix table no.7

Perceptions towards environmental management

In terms of protection, extraction management, and waste management, the respondents were highly aware that the environment should be protected and managed properly (Table 7). According to the United Nations (1994), women were a decisive factor in the success of programs such as environmental management, protection, and conservation. The domestic environment, particularly housing and settlement infrastructure, and access to water and sanitation, were vital concerns of women. These concerns can also be observed among the respondents of the study since they perceived the environment as a source of food, livelihood, and habitat, and as legacy to be conserved for future generations (Table 7).

As shown by Table 7, the respondents were aware of the need to protect the environment. According to them the environment is very important for their livelihood, since it provides their source of food and daily necessities. They further agreed that it should be cared for, so that it can sustain for the next generation, that their sons and daughters would also experience.

Table 8 shows the respondents' awareness on extraction of the environment's resources such as food and other necessities and its management. Data imply that they interact with the environment daily by extracting food for their livelihood through farming and fishing. They highly agreed that ways that can destroy the natural surroundings and its resources should be avoided because this could affect their daily livelihood. Results show that the respondents were highly aware on managing their waste (Table 9). According to them, they practice simple waste management by disposing such to appropriate places. They claimed that they segregate waste into degradable and non-degradable. Although respondents were quite unfamiliar in recycling, they reuse some of their waste materials.

Table 7. Environmental awareness survey (Protection).

Choices Protection	Weighted mean	Remarks
The environment is important for my livelihood	4.6	Highly agree
The environment should be protected from its destruction	4.7	Highly agree
Lessen or limit the use and overuse of the environment	4.6	Highly agree
The environment should be protected for its goodness	4.8	Highly agree
The environment should be protected/cared for the next generation	4.7	Highly agree
The environment should be protected, for this is the source of food and other necessities	4.8	Highly agree
The environment should be protected as an additional source of income	4.7	Highly agree
Protection of the environment is the responsibility of all	4.7	Highly agree
Environment should be protected because these serves as a habitat of animals	4.7	Highly agree

Total	**4.7**	**Highly agree**

Legend: 0-1.5 highly disagree; 1.51-2.50 disagree; 2.51-3.50 undecided; 3.51-4.50 agree, 4.51-5.00
F- frequency
Note:Translated in table no. 8

Table 8. Management (Extraction of the Environment).

Choices Extraction	Weighted mean	Remarks
We depend on the environment for our livelihood	4.5	Highly agree
We extract food and other necessities from the environment daily	4.6	Highly agree
It is more important to use better ways in extraction	4.7	Highly agree
I am supporting the government program for the management of the environment	4.6	Highly agree
I am avoiding the ways that could destroy the environment	4.7	Highly agree
Total	**4.7**	**Highly agree**

Legend: 0- 1.5 highly disagree; 1.51-2.50 disagree; 2.51-3.50 undecided, 3.51-4.50 agree: 4.51-5.00 Highly agree
F- frequency
Note: Translated in table no.9

Table 9. Waste management.

Choices Waste management	Weighted mean	Remarks
We throw our waste in the right place	4.8	Highly agree
We segregate waste according to degradable and non-degradable materials	4.6	Highly agree
We practice reuse and recycling	4.4	Agree
We made a compost pit for the waste	4.7	Highly agree
Our community promotes the management of waste non-degradable materials	4.6	Highly agree
We support the local government in the management of waste	4.6	Highly agree
Total	**4.6**	**Highly agree**

Legend 0-1.5 highly disagree, 1.51-2.50 disagree, 2.51-3.50 undecided, 3.51-450 agree: 451-500 highly agree. Highly agree
F- frequency
Note:Translated in table no. 10

The Relationship of microcredit access by cycle and the levels of environmental awareness

Table 10 shows the environmental awareness of the respondents as it relates to the microcredit cycle. Using One-way ANOVA, we can compare the respondent's level of awareness to their cycle level in microcredit. And ranking the results according to means from cycle 1 to cycle 6. Results imply that cycle 6 has higher means associated with their awareness on protection, waste, and extraction management of the environment. Results also suggest that awareness of the environment can also relate to the microcredit access of the respondents. According to Shrinivas and Pallen (2002-2004), a strong fight for poverty alleviation has led to a greater awareness of environmental issues.

Table 10. Comparison of environmental awareness according to cycle, using ANOVA

	Protection of the Environment		
Cycle	**Mean**	**Rank**	**Remarks**
1	4.73^{a}	4	High
2	4.66^{a}	5	High
3	4.69^{a}	3	High
4	4.73^{a}	2	High
5	4.61^{a}	6	High
6	4.94^{a}	1	High
	Management of the Environment		
Cycle	**Mean**	**Rank**	**Remarks**
1	4.65^{ab}	3	High
2	4.63^{ab}	4	High
3	4.55^{ab}	5	High
4	4.65^{ab}	2	High
5	4.38^{b}	6	High
6	4.86^{a}	1	High
	Extraction Management		
Cycle	**Mean**	**Rank**	**Remarks**
1	4.7^{a}	1	High
2	4.63^{a}	3	High
3	4.52^{a}	5	High
4	4.58^{a}	4	High
5	4.3^{a}	6	High
6	4.7^{a}	2	High
	Waste Management		
Cycle	**Mean**	**Rank**	**Remarks**
1	4.6^{ab}	4	High
2	4.62^{ab}	3	High
3	4.58^{ab}	5	High
4	4.71^{ab}	2	High
5	4.45^{b}	6	High
6	5.0^{a}	1	High

Note: Means with the same letter are not significantly different from each other
Legend. 4-5 high; 2.01-3.59 undecided, 1-2low

Perception of the Respondents in Socio- Economic Impact According to Cycle Level

Respondents positively agreed (4.95) that their economic status had improved as they reached a higher level in microcredit (Table 11). It shows that from cycle 1 to cycle 6 their perception of its socio-economic are high. It can be determined by solving its mean and ranking it according to the highest mean. It thus supports the idea that, as the clients were at the highest level in microcredit, their perception on socio-economic were also high. These were due to the accumulated assets and capitalization provided by AJDFI. By providing access to financing for income-generating activities, microfinance institutions can significantly reduce women's vulnerability to poverty (Cheston and Kuhn, as cited by Daley-Harris, 2002).

Table 11. Perception of the respondents in socio-economic impact according to cycle level, using ANOVA

	Perceived socio-economic impact		
Cycle	**Mean**	**Rank**	**Remarks**
1	4.7[a]	2	High
2	4.58[a]	4	High
3	4.57[a]	5	High
4	4.69[a]	3	High
5	4.55[a]	6	High
6	4.95[a]	1	High

Note: Means with the same letter are not significantly different from each other
Legend: 4-5 high: 2.01-3.59 undecided, 1-2low

Correlation between Perceptions on the Role of Microcredit Access on Environmental Awareness

Table 12 shows that, based on the respondents' perceptions, microcredit has improved their economic conditions and has a role in increasing their level of environmental awareness. Among the awareness criteria, the respondents perceived that environmental protection is the most important environmental management (0.606). This is being followed by managing the resource (0.559), waste management (0.522), and extraction (0.513).

Table 12. Correlation between perceptions on the role of microcredit access and environmental awareness.

Awareness criteria	Pearson	Remarks
Protection	0.606	Strongest relationship
Management	0.589	Moderate relationship
• Extraction	0.513	Moderate relationship
• Waste management	0.522	Moderate relationship

Note: Correlation can be highly significant at the 0.01 level of significance

Conclusion

The respondents are distributed across the five municipalities of Davao Oriental. There were 54% in Lupon and 14% in both Manay and Baganga. Most (53%) of the respondents were middle-aged between 40 and 59 years old. Most (92%) were married, and most (83%) are Roman Catholic. Cebuano (62%) was the dominant ethnic group, while Waray and Mansaka constituted only few (1%). Some (25%) of the respondents were elementary graduate and few (4%) were college graduates and others (1%) reached college level.

Most (35%) of the respondents became members in the year 2003. A number (30%) were in the cycle two level in microcredit. Their livelihoods were sari-sari stores (50%) that had an indirect relationship to the environment, while many (71%) were into fishing, farming, husbandry, and trisiboats. The loaned amount of the respondents was used for their livelihood. The majority (73%) loaned the amount of Php3001-11000, and the weekly amortization depends on the amount they availed. Most (30%) paid the amount of Php152-197 every week. All of the respondents underwent Compulsory Group Training (CGT). There was a change in the income of the respondents from the time they participated in microcredit. It gave them an average increase of income of about Php189.00 per week. Because of the income and capitalization, they were able to accumulate some assets, such as a store for sari-sari business and motor vehicles for additional income. AJDFI provides services to the respondents, such as regular loans and savings.

The respondents perceived that microcredit contributes positively to their level of awareness in terms of protection (4.7), economic status, management (47), and waste management (4.6), indicating that they were highly aware of the importance of the environment, that it should be managed and protected accordingly, to provide their livelihood and their daily consumption.

The respondents perceived an economic impact as influenced by microcredit. They highly agreed (4.6) that it contributed to the improvement of their lives. Also, their perceptions of the environment indicate high awareness. Thus, perception of economic impact and awareness of the environment had a moderate relationship (0.589,0.513 and 0.522). This suggest that the higher their perceptions on economic impact the higher their awareness to the environment. AJDFI had contributed positive economic impact to the respondents in terms of income before and after participating in AJDFI. In terms of asset accumulation, they have accumulated fixed assets being used as tool for sustainable livelihood and these were accumulated from cycle to cycle. Services on social security and human development were also provided. The role of microcredit access in providing access to capital was found out to have highly significant relationship with the levels of environmental awareness in terms of protection (0.606) and management (0.589).

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