

Eco Inilad Bag-Making as a Livelihood Program in Enhancing Skills, Social Empowerment, and Environmental Awareness of Mothers

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ABSTRACT

Mothers play a crucial role in their families and communities, but often face challenges that hinder their ability to provide support and build independence. In response, community-based livelihood programs like the Eco Inilad Bag Making Program have emerged as meaningful pathways for mothers. This study examined the effectiveness of the Eco Inilad Bag Making Livelihood Program in enhancing the skills, social empowerment, and environmental awareness of participating mothers. It identified the mothers' demographic profile regarding age, civil status, educational attainment, current livelihood, and economic status. The study employed a sequential explanatory mixed methods design based on Creswell's framework, consisting of two phases: (1) a quantitative phase followed by (2) a qualitative phase that expanded upon the quantitative findings. Three experts validated the research instruments and pilot-tested them. The results revealed that the demographic profile regarding their age, civil status, education level, livelihood, and economic struggles emphasized the urgent need for targeted support and empowerment programs. In the quantitative phase, the study found that the Eco Inilad Bag Making Livelihood Program demonstrated high skill development, social empowerment, and environmental awareness. Qualitative insights confirmed the program's positive impact on strengthening skill development, promoting socio-economic empowerment, and strengthening environmental sustainability. Overall, the program significantly enhanced the practical skills, social empowerment, and environmental awareness among mothers, demonstrating its wide-reaching and positive influence on their lives.

Keywords: Mothers, Livelihood Program, Skill Development, Social Empowerment, Environmental Awareness

INTRODUCTION

Mothers play a central role in nurturing not only their families but also the communities in which they live. However, in many low-income and developing areas, they face significant challenges, especially those who have experienced early motherhood. These mothers often have limited access to formal education and sustainable employment, making it challenging to support their families while building their confidence and independence. Community-based and skills-oriented livelihood programs have emerged as meaningful pathways toward economic empowerment and self-sufficiency. In the Philippine context, Tanchoco et al. (2018) noted that women's involvement in sustainable craft-making led to improved socio-economic standing and stronger community bonds. Similarly, Garcia and Tarrayo (2020) observed that upcycling initiatives provided entrepreneurial skills to mothers and raised their environmental awareness and sense of purpose.

The Eco Inilad Bag Making Project is relevant to the broader landscape of environmental sustainability and inclusive economic empowerment. This livelihood initiative trains mothers to create durable and marketable bags from recycled polypropylene plastics and other eco-friendly materials, blending environmental advocacy with traditional Filipino craftsmanship. More than a source of income, the program nurtures creativity, encourages collaboration, and strengthens environmental stewardship while equipping participants with technical skills in production and marketing and essential soft skills such as leadership, teamwork, and communication. It also serves as a platform for enhancing skills through continuous learning, capacity-building workshops, and hands-on training, enabling participants to improve their craftsmanship and entrepreneurial abilities further.

Thus, this study aims to assess the effectiveness of the Eco Inilad Bag Making Livelihood Program in enhancing

mothers' skills, social empowerment, and environmental awareness.

LITERATURE REVIEW

Demographic Profiles of Mothers and Women

Motherhood is a significant and important aspect of life for many women around the globe (Watts et al., 2015). In communities where motherhood is highly valued, it is a key aspect of a woman's identity. As the Philippine Statistics Authority reported, Bugayon et al. (2020) examined the rising population of not-married mothers in the Philippines, which increased from 54.3% in 2018 to 57% in 2020. This demographic shift highlights underlying concerns related to mental health, financial stability, and work-life balance among single mothers.

Livelihood Programs for Women

Sustainable Livelihood Program (SLP) aims to help poor and vulnerable families achieve economic sufficiency by providing income-generating opportunities (Balesteros et al., 2017). This economic sufficiency is assessed through indicators like employable skills, employment, income, social security, and access to financial institutions. While these long-term goals involve multiple government interventions and are not solely attributed to the SLP, the program's direct benefits include beneficiaries engaging in quality livelihoods or jobs and increasing their incomes.

Eco-Friendly and Recycling Programs

Eco-friendly programs incorporating recycled materials, such as polypropylene plastic strips, have become essential in promoting environmental sustainability and poverty alleviation. In particular, community-based programs involving traditional weaving techniques for creating eco-friendly bags provide sustainable livelihood opportunities while addressing the growing concern of plastic waste. Ochieng and Otieno (2020) highlighted that eco-entrepreneurship programs in Southeast Asia and Kenya, which use recycled materials to create eco-friendly products, effectively promote environmental awareness and income generation. These initiatives are especially impactful in rural areas, combining entrepreneurship training with environmental education to support sustainable practices and long-term economic stability.

Skill Development in Livelihood Programs

As outlined by Coursera Enterprise (2024), skill development refers to the enhancement of specific abilities to perform tasks more efficiently and effectively. In the workplace, there are three primary forms of skill development: Upskilling, which involves refining skills relevant to one's current role, and Cross-skilling, which entails acquiring new skills applicable to one's existing responsibilities. World Bank Group (2024) also highlighted that skills development can reduce un- and underemployment, increase productivity, and improve living standards when done right. In addition, investing in upskilling or reskilling people for future jobs makes economic sense.

Social Empowerment in Livelihood Programs

Social empowerment cultivates autonomy, power, confidence, and other crucial resources necessary to drive change and create a better future (Martinez, 2022). This process operates on both individual and collective levels. Individually, social empowerment involves gaining the inner and outer resources needed to make personal decisions, such as diet, housing, and other life choices, allowing individuals to manage their environment and lifestyle. Social empowerment is as essential as economic empowerment and involves addressing social barriers and problems to foster social awakening (Sunkad, 2023). It encompasses the empowerment of women, children, and society. It aims to create a more equitable and integrated community by overcoming social obstacles and promoting societal advancement.

Social Empowerment in Livelihood Programs

Livelihood programs have increasingly been recognized as practical tools for strengthening social empowerment, particularly among marginalized populations. These programs aim to alleviate poverty and

enhance participants' agency, confidence, and social inclusion.

Anima and Tampah-Naah (2023) discussed Ghana's Livelihood Empowerment Against Poverty (LEAP) program, which uses social cash transfers to support extremely poor households. While challenges in targeting persist, LEAP effectively alleviates short-term poverty, improves health outcomes, and strengthens social cohesion and security for vulnerable communities.

Environmental Awareness in Livelihood Programs

Environmental awareness involves recognizing the impact of human actions on the natural environment and making eco-friendly choices, such as using non-toxic materials, conserving resources, recycling, and engaging in activism (McCaw, 2023). Environmental awareness is understanding the environment, the impacts of human behaviors on it, and the importance of its protection (Perkins, 2024). Being environmentally aware means understanding how our behavior affects the environment and committing to changes that protect the planet, as prompted by the environmentalist movement, leading many to adopt more environmentally friendly lifestyles to reduce their environmental impact (Marlowe, 2024).

Conceptual Framework

Social Learning Theory

Social Learning Theory suggests that individuals acquire new behaviors, skills, and attitudes by observing, modeling, and imitating others. In the study context, this theory is relevant as it demonstrates how mothers learn from each other during livelihood training, promoting skill development and behavioral changes Albert Bandura's (1977).

Empowerment Theory

Empowerment Theory, primarily associated with Julian Rappaport (1981), focuses on how individuals and communities can gain control over their lives through improved education, skill development, access to resources, and collective action. In the study, the theory underscores the significance of social empowerment as a key outcome of the Eco Inilad Bag Making Livelihood Program.

Sustainable Livelihood Framework

The Sustainable Livelihood Framework (Department for International Development, 1999) focuses on improving access to five types of capital: human, social, natural, physical, and financial, to achieve sustainable development. In this study, the framework is used to demonstrate how the Eco Inilad Bag Making Livelihood Program integrates human (skills), social (relationships), and natural (eco-friendly materials) capital. This approach fosters personal development, environmental awareness, and long-term sustainability, benefiting the participants and the broader community.

Research Paradigm

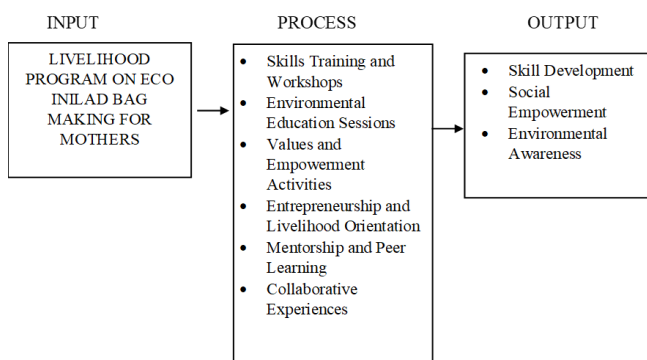


Figure 1. Schematic diagram showing the study's flow from the input to the process involved and finally to the output.

METHODOLOGY

This section presents the methods and procedures employed in the study. It includes the research design, research subject, instruments used in the data gathering procedure, and statistical treatment.

Research Design

This study utilized Creswell's mixed methods approach, guided by a pragmatic worldview that values both quantitative and qualitative data. A sequential explanatory design was adopted, beginning with a quantitative phase using surveys to assess participants' experiences in skill development, social empowerment, and environmental awareness from the Eco Inilad Bag livelihood program. This was followed by a qualitative phase using phenomenological interviews to explore the deeper meaning of participants' experiences. The two phases were integrated to provide a comprehensive understanding, with qualitative data enriching and explaining the quantitative results. Participants for interviews were selected based on the survey data, allowing for in-depth analysis and stronger research outcomes.

Sample Procedure

A purposive sampling technique was utilized, wherein the participants were chosen because they were the individuals who could provide the needed information by their knowledge and experience. In the quantitative phase, thirty ($n=30$) mothers answered the survey questionnaire, aged 18 to 40. In the qualitative phase, ten (10) mothers were selected from the 30 participants in the first phase to participate in the semi-structured interview. It was noted that participants in this phase were purposely selected to help explain in detail and expand the quantitative results.

Locale of the Study

The study was conducted in Poblacion, Quezon, Bukidnon. Poblacion, formerly known as Kiokong, is a barangay in the municipality of Quezon, within the Province of Bukidnon. According to the Population Development Office of Quezon, Bukidnon (2024), its population was 17,317, representing 16.50% of the municipality's total population, of which 6,101 are mothers. Those aged 15 to 64, considered the economically active segment of the population and potential workforce members, comprised 61% (10,563 individuals).

Meanwhile, the old dependent population, or senior citizens aged 65 and over, accounted for 5% (688 individuals).

Instruments of the Study

In the quantitative phase, data was gathered using a 15-item self-developed survey questionnaire which focused on the three parts: skill development, social empowerment, and environmental awareness, with five (5) items each. The survey items were designed based on an analysis of relevant literature and secondary sources, including news articles and academic journals. The questionnaire covers various aspects, including the respondents' demographic profile, skill development, social empowerment, and environmental awareness, as mothers participating in the livelihood program. For qualitative phase, semi-structured interviews consisting several key questions that helped define the areas to be explored while also allowing the interviewer or interviewee to diverge to pursue an idea or response in more detail. The interviews also allowed participants the freedom to express their views in their own terms and provided reliable, comparable qualitative data. Interviews were described as one of the most powerful ways to understand fellow human beings using a semi-structured questionnaire. Information from interviews was recorded using audio tapes and handwritten notes. The qualitative strand was designed to follow or connect to the results of the first quantitative phase to ensure an in-depth explanation of the statistical results.

Ethical Considerations

Before conducting the study, the researcher submitted the manuscript to the Institutional Ethics Review Committee (IERC) at the Central Mindanao University Research Office for ethics review and acquisition of

ethical clearance. After the IERC approved the study, a letter requesting permission to conduct it was sent to the Barangay Poblacion, Quezon, Bukidnon government unit. Once the letter was approved, the researcher prepared the necessary materials, including the survey questionnaires and the semi-structured interview sheets. The researchers sent another letter to the target participants to inform them about the study and seek their voluntary participation. After signing the letter of consent, participants were briefed about the purpose of the study and the mechanism for answering the questionnaire. The researcher ensured the mothers' anonymity. The researchers did not prompt the mothers to identify themselves, as participation was voluntary. The Data Privacy Act of 2012 guided the treatment of data to ensure the confidentiality of the participants' responses.

Data Gathering Procedure

Data collection for the study occurred in two phases: quantitative and qualitative. In the quantitative phase, a self-designed survey questionnaire was developed based on literature and secondary sources, including news articles and journals. The questionnaire focused on demographic information, participation, economic stability, skills development, and social empowerment of mothers in the livelihood program. It employed closed-ended questions for efficient data collection and analysis, though the fixed options may have limited responses. To dress this up, the questionnaire was reviewed by a panel of experts to ensure clarity and completeness. The qualitative phase involved semi-structured interviews that explored respondents' feelings, perceptions, and opinions, offering flexibility and deeper insights. Interviews were recorded using audio and notes, and the qualitative data helped explain the statistical findings from the quantitative phase. The data gathered was tabulated and analyzed.

Statistical Treatment of Data

In quantitative data analysis, the data was analyzed using descriptive statistical techniques with the Statistical Package for the Social Sciences (SPSS) Software V25 x64. The analysis was conducted in two steps. First, frequencies and percentages were computed to summarize the demographic profile of the participants. Second, means and standard deviations were calculated to assess participants' skill development, social empowerment, and environmental awareness after participating in the livelihood program focused on producing and selling Eco Inilad bags made from polypropylene plastics.

For qualitative data analysis, the research employed thematic analysis, following the framework of Braun and Clarke (2006) to systematically identify, analyze, and interpret patterns within the data. The study focused on the participants' experiences and perceptions regarding the impact of the livelihood program on the production and sale of Eco Inilad bags using polypropylene plastics, particularly about their skill development, social empowerment, and environmental awareness. The process began with data transcription, where all qualitative responses, including interviews and focus group discussions, were transcribed verbatim. This was followed by familiarization with the data, transitioning from an emic (participant's perspective) to an etic (researcher's interpretation) approach through repeated reading of transcripts to surface the phenomenon's essence. The following initial coding was conducted by segmenting, comparing, and labeling key text passages, allowing for systematic data organization. These codes were then grouped into broader themes, representing emerging patterns.

The identified themes underwent a review and verification process, including an interrater reliability check, to ensure credibility and consistency, thereby reducing researcher bias. Once verified, the themes were defined and named, and an in-depth analysis was conducted to refine their meaning and significance. The final stage involved producing the report, where the findings were synthesized and presented in textual, tabular, and graphical formats. To further enhance the trustworthiness and rigor of the qualitative findings, validation techniques such as member checking, peer review, thick descriptions, and research advisor auditing were employed. The data analysis ensured that all information was collated, summarized, and interpreted systematically to provide meaningful insights into how the livelihood program influenced the participants' skills, social status, and environmental consciousness.

RESULTS AND DISCUSSION

This section presents the study's results on demographic profile, skill development, social empowerment, and

environmental awareness.

Demographic Profile

The comprehensive demographic profile of mothers provides critical insights into their age, civil status, education, livelihood, and economic challenges, underscoring the urgent need for targeted support and empowerment initiatives. The study reveals that most mothers are in their mid-to-late twenties, with most being married, while others are single or in live-in arrangements. Educational attainment is relatively high, with many completing high school or some college, though a smaller percentage have limited education. Regarding livelihood, a significant portion are housewives or engaged in farming, with fewer participants in formal employment, highlighting economic challenges. The majority fall under the poor income category, emphasizing the need for livelihood programs, skills training, and government support to improve financial stability and opportunities for mothers.

The study's findings align with previous research on livelihood programs. Balesteros et al. (2017) highlight the importance of income-generating opportunities, noting that many participants rely on informal employment like housework, farming, and small trades, pointing to the need for programs that foster economic independence. Garcia (2017) advocates for community-based programs, suggesting that local collaborations could enhance economic opportunities for participants, particularly through skills training and small business support.

Skill Development

The participating mothers show a high level of skill development in creating Eco-Inilad bags through hands-on learning, with an overall mean score of 4.34. In particular, the statement, "I have developed innovative techniques for creating Eco-Inilad bags through hands-on learning in the program," got the highest mean of 4.60 and the standard deviation of 0.62 interpreted as very high. Meanwhile, the statement, "I feel more confident in my business management skills as a result of participating in the program," got the lowest mean of 4.20 and the standard deviation of 0.81, interpreted as a high level. The data indicates that the livelihood program has been highly successful in equipping the mothers with diverse skills that are useful in producing Eco-Inilad bags and other aspects of their lives. This aligns with The World Bank Group (2024) findings that practical skills training can reduce unemployment, increase productivity, and improve living standards.

Social Empowerment

The study found that the Eco Inilad Bag Making program significantly enhanced the social empowerment of participating mothers, with a high mean score of 4.37 in improving self-esteem, accomplishment, and community connections. The highest ratings were for statements about improved self-esteem and stronger connections with others, while the lowest, yet still high, rating was for the impact on social status. This supports existing research, such as World Vision's SWEET Project (2023), which also highlighted the social empowerment of mothers through livelihood programs, enabling them to take on leadership roles, strengthen community ties, and gain recognition.

Environmental Awareness

The results reveal a high level of environmental awareness among the mothers participating in the Eco Inilad Bag Making livelihood program. An overall mean score of 4.49, the standard deviation of 0.58, and the interpretation of high level indicate that the program has successfully cultivated a strong sense of environmental awareness among participating mothers, underscoring the value of livelihood initiatives not just in advancing economic and social empowerment, but also in encouraging environmentally sustainable practices. The highest mean score of 4.57 and the standard deviation of 0.63, interpreted as high level, is on the statement, "Using polypropylene for Eco Inilad Bag Making helps reduce the need for single-use plastics." This indicates strong agreement that using polypropylene for bag production helps reduce the need for single-use plastics. Similarly, Bueta et al (2022) found that waste-to-wealth initiatives in Philippines not only provide livelihood opportunities but also foster more substantial environmental commitments among participants when economic benefits are evident. This aligns with the Eco-Inilad Bag Making program, where mothers gained skills and developed a stronger sense of environmental responsibility.

Experiences and Perceptions of Mothers in the Livelihood Program

Program Influenced on Skill Development

The study revealed that the livelihood program significantly enhanced participants' knowledge and skills, particularly in Inilad bag making. Through hands-on learning and step-by-step techniques, mothers improved their craftsmanship, gained confidence, and became capable of producing bags independently. The program also opened doors to future economic opportunities, with many participants viewing their skills as a means for additional income or small business ventures. These findings support existing research, such as Anima and Tampah-Nah (2023), which emphasizes the importance of equipping marginalized mothers with self-employable skills to promote financial stability and empowerment.

Program Influenced on Social Empowerment

The livelihood program significantly boosted participants' self-confidence, motivation, and sense of purpose. Mothers, including those who experienced teenage pregnancy, gained a renewed belief in their capabilities, recognized their value, and formed stronger social bonds. The training also improved their financial stability through Inilad bag-making, empowering them to support their families and envision future opportunities such as teaching others or starting small businesses. These outcomes align with findings by Balesteros et al. (2017), which highlight the social and economic benefits of livelihood programs, though equitable access remains a key challenge for broader impact.

Program Influenced on Environmental Awareness

The Eco Inilad Bag Making Livelihood Program significantly increased participants' environmental awareness, leading to improved practices in waste reduction, recycling, and environmental responsibility. Participants realized the value of reusing materials like polypropylene to replace plastic bags, helping reduce pollution and plastic waste. They also became more conscious of the harmful effects of plastic burning and improper disposal. The program fostered sustainable habits such as daily segregation, eco-friendly behavior, and promoting

environmental care among youth. These findings align with studies by Perkins (2024), and McCaw (2023), highlighting the role of education and sustainable practices in promoting environmental stewardship.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

The study evaluated the effectiveness of an Eco Inilad Bag Making Livelihood Program in enhancing skill development, social empowerment, and environmental awareness among mothers. Using a mixed methods approach with 30 participants, it combined quantitative surveys and qualitative interviews. Results showed high ratings in skill (4.34), social (4.25), and environmental (4.49) empowerment. The program improved participants' technical skills, confidence, and community involvement while promoting environmental responsibility through plastic reuse. Findings highlight the need for targeted support for economically challenged mothers and show that the program fosters personal growth, financial independence, and long-term empowerment.

Conclusion

Mothers face varied educational and economic challenges, highlighting the need for targeted support. The Eco Inilad Bag Making Livelihood Program effectively improved their skills, confidence, community involvement, and environmental awareness. Both quantitative and qualitative results confirmed that tailored, skills-based programs can significantly empower vulnerable mothers, promoting long-term resilience and stability.

Recommendation

The study suggests that policymakers, LGUs, NGOs, and educational institutions develop holistic programs to support mothers' education, livelihood, and financial stability. It encourages the continuation, expansion, and

replication of the Eco Inilad Bag Making Livelihood Program to reach more beneficiaries. Sustaining such initiatives will enhance mothers' technical skills, self-confidence, community engagement, and environmental awareness, contributing to their long-term empowerment and economic resilience.

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