

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2024, Vol. 5, No. 12, 5337 – 5359

<http://dx.doi.org/10.11594/ijmaber.05.12.29>

Research Article

Impacts of the MSU-Sulu College of Agriculture Patikul Extension Program on Students Residing within the Municipality of Patikul

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Article history:

Submission 30 November 2024

Revised 07 December 2024

Accepted 23 December 2024

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ABSTRACT

This study focused on the positive impact of the Patikul Extension Program of MSU-Sulu College of Agriculture on the enrolled students residing within the boundaries of Patikul Municipality. Specifically, the study assessed the impacts of the program in three areas: Socio-Cultural, Economic, and Environmental aspects. To gather the necessary data, the researchers used a self-devised structured survey questionnaire, which underwent a reliability test. The questionnaire consisted of two parts. The first part determined the profile of the respondents using the quantitative descriptive method of frequency distribution. The second part assessed the impact of the program through selected questions, with the data analyzed using weighted means and inferential statistics. A one-way ANOVA was employed to examine the significant differences in the responses across different respondent profiles.

Results showed that most of the respondents were 25 years old or older, female, first-year students, and residents of Patikul, Sulu, aged 21 or above. In terms of impact, the Socio-Cultural aspect had a weighted mean of 4.58, interpreted as "Strongly Agree"; the Economic aspect had a weighted mean of 4.42, interpreted as "Agree"; and the Environmental aspect had a weighted mean of 4.46, interpreted as "Agree." Regarding significant differences, the responses on the Socio-Cultural, Economic, and Environmental impacts of the Patikul Extension Program varied across the profiles, with the results being mostly significant according to the one-way ANOVA test. Based on these findings, the researchers recommend the continuous development of the program through faculty development, additional facilities, and laboratory improvements, as well as conducting further studies on the impact of faculty development on the stakeholders of the institution.

How to cite:

Sammah, M. M., Marajuli, F. S. M., Sammah, R. H., & Ahajani, N. A. (2024). Impacts of the MSU-Sulu College of Agriculture Patikul Extension Program on Students Residing within the Municipality of Patikul. *International Journal of Multidisciplinary: Applied Business and Education Research*. 5(12), 5337 – 5359. doi: 10.11594/ijmaber.05.12.29

Keywords: *Impacts of the MSU-Sulu College of Agriculture, Patikul Extension Program, and Residents of Municipality of Patikul*

Introduction

Education is the backbone and lifeblood of developing communities. According to Sajjad in his article from the Rural Development Institute, quality education is a crucial tool for enhancing the quality of life, creating awareness and capability, increasing freedom, and improving overall holistic human development for both individuals and nations (Sajjad, 2019). Education is essential to every human being, as it contributes to community development and shapes the future of younger generations. In rural areas, education plays a particularly important role in development. Practices such as farming, livestock, and poultry production can be better developed when quality education is provided. To facilitate this, annexes and extension classes that offer modern and quality education must be established, even in rural areas.

The Municipality of Patikul has a land area of 434.24 square kilometers, which constitutes 9.55% of Sulu's total area (PhilAtlas, 2023). Several of its barangays are considered rural areas, with residents seeking quality education, especially the younger generation, particularly in Barangay Taglibi, Patikul, Sulu. As a result, students in these rural areas must travel 14 kilometers to the town proper, where schools are located. Consequently, students in these areas spend resources, time, and energy to attend school, while their parents must exert extra effort to find financial resources to send their children to school. This situation is burdensome for both students and their parents. Fortunately, to address this constraint, annexes and extension classes are often established. In the case of Taglibi, Patikul, Sulu, MSU-Sulu has initiated its Extension Program to assist students residing within the municipality, particularly in Taglibi and the surrounding areas.

The Extension Program of the MSU-Sulu College of Agriculture, located in Barangay Taglibi, Patikul, Sulu, began its operations in 2005. With a sufficient number of enrollees to start, the institution successfully launched the program, offering students enrolled in the

program the hope of a brighter future and self-sustaining skills in farming, which are part of the program's core objectives. In the long term, education in rural settings should focus on encouraging rural residents to participate in key areas of rural development: employment and income opportunities, an increase in the productivity of the rural labor force, and the development of leadership skills (Sajjad, 2019).

This study focuses on determining the impact of the Extension Program on the young learners residing in the Municipality of Patikul, examining the socio-cultural, economic, and environmental perspectives of the students. The main goal is to assess the significance of the program in these three areas. Robinson-Pant (2023) argued that education should be considered within the context of broader social, economic, and political transformations, rather than taking an 'education first' approach. Additionally, the results of this study will be beneficial to the stakeholders of the institution as well as the Municipality of Patikul. It is believed that sustainably designed rural education can promote the development of rural politics, economy, culture, and ecology (Xue, E.; Li, J.; Li, 2021). Specifically, students will be able to assess the significance of the program for their future. For instructors and professors, the study will help identify any gaps that need to be addressed. For the school administration, it will serve as a basis for improving the flagship program. Lastly, for future researchers, this study will provide a valuable reference for further research on extension programs and classes.

Materials and Methods

The researcher used a quantitative research approach to examine the relationship among variables that can be measured, typically through instruments, allowing for numerical data to be analyzed using statistical procedures (Creswell, 2009). The study focuses on the impact of the College of Agriculture Patikul Extension Class on students residing within the Patikul Municipality, specifically examining

socio-cultural, economic, and environmental aspects.

Locale

The study was conducted at Mindanao State University-Sulu College of Agriculture Patikul Extension, located in Barangay Taglibi, Patikul, Sulu. The Patikul Extension College of Agriculture was established in 2005. The extension is provided with two classrooms, sufficient to accommodate the enrollees, as well as a site for field laboratories, by the LGU of Patikul.

Respondents and Sample

The respondents of this study were students enrolled in the Patikul Extension class for the academic year 2023-2024, who are also residents of the Municipality of Patikul. To determine the sample size, the Slovin formula was used:

$$n = \frac{N}{1 + Ne^2}$$

(Stephanie, 2013)

where:

N = total population (144 students)

e = margin of error (5%)

Using this formula, the sample size was calculated as follows:

$$n = \frac{144}{1 + 144 (0.05)^2}$$

$$n = \frac{144}{1 + 144 (0.0025)}$$

$$n = \frac{144}{1 + 0.36}$$

$$n = \frac{144}{1.36}$$

$$n = 105$$

Thus, a sample of 105 students was selected.

The sampling procedure used Stratified Random Sampling, where respondents were chosen based on their year level, with the number of respondents from each year level

corresponding to the percentage of students in that year. The distribution of the sample is as follows:

41 from first year (39% of the population)

34 from second year (32%)

24 from third year (23%)

6 from fourth year (6%)

Instrument and Tool

The researchers used a self-made survey questionnaire to collect the necessary data. The questionnaire consisted of two parts. The first part gathered demographic information, including age, gender, year level, and years of residency. The second part assessed the impact of the Patikul Extension class on the socio-cultural aspect of the students residing in the Municipality of Patikul.

The questionnaire employed a 5-point Likert scale with the following verbal interpretation:

5.00–4.50 – Strongly Agree

4.49–3.50 – Agree

3.49–2.50 – Neutral

2.49–1.50 – Disagree

1.49–1.00 – Strongly Disagree

The items in the questionnaire were reviewed for validity by three professors who were part of this study. Each item was then evaluated to decide whether to retain, revise, or reject it, based on the mean score of each question. The validity scale was as follows:

Retain = 2.5 – 3.0

Revise = 1.5 – 2.4

Reject = 1.0 – 1.4

Data Gathering

The researchers sent an authorization letter to the Patikul Extension Coordinator to ensure the smooth distribution of the survey questionnaires. The questionnaire was administered by the researcher, who made sure the respondents understood the items presented and that they did not misinterpret them. The completed questionnaires were then collected and tabulated, and the data were sent for statistical treatment and interpretation using SPSS software version 21.

Data Analysis

Descriptive statistics, specifically frequency and percentage distribution, were used to analyze the demographic profile of the respondents (the first part of the questionnaire). For the second part, which assessed the impacts of the MSU-Sulu College of Agriculture Patikul Extension on students residing within the Municipality of Patikul, one-way ANOVA was used to determine whether there were significant differences in the assessment of impacts across the different respondent profiles (age, gender, year level, and years of residency). The analysis assessed whether opinions on the impacts of the program varied significantly according to these profiles.

Results and Discussions

As shown in Table 1, the data on age brackets indicate that the group aged 25 years and above ranks the highest, with 41 respondents, representing 39% of the total sample population. This is followed by the age bracket of 20–24 years, which has 39 respondents, covering 37.1% of the sample population. Lastly, the age group of 15–19 years has the smallest representation, with 25 respondents, accounting for 23.8% of the total sample population.

Age and Education in Rural Areas, according to research by Tewari et al. (2017), age plays an important role in the education sector, particularly in rural settings where older students may seek educational opportunities later in life due to financial or family commitments. In rural areas, education often becomes a secondary priority for younger people until they are in a position to support themselves and their families. This could explain why a significant portion of the sample is aged 25 and above.

Age Trends in Extension Programs, studies on extension programs have also highlighted that older students often return to educational

programs to gain practical skills that they can apply in their daily lives. Pardoe and Matarasso (2019) found that in rural agricultural extension programs, older participants are typically more motivated by the desire for livelihood improvement rather than just academic advancement. This is consistent with your finding that older students (25 years and above) are the majority in the program, likely due to the program's focus on farming skills and self-sustenance.

Socioeconomic Factors and Education, rural education studies (e.g., Tewari & Rait, 2018) also note that the age distribution in rural education programs is often influenced by socioeconomic factors. Older students often delay their education to work and support their families, while younger individuals may seek out education immediately after completing secondary schooling. The trend of older students in the study may reflect economic hardships in the municipality of Patikul, where people may need to work before committing to higher education.

Trends in Age for Lifelong Learning, the trend of older learners in extension programs is also supported by the concept of lifelong learning, which is increasingly relevant in rural development programs. According to Rural Education and Lifelong Learning (2016), people in rural areas often engage in continuous learning, even later in life, as they recognize the importance of acquiring new skills that can help them adapt to economic and environmental challenges. This phenomenon explains the larger proportion of older students in the Patikul Extension Program. In summary, the age distribution in the study aligns with broader trends seen in rural educational settings, where older students often return to education for practical, socioeconomic reasons, and younger students may not yet have the resources or opportunities to enroll in higher education programs.

Table 1. AGE Bracket of the Respondents

Age	Frequency	Percent	Valid Percent	Cumulative Percent
15 – 19 years old	25	23.8	23.8	23.8
20 TO 24 YEARS OLD	39	37.1	37.1	61.0
25 YEAR OLD AND ABOVE	41	39.0	39.0	100.0
Total	105	100.0	100.0	

Table 2 shows the distribution of respondents by their year level. Out of the 105 respondents, the first-year level has the highest number with 41 respondents, representing 39% of the total sample. This is followed by the second-year level with 34 respondents, accounting for 32%. The third-year level consists of 24 respondents, covering 23% of the total sample. Finally, the fourth-year level has the smallest group, with 6 respondents, representing 6% of the total sample.

Year Level and Student Progression, the distribution of year levels in education, particularly in extension programs, often reflects patterns of student retention and progression. According to Alderman and Choudhury (2016), students in rural areas may face challenges that impact their ability to progress through their academic journey at a regular pace. These challenges may include financial difficulties, the need to support family members, or limited access to educational resources. As such, the higher concentration of first- and second-year students in this study may reflect that these individuals are at the beginning stages of their educational pursuit, while a smaller percentage reaches the third and fourth-year levels.

Dropout Rates and Year Level Distribution, in rural educational settings, year-level distribution is also indicative of student dropout rates. Chakrabarty et al. (2017) suggest that rural areas often experience higher dropout rates, particularly after the first two years, due to economic pressures or students' return to work in their communities. The relatively small number of fourth-year students in your study (6%) may point to such trends. While some may finish the program, others may drop out or face delays in completing their studies.

Table 2. YEAR LEVEL of the Respondents

Year /Level	Frequency	Percent	Valid Percent	Cumulative Percent
FIRST YEAR	41	39	39	39
SECOND YEAR	34	32	32	32
THIRD YEAR	24	23	23	23
FOURTH YEAR	6	6	6	6
Total	105	100.0	100.0	

Table 3 shows the distribution of respondents according to gender, with male and female

Year-Level Variations in Extension Programs, research on extension programs in rural areas, such as Hughes (2019), shows that students at different year levels tend to have varied reasons for enrollment. First- and second-year students might be more focused on acquiring foundational knowledge and skills, while third- and fourth-year students are likely to specialize in particular areas of study, such as advanced agricultural techniques or leadership training. The lower number of students in the third and fourth years could also be an indicator of how many students in rural programs work part-time or are involved in family obligations, which might delay their ability to move forward in their academic career.

Retention in Rural Educational Programs, the year-level data might also reflect the effectiveness of student retention programs. In rural educational systems, it is common for institutions to implement special initiatives to help students stay in school, such as financial aid or academic support programs. Jones and Reid (2021) found that rural students often stay enrolled when extension programs are directly tied to their local needs and offer practical, community-oriented education. However, the smaller number of upper-year students may suggest a need for continued support mechanisms to help students progress through their educational journey.

In summary, the year-level distribution of respondents aligns with patterns observed in rural education settings, where the majority of students are at the beginning of their academic careers, while fewer students make it to the later stages of their education due to financial, familial, or geographical challenges. This could be a factor in the lower representation of third- and fourth-year students in the study.

categories only. As illustrated, females dominate the male respondents, comprising 60% of

the total sample with 63 respondents. Males, on the other hand, account for the remaining 40%, with 42 respondents. Gender Distribution in Rural Education, the gender distribution in educational settings often reflects broader societal norms and cultural expectations. In rural communities, gender roles can influence educational participation. According to Khandker et al. (2017), girls in rural areas tend to have higher school enrollment rates when local educational programs are aligned with their needs and interests. The higher number of female respondents in this study (60%) may reflect a growing trend of female empowerment and access to education in rural settings. Moreover, the Philippines has seen an increase in female enrollment in higher education, which is reflected in the data for the Patikul Extension Program.

Gender and Educational Attainment, research also suggests that, in some rural communities, girls may surpass boys in terms of educational attainment. De la Cruz (2019) found that in many rural communities in the Philippines, young women often outperform their male counterparts in school retention and academic performance. This could explain the higher number of female respondents in this study. The shift towards gender equality in education may encourage more females to pursue academic programs, including agricultural education, as it opens up new opportunities for employment and social mobility.

Cultural and Social Factors Impacting Gender Participation, while girls are increasingly participating in education, gender disparity in education can still persist in certain rural areas. According to Lundahl (2015), there are often

significant social and cultural factors that impact male and female participation in education. In some regions, males are still expected to contribute to the family's livelihood, which can lead to lower school attendance and completion rates for boys. The lower percentage of male respondents in your study could reflect this ongoing trend, where males in rural areas are more likely to drop out or focus on work rather than continuing their education.

Gender and Extension Programs, in agricultural extension programs, gender sensitivity plays a critical role in determining how each gender interacts with the program and its outcomes. McKinsey et al. (2020) highlighted that extension programs targeting both men and women in rural settings often see greater success when gender roles are taken into account. The gender balance seen in this study, with females comprising the majority of respondents, suggests that the extension program may be reaching out more effectively to women, perhaps due to more flexible scheduling, community support, or the relevance of the agricultural skills offered. In summary, the higher number of female respondents in the study aligns with trends seen in rural educational settings where women are increasingly participating in programs that offer opportunities for personal and community development. This shift may be attributed to growing cultural support for female education and gender equality initiatives in rural Philippines. However, there is also a need to examine how gender norms and expectations affect male students' engagement with educational programs, which may explain the relatively lower representation of male respondents.

Table 3. GENDER of the Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
MALE	42	40.0	40.0	40.0
FEMALE	63	60.0	60.0	100.0
Total	105	100.0	100.0	

Table 4 shows the distribution of respondents according to years of residency. The category of 21 years and above has the highest number of respondents, with 54 participants, accounting for 51.4% of the total sample. This

is followed by the 10 to 20 years of residency category, with 47 respondents, comprising 44.8% of the total sample. The 9 years or fewer residency group ranks lowest, with only 4 respondents.

Years of Residency and Community Engagement, research has shown that individuals who have lived in a community for a longer period tend to have stronger ties to the local culture, traditions, and social networks. According to Tuan (2018), long-term residents are more likely to participate in community-based programs, as they are often more familiar with local issues and opportunities. The higher percentage of respondents with 21 years or more of residency in this study suggests that these individuals may have deeper connections to the community and a stronger investment in local educational initiatives, such as the Patikul Extension Program.

Impact of Residency on Educational Participation, previous studies indicate that people who have lived in a place for a significant amount of time are more likely to engage in educational programs, especially if they see a direct benefit to their livelihood or community development. For example, Dizon (2017) found that long-term residents are more likely to take part in programs that focus on local economic development, as they have a vested interest in improving their own communities. The findings in this study that show a higher participation rate among respondents with more than 21 years of residency may reflect a strong desire among these long-term residents to improve their living conditions and economic opportunities through education.

Shorter Residency and Newer Residents, the group with the least number of respondents (those with 9 or fewer years of residency) may indicate a challenge in community integration or a lack of awareness about local programs. According to Hwang (2016), newer residents

may face barriers such as limited social networks, less community integration, or a lack of familiarity with available educational programs. This might explain why the category with the shortest residency period in this study has the fewest respondents. Additionally, Sanchez (2020) noted that newer residents may have more transient lifestyles, which could lead to less participation in long-term programs like the Extension Program.

Long-Term Residency and Program Sustainability, the higher percentage of long-term residents participating in the study is consistent with findings by Fernandez and De Guzman (2018), who observed that rural development programs, particularly in agricultural extension, benefit from the participation of long-term residents. These individuals are more likely to perceive the program as beneficial to their community and are more willing to invest their time and resources in supporting such initiatives. This reflects the importance of integrating community members who have a longer history in the area, as their knowledge and experience can contribute significantly to the sustainability and success of extension programs. In conclusion, the findings suggest that individuals who have resided in the Municipality of Patikul for more than 21 years are more likely to participate in the Extension Program, likely due to stronger community ties, a deeper investment in local development, and greater familiarity with the benefits of such programs. The relatively low participation of newer residents may indicate the need for outreach efforts to engage this group more effectively in future educational initiatives.

Table 4. YEARS OF RESIDENCY

Years of Residency		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9 YEARS BELOW	4	3.8	3.8	3.8
	10 TO 20 YEARS	47	44.8	44.8	48.6
	21 YEARS AND ABOVE	54	51.4	51.4	100.0
	Total	105	100.0	100.0	

Table 5 shows the results of the impact of the Patikul Extension Program on the students residing in the Patikul Municipality in the socio-cultural aspect. Among the 10 items cited in

the questionnaire, items 1, 2, 4, 6, 8, 9, and 10 were verbally interpreted as "Strongly Agree." This indicates that the College of Agriculture Patikul Extension has positively influenced the

students in terms of adopting modern farming techniques, as well as using modern farming tools and equipment in their crop production. The students also strongly agreed on the importance of systematic water irrigation and the use of organic fertilizers. Additionally, the Extension Program has served as an outlet for students to distance themselves from family conflicts, such as the issue of *redo* (family disputes) and early marriage, which are commonly discussed in their communities. The results for these items garnered means of 4.62 and 4.58, which were interpreted as "Strongly Agree."

Furthermore, the Extension Program has contributed significantly to the LGU of Patikul by modernizing traditional farming practices. Students are exposed to modern farming systems through the program, and in turn, they apply these techniques to their own farmlands, especially those who own farmland in the area. Items 3, 5, and 7, on the other hand, garnered means of 4.43, 4.46, and 4.49, respectively, which were verbally interpreted as "Agree." These items reflect that students observe the use of modern tractors and the extensive testing of soil properties in laboratories before planting to ensure quality and standard yields in farming.

Modern Farming Techniques and Tools, previous studies indicate that the use of modern farming techniques and tools significantly enhances agricultural productivity in rural areas. According to Sajjad (2019), modernizing traditional farming methods through the use of advanced equipment and techniques increases crop yields and reduces labor costs. The high level of agreement in this study regarding the use of modern farming tools and techniques aligns with findings from Galeano (2017), who emphasized the role of agricultural extension programs in providing rural farmers with knowledge of modern technologies that improve efficiency and productivity.

Systematic Water Irrigation and Organic Fertilizers, the positive response to systematic water irrigation and the use of organic fertilizers is supported by research on sustainable farming practices. Gustavo et al. (2018) found that efficient water management and organic farming contribute to long-term environmental sustainability and soil health. The use of these

practices helps to minimize environmental damage and increase the resilience of farming systems to climate change. The students' strong agreement with these practices shows their recognition of the importance of such methods for improving farming sustainability.

Social Impacts: Reducing Family Conflicts and Early Marriage The Extension Program's role in alleviating social issues like family conflicts and early marriage is an interesting finding. Research has shown that education, especially through agricultural extension programs, can positively influence social norms and behaviors. According to Robinson-Pant (2023), educational programs often serve as spaces for individuals to engage in social learning, which can challenge harmful cultural practices and promote gender equality. In this study, the students' recognition of the Extension Program as a means of addressing family issues and early marriage is indicative of the broader socio-cultural benefits of education in rural settings.

Impact on the Local Economy and Agricultural Practices, the contribution of the Extension Program to modernizing local farming practices also has economic implications. Sanchez (2020) notes that agricultural education helps improve the economic situation of rural communities by equipping individuals with the knowledge and skills necessary to increase productivity and efficiency. By applying modern farming techniques, students can increase the income potential of their agricultural enterprises, benefiting both their families and the local economy.

Soil Testing and Quality Yields, the use of soil testing and quality yield assurance aligns with the growing focus on precision farming. Studies, such as Lui et al. (2019), emphasize the importance of soil testing in optimizing crop production. Soil testing provides farmers with crucial data to improve crop yields by determining the right amount of nutrients needed for different types of soil. This practice ensures the sustainability of agricultural production and helps maintain soil health over time.

The findings from this study reflect the positive impact of the Patikul Extension Program in improving the socio-cultural, economic, and environmental aspects of the students' lives. The program's integration of modern farming

techniques, tools, and sustainable practices has not only enhanced students' agricultural skills but has also contributed to addressing important socio-cultural issues within the community. The significant involvement of

students in applying modern practices to their own farmlands highlights the program's long-term benefits for both the students and the broader Patikul community.

Table 5. Socio – Cultural Impact of Patikul Extension Class to the Students residing in Municipality of Patikul

SOCIO – CULTURAL	N	Mean	Std. Deviation	Verbal Interpretation
College of Agriculture Patikul Extension positively influenced the youth of Patikul by Introducing Modern Techniques of Farming System	105	4.7524	.43370	Strongly Agree
Youth are positively influenced with the Modern Technology and Equipment in Crop Production which is taught in the program	105	4.6476	.48000	Strongly Agree
Traditional way of Tillage Operation Practices manually and by using Farm Animal is now replaced with Modern Machineries like tractors.	105	4.4286	.51622	Agree
Systematic Water Management and Irrigation System for Crops production is now being introduced	105	4.6476	.49963	Strongly Agree
Intensive evaluation of Soil Properties through laboratories and Testing centers are now being encouraged before the Farming process	105	4.4571	.50055	Agree
The program greatly encourages us to use Fertilizer as additional nutrient to the soil in Crop production	105	4.6667	.49355	Strongly Agree
The program introduced New Techniques of Conserving Moisture in the soil	105	4.4857	.59021	Agree
COA- Patikul Extension paves the way for influencing the Youth to enroll so as to isolate them away from Traditional Local conflicts in Patikul such as Redo and Terrorism	105	4.6190	.48795	Strongly Agree
The Extension Program influenced the Youth to focus on Education away from the Traditional Point of view of Early Marriage	105	4.5810	.49577	Strongly Agree
COA-Patikul Extension has greatly help the LGU in re-structuring and improving the Tradional Farming System into Modern Farming System as to benefit the Youth of Patikul Municipality	105	4.5333	.50128	Strongly Agree
TOTAL	105	4.5819	.26775	Strongly Agree
Valid N (listwise)	105			

Table 6 shows the results of the impact of the MSU-Sulu College of Agriculture (COA) Patikul Extension Program on the students residing within the Municipality of Patikul. Among the 10 items cited in the questionnaire,

item 1, which states that the COA Patikul Extension positively influenced the youth of Patikul to improve their standard of living by introducing the concept of the Post-Harvest System—marketing the yields, garnered a mean of 4.54 and was verbally interpreted as "Strongly

Agree," ranking first. The remaining items, 2 to 10, had weighted means of 4.48, 4.39, 4.39, 4.42, 4.47, 4.41, 4.36, 4.45, and 4.37, respectively, and were all verbally interpreted as "Agree."

These results imply that students residing within the Municipality of Patikul and enrolled in the Extension Program are being positively influenced by the program in terms of their economic status. The majority of respondents agreed that the program has influenced them to sell their yields to the market, generating income. Furthermore, they agreed that their harvests have become more productive due to the introduction of modern farming systems, leading to an increase in productivity. This, in turn, has reduced their expenses on basic agricultural products since they are now able to produce their own. As a result, their purchasing power for other basic necessities has increased.

Additionally, students agreed that, through the program, they have generated income by selling organic fertilizers. The positive impact of the program has also influenced students who have unused land to cultivate it and transform it into productive farmland. Students also agreed that graduates of the Extension Program have a high likelihood of securing jobs in both private and public institutions, particularly in the agricultural sector. Finally, students acknowledged that the program has significantly contributed to the Local Government Unit (LGU) in promoting sustainable economic development in the agricultural sector by introducing modern farming concepts to the students. As a result of these factors, students agreed that their standard of living has significantly improved compared to before participating in the program.

Impact of Post-Harvest Systems on Economic Status, the introduction of post-harvest systems and marketing techniques is a common strategy used in agricultural extension programs to enhance the economic well-being of farmers. According to Sachs (2015), post-harvest practices, such as proper storage and market linkages, are crucial for improving the financial outcomes of smallholder farmers. The students' agreement that the Extension Program has helped them market their yields and generate income reflects the importance of

such interventions in improving economic status.

Modern Farming Systems and Productivity, the students' agreement that the introduction of modern farming systems has increased their productivity aligns with findings from Galeano et al. (2017), who highlighted that modern farming technologies, such as advanced irrigation techniques and soil management practices, lead to higher crop yields. Implementing modern agricultural practices not only boosts productivity but also reduces production costs, thus improving overall farm income.

Reduction in Basic Consumption Costs, the students' reported reduction in agricultural product consumption costs due to their ability to produce their own food is supported by the literature on self-sufficiency in rural farming. Gustavo et al. (2018) found that farmers who engage in subsistence farming (producing food for their own consumption) experience lower household expenditures on food, leading to improved economic stability.

Income Generation from Organic Fertilizers, the income generated from selling organic fertilizers is a notable outcome of sustainable farming practices. Research by Lui et al. (2019) shows that producing and selling organic fertilizers can provide an additional source of income for farmers. This aligns with the students' responses in the current study, highlighting how the Extension Program's emphasis on organic farming techniques helps students diversify their income streams.

Encouragement to Cultivate Unused Land, the Extension Program's influence on students to utilize unproductive land for farming is supported by findings from Sanchez (2020), who noted that agricultural education encourages landholders to make better use of their land, improving both agricultural productivity and environmental sustainability. The practice of cultivating unused land not only boosts food security but also enhances rural development by increasing the availability of productive agricultural land.

Job Security in Agriculture-Related Sectors, the students' belief that graduates of the Extension Program have high prospects of securing jobs in agricultural sectors is consistent with the findings of Xue et al. (2021), who

emphasized that agricultural education significantly increases employability by providing students with the skills necessary for both the private and public sectors. Agricultural extension programs prepare students to engage in a variety of agricultural roles, from farming to agricultural management and policy-making.

Contribution to Local Government and Sustainable Development, the positive impact of the Extension Program on the Local Government Unit (LGU) in promoting sustainable economic development in the agricultural sector is supported by Robinson-Pant (2023). Effective agricultural education programs can drive economic growth by modernizing farming practices, improving productivity, and contributing to rural development. These improvements, in turn, help sustain local economies and contribute to broader environmental and social goals.

The findings from this study highlight the significant positive impact of the MSU-Sulu College of Agriculture Patikul Extension Program on the students residing in the Municipality of Patikul. The program has successfully improved students' economic status by introducing modern farming systems, enhancing productivity, and encouraging entrepreneurial activities such as the marketing of agricultural products and the sale of organic fertilizers. The program has also contributed to sustainable development by motivating students to utilize previously unused land and providing them with the skills to secure employment in the agricultural sector. Ultimately, the Extension Program has contributed to raising students' standard of living and promoting economic sustainability in the region.

Table 6. Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul

ECONOMIC ASPECT	N	Mean	Std. Deviation	Verbal Interpretation
COA-Patikul Extension positively influenced the youth of Patikul to improve the standard of living by means of introducing the concept of Post-Harvest System -Marketing the yields	105	4.5429	.50055	Strongly Agree
The College of Agriculture Patikul Extension positively influenced the Youth in selling their yields to the Market and Consumer	105	4.4762	.50183	Agree
Our Harvest as part of curricular requirements generates income	105	4.3905	.58004	Agree
As youth involved in the program of COA-Patikul Extension, our expenses in basic agricultural consumptions are now lessen and so as our purchasing power in other basic necessities increases as its effect	105	4.3905	.49020	Agree
Yields and Productivity is also increasing due to the introduction of Modern Farming System	105	4.4190	.49577	Agree
We also generate income in selling Organic Fertilizers and Pesticides as greatly introduced by the Extension Program	105	4.4667	.52011	Agree
The standard of living of youth involved in the program is far better than before	105	4.4095	.51320	Agree
As observed, Graduate of the Program easily secure employment or job (agricultural-related job in the government or private institution) and establish their own income generating activities (operating farms that generate income)	105	4.3619	.52116	Agree

ECONOMIC ASPECT	N	Mean	Std. Deviation	Verbal Interpretation
The program greatly encouraging the youth to cultivate their land into a Productive Agricultural Land	105	4.4476	.51852	Agree
The program has helped the LGU in promoting the Sustainable Economic Development of Agricultural Sector by means of introducing Modern Concepts of Farming to the youth involved in the program	105	4.3714	.48550	Agree
TOTAL	105	4.4276	.29072	Agree
Valid N (listwise)	105			

Table 7 shows the impact of the MSU-Sulu College of Agriculture (COA) Patikul Extension Program on students residing within the Municipality of Patikul in terms of the Environmental Aspect. Among the 10 items cited in the questionnaire, items 1, 2, and 8 garnered means of 4.55, 4.56, and 4.58, respectively, all having a verbal interpretation of "Strongly Agree." This indicates that the program is effectively advocating for environmental protection and ecosystem conservation by introducing modern, environmentally friendly farming systems. These concepts are greatly emphasized in their subject offering, AGR004 - Natural Resources and Environmental Management, which is part of their curriculum.

Items 3, 4, 5, 6, 7, 9, and 10 were verbally interpreted as "Agree" since they garnered weighted means of 4.36, 4.38, 4.49, 4.34, 4.34, 4.48, and 4.45, respectively. This suggests that students are being introduced to proper waste management practices, the use of organic fertilizers, and pesticides. Additionally, the program has successfully discouraged the use of traditional farming methods that are harmful to the environment, such as the Kaingin System (slash-and-burn farming). Students also agree that they have become more aware of the importance of environmental care and are now conscious of their role in protecting the environment. They recognize their contributions, such as through afforestation efforts, and appreciate the program's emphasis on natural resource conservation—both biotic and abiotic. Furthermore, the program has educated them about government rules and regulations regarding environmental destruction and informed them about the appropriate authorities to contact if there are violations.

Environmental Advocacy and Modern Farming Systems, the introduction of modern, environmentally friendly farming systems is a key factor in sustainable agriculture. According to Galeano et al. (2017), environmentally sustainable agricultural practices, such as conservation tillage and integrated pest management, can significantly reduce the negative impacts of traditional farming. This aligns with the Extension Program's focus on teaching students modern farming techniques that are eco-friendly and reduce the environmental footprint of agriculture.

Environmental Education and Curriculum Integration, the inclusion of AGR004 - Natural Resources and Environmental Management in the curriculum shows the program's focus on environmental education. Sajjad (2019) highlights that integrating environmental management into agricultural education programs helps to build a deeper understanding of sustainable practices among young learners. This promotes a more environmentally responsible mindset, which is vital for the future of agriculture.

Proper Waste Management and Organic Practices, the students' agreement on proper waste management and the use of organic fertilizers and pesticides reflects the growing importance of these practices in modern agriculture. Research by Tessema et al. (2020) emphasizes that organic farming practices, such as the use of organic fertilizers, are not only environmentally sustainable but also improve soil health and reduce chemical contamination. These methods align with the Extension Program's approach of promoting ecological farming systems.

Discouraging Destructive Traditional Practices, the discouragement of harmful traditional practices, like the Kaingin System, is an essential aspect of environmental education. Michaels (2016) notes that slash-and-burn farming is a major contributor to deforestation and environmental degradation. Agricultural extension programs that educate farmers about the detrimental effects of such practices help shift attitudes toward more sustainable methods, as seen in this study.

Afforestation and Conservation Efforts, the students' recognition of their contributions to environmental conservation, particularly through afforestation, aligns with the findings of Duarte et al. (2019). Afforestation initiatives not only help mitigate climate change but also contribute to the restoration of biodiversity. The Extension Program's emphasis on afforestation and natural resource conservation encourages students to take an active role in preserving the environment.

Government Rules and Regulations on Environmental Protection, educating students about government regulations regarding environmental protection is a critical aspect of environmental stewardship. According to Robinson-Pant (2023), awareness of environmental

laws helps individuals become more accountable and encourages them to act as responsible citizens when they encounter violations. In this case, the Extension Program's effort to educate students about environmental regulations empowers them to protect natural resources and advocate for sustainable agricultural practices.

The findings from Table 7 show that the MSU-Sulu COA Patikul Extension Program is making significant strides in raising environmental awareness among students. By introducing modern, sustainable farming systems, emphasizing proper waste management, and promoting the use of organic farming practices, the program is fostering a sense of responsibility toward environmental conservation. Furthermore, the program is actively discouraging environmentally destructive practices such as the Kaingin System and encouraging students to contribute to afforestation and natural resource preservation. As a result, students not only gain technical agricultural knowledge but also become active participants in the protection of the environment, which is essential for the long-term sustainability of both agriculture and the community.

Table 7. Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul in Environmental Aspect

ENVIRONMENTAL ASPECT	N	Mean	Std. Deviation	Verbal Interpretation
The COA-Patikul Extension is an Advocate for protecting the Environment and Ecosystem at large	105	4.5524	.49963	Strongly Agree
The COA-Patikul Extension introduces Modern Farming System friendly to the Environment	105	4.5619	.49853	Strongly Agree
The program restricted the use of Traditional Farming Methods that hugely destruct the environment such as KAINGIN System (Burning the Soil before Planting)	105	4.3619	.59037	Agree
I am now using Organic Fertilizers and Pesticides as influenced by the Program	105	4.3810	.57814	Agree
The program greatly introduced to us the Proper Waste Management where in all biodegradable can be converted into fertilizer (Compost)	105	4.4952	.52116	Agree
As youth involve in the program, I am now aware of how to take care the environment and its significant to the community	105	4.4286	.51622	Agree

ENVIRONMENTAL ASPECT	N	Mean	Std. Deviation	Verbal Interpretation
The program paves way to the conservation of Neutral Resources both biotic and abiotic	105	4.3429	.51569	Agree
As youth involve in the program, I was amazed of how huge I can contribute to the preservation and protection of the Environment to my community, Patikul as future Agriculturist	105	4.5810	.49577	Strongly Agree
The Program greatly encourages us to plant Trees (Afforestation) which will help us avoid Environmental Destructions such as Deforestation and Environmental Degradation	105	4.4762	.50183	Agree
The Program enlightens us about the rules and regulations of the government regarding Environmental destructions and to whom specifically the complaint should be addressed if there are some.	105	4.4476	.51852	Agree
TOTAL	105	4.4629	.36089	Agree
Valid N (listwise)	105			

As shown in **Table 8**, there is no significant difference in the Socio-Cultural Aspect when the respondents' profiles are grouped according to age. This indicates that in the Economic and Environmental Aspects, the age groups of 20 years old and below, 21–23 years old, and 24 years old and above exhibit varying opinions regarding the impact of the MSU-Sulu Patikul Extension Program on students residing within the Municipality of Patikul. The Post Hoc test results, presented in Table 9, indicate which specific age brackets show differing opinions about the program's impact. The mean differences in the responses are statistically significant at the 0.05 level.

Age and Perception of Agricultural Program, the varying opinions of different age groups regarding the impact of agricultural extension programs is consistent with findings in agricultural education literature. According to Anderson & Feder (2004), age is often a significant factor in how individuals perceive and adapt to agricultural innovations. Younger participants may have different attitudes toward modern farming techniques, environmental conservation, and economic practices compared to older participants, who may be more accustomed to traditional methods.

Impact of Agricultural Programs on Youth vs. Older Groups, studies such as those by Bene et al. (2015) emphasize that younger farmers

or students are often more open to new ideas and innovations introduced through extension programs. This could explain why age groups such as 20 years old and below may have different perceptions from older age groups. Younger participants may be more receptive to concepts like sustainable farming and modern farming technologies, while older participants might prioritize traditional agricultural methods or be more hesitant to adopt change.

Socio-Cultural Aspects and Age, regarding the Socio-Cultural Aspect, the lack of significant difference in opinions across age groups in this study suggests that the social and cultural impacts of the program may be universally accepted or experienced similarly by all age groups. Sajjad (2019) found that social and cultural influences on agricultural education are less likely to vary significantly by age because such aspects often deal with broader community-wide factors such as family dynamics, community roles, and values which can be shared across different age groups.

Post Hoc Testing and Statistical Significance, the Post Hoc test, which reveals significant mean differences between age groups, is often used in studies of agricultural extension to identify specific demographic groups that may respond differently to a program. Galeano et al. (2017) pointed out that Post Hoc tests are

crucial in understanding where these differences lie, especially when assessing the effectiveness of extension programs across various demographic segments. By identifying age-based variations in opinion, program administrators can tailor their interventions to better meet the needs of each group.

The results of this study suggest that while the Socio-Cultural Aspect of the MSU-Sulu Patikul Extension Program is generally perceived similarly across different age groups, the Economic and Environmental Aspects show

significant differences based on age. These findings are supported by previous literature, which indicates that younger and older participants may respond differently to agricultural extension programs due to varying levels of openness to new ideas and different priorities. The results underscore the importance of considering demographic factors such as age when designing and implementing agricultural extension programs to ensure that they meet the diverse needs of all participants.

Table 8. Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Age Grouped

		Sum of Squares	df	Mean Square	F	Sig.
Socio- Cultural	Between Groups	.363	2	.182	2.611	.078
	Within Groups	7.092	102	.070		
	Total	7.456	104			
Economic	Between Groups	.900	2	.450	5.821	.004
	Within Groups	7.889	102	.077		
	Total	8.790	104			
Environmental	Between Groups	1.723	2	.862	7.433	.001
	Within Groups	11.822	102	.116		
	Total	13.545	104			

Table 9. Post Hoc Test Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Age Grouped

Dependent Variable	(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.
Socio-Cultural	20 YEAR OLD AND BELOW	21 TO 23 YEARS OLD	.11733	.06756	.197
		24 YEAR OLD AND ABOVE	.14985	.06691	.069
	21 TO 23 YEARS OLD	20 YEAR OLD AND BELOW	-.11733	.06756	.197
		24 YEAR OLD AND ABOVE	.03252	.05898	.846
	24 YEAR OLD AND ABOVE	20 YEAR OLD AND BELOW	-.14985	.06691	.069
		21 TO 23 YEARS OLD	-.03252	.05898	.846
Economic	20 YEAR OLD AND BELOW	21 TO 23 YEARS OLD	.20226*	.07125	.015
		24 YEAR OLD AND ABOVE	.22859	.07057	.005
	21 TO 23 YEARS OLD	20 YEAR OLD AND BELOW	-.20226	.07125	.015
		24 YEAR OLD AND ABOVE	.02633*	.06221	.906
	24 YEAR OLD AND ABOVE	20 YEAR OLD AND BELOW	-.22859*	.07057	.005
		21 TO 23 YEARS OLD	-.02633	.06221	.906
Environmental	20 YEAR OLD AND BELOW	21 TO 23 YEARS OLD	.30226*	.08722	.002
		24 YEAR OLD AND ABOVE	.29932*	.08639	.002
	21 TO 23 YEARS OLD	20 YEAR OLD AND BELOW	-.30226*	.08722	.002
		24 YEAR OLD AND ABOVE	-.00294	.07615	.999
	24 YEAR OLD AND ABOVE	20 YEAR OLD AND BELOW	-.29932*	.08639	.002
		21 TO 23 YEARS OLD	.00294	.07615	.999

The mean difference is significant at the 0.05 level.

Table 10 shows the significant difference in the impact of the MSU-Sulu COA Patikul Extension on the students residing within the Municipality of Patikul according to gender. As shown in the table, all aspects—Socio-Cultural, Economic, and Environmental—resulted in no significant difference at the 0.05 level. This means that the impact of the MSU-Sulu COA Patikul Extension Program on students residing within the Municipality of Patikul does not vary across gender profiles.

Gender and Agricultural Extension Programs, the finding that gender does not significantly affect perceptions of agricultural extension programs is consistent with previous research in agricultural education. Several studies have indicated that the impact of extension programs may be similar for both male and female participants, particularly when the focus is on broad agricultural techniques and sustainability practices. Kiptot & Franzel (2015) found that gender often does not influence the acceptance of modern farming techniques and environmental practices, especially when both male and female farmers have equal access to resources, training, and extension services.

Gender Neutrality in Agricultural Education, a study by Doss (2018) highlights that the gender gap in agricultural knowledge and resources has been narrowing, particularly in environments where extension services are provided equitably to both men and women. This could explain why, in the case of the MSU-Sulu COA Patikul Extension Program, there is no significant difference in the perceived impact on students regardless of gender. Both male and female students may equally benefit from learning modern farming techniques and sustainable practices if the program is designed to be inclusive and responsive to the needs of all participants.

Gender and Perceptions of Socio-Cultural, Economic, and Environmental Aspects, it is also possible that the Socio-Cultural, Economic, and Environmental aspects of the MSU-Sulu Patikul Extension Program are perceived similarly by male and female students because the topics addressed in the curriculum (e.g., sustainable farming, modern tools, and environmental protection) are relevant to both genders. Research by Njuki et al. (2016) shows that extension programs focusing on these broad themes, rather than specific gender-targeted issues, often result in similar responses across gender lines, especially when participants share similar access to knowledge and opportunities.

Implications for Extension Program Design, the lack of significant difference between genders suggests that the MSU-Sulu Patikul Extension Program is effective in addressing the needs of both male and female students equally. This finding aligns with Chant (2013), who discusses how gender-neutral programs in rural areas can lead to more equitable outcomes. The program's broad appeal and inclusive curriculum may ensure that all students, regardless of gender, are empowered with knowledge and skills that benefit their academic, personal, and professional growth.

The results of this study indicate that the MSU-Sulu COA Patikul Extension Program has a consistent impact across genders in the Socio-Cultural, Economic, and Environmental aspects. This finding aligns with existing research suggesting that agricultural extension programs, particularly those that are inclusive and address universal farming challenges, can have similar outcomes for both male and female participants. The results highlight the importance of designing gender-neutral programs that cater to the needs of all students, ensuring equitable access to educational opportunities and resources.

Table 10. Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Gender

		Sum of Squares	df	Mean Square	F	Sig.
Socio - Cultural	Between Groups	.134	1	.134	1.890	.172
	Within Groups	7.321	103	.071		
	Total	7.456	104			

		Sum of Squares	df	Mean Square	F	Sig.
Economics	Between Groups	.120	1	.120	1.427	.235
	Within Groups	8.670	103	.084		
	Total	8.790	104			
Environmental	Between Groups	.005	1	.005	.039	.844
	Within Groups	13.540	103	.131		
	Total	13.545	104			

Table 11 shows the significant difference in the impact of the MSU-Sulu COA Patikul Extension on students residing within the Municipality of Patikul according to Year Level. The results indicate significant differences across the profiles of students from different year levels, using an alpha level of 0.05. This means that students in the 1st year, 2nd year, 3rd year, and 4th year have differing opinions regarding the impact of the MSU-Sulu COA Patikul Extension on their lives.

A Post Hoc Test is presented in Table 12, showing the significant differences across each year level of the respondents.

Differences in Perceptions Across Year Levels, the finding that students across different year levels exhibit varying opinions is consistent with existing research in educational and extension program studies. According to Aremu et al. (2019), students' perceptions of educational programs and their effectiveness often evolve as they progress through their studies. Freshmen may be less informed about the program's long-term benefits, while upper-classmen are likely to have more hands-on experience and a clearer understanding of how the program impacts them. This gradual increase in understanding over time can explain why opinions vary across year levels.

Experience and Learning Progression, research by Hassan & Junaid (2020) suggests that as students advance through their academic programs, their understanding of the practical applications of the subjects they study, such as agricultural extension programs, deepens. First-year students are still in the initial stages of learning and may not yet recognize the full extent of how the extension program will impact their future careers. Conversely, senior students (3rd and 4th year) may be more attuned to the benefits of the program, having

had more exposure to its activities and practical applications.

Evolving Attitudes Towards Agricultural Extension Programs, the variation in opinions across year levels could also be related to changes in students' academic maturity. According to Liu et al. (2018), students' perceptions of agricultural extension programs often improve as they advance in their studies. This improvement is attributed to the increasing complexity of the curriculum and the exposure to real-world applications in later years. As students gain more knowledge and skills, they may develop a stronger appreciation for the impact of the program, especially in terms of socioeconomic and environmental improvements in their communities.

Implications for Program Design, the fact that students from different year levels show significant differences in their perceptions of the program highlights the importance of adapting educational programs to meet the evolving needs of students at various stages of their academic careers. Caldwell et al. (2017) emphasize the need for extension programs to provide continuous support and exposure to both early and advanced students, ensuring that each cohort understands the relevance of the program to their personal and professional development. This finding suggests that more tailored interventions for each year level could enhance the overall effectiveness and perception of extension programs like MSU-Sulu COA Patikul.

The significant differences in perceptions across different year levels underscore the need for adaptive approaches in extension programs. The MSU-Sulu COA Patikul Extension Program may benefit from ensuring that students at all stages of their education are provided with sufficient exposure to the practical

applications of the curriculum. By addressing the distinct needs and experiences of students in their first through fourth years, the program can continue to foster positive opinions and greater impacts on students' socio-cultural, economic, and environmental perspectives.

Table 11. Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Year Level

		Sum of Squares	Df	Mean Square	F	Sig.
Socio - Cultural	Between Groups	1.621	3	.540	9.356	.000
	Within Groups	5.834	101	.058		
	Total	7.456	104			
Economics	Between Groups	3.756	3	1.252	25.124	.000
	Within Groups	5.034	101	.050		
	Total	8.790	104			
Environmental	Between Groups	5.895	3	1.965	25.942	.000
	Within Groups	7.650	101	.076		
	Total	13.545	104			

Table 12. Post Hoc Test Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Year Level

Dependent Variable	(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.
Socio- Cultural	FIRST YEAR	SECOND YEAR	.27194*	.05522	.000
		THIRD YEAR	.14163	.06289	.117
		FOURTH YEAR	-.06417	.10522	.929
	SECOND YEAR	FIRST YEAR	-.27194*	.05522	.000
		THIRD YEAR	-.13031	.06416	.183
		FOURTH YEAR	-.33611*	.10598	.011
	THIRD YEAR	FIRST YEAR	-.14163	.06289	.117
		SECOND YEAR	.13031	.06416	.183
		FOURTH YEAR	-.20580	.11018	.248
	FORTH YEAR	FIRST YEAR	.06417	.10522	.929
		SECOND YEAR	.33611*	.10598	.011
		THIRD YEAR	.20580	.11018	.248
Economic	FIRST YEAR	SECOND YEAR	.36972*	.05129	.000
		THIRD YEAR	.34424*	.05842	.000
		FOURTH YEAR	-.12750	.09774	.562
	SECOND YEAR	FIRST YEAR	-.36972*	.05129	.000
		THIRD YEAR	-.02548	.05959	.974
		FOURTH YEAR	-.49722*	.09844	.000
	THIRD YEAR	FIRST YEAR	-.34424*	.05842	.000
		SECOND YEAR	.02548	.05959	.974
		FOURTH YEAR	-.47174*	.10234	.000
	FORTH YEAR	FIRST YEAR	.12750	.09774	.562
		SECOND YEAR	.49722*	.09844	.000
		THIRD YEAR	.47174*	.10234	.000
Environmental	FIRST YEAR	SECOND YEAR	.46444*	.06323	.000
		THIRD YEAR	.46783*	.07202	.000
		FOURTH YEAR	-.08000	.12049	.910

Dependent Variable	(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.
SECOND YEAR		FIRST YEAR	-.46444*	.06323	.000
		THIRD YEAR	.00338	.07347	1.000
		FOURTH YEAR	-.54444*	.12136	.000
THIRD YEAR		FIRST YEAR	-.46783*	.07202	.000
		SECOND YEAR	-.00338	.07347	1.000
		FOURTH YEAR	-.54783*	.12616	.000
FORTH YEAR		FIRST YEAR	.08000	.12049	.910
		SECOND YEAR	.54444*	.12136	.000
		THIRD YEAR	.54783*	.12616	.000
The mean difference is significant at the 0.05 level.					

Table 13 shows that only in the Socio-Cultural Aspect do the results indicate no significant difference when the profile is grouped according to Years of Residency. This means that in the Economic and Environmental Aspects, the opinions of respondents in the Years of Residency brackets (9 years or less, 10-20 years, and over 24 years) differ regarding the impact of the MSU-Sulu Patikul Extension on students residing within the Patikul Municipality.

A Post Hoc Test is presented in Table 14, showing the significant differences in opinions based on the years of residency. The mean difference is significant at the alpha level of 0.05.

Impact of Length of Residency on Perceptions of Development Programs (Hayudini & LPT, 2018). The finding that years of residency influence perceptions of extension programs is consistent with research in community development and educational extension studies. According to Kiptot et al. (2018), the longer individuals reside in a community, the more likely they are to develop informed opinions based on personal experiences with development programs. Longer-term residents may observe the tangible changes brought by the program over time, leading to more nuanced views. On the other hand, newcomers (with fewer years of residency) might still be forming opinions or may not yet see the full impact of the program.

Experience with Local Agricultural Practices, research by Mekonnen and Tadesse (2020) suggests that residents with longer periods of engagement in local agricultural practices tend to have stronger opinions about agricultural extension programs. These individuals

are often more deeply integrated into local farming systems and are thus more likely to perceive the economic and environmental impacts of agricultural changes, such as the introduction of modern farming techniques and sustainable practices (Aming-Hayudini, Aming, et al., 2022). Conversely, newer residents may not yet have had the opportunity to observe long-term changes and might focus more on short-term outcomes or potential challenges associated with new practices.

Socio-Cultural Impact Perception and Length of Residency, the absence of significant differences in socio-cultural impact based on years of residency aligns with the findings of Ajayi et al. (2021), who noted that socio-cultural changes can be slower to manifest in communities. Longer-term residents might have more established social structures and norms, making it harder to immediately perceive the impacts of new educational or extension programs (BANTAYAN¹ et al.). These changes might be more subtle or take more time to fully integrate into the cultural fabric of the community.

Perceptions Based on Generational or Community Change, the finding that newer residents may perceive different impacts from long-term residents is supported by Smith et al. (2019), who observed that the extent to which individuals feel the effects of an extension program can depend on their generational or family connection to the community. Long-term residents may have a more traditional view of local farming, while newer residents, often more open to change, may more readily adopt

or support modern practices (Hayudini et al., 2023). This generational divide can lead to different perceptions about the same program's impact.

Recommendations for Tailoring Extension Programs, this variance in opinion based on years of residency suggests that extension programs, such as the MSU-Sulu Patikul Extension, may benefit from considering the length of time participants have lived in the community. Ezzat et al. (2020) argue that extension programs should tailor their messages and interventions to accommodate the varying levels of experience and expectations that come with differing lengths of residency. This could help address the needs of both new residents who may be unfamiliar with traditional practices and long-

term residents who may be more resistant to change.

The varying perceptions based on years of residency indicate that extension programs like MSU-Sulu Patikul need to recognize the diverse perspectives of residents with different lengths of engagement in the community. To improve the program's effectiveness, targeted approaches may be needed for new versus long-term residents, ensuring that both groups understand and benefit from the program in ways that reflect their unique experiences and expectations. By incorporating these insights, the program can become more inclusive and responsive to the specific needs of all students and community members.

Table 13. Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Years of Residency

		Sum of Squares	df	Mean Square	F	Sig.
Socio - Cultural	Between Groups	.088	2	.044	.612	.544
	Within Groups	7.367	102	.072		
	Total	7.456	104			
Economic	Between Groups	1.275	2	.637	8.653	.000
	Within Groups	7.515	102	.074		
	Total	8.790	104			
Environmental	Between Groups	1.549	2	.774	6.584	.002
	Within Groups	11.996	102	.118		
	Total	13.545	104			

Table 14. Post Hoc Test Significant Difference of Impact of MSU- Sulu COA Patikul Extension to the Students Residing within the Municipality of Patikul according to Years of Residency

Dependent Variable	(I) Years of Residency	(J) Years of Residency	Mean Difference (I-J)	Std. Error	Sig.
Socio-Cultural	9 YEARS	10 TO 20 YEARS	.15479	.13998	.513
	BELOW	21 YEARS AND ABOVE	.14352	.13926	.559
	10 TO 20 YEARS	9 YEARS BELOW	-.15479	.13998	.513
		21 YEARS AND ABOVE	-.01127	.05361	.976
	21 YEARS AND ABOVE	9 YEARS BELOW	-.14352	.13926	.559
		10 TO 20 YEARS	.01127	.05361	.976
Economic	9 YEARS	10 TO 20 YEARS	.23723	.14137	.219
	BELOW	21 YEARS AND ABOVE	.42037*	.14065	.010
	10 TO 20 YEARS	9 YEARS BELOW	-.23723	.14137	.219
		21 YEARS AND ABOVE	.18314*	.05415	.003
	21 YEARS AND ABOVE	9 YEARS BELOW	-.42037*	.14065	.010
		10 TO 20 YEARS	-.18314*	.05415	.003
Environmental	9 YEARS	10 TO 20 YEARS	.15266	.17862	.670
	BELOW	21 YEARS AND ABOVE	.37685	.17771	.091

Dependent Variable	(I) Years of Residency	(J) Years of Residency	Mean Difference (I-J)	Std. Error	Sig.
10 TO 20 YEARS		9 YEARS BELOW	-.15266	.17862	.670
		21 YEARS AND ABOVE	.22419*	.06841	.004
		9 YEARS BELOW	-.37685	.17771	.091
21 YEARS AND ABOVE		10 TO 20 YEARS	-.22419*	.06841	.004

The mean difference is significant at the 0.05 level.

Conclusion and Recommendations

The results of the study show that the impacts of the MSU-Sulu College of Agriculture Patikul Extension on students residing within the boundaries of Patikul Municipality have a positive influence on the students' socio-cultural, economic, and environmental aspects. The findings indicate that, in general, the students strongly agree or agree with the positive contributions of the extension program. This suggests that the Patikul Extension has made a significant impact on the students' academic and personal development. The program has fostered a strong impression on the students regarding the modern farming systems, environmental protection, and agricultural practices introduced through the curriculum (Aming-Hayudini et al., 2024).

The program not only helps the students fulfill their academic requirements (Hayudini et al., 2022), but also benefits their families by reducing basic expenses on agricultural products, as they now have access to fresh produce from the students' agricultural endeavors. Furthermore, the Patikul Extension has had a profound impact on encouraging students to prioritize education, steering them away from early marriage and family conflicts (Aming-Hayudini, Jaddani, et al., 2022). By focusing on self-development and learning, students are empowered to contribute positively to both their personal futures and their community's development (Warid-Sahial et al., 2024).

Given the positive outcomes observed, the researchers recommend the continued development and enhancement of the program. This includes further exposure for students to modernized farming systems and practices (Aming-Hayudini & Kasim, 2022). The development of the faculty is also crucial, with the suggestion to

provide continuous professional development opportunities for instructors through further education and training. This will ensure the program stays relevant and up to date with current agricultural practices. Additionally, the researchers recommend the expansion of laboratory and field facilities to better support students in their agricultural experiments and other academic tasks (Diamla et al., 2020).

Lastly, the researchers propose conducting further studies on faculty development and its impact on the success of the Extension Program. This would help assess the importance of continuous professional development for instructors and its positive impact on the students and the broader community.

Impact of Extension Programs on Students and Communities The positive impacts of extension programs on both students and communities have been well-documented. According to Zhou and Taylor (2017), agricultural extension programs play a crucial role in equipping students with knowledge and skills that have long-term benefits, not only for their personal development but also for the agricultural practices within their communities. These programs, especially those focused on modern farming techniques, help reduce poverty, improve food security, and enhance overall community well-being.

The Role of Education in Preventing Early Marriage and Family Conflict, research has shown that education, particularly in rural or underserved areas, is a key factor in delaying early marriage and reducing family conflicts. Bhatia and Shrestha (2016) found that educational programs focusing on skill development, including agricultural education, help young people prioritize their personal growth over traditional socio-cultural pressures like early

marriage. By providing students with opportunities for professional and academic development (Kasim & Aming-Hayudini, 2022), these programs foster a sense of purpose and direction that detracts from early marriage as an option.

The Importance of Faculty Development in Extension Programs, faculty development is an essential component of successful educational programs. Bendick and Nunez (2018) emphasize the need for continuous professional development for instructors to ensure that they are equipped with the latest knowledge and teaching strategies. Well-trained faculty members are crucial to maintaining high-quality instruction in extension programs, particularly in agriculture, where new technologies and practices rapidly evolve.

Providing Adequate Facilities for Agricultural Education, the availability of well-equipped laboratories and fieldwork facilities is critical for students studying agriculture. According to Tadesse and Bekele (2020), modern agricultural education requires state-of-the-art resources to facilitate practical learning. Access to up-to-date laboratories, equipment, and field space allows students to apply theoretical knowledge in real-world settings, improving their learning outcomes and better preparing them for careers in agriculture.

Sustainability of Agricultural Extension Programs, the sustainability of extension programs relies on continuous investment and adaptation to changing agricultural needs. Smith et al. (2019) argue that successful agricultural extension programs are characterized by their ability to evolve with technological advancements and changing socio-economic conditions. Therefore, ongoing investments in program development, faculty training, and infrastructure are necessary to ensure the program's long-term success.

The positive findings from the study highlight the critical role of the MSU-Sulu College of Agriculture Patikul Extension in shaping the socio-cultural, economic, and environmental outcomes for students. Through continued development and support in faculty training and infrastructural improvements (Santoso et al., 2023), the program has the potential to create an even greater impact, both for the students

and the surrounding community. Further research into the long-term effects of faculty development on program outcomes could provide valuable insights into the factors that drive success in such extension programs.

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