RESEARCH ARTICLE

Adoption and impact of organic farming practices among agricultural practitioners in Zamboanga del Sur, Philippines

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Organic farming has become a viable, sustainable method in areas where agriculture is a major part of the livelihood, such as Zamboanga del Sur. This research evaluated the adoption and influence of organic farming methods by agricultural practitioners in two districts in the province. It adopted a quantitative, descriptive-comparative research design and used a structured survey questionnaire. The data were analyzed using descriptive statistical analysis. independent samples t-test and the R programming. Results showed considerable disparities in practitioners' awareness levels, access to support services, and the level of organic farming practices across districts. Moderately to highly adopted were organic fertilization and pest management practices, indicating a decreased reliance on external inputs. Findings also showed that the perceived influence of organic farming was closely associated with years of experience in organic activities. The research finds that organic farming is practiced, but differences in institutional support and information dissemination influence its implementation. Enforcement of support services, especially on the supply of production inputs and transition subsidies, is suggested to promote the adoption and sustainability of organic farming systems.

Key Words: *Organic farming; Adoption; Sustainable agriculture; Support services; Agricultural practitioners; Philippines*

INTRODUCTION

Organic farming is a rising trend in global agriculture, aimed at promoting human health and ecosystem sustainability. It serves as a key alternative to conventional practices, emphasizes ecological balance, biodiversity, and reduced reliance on synthetic inputs, thereby improving soil fertility and mitigating environmental degradation [1,2]. Organic farming contributes to various Sustainable Development Goals (SDGs) by enhancing soil health and reducing pollution [3]. It aligns with climate-smart agricultural approaches designed to boost productivity and resilience while lowering greenhouse gas emissions [4-6]. Historically recognized since the mid-20th century, organic agriculture has grown significantly, now encompassing over 75 million hectares and 3.4 million certified producers worldwide, driven by consumer demand for sustainability and supportive policies [7].

Organic agriculture, integrating traditional practices with modern innovations, emphasizes methods like crop rotation and biological pest control while minimizing synthetic inputs. Although many farmers operate without certification, certified organic farming has become important for verifying sustainable practices and accessing premium markets [8]. In the Philippines, organic farming has steadily grown, with an increasing number of producers and supported by government initiatives. Rising chemical costs and growing awareness of health and environmental issues are driving the shift towards organic practices. The municipality of Dumingag in Zamboanga del Sur exemplifies local success in organic farming, receiving international recognition for its sustainable initiatives.

Within the First District, municipalities such as Midsalip and Mahayag are part of the Super5 Alliance together with Dumingag, Siayan, and Sindangan which promotes a unified system for the Sustainable Organic Agriculture Economic Corridor aimed at strengthening value chains and farmer networks [9]. In the Second District, municipalities including San Miguel, Dumalinao, Kumalarang, Tigbao, Bayog, and Lakewood have actively participated in national competitions on organic production of rice, corn, cassava, and vegetables, showcasing community-driven innovations supported by the Department of Agriculture [10].

Despite these developments, there remains a limited body of scholarly literature documenting organic farming practices in the province. A 2018 survey of 300 farmers in Zamboanga del Sur found that approximately 10% were already practicing organic production and using organic technologies, indicating both adoption and potential for expansion. This gap underscores the need for systematic research to document local practices and to analyze their socio-economic and ecological impacts, thereby contributing to evidence-based development and policy formulation.

Statement of the problem

It was the purpose of the study to examine the adoption and impact of organic farming practices among agricultural practitioners in Zamboanga del Sur during the academic year 2025-2026.

Specifically, the following sub-problems were discussed:

- What is the level of awareness of the participants on organic farming?
- What are the perceptions of the participants on organic farming?
- What is the level of availability of the support services?
- What is the extent of practices of organic management practices?
- What are the impacts of organic farming on the participants?
- Is there a significant relationship between the level of awareness, support services and the impact of organic farming on the practitioners?

MATERIALS AND METHODS

The research design used in this study was a descriptive-inferential design to explore the levels of awareness, practice, and perceived effect of organic farming among practitioners in Zamboanga del Sur. The survey questionnaire was designed as a structured survey questionnaire with closed-ended and open-ended questions, which were used to collect data. The open-ended questions were also deliberately placed to give respondents detailed opinions, suggestions, and insights. The instrument was expert-validated before deployment to ensure content and construct validity. It was

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done in the chosen towns of Zamboanga del Sur, Philippines, both District I and District II. The study sites were selected for their active involvement in organic farming and for their collaborations with the Agriculture Training Institute (ATI) and the Provincial Agriculture Office (PAO).

The research sample comprised organic farming practitioners identified from the PAO and ATI-IX databases, which include municipal agriculture offices and farmer associations. The inclusion criteria required that the practitioners have been involved in organic farming for at least 3 years or 6 farming cycles. A purposive sampling strategy was used to select participants who met these requirements. There were 30 interviewees, organic farming practitioners, who were contacted by visiting them in person and conducting phone interviews.

The questionnaires were translated into the vernacular language of the respondents, and respondents were free to answer in their preferred language. The presence of open-ended questions helped obtain qualitative information to support the quantitative data. The survey tool was based on the former research on organic farming and extension services, with some adjustments focused on the local conditions and research objectives.

The data were coded and analyzed with the help of the descriptive statistics (means, standard deviations, frequencies, and percentages) to evaluate: 1) Organic farming awareness levels. 2) Accessibility of practitioner support. 3) The level of usage of organic fertilization, pest management, and after-harvest methods. 4) The perceived effects of organic farming on the health, productivity, income, and well-being of practitioners.

Inferential statistics were employed to analyze the data. Differences between organic farming practitioners in District I and District II in terms of awareness, support services, level of practice adoption, and perceived impacts were examined using independent-samples t-tests. To determine the relationships between selected independent variables (e.g., age, years in farming, and years of practicing organic farming) and the perceived effects of organic farming, the Pearson Product-Moment Correlation Coefficient (r) was used. All statistical analyses were performed using R statistical software, which was utilized to compute test statistics and corresponding significance levels. The research assumes that the respondents provided accurate and truthful data. The small sample size (n=30) and self-reported data are also limitations, as they can lead to bias. Geographic and logistical factors restricted the number of potential practitioners in the rest of the province.

RESULTS AND DISCUSSION

Level of awareness

Practitioners' awareness of the principles of organic agriculture and related programs in both District I and District II was generally high (Table 1). However, respondents from District I demonstrated relatively higher awareness, particularly on certification standards and national organic agriculture programs, while District II showed moderate awareness in several indicators. These findings suggest spatial variation in awareness levels across the study area.

Empirical studies indicate that knowledge and awareness are critical determinants in the adoption of sustainable farming practices. Meemken and Qaim emphasize that access to information and training significantly predicts farmers' adoption of organic agriculture, particularly among smallholder farmers in developing countries. Similarly, exposure to agricultural information has been shown to enhance farmers' awareness and willingness to adopt sustainable practices [11,12].

The independent-samples t-test further revealed a significant difference in awareness between the two districts. This implies that disparities in access to information and extension services may exist across locations. Therefore, the results highlight the need for targeted and localized extension strategies, especially in areas with comparatively lower awareness levels, to strengthen adoption and improve the effectiveness of organic agriculture programs.

TABLE 1
Practitioners' level of awareness of practitioners in District 1 and 2 of the province of Zamboanga del Sur on organic farming practices

Practitioners' awareness	District I WM	Adjectival equivalent	District II WM	Adjectival equivalent
On organic agriculture practices	3	Fully aware	3	Fully aware
On "Organic Act of 2010"	3	Fully aware	2.62	Fully aware
On certification standards for organic practices	2.76	Fully aware	2.15	Partially aware
Of national programs that support organic practices/ practitioners	2.71	Fully aware	2.31	Partially aware
Promotion of organic agriculture in the community	2.65	Fully aware	2.54	Partially aware
Of local initiatives in support of organic farming practices	2.53	Fully aware	2.54	Fully aware
Of other farmer-practitioners in the province	2.65	Fully aware	2.54	Fully aware
Average mean	2.76	Fully aware	2.53	Fully aware
Grand mean	2.64		Fully aware	

Practitioners' perception of organic farming

Positive attitudes toward organic farming were observed in both District I and District II, with respondents expressing strong agreement that organic farming practices enhance productivity and are applicable within their farms (Table 2). This indicates a generally favorable perception of organic agriculture across the study area.

These findings are consistent with Tambo et al. who reported that farmers' positive attitudes toward the perceived benefits of organic systems are significantly associated with higher adoption rates. From a theoretical perspective, this aligns with the Theory of Planned Behavior, which posits that behavioral intention is strongly influenced by attitudes toward the behavior, particularly perceived usefulness and ease of implementation [13]. In this context, favorable perceptions increase farmers' motivation and willingness to adopt and sustain organic practices.

Furthermore, empirical evidence suggests that positive attitudes, when combined with adequate awareness and knowledge, strengthen the likelihood of innovation adoption in agriculture. Gebremedhin et al. found that farmers' attitudes significantly influence the adoption of sustainable agricultural technologies, reinforcing the role of psychological and cognitive factors in shaping adoption behavior. These results imply that strengthening positive perceptions through continuous extension support and demonstration activities may further enhance organic farming adoption in the study area.

Table 2
Organic practitioners' perception on organic farming practices in districts I and II of the province of Zamboanga del Sur

Practitioners' perceptions on organic arming	District I (n=17)		District II (n=13)	
	WM	AE	WM	AE
Believe that organic farming helps improve/increase the productivity of the farm	4.82	Strongly agree	4.62	Strongly agree
Believe that organic management practices are easy to employ	4.82	Strongly agree	2.69	Neutral
Average mean	4.82	Strongly agree	3.66	Agree
Grand mean	4.24	Strongly agree		

Services availed

Technical support, certification assistance, access to organic inputs, and training services are critical institutional components for the successful implementation of organic farming systems. Results show that these support services were more accessible to practitioners in District I compared to those in District II (Table 3). Both districts, however, reported limited access to certification subsidies and farm mechanization support, indicating systemic gaps in institutional assistance.

This finding is consistent with international evidence emphasizing the importance of institutional support in the adoption of sustainable agricultural practices. Studies have shown that access to extension services, policy incentives, and input support systems significantly enhances farmers' likelihood of adopting organic and climate-smart farming technologies [14,15]. These institutional factors reduce transition costs and improve farmers' capacity to comply with organic standards.

The independent-samples t-test further revealed a significant difference in support services between the two districts, confirming spatial disparities in access to institutional resources. This result underscores the need to strengthen localized extension systems, improve access to certification support, and expand farmer training programs to ensure more equitable adoption of organic farming practices.

TABLE 3
Level of availability of the different kinds of support services provided to organic practitioners in district I and II of Zamboanga del Sur

Support services provided to organic practitioners	District I (n=17)		District II (n=13)	
	WM	AE	WM	AE
Training				
On organic agriculture practices	2	Availed	2	Availed
On organic farm management	1.88	Availed	1.46	Not availed
On production of farm inputs	2	Availed	2	Availed
On utilization and application of organic farm inputs	1.88	Availed	2	Availed
On marketing of organic products	1.82	Availed	1.46	Not availed
On policy and standards of organic products and processing	1.7	Availed	1.23	Not availed
Assistance from a technician (Farm visits)	1.65	Availed	1.69	Availed
Organic production inputs (seeds, soil enhancer/ amendments/fertilizers and other inputs)	1.47	Not availed	1.31	Not availed
Mechanization (Equipment and tools)	1.29	Not availed	1.23	Not availed
Certification process (subsidy)	1	Not availed	1	Not availed

Average weighted mean	1.87	Availed	1.84	Availed
Grand mean	1.86	Availed		

Extent of practice of organic management

Fertilization management: There was no statistically significant difference in the practice of organic fertilization between practitioners in District I and District II (Table 4). However, descriptive results indicate that the application of vermicompost and organic concoctions was moderately consistent among respondents, while practices such as crop rotation, mulching, and the use of Indigenous Microorganisms (IMOs) were rarely practiced. This suggests that organic fertilization practices are selectively adopted depending on accessibility, familiarity, and resource availability.

These findings are consistent with established evidence that the adoption of organic nutrient management practices is strongly influenced by farmers' access to knowledge, extension services, and organic inputs. The Food and Agriculture Organization highlights that successful organic soil management depends on the availability of organic resources, farmer training, and institutional support systems [15]. Likewise, empirical studies show that adoption of organic and sustainable soil fertility practices is shaped by farmer experience, access to inputs, and human capital development, which determine the extent of technology uptake in smallholder systems [16-18].

The absence of a significant difference between districts suggests that variations in fertilization practices are more individual- or resource-driven rather than location-specific. This implies that improving access to organic inputs, strengthening extension services, and enhancing farmer capacity-building programs may be more effective than geographically targeted interventions in promoting the comprehensive adoption of organic fertilization practices.

TABLE 4
Extent of practiced of organic fertilization management employed by practitioners in the two districts of Zamboanga del Sur

Fertilization management practices	1st district (n=17)		2nd district (n=13)	
	WM	AE	WM	AE
Use of vermicompost/vermicast/ Vermitea	2.35	Sometimes practiced	3.38	Always practiced
Use of concoctions	2.41	Sometimes practiced	2.77	Frequently practiced
Use of animal manure	1.7	Not practiced	2.23	Sometimes practiced
Use of ordinary composts	3.4	Always practiced	2.92	Frequently practiced
Use of commercial organic fertilizers	1.41	Not practiced	1.23	Not practiced
Use of crop rotation	2.06	Sometimes practiced	1	Not practiced
Cover cropping/green manuring	1.29	Not practiced	1	Not practiced
Use organic mulch	1.29	Not practiced	1	Not practiced
Use of IMOs	1.29	Not practiced	1.12	Not practiced
Average WM	1.91	Sometimes practiced	1.85	Sometimes practiced
Grand mean	1.88	Sometimes practiced		

Pest management: Practitioners from both District I and District II predominantly used cultural pest control methods, while botanical and biological control methods were less frequently practiced (Table 5). This indicates that farmers are more familiar with traditional and low-cost pest management strategies such as crop sanitation, field hygiene, and cultural practices, compared to more technical approaches such as biological control agents and botanical pesticides.

This pattern is consistent with findings in agroecological literature, which show that farmers tend to adopt cultural pest management strategies earlier and more extensively due to their simplicity, low cost, and reliance on indigenous knowledge systems [19,20]. In contrast, biological and botanical pest control methods often require additional technical knowledge, access to inputs, and training, which may limit their adoption in smallholder farming systems [21,22].

The absence of a significant difference between districts suggests that pest management practices are relatively uniform across locations and are more influenced by farmer-level knowledge and resource availability rather than geographic factors. This highlights the need for strengthened extension services and targeted training programs to improve farmer capacity in adopting advanced biological pest management strategies within organic farming systems.

TABLE 5
Extent of practice of organic pest management employed by practitioners in the two (2) districts of Zamboanga del Sur

Pest management practices	1st dist (n=17)		2nd dist (n=13)	
	WM	AE	WM	AE
Use of botanical pesticides	1.71	Not practiced	1.46	Not practiced

Use of biological agents	1.65	Not practiced	1.54	Not practiced
Use of cultural (management) techniques	3.06	Frequently practiced	3.15	Frequently practiced
Average WM	2.14	Sometimes practiced	2.05	Sometimes practiced
Grand mean	2.10	Sometimes practiced		

Post-harvest management: In post-harvest organic practices, harvesting at physiological maturity and sun-drying were the most commonly used methods among practitioners (Table 6), while more specialized practices such as smoking for insect deterrence were rarely practiced. This pattern indicates that post-harvest handling in organic farming systems is largely dominated by simple, low-cost, and accessible techniques.

This finding is consistent with agroecological and post-harvest literature, which shows that smallholder farmers tend to rely on basic post-harvest practices due to limited access to storage infrastructure, processing technologies, and technical training [23]. In organic and low-input systems, post-harvest innovations are often constrained by resource availability and extension support, resulting in a reliance on traditional preservation methods [24,25].

The independent-samples t-test further revealed a significant difference in post-harvest practices between District I and District II ($t=3.659$, $p=0.001$), suggesting spatial variation in resource availability, infrastructure, and extension support services. This implies that differences in post-harvest practices are likely influenced by the uneven distribution of post-harvest facilities and technical assistance across districts, highlighting the need for strengthened local support systems to improve post-harvest efficiency in organic farming.

TABLE 6
Extent of practice of organic post-harvest management employed by practitioners in two (2) districts of Zamboanga del Sur

Post-harvest practices	District I (n=17)		District II (n=13)	
	WM	AE	WM	AE
Harvesting at complete maturity	4	Always practiced	4	Always practiced
Drying under the sun before storing	4	Always practiced	4	Always practiced
Addition of smoke to repel insects	1	Never practiced	1	Never practiced
Average WM	3	Frequently practiced	3	Frequently practiced
Grand mean	3	Frequently practiced		

Other post-harvest management practices

The study further examined respondents' marketing management practices and related post-harvest commercialization activities. As shown in Table 7, the marketing of organically grown products directly to household consumers was consistently practiced, with weighted mean scores not falling below 3.26 across both districts. This indicates a strong preference for direct marketing channels among organic farming practitioners.

In contrast, selling to wholesalers or traders was only sometimes practiced, with weighted mean scores of 1.82 in District I and 1.84 in District II. Likewise, marketing through "tabu-tabo" outlets and supermarkets was not practiced, as reflected in similar low weighted mean scores in both districts. Overall, the grand mean of 2.06 indicates that marketing management practices were generally moderately practiced by respondents.

These results suggest that organic farmers in the study area primarily rely on direct consumer markets rather than formal or institutional marketing channels, which may be influenced by limited market linkages, scale of production, and access to structured trading systems.

The marketing trend among respondents is predominantly oriented toward direct sales to household consumers, while participation in formal markets such as supermarkets remains limited. This pattern reflects the tendency of smallholder organic farmers to rely on short supply chains and direct marketing channels due to limited market linkages, small production volumes, and constraints related to certification and compliance requirements.

These findings are consistent with empirical evidence showing that organic products typically command a price premium in both local and international markets due to consumer willingness to pay for perceived health and environmental benefits [26,27]. Furthermore, organic certification and market differentiation have been shown to significantly influence agricultural product pricing and farm-level income potential [28].

TABLE 7
Extent of organic marketing management practices employed by practitioners in two districts of Zamboanga del Sur

Organic marketing management practices	District I (n=17)		District II (n=13)	
	WM	AE	WM	AE
Selling in Tabu-tabo	1.35	Not practiced	1.31	Not practiced
Selling in supermarkets	1.12	Not practiced	1	Not practiced

To wholesalers/retailers	1.82	Sometimes practiced	1.84	Sometimes practiced
Direct to household consumers	3.65	Always practiced	3.46	Always practiced
For consumption	4	Always practiced	3.77	Always practiced
For donation/charity	2	Sometimes practiced	1.38	Not practiced
Average WM	2.32	Sometimes practiced	2.13	Sometimes practiced
Grand mean	2.06	Sometimes practiced		

Price management practices

As shown in Table 8, pricing practices for organically grown products differ between the two districts. Offering products at a price higher than the prevailing market price of conventional commodities is always practiced in District I and sometimes practiced in District II. In contrast, selling organic products at a lower price is not practiced in both districts, indicating that price discounting is not a common strategy among respondents.

In District II, some respondents reported selling their organic products at prevailing market prices, similar to non-organic commodities, suggesting limited price differentiation in certain cases. Overall, the computed grand mean of 2.14 indicates that pricing strategies are generally sometimes practiced across both districts.

These findings are consistent with empirical evidence showing that organic products often command a price premium in markets due to consumer willingness to pay for perceived health, safety, and environmental benefits [29]. Studies further show that organic certification and product differentiation contribute to higher farm-gate prices and improved market value [30]. However, the ability of farmers to consistently apply premium pricing depends on market access, demand conditions, and the strength of local value chains [31].

Overall, the results suggest that organic farmers in the study area generally avoid price reduction strategies and tend to maintain or increase prices where possible, although consistency in premium pricing varies between districts due to differences in market structure and bargaining power.

TABLE 8
Extent of practice of price management employed by practitioners in two districts of Zamboanga del Sur

Pricing practices	District I (n=17)		District II (n=13)	
	WM	AE	WM	AE
the same as the prevailing price for similar commodities in the market	1.26	Not practiced	2.46	Sometimes practiced
lower prices than those of similar commodities in the market	1.35	Not practiced	1.53	Not practiced
Higher than the prevailing price of other similar commodities in the market	3.65	Always practiced	2.6	Frequently practiced
Average WM	1.04	Sometimes practiced	1.1	Sometimes practiced
Grand mean	1.07	Sometimes practiced		

Overall, price management among practitioners was moderate, although farmers in District I were more likely to charge higher prices compared to conventional (non-organic) products, as shown in Table 8. This suggests that some experienced practitioners may be developing differentiated marketing strategies that allow them to capture price premiums in niche or direct markets.

On the whole, practitioners in District I demonstrated higher levels of awareness, greater access to support services, and more extensive application of organic farming practices compared to those in District II. This pattern is consistent with established adoption theories, which emphasize that institutional support, farmer experience, access to resources, and information availability are key determinants of innovation adoption in agriculture [32].

Empirical literature further supports that disparities in adoption of agricultural innovations across locations are influenced by differences in extension services, market access, and socio-economic conditions, particularly among smallholder farming systems [33]. In the context of organic agriculture, such variations are also reflected in differences in fertilization, pest management, and marketing practices, aligning with broader global trends in smallholder adoption of sustainable farming systems.

The observed differences between districts highlight the importance of spatially targeted interventions that strengthen local extension systems, improve access to support services, and enhance farmer capacity-building initiatives to sustain long-term adoption of organic agriculture.

Impact of organic farming on practitioners in Districts I and II of Zamboanga del Sur

Organic farming has been widely recognized in global scientific literature for delivering multiple sustainability benefits compared with conventional agriculture. Evidence from large-scale meta-analyses shows that organic systems significantly enhance soil health, increase soil organic carbon, improve soil microbial activity, and support higher levels of biodiversity, while contributing to reduced environmental impacts [29]. Although yield levels in organic systems may vary and are sometimes lower than conventional systems, these differences are often context-dependent and influenced by crop type, management practices, and environmental conditions [22-25].

A global meta-analysis further confirms that organic farming systems consistently provide environmental benefits, particularly in terms of increased species richness, improved ecosystem functioning, and enhanced

soil carbon sequestration. In addition, soil-focused studies demonstrate that organic management practices such as compost application, crop rotation, and reduced synthetic inputs significantly improve soil organic carbon levels and microbial activity, which are critical indicators of long-term soil fertility and resilience.

These findings have important implications for farmer practitioners, particularly in relation to long-term sustainability, ecosystem services, and livelihood resilience. Organic farming systems typically rely on diversified cropping, organic amendments, and biologically based nutrient cycling, which collectively contribute to improved soil fertility and resource-use efficiency over time.

In this study, the perceived impacts of organic farming among practitioners in Zamboanga del Sur were assessed across five domains: (1) Health benefits,(2) Food and nutritional benefits, (3) Manageability of organic farming practices, (4) Availability of resources, and (5) Economic outcomes, including profitability, affordability, and sustainability.

TABLE 9
Extent of impact of organic farming on practitioners

Impact	District I		District II	
	WM	AE	WM	AE
Health benefits	2.94	Frequently observed	2.41	Frequently observed
Food and nutrition benefits	2.94	Frequently observed	2.41	Frequently observed
Manageability (Easy to practice and manage)	3.76	Always observed	2.18	Frequently observed
Resources availability	3.35	Always observed	1.88	Sometimes observed
Economic benefits	3.76	Always observed	1.65	Not observed
Profitability	3.76	Always observed	1.65	Not observed
Affordability	3.76	Always observed	2.35	Frequently observed
Sustainability	4	Always observed	4	Always observed
Average WM	3.66	Always observed	2.32	Frequently observed
Grand mean	2.99	Frequently observed		

The results in Table 9 indicate that practitioners in District I consistently perceived higher impacts of organic farming across multiple dimensions compared to those in District II. In District I, respondents reported that organic farming was generally manageable, economically beneficial, affordable, and sustainable. In contrast, respondents from District II reported comparatively lower levels of perceived impact, particularly in terms of economic benefits and profitability.

The lower perceived economic impact in District II may be attributed to shorter duration of practice, weaker market integration, and limited access to premium organic markets. This aligns with empirical evidence showing that while organic farming systems can provide price premiums, actual profitability is highly dependent on certification status, market access, and supply chain development. Studies also emphasize that the economic performance of organic systems is context-dependent and influenced by institutional and market conditions rather than production alone.

The grand mean of 2.99 suggests that the perceived impact of organic farming across both districts was generally high, although with notable variation between locations. The independent-samples t-test further revealed a significant difference ($p<0.05$) in overall impact between District I and District II, indicating that practitioners in District I experienced significantly greater perceived benefits from organic farming than those in District II. This highlights the role of uneven market access, experience, and institutional support in shaping the realized benefits of organic farming systems.

Relationship of independent variables to impact of organic farming

This part revealed and described how some independent variables, such as the level of awareness and support services and relate to the impact of organic farming on practitioners in District I and District II of Zamboanga del Sur. Statistical analyses are displayed in Tables 10.

TABLE 10
Summary of the tests for significant relationship between the level of awareness and support services and the impact of organic farming

Variables	r-value	p-value	Decision
Awareness and support services and impact of organic farming			
District I	0.507	0.038	Significant
District II	0.722	0.005	Significant

District II exhibited a relatively stronger association between awareness, support services, and perceived impact, suggesting that practitioners with higher levels of awareness of organic farming practices and greater access to institutional support tend to report more favorable perceptions of its benefits. This indicates that knowledge dissemination and strengthened extension and support systems play a critical role in shaping farmers' recognition of the advantages of organic agriculture, particularly in terms of productivity, manageability, and sustainability outcomes.

This finding is consistent with established adoption theories and empirical evidence showing that information access, extension services, and institutional support significantly influence farmers' perceptions and adoption of sustainable agricultural practices. Similarly, studies in sustainable

agriculture highlight that awareness and advisory support are key drivers of farmers' perceived benefits and willingness to adopt organic and climate-smart practices. These results reinforce the importance of strengthening local extension systems and knowledge-sharing mechanisms to enhance both adoption and perceived impact of organic farming practices.

Statistical analysis using Pearson's correlation coefficient (r) revealed a significant relationship between the level of awareness on organic farming and the extent of availability of support services with the perceived impact of organic farming among practitioners in District I (n=13), at the 0.01 level of significance (two-tailed test). This indicates that both awareness and access to support services are significantly associated with the perceived impact of organic farming in District II.

These findings are consistent with established adoption and diffusion theories, which emphasize that awareness, access to information, and institutional support are key determinants of perceived benefits and adoption behavior in agriculture. Empirical studies further confirm that extension services and knowledge dissemination significantly influence farmers' adoption decisions and perceived outcomes of sustainable agricultural practices. These results highlight the importance of strengthening extension systems and improving access to support services to enhance both adoption and perceived impact of organic farming practices.

CONCLUSION

This study demonstrates that organic farming in Zamboanga del Sur is characterized by relatively high levels of awareness and generally favorable perceptions among practitioners, but only moderate adoption of key practices, particularly in fertilization and pest management. The gap between awareness and actual practice reflects constraints in knowledge application, resource access, and technical capacity.

However, disparities observed between districts point to structural limitations, including uneven extension delivery, limited certification support, and weak market integration. The limited adoption of marketing and pricing strategies further indicates that organic farming in the study area remains largely production-oriented rather than market-driven.

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