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Opportunities and Challenges of Micro and Small Agribusiness Enterprises in Zambales, Philippines

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Abstract:
This study examined the opportunities and challenges of micro and small agribusiness enterprises in the province of Zambales using a quantitative research design. A total of sixty (60) respondents participated in the study. Findings revealed that most respondents were male, in late adulthood, married, had low income, had been operating for almost a decade, and were engaged in the production sector of agribusiness. In terms of opportunities, respondents strongly agreed on market accessibility, market demand conditions, and technological adoption, while they agreed on financing and investment, and government and institutional support. Regarding challenges, respondents agreed that competition, resources and capital, climate and environmental risks, infrastructure and logistics constraints, and regulatory and compliance issues affected their agribusiness operations. The study further showed significant differences in the level of opportunities and challenges when respondents were grouped according to selected profile variables such as sex, age, civil status, monthly income, years in operation, and type of agribusiness sector. These results indicate that demographic and business characteristics influence how agribusiness entrepreneurs experience opportunities and challenges. Based on the findings, a proposed action plan was developed to enhance micro and small agribusiness enterprises in Zambales through strengthened linkages, market intelligence, capacity-building, inclusive financing, participatory governance, product differentiation, resource optimization, climate resilience, infrastructure support, and streamlined regulatory processes for sustainable development and long-term growth.

Keywords: Agribusiness, Micro and Small Enterprise, Challenges, Opportunities

I. INTRODUCTION

Agribusiness entrepreneurship is increasingly recognized as a strategic pathway for addressing global concerns such as food security, resource scarcity, climate change, rural poverty, and inclusive economic development. In many developing countries, however, agribusiness enterprises continue to face structural constraints in both production and consumption systems. These include limited access to technology, weak infrastructure, fragmented supply chains, land tenure issues, market inefficiencies, unequal food distribution, nutrition gaps, and limited consumer education. Such challenges restrict the capacity of agribusinesses to grow sustainably and compete in modern markets. Because of this, international organizations and development institutions emphasize the need to empower agribusiness entrepreneurs through innovation, improved food systems, inclusive market participation, and sustainable enterprise development [1].

Global discussions on agribusiness, including the 4th Global Agribusiness Management and Entrepreneurship Conference, highlight that modern agribusiness enterprises must respond to emerging market conditions shaped by digitalization, sustainability demands, changing consumer awareness, and stronger competition [2]. These developments show that agribusiness entrepreneurship is no longer limited

to farming and production alone but now includes financial management, marketing capability, technical competence, leadership, innovation, and strategic decision-making. In this context, Strengthening the competencies of agribusiness entrepreneurs can improve resilience, productivity, and social impact within the agricultural sector. Thus, developing entrepreneurial skills among agribusiness owners becomes essential in helping them adapt to changing environments, access new markets, and contribute to sustainable rural development.

In the Philippine context, agriculture remains important in employment generation, food production, and rural livelihood development [3]. Government initiatives such as the Agribusiness Support for Promotion and Investment in Regional Expositions and programs of the Agricultural Training Institute aim to improve market access, financing opportunities, and entrepreneurial capacity among agricultural stakeholders [4]. Despite these efforts, the sector continues to experience modest growth, low productivity, climate-related risks, limited capital, and inadequate entrepreneurial skills [5][6]. In Zambales, agribusiness activities such as mango farming, hydroponics, fisheries-related ventures, and small-scale food enterprises present promising opportunities, yet local entrepreneurs still face challenges in capital resources, competitiveness, technology access, and environmental vulnerability [7]. These conditions justify the need to assess the opportunities and challenges faced by micro and small agribusiness enterprises in Zambales as a basis for developing a strategic action plan.

OBJECTIVE

This study aimed to assess the opportunities and challenges of micro and small agribusiness enterprises in the province of Zambales. It included the profile of the respondents, the opportunities available, and challenges encountered by agribusiness entrepreneurs.

The profile of the respondents covered only sex, age, civil status, monthly income, years in the operation and type of agribusiness sector. The level of opportunities available to agribusiness entrepreneurs focused only on market accessibility, market demand conditions, technological adoption, financing and investment, and government and institutional support.

In addition, the level of challenges encountered by agribusiness entrepreneurs was limited to competition, resources and capital, climate and environmental risks, infrastructure and logistics constraints, and regulatory and compliance.

This study was composed of sixty (60) respondents, covering the micro and small agribusiness enterprises from the municipality of Palauig, Iba, Botolan, Cabangan.

A researcher-made survey questionnaire was designed to provide the needed data. Data was accumulated through the survey questionnaire checklist. The method employed in this research is a descriptive survey in which data were gathered and analyzed using different statistical tools.

The researcher followed the research ethics where the names, personal data, and responses of the respondents were held confidential.

II. MATERIAL AND METHODS

Research Design

This study employed a descriptive quantitative research design to systematically describe the profile, opportunities, and challenges encountered by agribusiness entrepreneurs in the Province of Zambales. Descriptive research is appropriate when the researcher aims to present an accurate account of a population, condition, or phenomenon as it naturally exists, without manipulating variables or introducing any intervention [8][9]. In the same manner, a descriptive design allows the researcher to collect measurable data that can summarize respondents' perceptions, experiences, and observed conditions in

numerical form [9]. Hence, this design was suited to the present study because it examined the existing conditions of Agribusiness MSMEs, particularly in terms of market accessibility, market demand, technological adoption, financing and investment, government and institutional support, competition, resources and capital, climate and environmental risks, infrastructure and logistics constraints, and regulatory compliance. Through this approach, the researcher was able to generate objective and quantifiable findings that served as basis for developing a proposed action plan to enhance Agribusiness MSMEs in the Province of Zambales.

Respondents and Location

The respondents included a total population of Sixty (60) agribusiness entrepreneur-respondents, which were categorized into three sectors: production, processing, and agri-fishery fresh commodities from the selected municipalities in Zambales namely Palauig, Iba, Botolan, Cabangan. The study was conducted across selected municipalities in Zambales, focusing on micro and small agribusiness enterprises engaged in production, processing, and agri fishery fresh commodities. Respondents were officially listed in the registry of the 41 Provincial Department of Agriculture. Data were gathered from entrepreneurs operating within the following municipalities: Botolan, Cabangan, Iba, Palauig. These locations represented diverse agricultural zones and institutional contexts relevant to the study's objectives.

Research Instrument

The study used a quantitative research method. The researcher employed a self made questionnaire to gather data that were used in the study and distributed to the respondents to collect the quantitative data. The questionnaire was composed of three (3) parts. The first part dealt with respondents' profiles in terms of in terms of sex, age, civil status, monthly income, years 42 in the operation, and type of agribusiness sector. The second part dealt on the opportunities available to agribusiness entrepreneurs in terms of market accessibility, market demand conditions, technological adoption, financing and investment, and government and institutional support. And the third part dealt on the challenges encountered by agribusiness entrepreneurs focusing on the competition, resources and capital, climate and environmental risks, infrastructure and logistics constraints, and regulatory and compliance.

To test the reliability of the survey questionnaire, Cronbach's Alpha was employed using SPSS version 20. The data used for the reliability test were gathered from fifteen (15) non-respondents to ensure that the actual respondents of the study were not influenced.

Based on the results, Market Accessibility obtained a Cronbach's Alpha of 0.727 (acceptable). Market Demand Conditions scored 0.779 (acceptable), Technological Adoption 0.771 (acceptable), and Financing and Investment 0.721 (acceptable). Government and Institutional Support showed the highest reliability at 0.822 (good). Overall, the survey instrument demonstrated acceptable to good reliability, indicating its suitability for assessing agribusiness opportunities.

Data Collection and Analysis

Quantitatively, the survey was conducted, and the questionnaire was distributed to the research study's respondents after they had given consent to voluntarily participate in this study. Before the conduct of the study, the researcher asked for permission from the target respondents.

After getting the approval, the researcher personally visited the municipalities where respondents were staying to administer the questionnaire. The questionnaires were distributed to the respondents and collected after they had finished accomplishing the instrument.

After all responses were gathered, the researcher carefully checked, organized, and tabulated the data. The collected data were then encoded, summarized, and subjected to statistical analysis, particularly the

computation of weighted mean and other relevant statistical tools, to determine the level of employee job satisfaction and serve as the basis for organizational development recommendations.

Since this research study is quantitative in nature the statistical tools such as percentage, frequency distribution, weighted mean, and ANOVA were used to analyze the data statistically.

Table 1- Likert Scale on the Level of Employee Job Satisfaction Working in Beach Resorts in Iba, Zambales

Point	Point Scale	Verbal Interpretation	Symbols
4	3.26 - 4.00	Strongly Agree	SA
3	2.51 - 3.25	Agree	A
2	1.76 - 2.50	Disagree	D
1	1.00 – 1.75	Strongly Disagree	SD

III. RESULTS AND DISCUSSION

1. Profile of the respondents

Table 2 shows the Frequency and Percentage Distribution of the Respondents in terms of Sex.

Table 2- Frequency and Percentage Distribution of the Respondents in terms of Sex

Profile Variable		Frequency (f)	Percentage (%)
Sex	Male	35	58.33
	Female	25	41.67
	Total	**60**	**100.00**

1.1 Sex. Out of the Sixty (60) respondents, the majority of 35, equivalent to 58.38% were from male; and 25 or equivalent to 41.67% were female**.** The predominance of males in agribusiness may be associated with long-standing socio-cultural norms that form occupational roles and expectations.

In many rural and agricultural communities, farming and agribusiness activities are traditionally perceived as male-oriented tasks, often linked to physical labor and land management responsibilities. Gender roles in agriculture frequently assign men to productive and income-generating activities, while women are more engaged in supportive or household-related roles, which can influence participation patterns in agribusiness ventures [10].

Table 3 shows the Frequency and Percentage Distribution of the Respondents in terms of Age.

Table 3- Frequency and Percentage Distribution of the Respondents in terms of Age

Profile Variable		Frequency (f)	Percentage (%)
Age Mean=45.67 years old	66 and above	12	20.00
	61–65	9	15.00
	51–55	5	8.33
	46-50	1	1.67
	41-45	7	11.67
	36-40	6	10.00

	31-35	8	13.33
	26-30	5	8.33
	21-25	7	11.67
	Total	**60**	**100.00**

1.2 Age. Out of the Sixty (60) respondents, the majority of 12 or equivalent to 20.00% were from 66 and above; 9 or equivalent to 15.00% were from 61 to 65 years old, 8 or equivalent to 13.33% were from 31 to 35 years old; 7 or equivalent to 11.67% were from 41 to 45 years old and 21-25 years old; 6 or equivalent to 10.00% were from 36-40 years old; and 1 or equivalent to 1.67% were from 46 to 50 years old. The computed age mean of the respondents was 45.67 years old. This implies that the greater participation of the elderly group in agribusiness may be explained by the aging pattern of the agricultural workforce.
In many countries, including the Philippines, agriculture has remained heavily dependent on older farmers because younger people often move to non-farm jobs, urban employment, or other career paths. This makes agribusiness more concentrated among older age groups who have stayed in farming and related enterprises over time. The challenge of weak generational renewal in agrifood systems, while World Bank reporting on Philippine agriculture also describes a farming population that is older and long engaged in the sector [11].

Table 4 shows the Frequency and Percentage Distribution of the Respondents in terms of Civil Status.

Table 4- Frequency and Percentage Distribution of the Respondents in terms of Civil Status

Profile Variable		**Frequency (f)**	**Percentage (%)**
Civil Status	Single	20	33.33
	Married	38	63.33
	Widow/Widower	2	3.33
	Total	**60**	**100.00**

1.3 Civil Status. Out of the Sixty (60) respondents, the majority of 38, equivalent to 63.33% were from Married; 20 or equivalent to 33.33% were from Single; and 2 or equivalent to 3.33% were from Widow/Widower. This indicates that more married individuals may be engaged in agribusiness is that marriage can increase access to shared household labor, joint decision-making, and family-based production support.
In agricultural settings, spouses often participate in farming and enterprise activities together, which can make agribusiness more manageable and sustainable at the household level This kind of shared involvement may encourage married individuals to remain active in agribusiness because labor, responsibilities, and farm decisions are often distributed within the family [12].

Table 5 shows the Frequency and Percentage Distribution of the Respondents in terms of Monthly Income.

Table 5- Frequency and Percentage Distribution of the Respondents in terms of Monthly Income

Profile Variable		**Frequency (f)**	**Percentage (%)**
Monthly Income Mean=40,625	100001 and above	6	10.00
	60001 – 70000	4	6.67
	50001 – 60000	13	21.67
	Less than 50000	37	61.67
	Total	**60**	**100.00**

1.4 Monthly Income. Out of the Sixty (60) respondents, the majority of 37 or equivalent to 61.67% were from Less than 50000; 13 or equivalent to 21.67% were from 50001 to 60000; 6 or equivalent to 10.00% were from 100001 and above; and 4 or equivalent to 6.67% were from 60001 to 70000. The computed monthly income mean of the respondents was 40,625. This means that the higher participation of low-income individuals in agribusiness may be associated with the sector's accessibility as a primary source of livelihood.

Agriculture remains one of the most readily available economic activities, requiring relatively lower entry barriers compared to formal employment or capital-intensive industries. Individuals with limited income often engage in agriculture because it provides immediate opportunities for subsistence and income generation, even with minimal financial resources [13].

Table 6 shows the Frequency and Percentage Distribution of the Respondents in terms of Years in Operation.

Table 6- Frequency and Percentage Distribution of the Respondents in terms of Years in Operation

Profile Variable		**Frequency (f)**	**Percentage (%)**
Years in Operation Mean=6.48 years	1-2 years	14	23.33
	3-4 years	8	13.33
	5-6 years	7	11.67
	7-8 years	2	3.33
	9-10 years	18	30.00
	11 years and above	11	18.33
	Total	**60**	**100.00**

1.5 Years in Operation. Out of the Sixty (60) respondents, the majority of 18 or equivalent to 30.00% were from 9 to 10 years; 14 or equivalent to 23.33% were from 1 to 2 years; 11 or equivalent to 18.33% were from 11 years and above; 8 or equivalent to 13.33% were from 3 to 4 years; 7 or equivalent to 11.67% were from 5 to 6 years; and 2 or equivalent to 3.33% were from 7 to 8 years. The computed years of operation mean of the respondents was 6.48 years. people with almost a decade of experience are into agribusiness is that years of direct involvement tend to build confidence in entrepreneurial decision-making.

individuals who have spent many years in farming or related agricultural activities usually gain practical skills, stronger problem-solving ability, and a better understanding of how the business works in real conditions. Farming experience positively contributes to entrepreneurial decisions, suggesting that people with longer exposure to agriculture are more likely to continue or expand into agribusiness rather than leave the sector [14].

Table 7 shows the Frequency and Percentage Distribution of the Respondents in terms of Type of Agribusiness..

1.6 Type of Agribusiness Sector. Out of the Sixty (60) respondents, the majority of 31 or equivalent to 51.67% were from Production; 20 or equivalent to 33.33% were from Processing; and 9 or equivalent to 15.00% were from Agri-Fishery Commodities. This means that more people are engaged in the production side of agribusiness is that production is often the most direct and familiar point of entry into the agricultural value chain.

Table 7- Frequency and Percentage Distribution of the Respondents in terms of Type of Agribusiness

Profile Variable		Frequency (f)	Percentage (%)
Type of Agribusiness Sector	Production	31	51.67
	Processing	20	33.33
	Agri-fishery Commodities	9	15.00
	Total	**60**	**100.00**

Many individuals begin with farming, livestock raising, or crop cultivation because these activities are closely connected to available land, family labor, and existing local knowledge. Smallholders commonly participate first in production activities before moving into other value-adding functions, which helps explain why production tends to attract more participants than other agribusiness segments [11].

2. Level of opportunities available to agribusiness entrepreneurs.

Table 8 shows the Summary of the level of opportunities available to agribusiness entrepreneurs.

Table 8- Summary of the level of opportunities available to agribusiness entrepreneurs

	Dimensions	Overall Weighted Mean	Qualitative Interpretation	Rank
1	Market accessibility	3.36	Strongly Agree	3
2	Market demand conditions	3.57	Strongly Agree	1
3	Technological adoption	3.38	Strongly Agree	2
4	Financing and investment	3.11	Agree	5
5	Government and institutional support	3.14	Agree	4
	Grand Mean	**3.31**	**Strongly Agree**	

The respondents assessed "Strongly Agree" on indicator, "*Market demand conditions,"* with a weighted mean of 3.57 and ranked 1. However, "*Financing and,"* with a weighted mean of 3.11 and ranked 5. The computed overall weighted mean on the Level of opportunities available to agribusiness entrepreneurs was 3.31 with a qualitative interpretation of *"Strongly Agree."* This implies that market demand plays a crucial role in the growth and sustainability of agribusiness enterprises. Strong demand for agricultural products creates favorable business conditions that encourage entrepreneurs to increase production and expand their operations.

High demand for agricultural goods creates conditions that encourage entrepreneurs to increase production and broaden their operations. In this context, demand functions as a signal that the market is capable of supporting continued business activity and expansion. This means that agribusiness entrepreneurs are more likely to view market demand as a concrete opportunity for improving sales performance and sustaining their enterprises over time [15].

Another point worth considering is that favorable demand conditions influence how entrepreneurs assess the future potential of their products. When agribusiness entrepreneurs perceive the market as promising, they tend to become more willing to invest in better production capacity, enhanced product quality, and more effective marketing strategies. For that reason, positive demand conditions do not simply reflect present sales opportunities; they also shape entrepreneurial confidence and strategic decision-making [16].

3. Level of challenges encountered by agribusiness entrepreneurs.

Table 9 shows the Summary of the level of challenges encountered by agribusiness entrepreneurs.

Table 9- Summary of the level of challenges encountered by agribusiness entrepreneurs

	Dimensions	Overall Weighted Mean	Qualitative Interpretation	Rank
1	competition	2.93	Agree	4
2	resources and capital	2.90	Agree	5
3	climate and environmental risks	3.14	Agree	1
4	infrastructure and logistics constraints	3.08	Agree	2
5	regulatory and compliance	2.98	Agree	3
	Grand Mean	**3.01**	**Agree**	

The respondents assessed "Agree" on all indicators, "*Climate and environmental risks,"* with a weighted mean of 3.14 and ranked 1. Additionally, "*Resources and capital,"* with a weighted mean of 2.90 and ranked 5. The computed overall weighted mean on the Level of challenges encountered by agribusiness entrepreneurs was 3.01 with a qualitative interpretation of *"Agree."* This implies that environmental conditions significantly influence the success and stability of agribusiness operations. Agricultural activities are directly connected to natural ecosystems, making them particularly vulnerable to environmental disruptions such as extreme weather events, soil degradation, and changing climate patterns.

Environmental challenges often require entrepreneurs to continuously adjust their farming practices and production strategies. In this context, agribusiness operators must remain flexible and adaptive in order to sustain productivity despite environmental uncertainties, which adds complexity to routine operation [17]s.

In addition, environmental risks introduce a high degree of uncertainty in business planning and decision-making. fluctuating environmental conditions make it difficult for entrepreneurs to accurately predict production outcomes, regulate supply levels, and ensure consistent product availability in the market. As this uncertainty persists, agribusiness entrepreneurs may face challenges in aligning production with demand, which can negatively affect both revenue stability and market reliability [18].

4. Test of difference in the level of opportunities available to agribusiness entrepreneurs when group according to profile variables.

4.1 Market accessibility. The computed value of 0.133 for civil status, and 0.142 for monthly income were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market accessibility when group according to profile variables. On the other hand, the computed value of 0.015 for sex, and 0.001 for age, 0.000 for years in the operation, and 0.000 for type of agribusiness sector were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market accessibility when group according to profile variables. This means that there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market accessibility when grouped according to sex, age, years in operation, and type of agribusiness sector may be justified by the reality that not all entrepreneurs possess the same capacity to reach and penetrate broader markets.

Variations in knowledge, financial strength, and available resources may lead to unequal access to transport channels, marketing networks, and selling opportunities, thereby creating differences in market

accessibility among agribusiness entrepreneurs Some entrepreneurs may be in a better position to market their products effectively, while others may encounter more barriers due to limited means and fewer support mechanisms [19].

4.2 Market demand conditions. The computed value of 0.112 for sex, 0.173 for civil status, and 0.186 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market demand conditions when group according to profile variables. On the other hand, the computed value of 0.000 for age, and 0.001 for monthly income, 0.036 for years in the operation, and 0.000 for type of agribusiness sector were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market demand conditions when group according to profile variables. This indicates that there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of market demand conditions when grouped according to age, monthly income, and years in operation may be explained by the fact that not all entrepreneurs have the same ability to recognize and respond to shifts in consumer demand.

Some are in a more favorable position because they possess stronger business experience, better resources, or wider market connections, which allow them to identify and act on emerging opportunities more effectively. Seen from this angle, market demand conditions are not interpreted uniformly, since the entrepreneur's personal and business background can be a factor how such opportunities [20].

4.3 Technological adoption. The computed value of 0.229 for sex, 0.994 for civil status, 0.387 for monthly income, 0.586 for years in the operation, and 0.256 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of technological adoption when group according to profile variables. On the other hand, the computed value of 0.012 for age was less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of technological adoption when group according to profile variables. This means that A significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of technological adoption when grouped according to age may stem from varying levels of openness and capacity to integrate innovation.

Some entrepreneurs are more inclined to adopt modern technologies such as advanced farming equipment, digital marketing platforms, and improved production techniques, particularly those who possess higher technological knowledge or stronger financial resources [21].

4.4 Financing and investment. The computed value of 0.652 for sex, and 0.592 for civil status were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of financing and investment when group according to profile variables. On the other hand, the computed value of 0.000 for age, 0.015 for monthly income, 0.001 for years in the operation, and 0.000 for type of agribusiness were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of financing and investment when group according to profile variables. This implies that a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of financing and investment when grouped according to age, monthly income, years in operation, and type of agribusiness sector may be explained by disparities in financial capacity and business maturity.

Entrepreneurs with established enterprises and strong financial records are more likely to access loans, grants, and investment support, whereas newer or smaller businesses often face constraints in securing such financial resources [22].

4.5 Government and institutional support. The computed value of 0.103 for sex, and 0.162 for civil status, and 0.288 for monthly income were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of government and institutional support when group according to profile variables. On the other hand, the computed value of 0.000 for age, 0.003 for years in the operation, and 0.001 for type of agribusiness were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of government and institutional support when group according to profile variables. This indicates that a significant difference in the level of opportunities available to agribusiness entrepreneurs in terms of government and institutional support when grouped according to age, years in operation, and type of agribusiness may be linked to differences in awareness and exposure to assistance programs.
Entrepreneurs who are more familiar with government subsidies, training initiatives, and financial aid are often in a better position to benefit from such support, especially when they maintain stronger institutional connections or have greater access to related information [23].

5. Test of difference in the level of challenges encountered by agribusiness entrepreneurs when group according to profile variables.
5.1 Competition. The computed value of 0.446 for sex, 0.905 for civil status, 0.107 for years in the operation, and 0.942 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of competition when group according to profile variables. On the other hand, the computed value of 0.004 for age, and 0.003 for monthly income were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of competition when group according to profile variables. . This implies that a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of competition when grouped according to age and monthly income may be associated with the intensity of market pressures they face. Entrepreneurs operating in saturated markets or offering products that are similar to many others are more likely to experience stronger competition than those serving niche markets or providing specialized goods and services [24].

5.2 Resources and capital. The computed value of 0.092 for sex, 0.886 for civil status, 0.161 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of resources and capital when group according to profile variables. On the other hand, the computed value of 0.017 for age, and 0.000 for monthly income, and 0.002 for years in the operation were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of resources and capital when group according to profile variables. This means that a significant difference in the level of challenges encountered by agribusiness entrepreneurs when grouped according to age, monthly income, and years in operation may be linked to differences in access to essential business resources.

Small-scale or newly established entrepreneurs often experience greater limitations in capital, production inputs, and operational resources, which can restrict their ability to improve efficiency or expand their enterprises [25].

5.3 Climate and environmental risks. The computed value of 0.687 for sex, 0.103 for civil status, 0.220 for years in the operation, and 0.329 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of climate and environmental risks when group according to profile variables. On the other hand, the computed value of 0.000 for age, and 0.001 for monthly income, and 0.002 for years in the operation were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of climate and environmental risks when group according to profile variables. This indicates that significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of climate and environmental risks when grouped according to age, monthly income, and years in operation may be associated with differences in vulnerability to weather-related disruptions.
Entrepreneurs whose businesses depend heavily on natural conditions or are located in environmentally sensitive areas may be more exposed to drought, flooding, and other extreme weather events, making it harder for them to maintain stable production [26].

5.4 Infrastructure and logistics constraints. The computed value of 0.268 for sex, and 0.577 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of infrastructure and logistics constraints when group according to profile variables. On the other hand, the computed value of 0.013 for age, 0.014 for civil status, 0.002 monthly income, and 0.004 for years in the operation were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of infrastructure and logistics constraints when group according to profile variables. This implies that a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of infrastructure and logistics constraints when grouped according to age, civil status, monthly income, and years in operation may be explained by unequal access to physical infrastructure and support services.
Entrepreneurs operating in areas with better roads, transportation systems, and storage facilities are likely to experience fewer distribution problems than those in remote or rural locations, where weak infrastructure can disrupt the efficient movement of goods [27].

5.5 Regulatory and compliance. The computed value of 0.787 for sex, 0.085 for civil status, and 0.515 for type of agribusiness were greater than > the 0.05 Alpha level of significance, therefore, the null hypothesis was accepted, hence, there is no significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of regulatory and compliance when group according to profile variables. On the other hand, the computed value of 0.018 for age, 0.000 for monthly income, and 0.008 for years in the operation were less than < the 0.05 Alpha level of significance, therefore, the null hypothesis was rejected, hence, there is a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of regulatory and compliance when group according to profile variables.
This means that a significant difference in the level of challenges encountered by agribusiness entrepreneurs in terms of regulatory and compliance when grouped according to age, monthly income, and years in operation may be linked to differences in experience and familiarity with legal procedures.

Entrepreneurs who have spent more time in the industry or who possess better knowledge of regulatory requirements may find it easier to complete documentation and comply with government standards, while newer entrepreneurs may struggle with these processes [28].

6. A Proposed Action Plan to enhance Agribusiness MSME's in the Province of Zambales.

A PROPOSED ACTION PLAN TO ENHANCE AGRIBUSINESS MSME'S IN THE PROVINCE OF ZAMBALES.

Rationale: Agribusiness MSMEs in the Province of Zambales play a critical role in local economic development, employment generation, and food security; however, their growth remains uneven due to gaps in market access, technology utilization, financing, and institutional support. While existing opportunities such as linkage with cooperatives, stable local demand, and government assistance programs provide a favorable environment, these are often underutilized due to limited coordination and resource constraints. In parallel, persistent challenges—including increasing market competition, insufficient capital, climate variability, logistical inefficiencies, and regulatory burdens—continue to restrict the scalability and sustainability of agribusiness enterprises. These conditions indicate the need for a structured, responsive, and resource-backed intervention that aligns local capabilities with emerging opportunities in the agribusiness sector.

In this context, the proposed action plan, supported by clearly defined budgetary requirements, serves as a strategic framework to enhance the operational capacity and resilience of agribusiness MSMEs in Zambales. By integrating opportunity maximization with targeted solutions to existing constraints, the plan ensures that interventions are both proactive and corrective. The inclusion of financial allocations further strengthens its practicality, enabling stakeholders—particularly local government units, national agencies, and development partners—to prioritize investments and implement programs efficiently. Ultimately, this initiative aims to foster a more competitive, adaptive, and inclusive agribusiness ecosystem that contributes to sustained rural development and long-term economic stability in the province.

Objective: To enhance the competitiveness, sustainability, and resilience of agribusiness MSMEs in the Province of Zambales by maximizing available opportunities and systematically addressing challenges through coordinated programs, capacity development, infrastructure support, and strategic investments.

A. Opportunity-Based Action Plan

Key Area	Strategic Action	Responsible Person/Agency	Budgetary Requirements (₱)	Expected Output
Market Accessibility (Networks & Cooperatives)	Organize MSMEs into cooperatives and link them with regional agribusiness networks; conduct trade fairs and market linkage programs	DTI Zambales, DA, LGU Agriculture Office, Cooperative Development Authority (CDA)	300,000 – 500,000	Increased market access; strengthened supply chain partnerships; higher sales volume
Market Demand Conditions	Conduct market intelligence studies and demand forecasting workshops; promote product diversification	DTI, LGUs, Academe (PRMSU), Market Analysts	200,000 – 350,000	Stable demand alignment; improved product-market fit; reduced

	based on consumer trends			overproduction risks
Technological Adoption	Provide training on modern farming technologies (e.g., smart farming, irrigation systems, post-harvest tech) and distribute starter tech kits	DA, ATI (Agricultural Training Institute), SUCs	500,000 – 800,000	Increased productivity; adoption of modern technologies; improved product quality
Financing & Investment	Facilitate access to microfinancing, grants, and investor matching programs; organize financial literacy seminars	DTI, DOLE, LandBank, Microfinance Institutions, NGOs	250,000 – 400,000	Increased capital access; improved financial management; business expansion
Government & Institutional Support	Strengthen MSME participation in local planning; implement policy awareness seminars and business support programs	LGUs, DA, DTI, Provincial Government	150,000 – 300,000	Increased participation in policy-making; improved utilization of government programs

B. Challenge-Based Action Plan

Key Area	Strategic Action	Responsible Person/Agency	Budgetary Requirements (₱)	Expected Output
Competition	Develop branding, product differentiation, and value-adding strategies; conduct marketing and digital promotion training	DTI, Tourism Office, Marketing Experts	200,000 – 350,000	Stronger brand identity; improved competitiveness; increased customer loyalty
Resources & Capital Constraints	Establish shared service facilities (SSF) and equipment pooling systems; provide subsidy programs for inputs	DTI, DA, LGUs	600,000 – 1,000,000	Reduced production costs; improved operational capacity; increased efficiency
Climate & Environmental Risks	Promote climate-resilient agriculture (e.g., drought-resistant crops, crop insurance, early warning systems)	DA, PAGASA, DENR, LGUs	400,000 – 700,000	Reduced climate-related losses; improved resilience and sustainability
Infrastructure & Logistics Constraints	Improve farm-to-market roads, cold storage facilities, and	DPWH, LGUs, DA	1,000,000 – 2,000,000	Reduced post-harvest losses; improved

	transport systems; establish logistics coordination hubs			product quality and shelf life
Regulatory & Compliance Burden	Simplify business processes through one-stop-shop services; subsidize permit and certification costs; conduct compliance assistance seminars	LGUs, DTI, Business Permits and Licensing Office (BPLO)	150,000 – 250,000	Faster business registration; reduced financial burden; increased formalization of MSMEs

IV. CONCLUSION

Based on the summary of the investigations conducted, the researcher concluded that the majority of the respondents were male, belonged to the late adulthood category, married, had low income, had been operating their agribusiness for almost a decade, and were engaged in the production sector of agribusiness. This implies that agribusiness entrepreneurship in the Province of Zambales is largely participated in by experienced and mature entrepreneurs who have already established a considerable length of involvement in the sector. Their profile suggests that practical experience, family responsibility, and long-term exposure to agribusiness operations may influence how they perceive both the opportunities and challenges present in the local agribusiness environment.

The study further concluded that the respondents strongly agreed that market accessibility, market demand conditions, and technological adoption are available opportunities for agribusiness entrepreneurs. However, they only agreed on the availability of financing and investment, as well as government and institutional support. This means that while agribusiness entrepreneurs recognize promising opportunities in terms of reaching markets, responding to consumer demand, and adopting technologies, they still perceive financial assistance and institutional support as areas that need further improvement. These findings indicate that opportunities exist in the local agribusiness sector, but these must be strengthened through better access to capital, stronger support systems, and more responsive government programs.

In terms of challenges, the respondents agreed that they encountered difficulties related to competition, resources and capital, climate and environmental risks, infrastructure and logistics constraints, and regulatory and compliance requirements. These findings show that agribusiness entrepreneurs continue to face several operational and external barriers that may affect business growth and sustainability. Competition may limit profitability, lack of capital may restrict expansion, climate-related risks may affect production, poor infrastructure may delay delivery, and regulatory requirements may add administrative burden. Therefore, although agribusiness offers promising opportunities, entrepreneurs still need support mechanisms that can reduce these constraints and improve their capacity to operate efficiently.

The study also concluded that there were significant differences in the level of opportunities available to agribusiness entrepreneurs when grouped according to selected profile variables. Specifically, market accessibility significantly differed according to sex, age, and years in operation; market demand conditions differed according to age, monthly income, and years in operation; technological adoption differed according to age; financing and investment differed according to age, monthly income, years in operation, and type of agribusiness sector; while government and institutional support differed according to age, years in operation, and type of agribusiness sector. These results suggest that opportunities are not experienced equally by all agribusiness entrepreneurs. Personal and business-related characteristics influence how entrepreneurs access markets, adopt technology, secure financing, and benefit from institutional support.

Likewise, significant differences were found in the level of challenges encountered by agribusiness entrepreneurs when grouped according to selected profile variables. Competition significantly differed according to age and monthly income; resources and capital differed according to age, monthly income,

and years in operation; climate and environmental risks differed according to age and monthly income; infrastructure and logistics constraints differed according to age, civil status, monthly income, and years in operation; and regulatory and compliance concerns differed according to age, monthly income, and years in operation. These results indicate that agribusiness challenges are experienced differently depending on the entrepreneur's demographic and operational background. Thus, interventions should not be uniform but should be designed according to the specific needs, capacity, and conditions of various groups of agribusiness entrepreneurs.

V. RECOMMENDATIONS

Based on these conclusions, a proposed action plan was developed to enhance Agribusiness MSMEs in the Province of Zambales. The action plan is intended to address the identified opportunities and challenges by strengthening market linkages, improving access to financing, promoting technological adoption, supporting climate-resilient practices, enhancing infrastructure, and simplifying regulatory procedures. This proposed plan serves as a strategic guide for local stakeholders, government agencies, academic institutions, and agribusiness organizations in improving the competitiveness and sustainability of agribusiness MSMEs in the province.

Based on the findings and conclusions of the study, it is recommended that MSMEs strengthen formal linkages by encouraging agribusiness entrepreneurs to actively join local cooperatives, producers' associations, and regional value chain networks. These organizations can help facilitate collective marketing, shared distribution channels, and better access to institutional buyers. Through organized participation, small agribusiness entrepreneurs may improve their bargaining power, reduce marketing limitations, and expand their opportunities for stable business partnerships.

It is also recommended that MSMEs promote product diversification and market intelligence systems to help entrepreneurs respond more effectively to changing consumer demand. Demand forecasting, local market profiling, and regular monitoring of customer preferences may guide entrepreneurs in deciding what products to produce, when to produce them, and where to sell them. By reducing reliance on seasonal or unstable markets, agribusiness entrepreneurs may improve income stability and strengthen their long-term competitiveness.

MSMEs should also establish continuous capacity-building programs in partnership with agricultural agencies, local government units, and academic institutions. These programs may include hands-on training, demonstration farms, technical advisory services, and coaching on modern agricultural technologies. By providing practical and accessible training, entrepreneurs may improve productivity, adopt appropriate innovations, and become more confident in using technologies that can enhance agribusiness operations.

In addition, MSMEs may develop inclusive financing mechanisms such as low-interest credit schemes, cooperative-based lending systems, public-private investment programs, and microfinancing options. These mechanisms can help address capital limitations and support entrepreneurs in business expansion, equipment acquisition, product innovation, and operational improvement. Easier access to financing is necessary for agribusiness MSMEs to grow, compete, and sustain their operations despite financial constraints.

It is further recommended that MSMEs enhance participatory governance by institutionalizing regular consultations with agribusiness stakeholders. Government programs and institutional support should be accessible, transparent, and responsive to the actual needs of local entrepreneurs. Through regular dialogue, policy-makers and support agencies may better understand the concerns of agribusiness operators and design programs that are more practical, inclusive, and beneficial to the sector.

MSMEs may also encourage differentiation strategies such as product innovation, value-adding processes, branding, improved packaging, and niche market targeting. These strategies can help agribusinesses remain competitive despite market saturation and increasing competition. By offering unique, high-

quality, and market-responsive products, entrepreneurs may improve customer loyalty, expand market reach, and increase profitability.

Moreover, MSMEs should promote resource optimization through shared facilities, cooperative ownership of equipment, and collective access to production tools and storage facilities. This may help entrepreneurs overcome resource and capital constraints while improving operational efficiency. Shared access to machinery, post-harvest facilities, and processing equipment may reduce individual costs and allow small agribusinesses to improve the quality and quantity of their production.

It is also recommended that MSMEs advocate for climate-resilient farming and agribusiness practices. These may include crop diversification, use of drought-resistant or flood-resistant varieties, access to climate information systems, sustainable resource management, and agricultural insurance. Since climate and environmental risks affect productivity and income, entrepreneurs should be assisted in preparing for and adapting to environmental changes that may threaten agribusiness operations.

MSMEs, together with concerned government agencies, may invest in improving rural infrastructure such as farm-to-market roads, cold storage facilities, transport systems, and logistics coordination platforms. These improvements can help maintain product quality, reduce post-harvest losses, lower transportation costs, and improve market competitiveness. Better infrastructure and logistics support are essential for ensuring that agribusiness products reach consumers and institutional buyers in good condition and at the right time.

Lastly, MSMEs may support the streamlining of regulatory processes by simplifying permit requirements, reducing fees for small-scale agribusinesses, and implementing one-stop-shop systems. This can help minimize administrative and financial burdens among entrepreneurs. Furthermore, follow-up studies with a wider scope and broader setting may be conducted to validate and expand the results of the present study. Future researchers may include other municipalities, additional agribusiness sectors, and larger respondent groups to generate more comprehensive findings on agribusiness MSME development.

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