



# ASSESSMENT ON THE CERTIFICATION AND ENHANCEMENT OF **AGRICULTURAL TRAINING INSTITUTE LEARNING SITES FOR AGRICULTURE**

**FINAL REPORT**

JANUARY 2025

## Contents

List of Tables .....	iii
List of Figures .....	iv
List of Acronyms.....	v
1 Introduction .....	1
2 Approach and Methodology .....	2
2.1 Quantitative Analysis .....	2
2.1.1 Sampling design .....	2
2.1.2 Survey instrument and mechanics.....	3
2.1.3 Survey data analysis.....	3
2.1.4 Secondary data analysis.....	3
2.2 Qualitative Analysis.....	4
2.2.1 Desk Research .....	4
2.2.2 Consultative Discussions.....	4
2.2.3 Multi-Disciplinary Analysis.....	5
3 The LSA Program.....	5
3.1 Rationale and Objectives .....	5
3.2 Early History and Development .....	9
3.3 Enabling Devolution: Focus on AEWs .....	12
4 LSA Program Assessment.....	13
4.1 Limitations of the Study.....	13
4.2 The LSA Landscape.....	13
4.2.1 LSA profile .....	14
4.2.2 LSA farming and agri-processing.....	18
4.2.3 LSA training and certification.....	26
4.2.4 LSA visits and FGDs .....	33
4.3 Quantitative Analytics.....	35
4.3.1 Farm Level Analysis.....	35
4.3.2 LSAs and Sector Performance.....	45
4.4 Qualitative Analysis: Issues and Concerns.....	47
4.4.1 Institutional and Operational Concerns.....	47
4.4.2 Strategic Planning, Targeting, and M&E .....	51
4.4.3 Financing Concerns .....	52
4.4.4 Program Strengths and Challenges.....	53
5 Summary and Recommendations.....	56

5.1	Summary by Objectives .....	56
5.2	Lessons and Recommendations.....	62
6	Concluding Remarks.....	69
	References .....	70
	Annex A. Final Survey Questionnaire (separate file attached).....	72
	Annex B. Sampling Formulas Used .....	73
	Annex C. FGD-KII Template Guide Questions .....	74
	Annex D. List of Persons Consulted .....	77

## List of Tables

Table 1.	Number and Allocation of Samples by LSA Category and Island Group .....	3
Table 2.	Administrative Regions and Provinces Visited for Consultations .....	5
Table 3.	Number of active LSAs (certified from 2018-2022), by Farm type and Classification. ....	10
Table 4.	Financial Assistance Provided to LSAs certified from 2018 to 2022, by Source of Fund and Farm Classification .....	12
Table 5.	Regional distribution of sample, by class of LSA .....	13
Table 6.	First year of LSA certification and farm operation (%).....	14
Table 7.	Distribution of LSAs by certification and farm type (multiple responses) .....	15
Table 8.	Sample LSAs by organizational form (%).....	15
Table 9.	Distribution of LSAs owned and/or operated by private organizations .....	16
Table 10.	Demographic Characteristics of LSA owner-operators .....	17
Table 11.	Degree type among Post-Secondary LSA owner-operators (%).....	17
Table 12.	LSA owner-operators by IP group membership (%).....	18
Table 13.	Other major occupations of LSA owner-operators .....	18
Table 14.	LSA size indicators, in ha (unless otherwise specified) .....	19
Table 15.	Distribution of LSAs by type of farming activity (multiple response, %).....	21
Table 16.	Distribution of LSAs with crop-planting activity, by type of crop planted (%) .....	21
Table 17.	Distribution of LSAs with agro-processing activity, by type of agro-processing (%).....	22
Table 18.	Gross and net farm income, by agri-food activity of engaged LSAs (in Php) .....	22
Table 19.	Distribution of LSAs by percentage gain in yield since first year of certification.....	23
Table 20.	Distribution of LSAs by change in gross income bracket, in Php (%) .....	24
Table 21.	Change in gross farm income bracket of LSAs, first year of operation and in 2023 .....	25
Table 22.	Rating of improvement of farm performance, from first year to present.....	26
Table 23.	Distribution of LSAs by provision of training and year first offered training .....	27
Table 24.	Training capacity indicators, by class of LSA .....	27
Table 25.	Income and Expenses of LSA trainings, Annual Average, 2023 .....	28

Table 26. Number of visitors and change in visitors over time .....	28
Table 27. Percent of LSAs operators that have served as resource persons in other trainings .....	28
Table 28. Sources of funding for trainings conducted in 2023 .....	29
Table 29. Type and Peso Value of Assistance Received.....	29
Table 30. Rating of certification process, by type of LSA.....	30
Table 31. Other sources of assistance for LSA certification.....	31
Table 32. Rating of training service providers by LSAs .....	31
Table 33. Top three self-identified impacts of LSAs on the community, % of LSA .....	31
Table 34. Top 3 strengths of LSA program according to LSAs, % of LSA.....	32
Table 35. Top three recommendation for improving the LSA program, % LSA respondents.....	32
Table 36. Percentage of LSAs by self-rating of likelihood of sustaining benefits of being an LSA.....	33
Table 37. List of LSAs Visited .....	33
Table 38. Regression Results: Net farm Income per Ha.....	37
Table 39. Regression Results: No. of Income Brackets Crossed .....	38
Table 40. Regression Results: No. of Trainees Served .....	40
Table 41. Regression Results: Net farm income per Ha, Nonlinear model.....	40
Table 42. Regression Results: No. of Income Brackets Crossed per year .....	42
Table 43. Comparisons of Mean Values of Net Farm Income per Hectare .....	43
Table 44. Comparisons of Mean Values of Number of Income Brackets Crossed.....	44
Table 45. Comparisons of Mean Values of Number of Trainees Served .....	45
Table 46. LSA Density and Agricultural GDP Growth in Constant Prices, by region, 2012-2023 .....	45

## List of Figures

Figure 1. The ladderized approach to agriculture extension services. ....	7
Figure 2. Number of LSAs certifications from 2011-2017 and 2018-2022, by Region.....	10
Figure 3. Total value of farm and agro-processing equipment and facilities, average, in Php.....	19
Figure 4. Inventory of livestock, by type of animal.....	20
Figure 5. Inventory of poultry, by type of fowl .....	20
Figure 6. Scatterplots of Net Farm Income per Hectare vs. Quantitative Explanatory Variables .....	37
Figure 7. Scatterplots of Number of Income Brackets Crossed vs. Quantitative Explanatory Variables .....	38
Figure 8. Scatterplots of Number of Trainees Served vs. Quantitative Explanatory Variables .....	39
Figure 9. Scatterplot of Agricultural GDP Growth vs. LSA Density per Region .....	46
Figure 10. Theory of Change and Impact Pathway of the LSA Program. ....	64

## List of Acronyms

AEW	Agricultural Extension Worker
AF	Agriculture and Fisheries
AFMA	Agriculture and Fishery Modernization Act
AO	Administrative Order
ATI	Agricultural Training Institute
BAW	Barangay Agricultural Worker
BFAR	Bureau of Fisheries and Aquatic Resources
CAPI	Computer-Assisted Personal Interview
CFIDP	Coconut Farmers and Industry Development Plan
CFITF	Coconut Farmers and Industry Trust Fund
CPAFEP	Collaborative Provincial Agriculture and Fisheries Extension Program
CO	Central Office
DA	Department of Agriculture
DBP	Development Bank of the Philippines
DOST	Department of Science and Technology
DOT	Department of Tourism
DTI	Department of Trade and Industry
EO	Executive Order
ESETS	Extension Support, Education and Training Services
ESP	Extension Service Provider
FGD	Focus Group Discussion
FTS	Farm Tourism Sites
GAHP	Good Animal Husbandry Practice
GAP	Good Agriculture Practice
GDP	Gross Domestic Product
HEIs	Higher Education Institution
HVCDP	High Value Crops Development Program
IDF	Integrated-Diversified Farm
IEC	Information, Education, and Communication
IP	Indigenous People
IRR	Implementing Rules and Regulations
KII	Key Informant Interview
LBP	Land Bank of the Philippines
LGU	Local Government Unit
LS	Learning Site
LSA	Learning Site for Agriculture
M&E	Monitoring and Evaluation
NC	National Competency
NGA	National Government Agency
NGO	Non-Government Organization
NUPAP	National Urban and Peri-Urban Agriculture Program
OA	Organic Agriculture
OJT	On-the-Job Training
PAFEC	Provincial Extension Centers

PAFES	Province-led Agriculture and Fisheries Extension System
PAF-ESP	Private Agriculture and Fisheries-Extension Service Provider
PCA	Philippine Coconut Authority
P-ESP	Private-Extension Service Provider
PO	Private-Owned
PSA	Philippine Statistics Authority
RA	Republic Act
RBME	Results-Based Monitoring and Evaluation
RBO	Rural-Based Organization
RCEF	Rice Competitiveness Enhancement Fund
RFO	Regional Field Office
RTC	Regional Training Center
RTL	Rice Tariffication Law
SPA	School for Practical Agriculture
SRA	Sugar Regulatory Administration
SUCs	State University and Colleges
TESDA	Technical Education and Skills Development Authority
TOC	Theory of Change
TOT	Training of Trainers

# ASSESSMENT ON THE CERTIFICATION AND ENHANCEMENT OF ATI LEARNING SITES FOR AGRICULTURE

## Final Report

### 1 Introduction

The Agriculture Training Institute (ATI) launched the Learning Sites for Agriculture (LSA) Program in 2011, grounded on the premise that "the most salient requirement for farming is experience." This initiative established LSAs as government-accredited private extension service providers (ESP) that serve dual purposes: as learning areas showcasing theoretical concepts and principles of farming in land and water, and as demonstrations that agriculture can be a viable enterprise.

The program's foundation was established through Administrative Order 22 (2008) of the Department of Agriculture (DA), which authorized the development and certification of ESPs and LSAs with four key objectives: (a) hasten and improve the delivery of extension services to DA's client system; (b) provide opportunities and wider participation of the private sector in the conduct of agricultural extension services; (c) recognize the efforts and capabilities of private institutions/service providers dedicated to the delivery of agriculture and fisheries extension services; and (d) provide a variety of training programs/extension activities for farmers and fisher folk in support of the thrusts of the agriculture and fisheries modernization program.

The LSA Program seeks to help promising farm areas develop into model farms that adopt appropriate farming practices and strategies, as well as conduct training for farmers and fisherfolk. The program provides financial resources, technical support, and certification to LSAs, which have been playing key roles in the agriculture and fishery extension system.

Already in its 13<sup>th</sup> year of implementation, the program has never been formally evaluated. ATI has thus commissioned Brain Trust Inc. (BTI) to undertake a comprehensive evaluation of the LSA Program in terms of its design, implementation, and results to determine the LSA Program's overall effectiveness and achievement of its intended goals. ATI defined seven specific objectives for this evaluation:

1. Characterize and differentiate the socio-economic characteristics of the learning site cooperators per commodity.
2. Determine the effectiveness and extent to which objectives of the program were achieved.
3. Determine the sustainability of the learning sites.
4. Determine the significance of the program in relation to DA programs and local agriculture and fisheries sector.
5. Examine the strengths and weaknesses of the program.
6. Determine if the program is worth the investment.
7. Draw lessons and recommendations for the continual improvement of the program.

This report is organized as follows: Section 2 details the approach and methodology employed by BTI in undertaking the assessment. Section 3 describes the LSA program and its growth, development and evolution over the years. Section 4 discusses the observations and findings of the study, and

Section 5 provides the summary and recommendations on future courses of action regarding the LSA Program, and the outlook on its role as a major element in the country's agriculture and fisheries extension system and contributor to the modernization of the Philippine agricultural sector.

## 2 Approach and Methodology

BTI employed a **cross-triangulation** approach that cross-checked and analyzed the combined data and information generated from desk review of existing literature, analysis of primary data gathered through a sample survey of LSAs, and qualitative information obtained through various consultative engagements with stakeholders.

### 2.1 Quantitative Analysis

The quantitative analysis involved the conduct of a **sample survey** of LSAs nationwide, and analysis of the survey results to evaluate the attributes and effectiveness of the LSA system. This methodological approach involved several key phases:

#### 2.1.1 Sampling design

The survey covered owner-operators of farm enterprises and LSA managers selected through statistical sampling methods to represent the broader LSA population, which per ATI's 2022 database consisted of 1,340 LSA I and 123 LSA II. The sampling methodology sought to determine the proportion of "successful" or progressive LSAs using specific performance indicators. These metrics created a binary characterization system distinguishing "successful" from "unsuccessful" facilities. However, preparatory to the survey, ATI indicated the need to also characterize coconut LSAs and RCEF (Rice Competitiveness Enhancement Fund) LSAs in line with the need to strengthen the strategic programs that support the Coconut Farmers Industry Development Plan (CFIDP) and the RCEF. The sampling framework further incorporated the analysis of the contributions and impacts of RCEF, hence categorized the LSAs as RCEF and non-RCEF LSAs.

The 2022 LSA directory lists only 89 LSA II and six coconut LSA, hence these were all included in the survey. For the remaining group consisting of LSA I and RCEF-LSAs, random sampling was employed. With an assumed 50 percent successful rate and targeting a 5% margin of error at a 95% confidence level, the calculated sample size was 302 (the process is detailed in Annex A). Finally, to ensure comprehensive geographic representation, the study stratified these categories across the three major island groups (Luzon, Visayas, and Mindanao), with target samples apportioned proportionately by island group within the LSA I and RCEF-LSA categories. This refined sampling design generated a statistically robust and representative sample of LSAs across different types and island groups, enabling thorough evaluation of the program's effectiveness and impact. The sample allocations are summarized in Table 1.

Anticipating possibilities of encountering unreachable or unwilling respondents, BTI implemented a replacement protocol that involved oversampling in each region, and the replacement of uncooperative or unreachable respondents. This protocol permitted the maintenance of the intended sample size and preserved the representativeness of the sample.

**Table 1. Number and Allocation of Samples by LSA Category and Island Group**

Island Group	LSA I (Non-RCEF)	LSA II (Non-RCEF)	Coco-LSA	RCEF-LSA	Target Samples	With oversampling	
						LSA I	RCEF
Luzon	109	31	-	44	<b>184</b>	120	48
Visayas	41	26	2	12	<b>81</b>	45	13
Mindanao	85	32	4	12	<b>133</b>	93	13
<b>Total</b>	<b>235</b>	<b>89</b>	<b>6</b>	<b>68</b>	<b>398</b>	<b>258</b>	<b>74</b>

### 2.1.2 Survey instrument and mechanics

BTI, in close collaboration with ATI, developed a structured survey instrument that is aligned with the evaluation objectives and TOR guidelines. The instrument evaluated five key dimensions: *relevance, effectiveness, efficiency, sustainability, and impact.*

To ensure instrument quality, BTI implemented two-rounds of pilot testing designed to (a) minimize non-sampling errors from question misinterpretation, (b) enhance questionnaire clarity and relevance of all items, and (c) refine survey protocols based on field experience. Annex B shows the final version of the questionnaire, which considered the learnings from the pre-test surveys and inputs from ATI.

The survey primarily employed computer-assisted personal interviews (CAPI) using KOBO Toolbox electronic forms on handheld devices. However, due to weather related mobility restrictions and difficulty in reaching some LSA locations, telephone interview was used for some LSAs.

### 2.1.3 Survey data analysis

Tabulations of the resulting survey data and/or aggregate data visualizations were generated to provide information pertinent to the research questions. The results of the survey were analyzed statistically to determine the dominant features of the LSAs, assess their (in)ability to grow and develop using the mentioned criteria, and consider the issues and impediments to achieving positive performance, etc.

The Terms of Reference (TOR) identified key indicators to distinguish “successful” from “less successful” LSAs, namely:

- Post-certification income growth
- Frequency of use as a training venue
- Operator engagement as resource person in external training programs
- Adoption of advanced technologies, innovative farming and training practices
- Visitor traffic for demonstration agri-fishery technologies and practices
- Development of value-adding activities

### 2.1.4 Secondary data analysis

Apart from analyzing primary data obtained from the sample survey on LSAs, secondary data at more aggregate levels can be obtained from various publications and statistical references, which may be examined on their potential usefulness for making inferences on the effectiveness of LSAs.

For example, one might surmise that if LSAs are truly instrumental in raising the productivity of farmers in their respective areas, areas with a higher density of LSAs per land area would be expected to manifest better agriculture and fisheries sector performance than those where LSAs are sparse. Secondary data were thus examined to explore the possibility for such analysis.

## 2.2 Qualitative Analysis

Qualitative analysis is essential to consider the non-quantifiable factors in the LSA program, especially while assessing the LSA's growth and development using the assessment criteria, and in identifying and revealing more indirect and less visible limiting or success factors. The qualitative analysis involved desk research, and extensive national and regional consultations in the forms of key informant interviews (KIIs) and focus group discussions (FGDs) with various stakeholders, thereby permitting triangulation from different perspectives.

### 2.2.1 Desk Research

BTI thoroughly reviewed a comprehensive collection of relevant materials that included ATI's guidelines and operations manual for LSAs, internal memorandums (M12-05-114, M17-05-032, M22-06-206), LSAs semestral accomplishment reports, Agriculture and Fishery Extension Results-Based Monitoring and Evaluation Reports for 2023 and 2024, DA's plans and budget particularly the allocations for Extension Support, Education and Training Services (ESETS), etc. It also reviewed legal instruments and guidelines of programs that task ATI to provide training and extension services, namely:

- EO 710 s 2008 – Nationwide Adoption of the Corn-Based Farmer-Scientist Research Development and Extension and Training Program for Sustainable Agricultural Development
- EO 801 s 2009 – Encouraging LGUs to Adopt Techno-Gabay in their Agri Extension Programs
- RA 8435 – Agriculture and Fishery Modernization Act of 1997
- RA 10068 – Organic Agriculture Act and RA 11511 that amended it
- RA 10816 – Farm Tourism Development Act
- MRA 10601 – Agriculture and Fishery Mechanization Law
- RA 11203 – Rice Tariffication Law
- RA 11321 – Sagip Saka Act
- RA 11524 – Coconut Farmers and Industry Fund Act of 2021

In addition, BTI reviewed past studies/assessments of the training and extension system such as BTI's study on the agriculture and fisheries extension landscape and IRRI's Mid-Term Review of RCEF. As the LSA Program is closely linked with TESDA's Farm School and Scholarship programs, BTI also reviewed TESDA's guidelines and reports. This thorough examination permitted deeper understanding of ATI's actions, policies, and implementation related to the program. especially on the history past studies, assessments and analyses of the extension system.

### 2.2.2 Consultative Discussions

BTI conducted consultations at the national and regional levels. The national level consultations primarily involved the central offices of ATI and TESDA. The regional consultations covered two adjoining provinces within each of six regions that have the highest density of LSAs and representing

two regions per island group (Table 2). During each regional visit, consultative discussions were undertaken with the following:

- ATI Regional Training Center (RTC) officials and staff to understand the regional agriculture and fishery situation and development priorities, general profile of LSAs in the region, challenges faced by LSAs and ATI as it implements the LSA Program, and the measures taken to address the challenges;
- Provincial, municipal, and city LGUs in each province, particularly heads or representatives of the Provincial Agriculture Office including Provincial Fisheries Officers, and the Provincial Veterinary Office;
- Regional/Provincial-level government agencies, i.e., DA/RFO, DTI, DOT, TESDA, BFAR, PCA, and State Universities;
- Farmer/Fisherfolk training graduates or previous LSA trainees;
- LSA association officials;
- LSA owner-operators, including those run by LGUs; and
- LSA owner-operators who had not renewed their certifications, where they are available.

These groups are important sources of information and insights on the effectiveness of the LSAs and the LSA Program. The guide questions used in the conduct of these consultations are provided in Annex B. During the discussions, further specific questions emerged, that enabling the study team to acquire deeper insights for richer analysis. The information and knowledge gained from consultative discussions permitted qualitative analysis to supplement quantitative data analysis from the survey.

**Table 2. Administrative Regions and Provinces Visited for Consultations**

Region	Province 1	Province 2
<b>Luzon</b>		
Ilocos Region	Pangasinan	La Union
Cagayan Valley	Isabela	Cagayan
<b>Visayas</b>		
Western Visayas	Aklan	Iloilo
Eastern Visayas	Leyte	Samar
<b>Mindanao</b>		
Northern Mindanao	Bukidnon	Misamis Oriental
CARAGA	Agusan del Norte	Agusan del Sur

### 2.2.3 Multi-Disciplinary Analysis

The results of the desk review, statistical survey, and consultations were intensively deliberated and analyzed through cross-triangulation of generated data. The LSA Program is assessed for relevance, effectiveness, efficiency, sustainability, and impact.

## 3 The LSA Program

### 3.1 Rationale and Objectives

The nature, goals, and objectives of LSAs evolved with the change of ATI administrations since its inception which started on May 07, 2012 when the ATI issued Memorandum No. M12-05-114 on the “Implementing guidelines for the establishment of learning site(s) in support of the National Organic

Agriculture Program". The foregoing guidelines set forth the rules and regulations governing the establishment of Learning Sites (LSs) supporting various multi-stakeholder and multi-level trainings and other training-related activities conducted by ATI for the Organic Agriculture (OA) program.

Anchored on the dictum that "the most salient requirement for farming is experience," the original primordial objective of LSs is for the ATI and ATI-trained trainers to apply and practice organic agriculture and complement classroom teachings with actual field and hands-on exercises on OA. Moreover, among the other original objectives of LSs were to:

1. Help train farmers in an informal setting which aims to empower them to make farm decisions using discovery-based, experimental and participatory approach;
2. Function as a mechanism to bring the theoretical concepts and principles of organic farming design and other farming practices, function and management to practical realization;
3. Be used for practical classes and hands-on activities to maximize experiential learning following the principle of "learning-by-doing;"
4. Show the technique of doing things or carrying out new practices, e.g. preparing a nursery/seedling, and other OA related techniques;
5. Serve as a field laboratory where trainees and the public at large can learn about natural, physical, biological and environmental processes and a "living classroom" and should encourage as much on-farm interaction as possible;
6. Promote upstream and downstream linkages with related and/or complementary agricultural training and training-related activities on organic agriculture and various farming practices;
7. Spread the advocacy of OA and other farming practices through extension and be in harmony with the farm to table value chain framework.

The LSAs were originally planned to be established within the premises of the ATI or in a nearby area in case of unavailability of the partner farmer's farm. The area must be at least 1,000 sqm or maximum of one hectare established in privately-owned premises, whose ownership belongs to an ATI-assisted farmer, farmer leader or cooperative; accessible by land and other transportation facilities; and with potential as an agribusiness-ecotourism site. The farmer cooperators must be an owner-tiller, a Farmer Leader, Magsasaka-Syentista (MS), designated Barangay Agricultural Worker (BAW) by LGUs, or Farmer Led Extensionist, physically able and articulate; capable in sustaining the operation of the LS; practicing diversified farming system; and willing to undergo ATI trainings, Congress, fora and other OA related activities.

On April 19, 2017, ATI issued Memorandum No. 2017-Q5-232 revising the original guidelines. The LSs scope was expanded beyond OA and enhanced with inclusion of innovative concepts and finalized as the manual for LSAs. In the revised guidelines, the LS is a farm practicing applicable agricultural technology, employing doable farming strategies and operating successfully; the farmer-owner/farm family is relatively advanced compared to most farmers in the area. The farm is certified by the ATI as LS after a thorough evaluation and more importantly, acceptance of responsibility by the farmer owner/farm family.

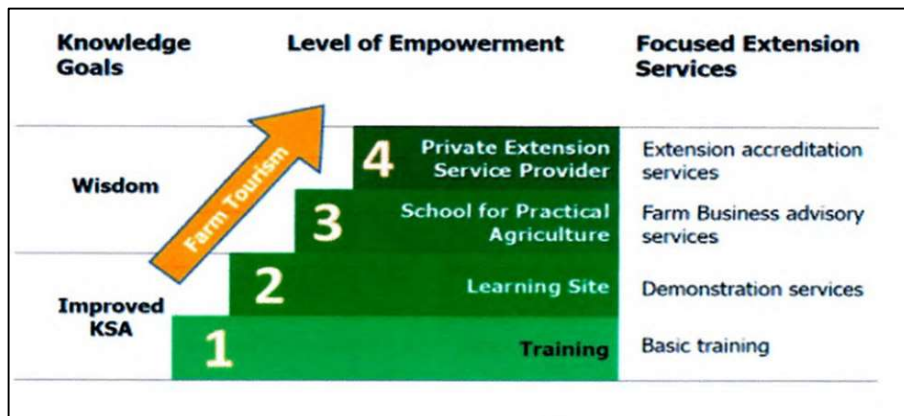
The general features of an LS include: (a) consisting of the farmer-owner/farm family and his/their farm; (b) the farm serves as demonstration area for hands-on learning; (c) the farmer/farm family serves as resource person/source of technology; (d) demonstrates applicable technologies and farming strategies; (d) with basic techno demo farm facilities, holding area, a washroom and toilet.

In the revised guidelines, the LS functions as a model showcasing applicable agriculture technologies that help improve farming capabilities of small farmers. Specifically, the LSs serve as: (a) a practicum area to complement classroom learning; (b) venue for practical and hands-on learning for immediate use; (c) field visit area for other farmers, ATI 's training participants and others interested in agriculture; and (d) on-the-job training (OJT) site for ATI 's scholarship program grantees, its other programs like the "Adopt a Farm Youth Program" under the 4-H Farm Youth Program as well as other interested agriculture students and individuals.

The qualification requirements were expanded to include privately-owned farms (farmer's farm, NGO farm, PO farm), RBO-owned farm (4H Club, RIC, P4MP, Irrigator's Associations, Indigenous Peoples' Organization, Magsasaka-Siyentista Organization, or other farmers associations; farmers cooperatives, with basic techno-demo farm facilities.

Likewise, the goal was tweaked for the program to contribute to the productivity and profitability of less developed but resource-rich farming/fishing communities by harnessing their full potentials. The objectives were correspondingly revised to: (a) increase capabilities and capacities of farmers/fishers in farm production and business; and (b) increase participation of farmers/fishers and their rural-based organizations in agricultural development.

For the first time, outcomes were to be measured by the following indicators: (a) sufficient number of LSs, SPAs/ESPs in the area; (b) number of LS turned SPA; (c) number of SPA turned ESPs; (d) number of LS and SPA/ESPs turned farm tourism sites; (e) increased number of small brothers engaged in farm tourism; (f) increased number of tourists who learned from LS and SPA; and (g) increased volume/supply of farm products from LS and SPA. It should be noted that most of the outcomes are actually program outputs except the last item (g). At this time, the ATI introduced the "ladderized" approach to extension by which agricultural extension services are provided based on the principle that the greatest impact of knowledge is when it is both applied and shared (Figure 1, Box B).



Source: ATI, 2017

Figure 1. The ladderized approach to agriculture extension services.

## Box A

### Extension Services in the Ladder

**Training Services.** The approach starts with training to improve farmers' attitude, skills and knowledge (ASK). Effective training changes one's attitude to become positive. It may also enable participants to adopt the technology that they learned on their own farms, acquire certification from TESDA (e.g. NC II, etc.) indicating certain level of skills they achieved and have become farmer entrepreneurs. However, if they do not share what they learned with others, it cannot be said that the training intervention has achieved the greatest impact of extension. Therefore, the training to be conducted shall have participants prepare Action Plans indicating how they will both apply and share what they learned from the activity.

**Demonstration Services.** To apply the learning from training and to share in the learning process, the more advanced farmers will make available their land resources as demonstration areas to be known and certified by ATI as **Learning Sites**. LS, as the second ladder, shows the philanthropic attitude of farmers not only in further enhancing their own ASK but also allowing other farmers to learn from them through their farms.

**Farm Business Advisory Services, Demonstration Services, Information Services, Training Services.** Growth in ASK coupled with significant farm improvements and where the LS farmer/farm family will now become farmer-trainer will qualify the LS farm to be up-scaled to the next level that ATI shall certify. **School for Practical Agriculture (SPA).** At this stage, wisdom will be cultivated as SPA operators shall have been capable of demonstrating great amount of wisdom. They can now be partnered by the ATI in the provision of training in their limited capacity and relatively other extension services to the farmers.

**Extension Accreditation Services.** With increasing desire of individual LS and SPA farmer/farm family operators to share in the work of agricultural extension equipped with extraordinary capabilities and with basic training facilities, they can group together to form an "organization/network of extension service providers" to enable them to apply for accreditation as Private Extension Service Providers (P-ESP) of the All. Considered as full-pledged extension agencies, PESPs shall have become better equipped as All's partners in the provision of extension services to farmers/fishers and their organizations.

Source: ATI, 2017

In 2019, with the onset of the Rice Competitiveness Enhancement Fund (RCEF), the ATI issued Memorandum No. M19-10-412 on the "Guidelines on the Establishment and Enhancement of RCEF Learning Site for Agriculture." Pursuant to the Implementing Rules and Regulations (IRR) of the Rice Tariffication Law (RTL), this was done along the ATI's ladderized approach to extension. It was a proactive response to the development of farm tourism in the country as provided for by RA 10816 mandating the ATI to encourage farm tourism camps to become learning sites and accredited extension service providers. The ATI offers its certified LSAs, SPAs, and ATI-accredited P-ESP farms primarily as prospective Farm Tourism Sites (FTS) for accreditation by the Department of Tourism (DOT). In line with this, the ATI assists LSA, SPA and P-ESP farms to meet the requirements of the DOT for accreditation, which include, among others, assistance in developing additional features that attract tourists.

Consistent with Memorandum No. 2017-Q5-232 the purpose of the aforementioned extension modality is "to contribute to the promotion, information dissemination, productivity and profitability of the rice farmer practicing rice-based farming system in the less developed but resource-rich farming communities and the other rural community members by harnessing their full potential." The general objective of this modality is "to increase capabilities and capacities of rice farmers/farm families in farm production and business." Specifically, it aims to: "(a) establish RCEF-

LSAs among the 57 priority target provinces; (b) increase participation of rice farmers and their rural based organizations in the development of rice industry by providing technology awareness in rice-based farming system through communication and training support; and (c) increase adoption of high-quality seeds.”

On June 10, 2022, the ATI issued Memorandum No. M22-06-206 on “Guidelines on the Enhancement of Learning Site for Agriculture I and II (LSA I and II). The goal of this initiative is that “certification of the LSA contributes to the productivity and profitability of the less developed but resource-rich farming/fishing communities and the other rural community members by harnessing their full potential.” The general objective is “to develop a pool of farmer-trainers who will showcase applicable technologies in agriculture and fisheries (AF), and in agri-processing that will help improve the capabilities of small farmers and other rural community members.” Specifically, the program aims to: (a) “enhance the capabilities and capacities of the farming community members in farm production and business and the non-farming community members as agri-processors; and (b) increase participation in the agricultural development of both the farming community members and the non-farming community members as agri-processors including their rural-based organizations (RBOs) by serving as barangay extensionist in their respective communities.”

The target outputs of the program are: (a) number of LSAs, enhanced; (b) number of Private Agriculture and Fisheries - Extension Service Providers (PAF-ESPs) organized from among interested LSAs; and (c) number of farmer groups/associations organized into LSA. Along with this, the desired outcomes are: (a) number of small farmers/fishers, non-farmers, and other clients served by the LSAs; (b) number of small farmers/fishers, non-farmers, and other clients engaged in agri-processing enterprise; (c) increased volume of agri-products processed by the agri-processing LSAs; and (d) Increased income of the LSAs.

### **3.2 Early History and Development**

Based on ATI’s record of LSAs, Figure 2 illustrates the significant growth of LSA certifications across regions during two periods: 2011 – 2017 (starting with inception of LSA program in 2011) and 2018 – 2022 (current active LSAs). From 502 (469 LSA I, 33 LSA II) LSAs, the number has grown to 1,329 as of this study. Region 3 (Central Luzon) exhibited the most notable growth, with certifications rising from 14 in the earlier period to 165 in the latter. Other regions, such as Regions V (Bicol Region), X (Northern Mindanao), and XIII (CARAGA), also demonstrated substantial growth in the number of certified LSAs. Completing the regions in the Philippines, the latter period reveals two LSAs certified each in NCR and BARMM, highlighting progress compared to the absence of certified LSAs in these regions during the earlier period.

Breaking down the current active LSAs, Table 3 shows the growth progress of LSAs certified from 2018 to 2022, categorized by classification: LSA I (or Regular LSA), LSA II, RCEF (Rice Competitiveness Enhancement Fund) LSAs, and Coco LSAs. LSA I and LSA II are further categorized by farm type: Farming LSAs, Integrated Diversified Farms (IDFs), Specialized Farms, and Multi-Type Farms (a combination of the initial farm types, specialized farms, agri-products, by-products, or agri-processing enterprises).

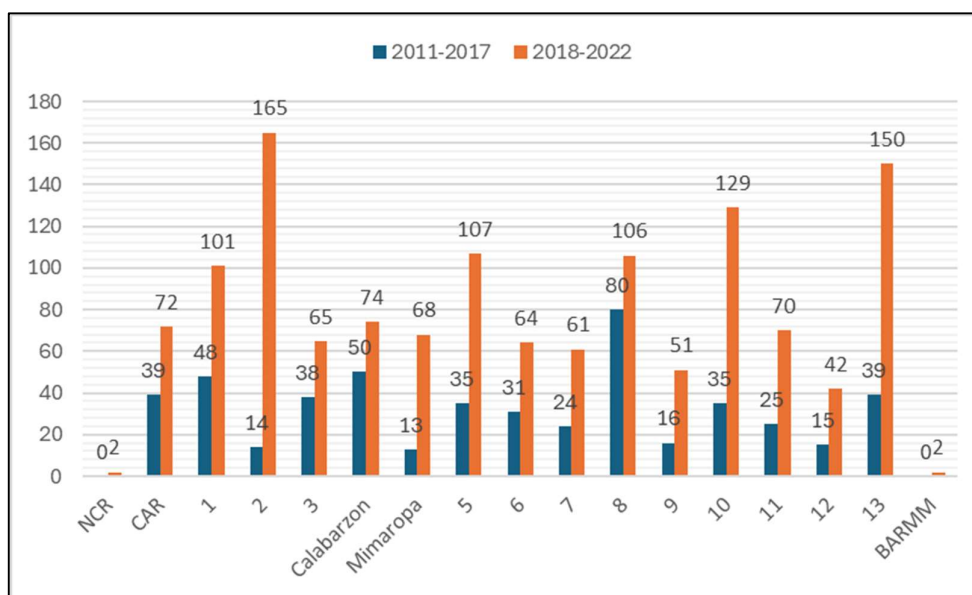


Figure 2. Number of LSAs certifications from 2011-2017 and 2018-2022, by Region

Table 3. Number of active LSAs (certified from 2018-2022), by Farm type and Classification.

Year Certified	LSA I					LSA II				RCEF-LSA	Coco-LSA	Total
	Farming	IDF	Specialized	Multi-Type	Sub-total	Farming	IDF	Multi-Type	Sub-total			
2018	0	0	0	0	0	0	0	0	0	0	0	-
2019	0	46	0	11	57	0	8	0	8	11	0	76
2020	0	305	3	23	331	2	24	0	25	132	1	489
2021	182	131	4	22	339	25	16	1	42	77	0	458
2022	209	15	0	6	230	11	1	1	13	57	5	305
<b>Total</b>	391	497	7	62	957	38	49	2	89	277	6	1,329

Source: ATI

The 1,329 LSAs are composed of 957 LSA I, 89 LSA II, and 283 for both RCEF and Coco LSAs. Under LSA I, IDF comprise the largest category with 497 LSAs, followed by Farming LSAs with 391. The Specialized farms, primarily focusing on dairy and ducks, comprise 7 sites. On the other hand, there are 43 Multi-type farms. LSA II includes the same farm types, except for specialized farms since there is no recorded LSA II solely specializing on a specific commodity. For LSA II, IDF also accounts for the largest part with 49 sites, with notable contributions in 2020 (24 sites) and 2021 (16 sites). Farming LSAs followed with 38 sites, specifically having 25 sites (2021) and 11 sites (2022). Meanwhile, Multi-type farms added 2 sites—one in 2021 and another in 2022—where it began with 8 sites in 2019 and had a steady inclination, peaking with 42 sites by 2021. RCEF LSAs account for most sites totaling 277, while Coco LSAs share 6 sites. The data showed steady development in 2020 with 490 sites, driven by 305 IDF sites under LSA I and 132 RCEF LSAs. Comparing the earlier records, in 2019 it had 76 sites where IDF mostly made up the number with 46 sites. Growth continued in 2021 with 458 sites and in 2022 with 305 sites. This expansion highlights ATI's commitment to enhancing available agricultural learning sites. The variation within the farm types showcases the program's inclusivity and practical approach to agricultural development. As indicated in the previous section, the LSA has

evolved as a support system to the DA's Organic Agriculture Program to pursue a ladderized scheme of agriculture extension at present. Features of current LSAs are in two categories—LSA I and LSA II. The farmer/farm family in LSA I is relatively advanced, practices modern agricultural technologies, employs doable farming strategies, and operates successfully, worthy of emulation. LSA I has two categories: Farming LSA and Agri-processing LSA. The Farming LSA is engaged in farming activities such as: Good Agricultural Practices (GAP) of various crops; Good Animal Husbandry Practice (GAHP); Natural Farming practicing organic agriculture but not yet certified by the Organic Agriculture Certifying Body; Organic Agriculture; Integrated/diversified farming; Cut Flowers, Ornamentals, and Succulents; Halal; and Urban and Peri-Urban Agriculture. The Agri-Processing LSA is engaged in the processing of fruits and vegetables, meat, fish, and other agricultural commodities and their by-products. It is owned by a private individual, private organization, or government institution.

LSA I serves as (a) a practicum area to complement classroom learning; (b) a venue for training and other extension activities like practical and hands-on learning for immediate use; (c) visit area for farmers, rural community members, ATI's training participants, its other programs such as the "Adopt a Farm Youth Program" under the 4-H Farm Youth Program; (d) work immersion site for students from schools; and (e) a source of the other extension services in the field such as farm business advisory services, information support, and technology demonstration.

On the other hand, LSA II is an exceptionally performing and upscaled LSA I which can be further enhanced with ATI assistance. The farm/agri-processing enterprise would have a basic technology demonstration facility, and the owner is further trained as a trainor. The LSA II carries the general features of an LSA I but has some additions. In the Farming LSA II, the farmer/farm family/in-charge is referred to as "farmer-trainer;" the farm activities cover the value chain from production, to value adding and successful marketing strategies; and in addition to the basic demonstration farm facilities, has facilities needed to undertake live-in training and extension activities such as classroom with training equipment.

In the Agri-Processing LSA II, the agri-processor/in-charge is referred to as "processor-trainer;" the processing activities cover the value chain from processing to packaging and successful marketing strategies; and aside from basic processing, has facilities to undertake live-in training and extension activities such as classroom with training equipment. Moreover, LSA II also includes (a) training; (b) demonstration services; (c) information support services (i.e., distribution of Information, Education, and Communication (IEC) materials); (d) technical assistance; and (e) complementary projects<sup>1</sup>

Depending on the size and result of farm evaluation, Php 50,000 to Php 100,000 were originally invested by the ATI per learning site component. At present, assistance for LSA I and II can either be financial or technical. For financial assistance (in cash, in-kind, or a combination of cash and in-kind), an amount of up to Php 150,000.00 is granted mainly for the enhancement of the facility and Php 100,000.00 for calamity assistance. Technical assistance is for developed farms and agri-processing

---

<sup>1</sup> Processing facilities, marketing outlets, or one stop-shop may be set up as additional features and income sources in preparation to becoming a Farm Tourism Site for accreditation by the Department of Tourism (DOT).

enterprises operating successfully and do not require financial assistance. Table 4 shows the breakdown of financial assistance made by ATI to LSAs.

The financial assistance has totaled Php 94 million so far, with an average allocation of Php 142 thousand per LSA, distributed across LSA classifications and funding sources. LSA I received the largest financing assistance, amounting to Php83 million, while LSA II received Php 10 million and Coco-LSAs were allocated Php 300 thousand. No data was reported for RCEF-LSAs alone. Among the funding sources, ATI’s regular fund contributed the highest amount of Php 30 million, with an average amount of Php 156 thousand, followed by the Corn program with Php 16.5 million (average of Php 258 thousand), and multi-fund source (combined contributions from two or more funding sources) with Php 11 million (average of Php 266 thousand). It is important to note that LSAs owned by government entities or government employees are not eligible for financial assistance under the program.

**Table 4. Financial Assistance Provided to LSAs certified from 2018 to 2022, by Source of Fund and Farm Classification**

Source of Fund	Farm Classification				Total	Average
	LSA I	LSA II	RCEF-LSA	Coco-LSA		
Regular	27,102,536	2,990,000			30,092,536	155,920
RCEF	4,510,000	100,000			4,610,000	139,697
CFIDP	150,000			300,000	450,000	150,000
Rice	7,295,800				7,295,800	173,710
Corn	16,500,000				16,500,000	257,813
OA	6,280,000	1,090,000			7,370,000	140,943
HVCDP	7,863,674	300,000			8,163,674	163,273
NUPAP	200,000				200,000	100,000
Livestock	5,000,000	100,000			5,100,000	221,739
Others	2,500,000				2,500,000	147,059
Multi-Fund Source	5,815,000	5,620,000			11,435,000	265,930
<b>Total Amount</b>	<b>83,217,010</b>	<b>10,200,000</b>		<b>300,00</b>	<b>93,717,010</b>	<b>141,748</b>

Source: ATI

### 3.3 Enabling Devolution: Focus on AEWs

The original mandate of ATI has been defined in Section 14 of Executive Order (EO) 116 issued in 1987 stating that the ATI “shall be responsible for the training of all agricultural extension workers and their clientele, who are mostly farmers and other agricultural workers...” However, this has been superseded by Rule 90.1 of the AFMA which states that “LGUs shall be responsible for delivering agriculture and fisheries extension services to farmers, fisherfolk and agribusiness entrepreneurs.” This effectively removed the training of farmers in the functional domain of the ATI, further reinforced by EO 138 which mandated the full devolution of agriculture extension services to LGUs. This policy directive spurred the pursuit of “steering” (i.e., DA) and “rowing” (i.e., LGU) functions of these entities. Along with this, the DA mapped out transition devolution plans for implementation. Moreover, EO 138 catalyzed the issuance of a DA Memorandum in December 2020 mainstreaming Province-led Agriculture and Fisheries Extension Systems (PAFES) in DA operations.

The watershed policy harnessing the private sector in agriculture extension is enshrined in AFMA’s Rule 91.1 which “encourage the participation in extension of farmers’ and fisherfolk’s cooperatives and associations, NGOs and POs and other private entities with strong capabilities and track records in training and other complementary extension services...” Along with this, Rule 91.2 states that the DA is “hereby authorized to commission and provide funding for such training and extension services undertaken by the private sector under mutually acceptable terms and conditions.” As an offshoot of these, DA Administrative Order (AO) 42 issued in 1999 stated that “the private sector shall be tapped and accredited by the DA to deliver and implement AFE services through multi-year grants and co-financing arrangements along but not limited to the following: (a) food production, processing, and marketing; (b) training services; (c) community organizing and development; (d) financial management; (e) participatory and andragogic extension approaches (f) information, education and communication campaigns; (g) sustainable agricultural development and resource management; (h) environmental management; (i) community mobilization, etc.”

## 4 LSA Program Assessment

### 4.1 Limitations of the Study

By virtue of the project Terms of Reference, this assessment largely confines its point of view to the perspective of the LSAs, and does not examine in any systematic way the outcomes and impacts of the LSA program on the intended ultimate beneficiaries, i.e., farmers and fishers. Thus, the quantitative analysis informed by a sample survey of LSA owners/operators can only derive quantitative measures for LSA operators’ attributes, and not those of beneficiaries. This means that outcomes of the program, which would properly be assessed on the side of beneficiaries (i.e., farmer-trainees), cannot be measured, and at best are assessed qualitatively. In other words, the study’s limited perspective permits assessment of program results based only on observable outputs, rather than on outcomes.

The study was also constrained by the great difficulty of covering all intended respondents due to various setbacks that include sample respondents being abroad or having passed away or have moved out of farming; those who could not be located or contacted by any means including by telephone or physical visits; and lack of suitable replacements for missing or unreachable respondents. Nonetheless, the sample survey managed to cover 324 or 81.4 percent of the intended 398 respondents, which is deemed adequate to make valid statistical inferences on the quantitative information obtained.

### 4.2 The LSA Landscape

The following summarizes the data from the LSA survey (Table 5). There are 324 LSAs in the sample, broken down to: 178 under LSA I, 71 under LSA II, 58 under RCEF-LSA, and 17 under Coco-LSA. The two regions with the largest number of samples are Northern Mindanao (Region X), and Eastern Visayas (Region VIII). There were no samples in NCR. In the following tables, Coco-LSAs are combined with LSA I under the heading “LSA I/Coco”. Unless otherwise specified, the reference period is 2023.

**Table 5. Regional distribution of sample, by class of LSA**

	LSA I	LSA II	RCEF-LSA	Coco-LSA	All
CAR	14	3	2	1	20
Region I	11	6	3	10	30

Region II	12	1	13	1	27
Region III	4	0	5	0	9
Region IV-A	11	3	2	0	16
Region IV-B	7	2	5	0	14
Region V	14	3	2	0	19
Region VI	8	3	5	0	16
Negros Island Region	4	2	0	0	6
Region VII	11	1	3	0	15
Region VIII	19	21	0	1	41
Region IX	7	4	5	0	16
Region X	22	12	5	3	42
Region XI	13	4	2	0	19
Region XII	3	0	1	0	4
Region XIII	17	6	5	1	29
BARMM	1	0	0	0	1
<b>Total</b>	<b>178</b>	<b>71</b>	<b>58</b>	<b>17</b>	<b>324</b>

Source: BTI Survey.

#### 4.2.1 LSA profile

**Certification and accreditation.** Table 6 summarizes the years the LSAs were first certified. Most LSAs were certified from 2020 to 2022 (three-quarters of the sample). Only two percent of sample LSAs were certified before 2016. The class with the most proportion of recently certified LSAs are RCEF-LSAs (as RCEF was established only in 2019 and RCEF programs operationalized only from 2020). Most (91%) LSAs were operating as farms before obtaining LSA certification. Only nine percent were established as a farm in the 1990s; the largest share started operating as farms in 2016-2020. Similar proportions characterize the various LSA classes, although 27 percent of RCEF-LSAs started operating as farms in 1990s.

**Table 6. First year of LSA certification and farm operation (%)**

	LSA I	LSA II	RCEF-LSA	All
<b>Year first certified as LSA</b>				
Before 2016	1.0	7.0	0.0	2.2
2016	5.1	11.3	1.7	5.9
2017	1.0	7.0	1.7	2.5
2018	3.1	11.3	0.0	4.3
2019	8.2	12.7	15.5	10.5
2020	25.6	15.5	39.7	25.9
2021	33.8	28.2	22.4	30.6
2022	22.1	7.0	19.0	18.2
Total	100.0	100.0	100.0	100.0
<b>Year started as a farm<sup>a</sup></b>				
1990s	14.0	6.0	26.8	14.6
2000s	15.2	16.4	14.3	15.3

	LSA I	LSA II	RCEF-LSA	All
2010-2015	20.8	38.8	21.4	24.9
2016-2020	36.5	37.3	23.2	34.2
2021	10.1	1.5	12.5	8.6
2022	3.4	0.0	1.8	2.3
Total	100.0	100.0	100.0	100.0

<sup>a</sup>Among LSAs which operated as a farm before being LSA-certified.

Source: BTI Survey.

More than half (60%) of the LSAs are also TESDA Farm Schools (Table 8). The shares are much higher for RCEF-LSAs (86%) and LSA II (76%). Only 21 percent are accredited as Farm Tourism sites. Close to a quarter are Good Agricultural Practice (GAP)-certified, while only 16 percent are Organic-certified; the proportion is highest among LSA II where 28 percent are organic-certified. The LSAs are overwhelmingly Integrated-Diversified farms (84%), suggesting preference for multi-commodity farming systems and flexibility in offering training options. Only 12 percent are also agri-processing enterprises, with a slightly higher proportion for LSA I/Coco and RCEF-LSAs. Other types of certifications relate to: 3rd party certification, BPI-certified seed grower, DA Accredited, Dep Ed-accredited, Extension Service Provider (ESP), Farmer Information Technology Services (FITS), etc.

**Table 7. Distribution of LSAs by certification and farm type (multiple responses)**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Other certifications (%)</b>				
TESDA Farm School	46.2	76.1	86.2	59.9
Farm Tourism Site	20.0	28.2	13.8	20.7
Certified Organic Farm	13.9	28.2	8.6	16.1
Good Agricultural Practice (GAP)	26.7	11.3	25.9	23.2
Good Animal Husbandry Practice (GAHP)	3.6	4.2	1.7	3.4
Halal	3.1	2.8	0.0	2.5
HACCP	1.5	1.4	0.0	1.2
Others	17.4	12.7	5.2	14.2
<b>Type of farm (%)</b>				
Integrated-Diversified Farm	84.6	95.8	91.4	88.3
Specialized Farm	33.9	29.6	29.3	32.1
RDE Institution	10.8	7.0	12.1	10.2
Agri-Processing Enterprise	13.9	7.0	13.8	12.4

Notes: "HACCP" denotes "Hazard Analysis and Critical Control Points".

Source: BTI Survey.

**Organizational form of LSA.** Nearly 77% of surveyed LSAs are farmer/farm family-owned (Table 8) making it the dominant organizational form among LSA types. The next most common (18% of the sample) are private organizations, with the balance consisting of government institutions. The 6% share of government institutions correspond to 18 LSAs, of which nine (9) were LGUs, three (3) were State Universities and Colleges, and three (3) were DA offices.

**Table 8. Sample LSAs by organizational form (%)**

	LSA I/Coco	LSA II	RCEF-LSA	All
Farmer/Farm Family-owned	74.9	80.3	79.3	76.9

Private Organization	18.0	16.9	17.2	17.6
Government Institution	7.2	2.8	3.5	5.6
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

**LSAs operated by private organizations.** The most common type of private organization operating an LSA is the farmer cooperative at 34 percent (Table 9). Various types of farmer association are DOLE-registered (12%), irrigator association (5%), and other association (31%). The cooperative is the most common type of private organization for RCEF-LSAs, while other types of farmer associations are the largest category of private organization for LSA I/Coco and LSA II. The most common type of service offered by the private organization operating the LSA is marketing of farm products, as well as providing training and education (aside from agriculture). Another common activity is buying and selling of agricultural inputs. Less common are financial services, such as credit and savings.

**Table 9. Distribution of LSAs owned and/or operated by private organizations**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Type of organization (%)</b>				
Farmer Cooperative	32.4	13.3	61.5	33.8
RBO - 4H Club	5.4	6.7	0.0	4.6
RIC	2.7	0.0	15.4	4.6
P4MP	0.0	0.0	7.7	1.5
Irrigator's Association	2.7	0.0	15.4	4.6
IP Organization	8.1	0.0	0.0	4.6
Magsasakang Siyentista Organization	0.0	6.7	0.0	1.5
Agrarian Reform Beneficiaries Organization	0.0	6.7	0.0	1.5
Farmer Association (DOLE-registered)	10.8	26.7	0.0	12.3
Farmer Association (Other)	37.8	40.0	0.0	30.8
Total	100.0	100.0	100.0	100.0
<b>Service offered (multiple response; %)</b>				
Credit	5.7	8.3	40.0	12.3
Savings and other financial services	14.3	25.0	40.0	21.1
Marketing of farm products	51.4	66.7	70.0	57.9
Sale of consumer goods	37.1	41.7	40.0	38.6
Buying and selling of agricultural inputs	37.1	25.0	70.0	40.4
Leasing of equipment	8.6	8.3	30.0	12.3
Training and education (non-agricultural)	68.6	33.3	50.0	57.9
Others	14.3	16.7	10.0	14.0

Note: RBO-4H: Rural Based Organization – Head, Heart, Hands, and Health; RIC - Rural Improvement Club; P4MP - *Pambansang Mannalón-Maguuma-Magbabaul-Magsasaka ng Pilipinas*.

Source: BTI Survey.

**LSA operator characteristics.** The following demographic information applies to owner-operators of farmer/family-owned LSAs (Table 10). Owner-operators are mostly male, with the highest proportion of males among LSA II owner-operators; the proportion of married owner-operators is also high at 77 percent, with similar proportions across the LSA classes. The average age of LSA owner-operators is 56, though average ages across the LSA classes are similar. The relatively low

representation of younger operators may present challenges in ensuring program continuity over the long term. There are a few bright spots such as the multi-awarded Cantontong United Youth Association (CUYA) of Samar, which was organized by young people, mostly teenagers. It grew fast from farming a small plot to becoming a diversified farm and a TESDA-certified Technical-Vocational Education and Training Institution within three years, just by learning and training the members through social media posts.

By far the most common educational attainment of the LSA operator is bachelor's degree (64%), followed by Masteral level; the highest proportion of Masteral level holders are for RCEF-LSAs, followed by LSA II. Only 8 percent of operators are Ph.D. holders. The preponderance of bachelor's degree holders suggests a strong knowledge base for anchoring agricultural training activities. The average years of schooling is 15 years, with the highest average years of schooling among operators of RCEF-LSA, and the least among operators of LSA I/Coco. There is however little to distinguish between the LSA classes.

**Table 10. Demographic Characteristics of LSA owner-operators**

	LSA I/Coco	LSA II	RCEF-LSA	All
Age, years (mean)	54.6	58.5	51.7	55.0
Farming experience, years (mean)	17.9	17.4	18.1	17.8
Male (%)	65.1	73.7	71.7	68.3
Married (%)	78.1	78.9	71.7	77.1
Highest Educational Attainment (%):				
Primary Education	1.4	0.0	0.0	0.8
Lower Secondary Education (K-12)	0.7	1.8	0.0	0.8
Upper Secondary Education (K-12)	1.4	0.0	0.0	0.8
Secondary Education (K-10)	8.2	3.5	10.9	7.6
Post-secondary/non-tertiary/Tech-Voc	1.4	7.0	4.4	3.2
Short-cycle Tertiary/Associate/Diploma	4.8	3.5	0.0	3.6
Bachelor Level	62.3	64.9	65.2	63.5
Master Level	11.6	10.5	10.9	11.2
Doctoral Level	8.2	8.8	8.7	8.4
Total	100.0	100.0	100.0	100.0
Schooling years completed, average	14.7	14.9	15.1	14.8

Source: BTI Survey.

Among the operators with post-secondary degrees (Table 11), the most common degree type is, understandably, Agriculture, forestry, fisheries, and veterinary (25%). The share of this degree type is highest among the LSA II class (at 30%). The next most common degrees are Business, administration, and law (19% average for all owner-operators), followed by Education (13%).

**Table 11. Degree type among Post-Secondary LSA owner-operators (%)**

	LSA I	LSA II	RCEF-LSA	All
Generic programs and qualifications	2.4	0.0	0.0	1.4
Education	11.8	12.0	18.0	13.0
Arts and humanities	3.9	4.0	2.6	3.7
Social sciences, journalism and information	2.4	8.0	2.6	3.7

Business, administration and law	16.5	12.0	33.3	18.5
Natural sciences, mathematics and statistics	5.5	4.0	0.0	4.2
ICT	1.6	2.0	7.7	2.8
Engineering, manufacturing and construction	14.2	16.0	7.7	13.4
Agriculture, forestry, fisheries and veterinary	23.6	30.0	23.1	25.0
Health and welfare	8.7	4.0	0.0	6.0
Service	9.5	8.0	5.1	8.3
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

Table 12 presents data on IP group membership. Most operators (82%) are not members of IPs, with LSA II owner-operators least likely to be in an IP group. Forty-six (46) operators were members of IP group; the IP group with the highest frequency among the operators is the Bukidnon group (4%), followed by the Ibanag and Kankana-ey group (2% each).

**Table 12. LSA owner-operators by IP group membership (%)**

	LSA I/Coco	LSA II	RCEF-LSA	All
Bukidnon	2.7	7.0	2.2	3.6
Ibanag	2.1	0.0	4.3	2.0
Kankanaey	3.4	0.0	0.0	2.0
Other IPs	12.3	7.0	10.9	10.8
Not a member of an IP group	79.5	86.0	82.6	81.5
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

A significant minority (43%) of LSA owner-operators have a major occupation aside from operating the LSA (Table 13). Of these, about a fifth are into business profession, with the highest share of business professionals among RCEF-LSAs. Another 16 percent are into a teaching profession. LSA II operators have the highest proportion of teachers at 29 percent.

**Table 13. Other major occupations of LSA owner-operators**

	LSA I/Coco	LSA II	RCEF-LSA	All
With another major occupation	46.6	31.6	43.5	42.6
Shares by type of occupation (%):				
Manager	10.8	9.5	8.3	10.2
Teaching Professionals	10.8	28.6	25.0	16.4
Business Professionals	18.1	19.0	29.2	20.3
Other Professionals	14.5	14.3	4.2	12.5
Other Occupations	45.8	28.6	33.3	40.6
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

#### 4.2.2 LSA farming and agri-processing

**LSA assets.** The certified area of the LSA averages 7.2 ha (Table 14), which includes the farm production area, which averages just 4.2 ha. The largest farm production area is for RCEF-LSA,

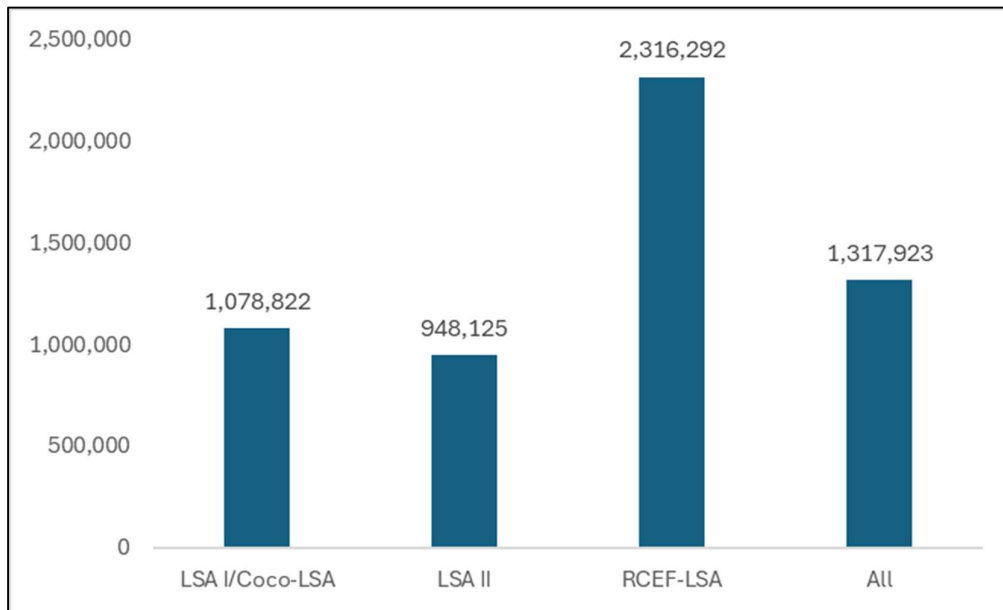
followed by LSA I/Coco, with LSA II having the smallest farm sizes. A little more than half (55%) of LSAs have fishponds, for which the average area is 0.22 ha. Over two-thirds of RCEF-LSAs also have fishponds, of size of 0.21 ha on average, while 61 percent of LSA II have fishponds, having the largest average size of 0.37 ha.

**Table 14. LSA size indicators, in ha (unless otherwise specified)**

	LSA I/Coco	LSA II	RCEF-LSA	All
Average land area	8.3	5.5	5.7	7.2
Average farm production area	4.3	3.7	4.6	4.2
With fishpond (%)	48.7	60.6	67.2	54.6
If with fishpond: average size in sq.m	1,633	3,658	2,125	2,211

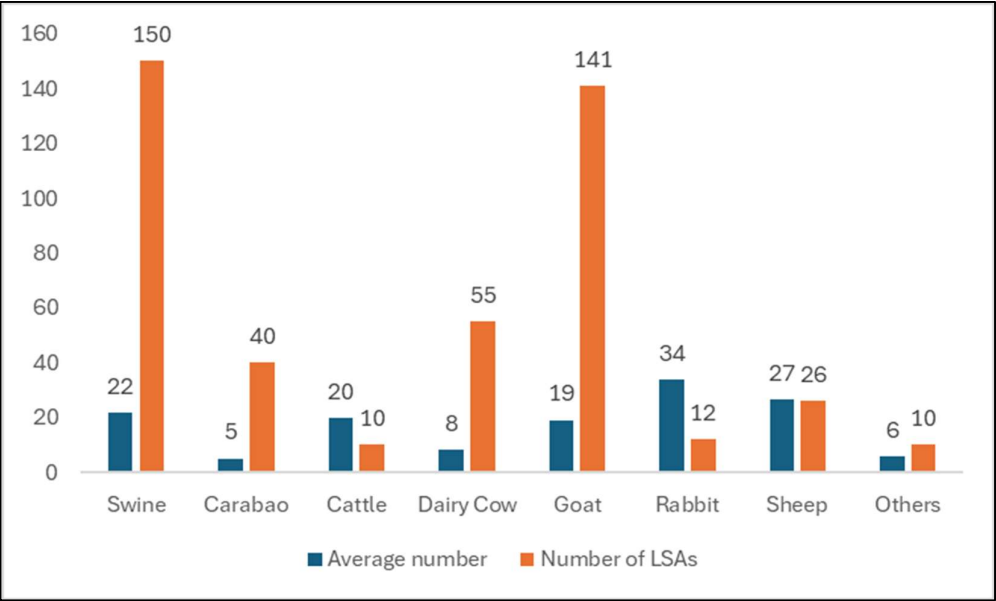
Source: BTI Survey.

Total acquisition value of farm and agro-processing assets is summarized in Figure 3. The average value of assets is Php 1.3 million; RCEF-LSAs have highest average asset value at Php 2.3 million, while LSA II have the lowest at just Php 0.95 million.



**Figure 3. Total value of farm and agro-processing equipment and facilities, average, in Php**

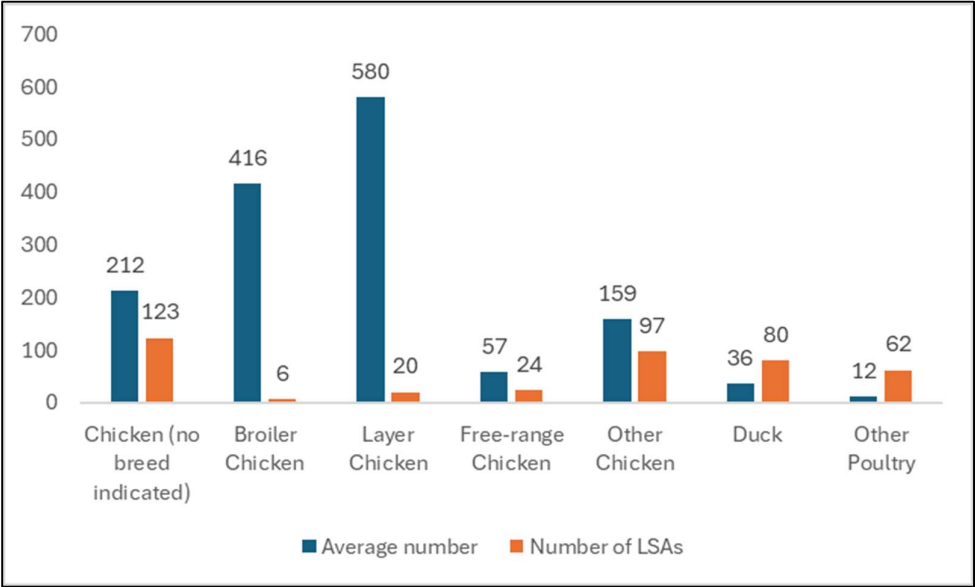
The livestock inventory for LSAs engaged in raising livestock is summarized in Figure 4. The most common livestock raised is swine at 150 LSAs, followed closely by goat at 141 LSAs. Only 55 LSAs maintain dairy cows, and 40 keep carabao. Herds are typically small, averaging 22 heads for swine, 19 heads for goat, and 8 heads for dairy cows.



Source: BTI Survey.

**Figure 4. Inventory of livestock, by type of animal**

For poultry, the most common type raised is chicken, i.e., broilers and layers. The next most common is duck. The average livestock inventory is quite small at 580 heads for layer chicken, and 416 heads for broiler chicken. The average herd size for duck is just 36 heads, while other poultry (goose, turkey, pheasant, etc.) averages only a dozen heads.



Source: BTI Survey.

**Figure 5. Inventory of poultry, by type of fowl**

**LSA activities.** The various major types of agri-food activities are listed in Table 15. Given high frequency of diversified farming, most LSAs are engaged in one or more activities. By far the most common is crop production, done by 90 percent of LSA, ranging from 86 percent of LSA I/Coco, up to

100 percent for RCEF-LSAs. The next most common is livestock raising; poultry is done by nearly two-thirds of LSAs. The proportion of livestock and poultry raisers is highest for LSA II. Organic fertilizer and pesticide production is also common with the majority of LSA II and RCEF-LSAs engaged in this activity. The next most common activity is aquaculture, then agro-processing.

**Table 15. Distribution of LSAs by type of farming activity (multiple response, %)**

	LSA I/Coco	LSA II	RCEF-LSA	All
Crop production	85.6	94.4	100.0	90.1
Livestock raising	65.6	73.2	70.7	68.2
Poultry raising	61.5	84.5	60.3	66.4
Aquaculture	37.4	43.7	48.3	40.7
Hatchery operations	12.3	11.3	1.7	10.2
Breeding operations	19.0	21.1	13.8	18.5
Milk/dairy production	3.6	5.6	3.5	4.0
Beekeeping	5.1	14.1	1.7	6.5
Mushroom cultivation	7.7	4.2	13.8	8.0
Organic fertilizers and pesticides	38.0	54.9	51.7	44.1
Production of planting materials	39.5	43.7	27.6	38.3
Other farming activity	5.6	8.5	0.0	5.3
Agro-processing	37.4	42.3	44.8	39.8

Source: BTI Survey.

The breakdown of crop farming by type of crop grown is shown in Table 16. The most common type of crop grown are fruit trees, followed by fruit vegetables. Also very common are plantation crops (such as coconut, cacao and coffee), as well as citrus fruit, and leafy vegetables. A majority of crop farms plant rice (palay); the proportion goes up to 93 percent for RCEF-LSAs. Also commonly planted are corn and root crops (including tubers and bulbs).

**Table 16. Distribution of LSAs with crop-planting activity, by type of crop planted (%)**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Temporary crops:</b>				
Cereals and Grasses				
Rice	41.9	52.2	93.1	54.5
Corn	44.9	31.3	55.2	43.8
Sugarcane	5.4	4.5	3.5	4.8
Other Cereals and grasses	3.6	6.0	1.7	3.8
Root crops, tubers and bulbs	46.1	43.3	44.8	45.2
Fruit Vegetables	74.9	82.1	75.9	76.7
Legumes	35.3	41.8	44.8	38.7
Leafy vegetables, upland	25.2	34.3	22.4	26.7
Leafy vegetables, lowland	60.5	53.7	55.2	57.9
Spices and herbs	49.1	40.3	43.1	45.9
<b>Permanent crops:</b>				
Fruit trees and plants (except citrus)	85.0	79.1	77.6	82.2
Citrus fruits	65.3	62.7	67.2	65.1
Plantation crops (except nuts)	66.5	64.2	69.0	66.4
Nuts (cashew, pili, etc.)	17.4	16.4	8.6	15.4

	LSA I/Coco	LSA II	RCEF-LSA	All
Other permanent crops	7.2	7.5	6.9	7.2

Source: BTI Survey.

For LSAs that undertake agro-processing activity (Table 17), the most common type of product is condiments, spices, and vinegars, followed by beverages. Dairy products account for just 9 percent of LSAs doing agro-processing (i.e. production of fresh/pasteurized milk, cheese, and yogurt). Other processed products include chocolate, cassava cake, crispy mushroom, mushroom patty, frozen jack fruit, tokwa, veggie chips, mushroom chips, cacao bean, vegetable salad, cacao bean, taro chips, mushroom chicharon, herbs, and fruits. Meanwhile other non-food products produced by LSAs include animal manure vermicompost, organic fertilizer, concoctions, VCO with citronella, and massage oils.

**Table 17. Distribution of LSAs with agro-processing activity, by type of agro-processing (%)**

	LSA I/Coco	LSA II	RCEF-LSA	All
Dried fruits	13.2	15.2	10.0	13.2
Jams and other preserves	21.3	33.3	20.0	24.2
Beverages/beverage powders	22.4	27.3	35.0	25.6
Condiments/spices/vinegars	23.7	54.6	35.0	33.3
Grains	14.5	12.1	25.0	15.5
Dairy products	7.9	12.1	10.0	9.3
Animal feeds	13.2	15.2	25.0	15.5
Other non-food	10.5	9.1	25.0	12.4
Others	25.0	6.1	15.0	18.6

Source: BTI Survey.

Output is difficult to estimate in physical quantities at the level of the LSA when the farm is highly diversified. An aggregate measure of farm output is gross farm income (Table 18). The average agri-food income of LSAs is close to Php 2 million, with RCEF-LSA being far the highest at Php 5.8 million, while the lowest is for LSA I/Coco at just Php 1.14 million. By activity, the largest share by far comes from crop production, averaging Php 1.3 million; again RCEF-LSAs lead the way at Php 4 million gross income from crops. The next largest contributor to gross income is processed agricultural products.

**Table 18. Gross and net farm income, by agri-food activity of engaged LSAs (in Php)**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Average gross farm income</b>				
Crop production	774,448	364,040	3,957,433	1,312,516
Livestock/Poultry/Fish	328,836	399,735	803,940	432,898
Processed Agricultural Products	374,226	578,395	1,070,186	534,695
Other Agri-Related Products	165,534	221,459	1,549,582	450,406
Total Sales per LSA	1,138,403	1,117,468	5,807,161	1,969,581
<b>Average net farm income</b>				
Crop production	457,464	-26,409	3,383,780	933,486
Livestock/Poultry/Fish	132,141	278,882	390,227	213,973
Processed agricultural products	326,414	471,105	549,042	389,117
Other agri-related products	152,041	208,549	1,537,986	437,380

Total Sales per LSA	563,418	485,965	4,287,055	1,213,022
---------------------	---------	---------	-----------	-----------

Source: BTI Survey.

Deducting expenses, the average net agri-food income of LSAs is Php 1.2 million, again the largest being RCEF-LSAs at Php 4.3 million. The largest contributor to net income is crops, averaging Php 0.93 million; and the next largest contributor is Other agri-related products, at Php 0.44 million. Note that LSA II on average incur financial losses from crop production (Php 26,409).

**Improvement in farm performance of LSAs.** The most common crops for which yield data is provided by LSAs is rice, corn, cacao, banana, mango, and eggplant. LSAs were asked to compare their yield in 2023) and yield achieved in the first year upon being certified (Table 19). The share of those who reported a yield increase of more than 50 percent is largest for cacao with half of RCEF-LSAs that plant cacao reporting this category of increase. However, mango achieved a yield increase of 50 percent only for about 4 percent of relevant LSAs. For the second category of 25 percent to 50 percent yield increase, the share is largest for banana at 47 percent and three-fourths of LSA II mentioning this category of increase. The next largest share is for eggplant at 40 percent with more than half of LSA II report this category of yield increase. Third is rice at 38 percent; about 45 percent of RCEF-LSAs report this category of increase. The next category is 1 percent to 24 percent increase in yield, for which the share is largest (34%) in the case of corn and wherein 40 percent of LSAs II reporting this yield increase. The category of minimal change is highest for mango at 46 percent with two-thirds of LSA II reporting this yield change. An actual decrease in yield is rather uncommon though the share of reporters is highest for banana at 8 percent, followed by mango at 7 percent.

**Table 19. Distribution of LSAs by percentage gain in yield since first year of certification**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Rice</b>				
Increased by more than 50%	23.6	11.1	14.3	17.4
Increased by 25% to 50%	30.9	40.7	44.6	38.4
Increased by 1% to 24%	27.3	33.3	23.2	26.8
Minimal change	10.9	11.1	14.3	12.3
Decreased	7.3	3.7	3.6	5.1
<b>Corn</b>				
Increased by more than 50%	11.1	20.0	12.5	13.2
Increased by 25% to 50%	18.5	30.0	25.0	22.6
Increased by 1% to 24%	37.0	40.0	25.0	34.0
Minimal change	29.6	10.0	25.0	24.5
Decreased	3.7	0.0	12.5	5.7
<b>Cacao</b>				
Increased by more than 50%	25.0	20.0	50.0	26.1
Increased by 25% to 50%	25.0	40.0	0.0	26.1
Increased by 1% to 24%	31.3	20.0	50.0	30.4
Minimal change	18.8	20.0	0.0	17.4
Decreased	0.0	0.0	0.0	0.0
<b>Banana</b>				
Increased by more than 50%	12.0	12.5	0.0	11.1
Increased by 25% to 50%	44.0	75.0	0.0	47.2

	LSA I/Coco	LSA II	RCEF-LSA	All
Increased by 1% to 24%	16.0	12.5	33.3	16.7
Minimal change	20.0	0.0	33.3	16.7
Decreased	8.0	0.0	33.3	8.3
<b>Mango</b>				
Increased by more than 50%	0.0	0.0	14.3	3.6
Increased by 25% to 50%	22.2	0.0	28.6	21.4
Increased by 1% to 24%	22.2	33.3	14.3	21.4
Minimal change	44.4	66.7	42.9	46.4
Decreased	11.1	0.0	0.0	7.1
<b>Eggplant</b>				
Increased by more than 50%	11.1	9.1	14.3	11.1
Increased by 25% to 50%	33.3	54.5	42.9	40.0
Increased by 1% to 24%	37.0	27.3	14.3	31.1
Minimal change	14.8	9.1	28.6	15.6
Decreased	3.7	0.0	0.0	2.2

Source: BTI Survey.

To capture improvement across diverse income sources, Table 20 presents change in gross income bracket, comparing the first year of farm operation, and current operation (2024). Six brackets are provided, beginning from the first bracket at 0 – Php 50,000, incrementing by Php 200 – 250 thousand, all the way to the sixth bracket at Php 1 million or more. For completeness, the category “Can’t recall” to sum up to 100 percent was included. Across LSA types, the common pattern is relatively high concentration of LSAs in the lower brackets (1 to 3), compared with the upper brackets (4 to 6). The concentration shifts markedly to the higher brackets in 2023, by 17 percentage points for LSA I/Coco; 21 percentage points for LSA II; and ten percentage points for RCEF-LSA.

**Table 20. Distribution of LSAs by change in gross income bracket, in Php (%)**

Bracket	Range	First year	2023	Change
LSA I/Coco				
1	Less than 50,000	23.6	19.0	-4.6
2	50,000 - 249,999	39.0	33.8	-5.1
3	250,000 - 499,999	12.8	13.3	0.5
4	500,000 - 749,999	5.1	9.2	4.1
5	750,000 - 999,999	3.6	3.6	0.0
6	1,000,000 or more	7.7	21.0	13.3
	Can't recall	8.2	0.0	-8.2
	Total	100.0	100.0	0.0
LSA II				
1	Less than 50,000	29.6	16.9	-12.7
2	50,000 - 249,999	38.0	28.2	-9.9
3	250,000 - 499,999	14.1	21.1	7.0
4	500,000 - 749,999	5.6	12.7	7.0
5	750,000 - 999,999	1.4	5.6	4.2
6	1,000,000 or more	5.6	15.5	9.9
	Can't recall	5.6	0.0	-5.6
	Total	100.0	100.0	0.0
RCEF-LSA				

Bracket	Range	First year	2023	Change
1	Less than 50,000	15.5	12.1	-3.5
2	50,000 - 249,999	43.1	29.3	-13.8
3	250,000 - 499,999	15.5	29.3	13.8
4	500,000 - 749,999	5.2	6.9	1.7
5	750,000 - 999,999	3.5	1.7	-1.7
6	1,000,000 or more	10.3	20.7	10.3
	Can't recall	6.9	0.0	-6.9
	Total	100.0	100.0	0.0
All LSAs				
1	Less than 50,000	23.5	17.3	-6.2
2	50,000 - 249,999	39.5	31.8	-7.7
3	250,000 - 499,999	13.6	17.9	4.3
4	500,000 - 749,999	5.3	9.6	4.3
5	750,000 - 999,999	3.1	3.7	0.6
6	1,000,000 or more	7.7	19.8	12.0
	Can't recall	7.4	0.0	-7.4
	Total	100.0	100.0	0.0

Source: BTI Survey.

Table 21 presents gross income change in another way, this time based on the change in number of income brackets experienced by LSAs, i.e., from the negative changes or “fall in bracket” to “increase in bracket.” For all LSAs, an improvement by one bracket is the most common experience of LSAs, accounting for a quarter of the sample; the proportion is largest for LSA II, and followed closely by RCEF-LSA. A much lower proportion experienced improvement by two brackets (12% for all LSAs). Only 5.8 percent experienced a jump by three brackets, and 6.2 percent experienced a jump by four brackets. A jump to the sixth bracket (from a lower bracket) is rarest at just 3 percent. Almost a third of LSAs reported no change in their gross income bracket. Meanwhile a decline in income bracket is much less commonly experienced, accounting for a total of 16.4 percent of LSAs, with 10.6 percent of LSAs suffering a decline by just one bracket.

**Table 21. Change in gross farm income bracket of LSAs, first year of operation and in 2023**

	LSA I/Coco	LSA II	RCEF-LSA	All
(In percentage of LSAs)				
From 6 to lower bracket	0.6	1.5	0.0	0.7
Brackets 1-5				
Fall by 4 brackets	0.0	1.5	1.9	0.7
Fall by 3 brackets	2.3	1.5	0.0	1.7
Fall by 2 brackets	3.4	1.5	1.9	2.7
Fall by 1 bracket	10.9	7.7	13.2	10.6
Increase by 1 bracket	19.5	32.3	32.1	24.7
Increase by 2 brackets	14.4	7.7	9.4	12.0
Increase by 3 brackets	5.2	9.2	3.8	5.8
Increase by 4 brackets	6.3	4.6	7.5	6.2
From lower bracket to 6	2.3	6.2	1.9	3.1
Retained	35.1	26.2	28.3	31.8

Source: BTI Survey.

LSAs also provided a subjective self-rating of their farm performance (Table 22). For more innovative

farm management practices, the most common rating of improvement is 4 (second to the highest) at 43 percent; for improved access to more advanced farm technologies, the most common rating is 5 (the highest rating) at 40 percent, and for improvement in product quality the most common rating is 4. The highest improvement rating is most common for market access (38.9%) and networking with other farmers (44.4%). For LSA II, the most common rating across dimensions of improvement is 5, which is likewise the case for LSA I/Coco.

**Table 22. Rating of improvement of farm performance, from first year to present**

	Degree of improvement (1-lowest; 5-highest)				
	1	2	3	4	5
(Percentage of LSAs)					
<b>LSA I/Coco</b>					
Farm management practices	0.6	3.6	26.0	39.6	30.2
Access to farm technologies	2.1	7.2	22.1	30.3	38.5
Quality of products	1.0	3.1	20.5	37.4	38.0
Market access	3.1	6.2	21.5	30.3	39.0
Networking with other farmers	2.6	4.1	18.0	30.3	45.1
<b>LSA II</b>					
Farm management practices	0.0	0.0	14.7	36.8	48.5
Access to farm technologies	0.0	1.4	14.1	42.3	42.3
Quality of products	0.0	0.0	18.3	33.8	47.9
Market access	0.0	1.4	22.5	35.2	40.9
Networking with other farmers	1.4	2.8	12.7	35.2	47.9
<b>RCEF-LSA</b>					
Farm management practices	0.0	0.0	8.6	62.1	29.3
Access to farm technologies	0.0	0.0	15.5	39.7	44.8
Quality of products	0.0	0.0	12.1	62.1	25.9
Market access	1.7	5.2	17.2	39.7	36.2
Networking with other farmers	1.7	0.0	12.1	48.3	37.9
<b>All LSA</b>					
Farm management practices	0.3	2.0	20.0	43.4	34.2
Access to farm technologies	1.2	4.6	19.1	34.6	40.4
Quality of products	0.6	1.9	18.5	41.1	38.0
Market access	2.2	4.9	21.0	33.0	38.9
Networking with other farmers	2.2	3.1	15.7	34.6	44.4

Note: 1 – significantly worsened, 5 – significantly improved.

Source: BTI Survey.

#### 4.2.3 LSA training and certification

Most LSAs have conducted at least one training course (80%), indicating that 20 percent of LSAs have yet to conduct a training (Table 23). It is possible that the dramatic increase in number of LSAs led to one-fifth unable to hold even one training course since being certified. The share of LSAs that have provided training is highest for RCEF-LSAs at 91 percent, owing to reliable funding of FFS from RCEF. Among the LSAs that have provided training, most had started within the interval 2020 – 2023. Only 4 percent had started before 2016, though the share of these early starters is highest for LSA II at 11 percent.

**Table 23. Distribution of LSAs by provision of training and year first offered training**

	LSA I/Coco	LSA II	RCEF-LSA	All
(In %)				
Conducted at least one training	76.4	80.3	91.4	79.9
If conducted: year started				
Before 2016	2.0	10.5	0.0	3.5
2016	3.4	12.3	3.8	5.4
2017	2.7	15.8	3.8	5.8
2018	3.4	15.8	1.9	5.8
2019	6.7	12.3	13.2	9.3
2020	10.1	7.0	26.4	12.7
2021	20.1	7.0	20.8	17.4
2022	29.5	14.0	20.8	24.3
2023	22.1	5.3	9.4	15.8
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

On average, LSAs seating capacity for trainees was 44 persons in 2023 (Table 24). RCEF-LSAs achieved the largest number of trainees at 125, while LSA I/Coco achieved the lowest at 63. For each class, the seating capacity in 2023 is much greater than in the first year upon certification, i.e. 82 percent higher for all LSAs, 98 percent higher for RCEF-LSAs, and 210 percent higher for LSA II, though just 58 percent higher for LSA I/Coco. A slight majority of LSAs had capacity for stay-in trainees (51%). Among these LSAs, the average capacity for stay-in trainees was 31 with nearly identical capacity levels across LSA types.

**Table 24. Training capacity indicators, by class of LSA**

	LSA I/Coco	LSA II	RCEF-LSA	All
Average seating capacity (pax):				
Beginning year	40	38	63	44
Current year (2023)	63	80	125	80
With stay-in facilities (%)	48.3	66.7	41.5	51.0
With stay-in facilities: average capacity (pax)	32	32	29	31

Source: BTI Survey.

The average number of trainings in 2023 was 3, averaging 4 for LSA II, and 3 each for LSA I/Coco and RCEF-LSA (Table 25). The average number of participants is 43, ranging from 47 for RCEF-LSA, to 53 each for LSA II and LSA I/Coco. Gross training income for 2023 is Php 535 thousand, with figures ranging from only Php 425 thousand for LSA II, to Php 592 thousand for LSA I/Coco. This is much higher than the average income for the first year of training of the LSAs, which averages just Php 324 thousand in the first year of operation. The average gain in gross income over the interval is 65 percent on average, the greatest proportional increase being for LSA I/Coco at 121 percent, followed by LSA II at 52 percent. Remarkably, RCEF-LSA suffered a decline in gross training income by about six percent. Net income from training averages a little over Php 300 thousand; net training income is greatest for LSA I/Coco, followed by RCEF-LSA.

**Table 25. Income and Expenses of LSA trainings, Annual Average, 2023**

	LSA I/Coco	LSA II	RCEF-LSA	All
Average number of trainings:				
First year as LSA	3	4	3	3
Current year (2023)	5	4	4	5
Average number of participants	53	53	47	43
Average fee per participant (Php)	5,058	4,238	4,238	6,079
Gross income in 2023, average (Php)	592,229	424,671	495,554	535,351
Gross income, first year, average (Php)	267,761	279,481	529,709	323,943
Increase in gross income (%)	121	52	-6	65
2023 training expenses, mean (Php)	249,020	184,896	235,638	231,043
Net income in 2023 (Php)	343,209	239,775	259,915	304,309

Source: BTI Survey.

Based on number of visitors (not necessarily only trainees), most LSAs have also experienced improvements over time (Table 26). The average number of visitors per year in 2023 was 515, the highest being for LSA I/Coco, with LSA II and RCEF-LSA tied at 398.

**Table 26. Number of visitors and change in visitors over time**

	LSA I/Coco	LSA II	RCEF-LSA	All
Average number of visitors, 2023	593	398	398	515
Visitor number, current versus first year:	(Percentage of LSAs)			
Increased by more than 50%	44.1	46.5	46.6	45.1
Increased by 25% to 50%	23.1	26.8	25.9	24.4
Increased by 1% to 24%	12.8	9.9	15.5	12.7
Minimal change	10.8	7.0	5.2	9.0
Decreased	9.2	9.9	6.9	9.0
Total	100.0	100.0	100.0	100.0

Source: BTI Survey.

Finally, the LSA operators have acquired a reputation of being experts in their field, as seen in the share of them having served as resource persons in 2023 (more than 87%). The share so recognized is even higher for LSA II at 92 percent (Table 27). The number of times they have been invited to serve as such ranges from an average of 5 (LSA I/Coco) to 9 (RCEF-LSA). Perhaps owing to the greater frequency of invitations, RCEF-LSAs earned the most honorariums in 2023, about Php 51 thousand, compared to an average of about Php 31 thousand across LSAs.

**Table 27. Percent of LSAs operators that have served as resource persons in other trainings**

	LSA I/Coco	LSA II	RCEF-LSA	All
Has served as resource person	84.4	92.0	84.6	87.1
Has not served as resource person	15.6	8.0	15.4	12.9
Among those served as resource person:				
Average number of times invited	5	7	9	7
Average value of honorariums (Php)	22,981	31,961	51,191	31,454

Source: BTI Survey

**LSA assistance received.** Government agencies typically cover 100 percent of the cost of training conducted by LSAs. Farmer trainees do not pay and in some cases, they even receive a modest stipend. The most common source of funding among the government agencies is TESDA (Table 28), which had funded 347 of 563 training courses. LSAI/Coco received the most as TESDA financed 138 of their trainings. RCEF-LSAs came second at 110 trainings. A far second source of training support is ATI at 65 training courses. Some training courses (60) did not get external assistance, i.e., conducted at own expense. DA trainings conducted by LSAs are few (13) because the training of farmers under its national commodity programs are administered by LGUs.

**Table 28. Sources of funding for trainings conducted in 2023**

	LSA I/Coco	LSA II	RCEF-LSA	All
ATI	30	28	7	65
TESDA	138	99	110	347
DA	29	2	2	33
Other NGAs	22	2	2	26
Academic Institutions	4	0	0	4
LGU	10	0	3	13
Others	12	2	1	15
None/Own	44	12	4	60
Total	289	145	129	563

Source: BTI Survey.

In upgrading the LSA, assistance is provided by ATI. Majority of LSAs (376) received financial assistance, while 98 LSAs received in-kind assistance (Table 29). The average peso value per grant is Php 172,532 and this ranges from Php 153,942 for LSA II to Php 197,641 for RCEF-LSA. The most common purposes for ATI assistance are upgrading of training facility, upgrading of agricultural facility, and additional training equipment.

**Table 29. Type and Peso Value of Assistance Received**

	LSA I/Coco	LSA II	RCEF-LSA	All
Financial, number of LSAs	150	80	48	278
In-kind assistance, number of LSAs	45	24	29	98
Total number of LSAs assisted	195	104	77	376
Peso value of assistance, average	172,403	153,942	197,641	172,532
<b>Outcome of assistance</b>	(Percent of LSAs)			
Agri facility	33.3	24.0	19.5	27.9
Agri facility, production equipment	1.0	0.0	0.0	0.5
Agri facility, training equipment	0.0	1.0	0.0	0.3
Agri facility, training and production equipment	0.5	0.0	0.0	0.3
Agri production	2.6	3.9	0.0	2.4
Production equipment	13.3	10.6	14.3	12.8
Training equipment	11.8	18.3	24.7	16.2
Training facility	35.4	39.4	41.6	37.8
Training and agri facility	0.5	0.0	0.0	0.3
Training facility and equipment	0.5	1.0	0.0	0.5
Training facility, production Equipment	0.5	1.0	0.0	0.5
Training and production and equipment	0.5	1.0	0.0	0.5

Total	100	100	100	100
-------	-----	-----	-----	-----

Source: BTI Survey.

The financial and in-kind assistances from ATI are usually received by the LSA upon certification. LSAs are generally highly satisfied with the certification process (Table 30). Sixty percent or more assigned the highest rating across the various aspects of the certification process, namely: clarity of requirements, ease of compliance, communication and support from ATI, timeliness of ATI responses, or overall satisfaction. Satisfaction ratings are consistently on the high end across LSA types.

**Table 30. Rating of certification process, by type of LSA**

	Satisfaction rating (1-least, 5-most)				
	1	2	3	4	5
<b>LSA I/Coco</b>					
Clarity of requirements	0.5	1.0	7.7	26.7	64.1
Ease of submitting requirements	0.0	2.6	9.2	28.2	60.0
Communication and support from ATI	2.6	4.6	9.2	25.1	58.5
Timeliness of ATI's responses	2.6	2.6	8.7	26.2	60.0
Overall satisfaction	1.5	2.6	8.7	22.6	64.6
<b>LSA II</b>					
Clarity of requirements	0.0	0.0	2.8	29.6	67.6
Ease of submitting requirements	0.0	0.0	4.2	21.1	74.7
Communication and support from ATI	0.0	0.0	5.6	23.9	70.4
Timeliness of ATI's responses	0.0	0.0	4.2	21.1	74.7
Overall satisfaction	0.0	0.0	2.8	21.1	76.1
<b>RCEF-LSA</b>					
Clarity of requirements	0.0	0.0	3.5	25.9	70.7
Ease of submitting requirements	0.0	0.0	5.2	32.8	62.1
Communication and support from ATI	0.0	0.0	1.7	29.3	69.0
Timeliness of ATI's responses	0.0	0.0	3.5	22.4	74.1
Overall satisfaction	0.0	0.0	3.5	24.1	72.4
<b>All LSAs</b>					
Clarity of requirements	0.3	0.6	5.9	27.2	66.1
Ease of submitting requirements	0.0	1.5	7.4	27.5	63.6
Communication and support from ATI	1.5	2.8	7.1	25.6	63.0
Timeliness of ATI's responses	1.5	1.5	6.8	24.4	65.7
Overall satisfaction	0.9	1.5	6.5	22.5	68.5

Source: BTI Survey.

Aside from ATI, about 40 percent of LSAs claim receiving assistance from other sources during certification (Table 31). The assistance largely came from the LGU extension workers and national government agencies such as DA. Family and friends and fellow LSA operators also provide assistance.

**Table 31. Other sources of assistance for LSA certification**

	LSA I/Coco	LSA II	RCEF-LSA	All
<b>Received assistance aside from ATI?</b>	<b>Percent of LSAs</b>			
Yes	33.3	45.1	53.5	39.5
No	66.7	54.9	46.6	60.5
<b>Source:</b>	<b>Percent of LSAs receiving assistance</b>			
Other LSA operators	21.5	15.6	12.9	18.0
LGU agricultural extension worker	60.0	65.6	67.7	63.3
Other national government agencies	33.9	43.8	29.0	35.2
Family/friends	21.5	18.8	12.9	18.8

Source: BTI Survey.

Most LSAs (73%) confirmed that their respective operator or at least one of their workers have received training since 2023. LSAs that received training are generally highly satisfied with trainings provided by ATI (Table 32). Of all the training service providers, ATI received the highest satisfaction ratings from about 71 percent of respondents. A far second is other NGAs (such as DA), which received only a “1” rating from 50 percent of respondents.

**Table 32. Rating of training service providers by LSAs**

	<b>Satisfaction rating (1 – least; 5 – highest)</b>					<b>% of total</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
(Percent of LSAs giving rating)						
ATI	0.0	0.0	50.0	65.8	70.9	69.0
TESDA	0.0	0.0	0.0	1.3	7.1	5.8
Other NGAs	50.0	0.0	21.4	22.8	17.2	18.5
Academic Institutions	0.0	0.0	0.0	0.0	0.9	0.7
LGU	0.0	0.0	0.0	1.3	1.1	1.1
Others	50.0	0.0	28.6	8.9	2.8	4.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: BTI Survey.

More than 60 percent of respondents, especially those from RCEF-LSAs believe that increased farming productivity and introduction of new farming techniques are their major contributions to their respective communities (Table 33). Other major contributions are the promotion of sustainable farming practices as claimed by nearly 50 percent of LSA I/Coco LSA respondents, creation of employment opportunities, and improved market access.

**Table 33. Top three self-identified impacts of LSAs on the community, % of LSA**

	LSA I/Coco	LSA II	RCEF-LSA	All
Increased local farm productivity	61.5	63.4	77.6	64.8
Engaged in consolidation and clustering	19.0	18.3	22.4	19.4
Introduced new farming techniques	59.5	62.0	70.7	62.0
Created employment opportunities	31.3	38.0	32.8	33.0
Improved market access to local farmers	27.7	22.5	27.6	26.5
Enhanced food security in the community	21.0	29.6	12.1	21.3

Promoted sustainable farming practices	49.7	42.3	37.9	46.0
Attracted youth to agriculture	16.4	12.7	12.1	14.8
Others	2.6	1.4	0.0	1.9

Source: BTI Survey.

The most mentioned strength of the LSA program is the provision of technical assistance to LSAs as expressed by 76.2 percent of LSA respondents, largely among RCEF-LSA (Table 34). The next most frequently mentioned strengths are financial support (61%) and networking opportunities with other LSAs. Interestingly, only 29 percent identified recognition from LSA certification, and 41 percent chose access to new technologies. Nonetheless, access to new technologies is commonly expressed among LSA II (51%).

**Table 34. Top 3 strengths of LSA program according to LSAs, % of LSA**

	LSA I/Coco	LSA II	RCEF-LSA	All
Financial support	58.5	60.6	69.0	60.8
Technical assistance	73.3	74.7	87.9	76.2
Networking opportunities with other LSAs	51.8	59.2	43.1	51.9
Recognition from certification	31.8	26.8	24.1	29.3
Access to new technologies	35.9	50.7	44.8	40.7
Marketing support	18.5	22.5	20.7	19.8
Others	2.6	0.0	0.0	1.5

Source: BTI Survey.

The LSA respondents brought forward recommendations for improving the LSA program (Table 35). The top recommendation is to increase financial support for training (78%) and other expenses (72%). The next top recommendations are to improve the quality of trainings for LSA trainers (50.9%) and increase the quantity of trainings for trainers (38.9%). Relatively few mentioned the need for more streamlined certification, supporting the high level of satisfaction with the certification process among LSAs as presented in Table 30.

**Table 35. Top three recommendation for improving the LSA program, % LSA respondents**

	LSA I/Coco	LSA II	RCEF-LSA	All
Increased financial support:				
For trainings	79.0	76.1	79.3	78.4
For other expenses	73.9	66.2	72.4	71.9
Improved quality of trainings for trainers	53.3	46.5	48.3	50.9
Increased quantity of trainings for trainers	33.9	50.7	41.4	38.9
Streamlined certification process	9.7	11.3	12.1	10.5
Enhanced post-certification monitoring	29.2	21.1	19.0	25.6
Others	2.6	7.0	5.2	4.0

Source: BTI Survey.

LSAs were also asked to self-rate the likelihood of sustainability of benefits of being an LSA (Table 36). Most of them viewed the sustainability of benefits as being “Very likely” (68%). The most optimistic about sustainability is LSA II (79%) as these are more established and experienced. Very few rated sustainability as being unlikely (1.5% assigned a rating of 1 or 2).

**Table 36. Percentage of LSAs by self-rating of likelihood of sustaining benefits of being an LSA**

Rating (1-very unlikely; 5-very likely)	LSA I/Coco	LSA II	RCEF-LSA	All
1	0.0	0.0	1.7	0.3
2	1.5	1.4	0.0	1.2
3	8.7	4.2	6.9	7.4
4	25.6	15.5	22.4	22.8
5	64.1	78.9	69.0	68.2
Total	100	100	100	100

Source: BTI Survey.

#### 4.2.4 LSA visits and FGDs

Overall, the significant growth of the LSA program demonstrates ATI's efforts in expanding agricultural learning sites and in improving agricultural extension and services across the country. The preliminary survey and consultation findings suggest that LSAs are playing a critical role in agriculture through training and production and as demonstration farms. However, there are regional gaps, an aging operator base, and demographic issues that should be addressed to improve the program's reach and sustainability.

The above survey findings provided a broad overview of the current state of LSAs, but to gain a deep understanding of the specific challenges and regional variations, the regional trips were conducted. These were very informative and insightful. Each visit began with a meeting with the RTCs, held either at their respective offices or at the venue of the regional FGD, i.e., in cases when the RTCs are far from the regional government centers (e.g., RTC-8). The meetings were very useful in understanding the implementation, monitoring, and challenges of the LSA program, as well as the strengths and constraints of the RTCs in implementing the LSA Program. The highly animated FGDs with regional offices and LGUs are likewise very informative.

Visits and interviews of 21 LSA owners and operators are highlights of these regional consultations. The LSAs were carefully chosen to represent the various types of sites, variety of produce, technology adopted, etc. (Table 37). A number of LSA owner-operators also joined the FGDs, helping confirm or further enrich the team findings. Visits to LGU-owned and operated LSAs were also undertaken to, among others, compare these with private LSAs and gather LGU perspectives and insights on the LSA Program.

**Table 37. List of LSAs Visited**

No.	Name of Farm	Type of Site	Commodities Produced
<b>R1 – Ilocos Region</b>			
1	3K TDCI Integrated Farm	RCEF-LSA, TESDA Farm School, FCA	Rice
2	Jopat Integrated Farm	LSA I	Rice, Poultry, Fish, High value crops, Vermicompost, Rabbits, Mushrooms
<b>R2 – Cagayan Valley</b>			
3	Tuguegarao City Integrated Demo Farm and Training Center	RCEF-LSA, TESDA Farm School, Farm Tourism Site	Rice, fruit trees, root crops, vegetables, bamboos, and aquaculture
4	Caranguian Integrated Farm School	LSA I	Rice, high value crops
<b>R6 – Western Visayas</b>			

5	GLS Integrated Farm	RCEF-LSA, TESDA Farm School	Rice, Corn, Eggplant, Tomato, Okra, Bananas, Poultry
6	Aklan Agri-Aqua Demonstration Farm and Training Center	LSA I owned and managed by the provincial government	Rice, Coconut, Lettuce, Melon, Sili Haba, String Beans, Bonsai, Tilapia,
7	ADC Farm	Coco-LSA, TESDA Farm School, Agri-Processing Enterprise	Coconut, Coconut Husk, Abaca, Coco shell craft, Coco paper
8	Dreamer's Valley Camp and Resort	LSA II, Farm Tourism	Rice, Vegetables, Live Wild and Native Pigs, Native Chicken, Inland Agri-Fishery)
9	Tiu Cho Teg-Ana Ros Foundation Integrated Farm	Integrated Farm School	Vegetables (Talong, Kamatis, Ampalaya, Squash, Sili, Papaya, Lemon Grass)
<b>R8 – Eastern Visayas</b>			
10	Pitahaya Farm	LSA II, Fruits and Vegetables Farm	Rice, Dragon Fruit, Lettuce, Organic Fertilizer
11	Cuatro Marias Farmers Academy	LSA I (Diversified), TESDA Farm School, Farm Tourism	Rice, Coconut, Poultry, livestock
	Villaconzoilo Farm School	PAF-ESP (Integrated-Diversified), TESDA Farm School, Farm Tourism	Livestock, Sweetcorn, Kale, Upo, Watermelon, Pineapple, Ampalaya, Petchay, Lettuce, Herbs and Spices
12	Cantongtong United Youth Association and Farm	RCEF-LSA, TESDA Farm School, FCA	Rice, Coconut, Poultry, Organic Fertilizer, Plant and Soil Enhancer
<b>R10 – Northern Mindanao</b>			
13	KT-Techno Hub	LSA I (Diversified), PAF-ESP, GAP	High value crops, Onion, Pumpkin, Vermicompost
14	Tuminugan Farm	LSA I (Integrated-Diversified), GAP, Permaculture, Organic Agriculture	Coffee, Adlai, Ginger, Pineapple, Root Crops, Various vegetables, High value crops, Bamboo, Fowl, Pigs
15	Conservation Agriculture with Trees Training Center	LSA I (Permaculture)	Cacao, Vanilla, Coffee, Banana, Rubber, Black Pepper, Lanzones, Coconut, Banana, Durian
16	San Roque Dairy Farm	LSA I, TESDA Farm School	Kangkong, Moringa, Okra, Chili Pepper, Dairy Milk, Cow, Goat, Carabao, Chicken, Duck
<b>R13 - CARAGA</b>			
17	EM Nature Farms	LSA I (Integrated-Diversified), TESDA Farm School, Organic Agriculture	Livestock (Goat, Swine), Poultry, Vegetables, Fruits, And Bamboo Seedlings
18	Foundation for the Development of Agusanons Inc.	LSA I, Farming and Agri-Processing Enterprise	Organic Black Rice, Mango, Rambutan, Durian, Cacao, Coffee, Vegetables, Livestock
19	Hosea Farm	LSA I, Agroforestry Tourism and Livestock Farm	Duck, Chicken (Layer and Free-Range), Swine, Tilapia
20	Afdal Farm	LSA I (Integrated), Livestock Farm	Goats, Chicken
21	KAPCO Learning and Demo Sites	LSA I, FCA	Coconut, Banana, Dairy cow, Carabao

BTI also talked to at least 30 current and former trainees about their training and post-training experiences, views about the LSA Program, and suggestions for improvement of the LSA program and the training programs.

In addition, the team consulted LSA Associations, where these exist. Eastern Visayas (Region VIII) has the Organikong Magsasaka at Mangingisda ng Rehiyon Otso (OMMRO), which has been actively fostering peer-to-peer learning and promoting organic agriculture in the region. Its membership includes farmers and LSA operators. They recently organized 40 LSAs into an LSA Association.

### 4.3 Quantitative Analytics

#### 4.3.1 Farm Level Analysis

What determines the success or effectiveness of a particular LSA? What attributes of LSAs and their operators have a bearing on their success? These are questions this section seeks to address. Unfortunately, and as explained in section 4.1, assessing the “success” or “effectiveness” of an LSA in a study that is focused on the supply side cannot yield a complete measure of these outcomes because ultimately, the success of an LSA hinges on its ability to raise farmer-clients’ productivity, incomes and welfare. For purposes of this study, outcomes can be approximated in terms of the LSA’s net farm income and how it has increased since its certification as an LSA to the present, and the number of trainees served.

One may surmise that LSA and operator attributes that could have an influence on the above outcomes (i.e., candidate explanatory variables) would include the following:

- Farm production area (in Ha.)
- Age of operator (Years)
- Gender of operator (Male/Female where Female=1, Male=0)
- Educational attainment of the operator (Years, Degree)
- Length of farming/fishing experience (Years)
- Amount of outside assistance received (Pesos)
- Accreditation as TESDA Farm School (FS-1, non-FS=0)

Scatterplots that plot LSAs’ quantified explanatory variables against success proxy indicators are presented in Figures 6 to 8. To explore statistical correlations and possible causal links between success indicators and the above possible explanatory variables across LSAs, multivariate analysis is undertaken, for which the standard tool is regression analysis (Tables 38 to 41). The statistical analysis seeks to relate success indicators with explanatory variables. Based on the above discussion, the candidate success indicators employed are **net farm income per hectare**, **number of income brackets crossed since certification as an LSA** (see Tables 20 and 21), and **total number of trainees served**. The candidate explanatory variables are **farm and operator characteristics** (farm area, age and gender of operator, farming experience, and education of operator in years), **government grant assistance received**, and **Farm School accreditation**.

The regression coefficients denote the marginal impact of a one-unit change in the explanatory variable on the dependent variable. Taken together, the estimates comprise a **statistical model** for explaining the dependent variable.

### ***Net Farm Income per Hectare***

The scatterplots and regression results using Net farm income per hectare as dependent variable are shown in Figure 6 and Table 38. Eyeballing the scatterplots reveals no apparent relationship between any of the quantifiable explanatory variables and net farm income per hectare. It may be noted that **coefficients are negative for Production area, Age of operator, and Farm School accreditation** (Table 38); these imply that higher values of these variables are associated with lower net farm income per ha. For example, a one-hectare increase in Production area appears to reduce net farm income by Php 8,683, suggesting that there are diseconomies of scale in the surveyed farms. Net income also appears to decline with the age of operator, suggesting that younger operators are able to achieve higher incomes for their LSA. Meanwhile, positive coefficients are found for years of experience of operator, years of education of operator, and amount of assistance received as LSA, as one would expect. However, reliability of these coefficient estimates can be assessed using the column  $\Pr(t > t_c)$ ; the number denotes the probability of incorrectly rejecting a value of zero coefficient, when in fact the value is zero. The desirable value should be low, with the threshold conventionally identified at 0.10 or 10 percent. Based on this criterion, only Age of the operator and Female operator reaches a low enough value at 4.3 percent and 9.2 percent, respectively, hence statistically significant; that is, for each additional year of age of the operator, net farm income declines by Php 16,014; and female operators on average, other factors being equal earn Php 316,171 lower gross income than male operators.

Another criterion for reliability of regression analysis is the adjusted R-squared, which is the percentage of variation from the sample mean that is explained by the statistical model. The adjusted  $R^2$  is very small at 0.99 percent, weakening confidence in the explanatory power of the model itself.

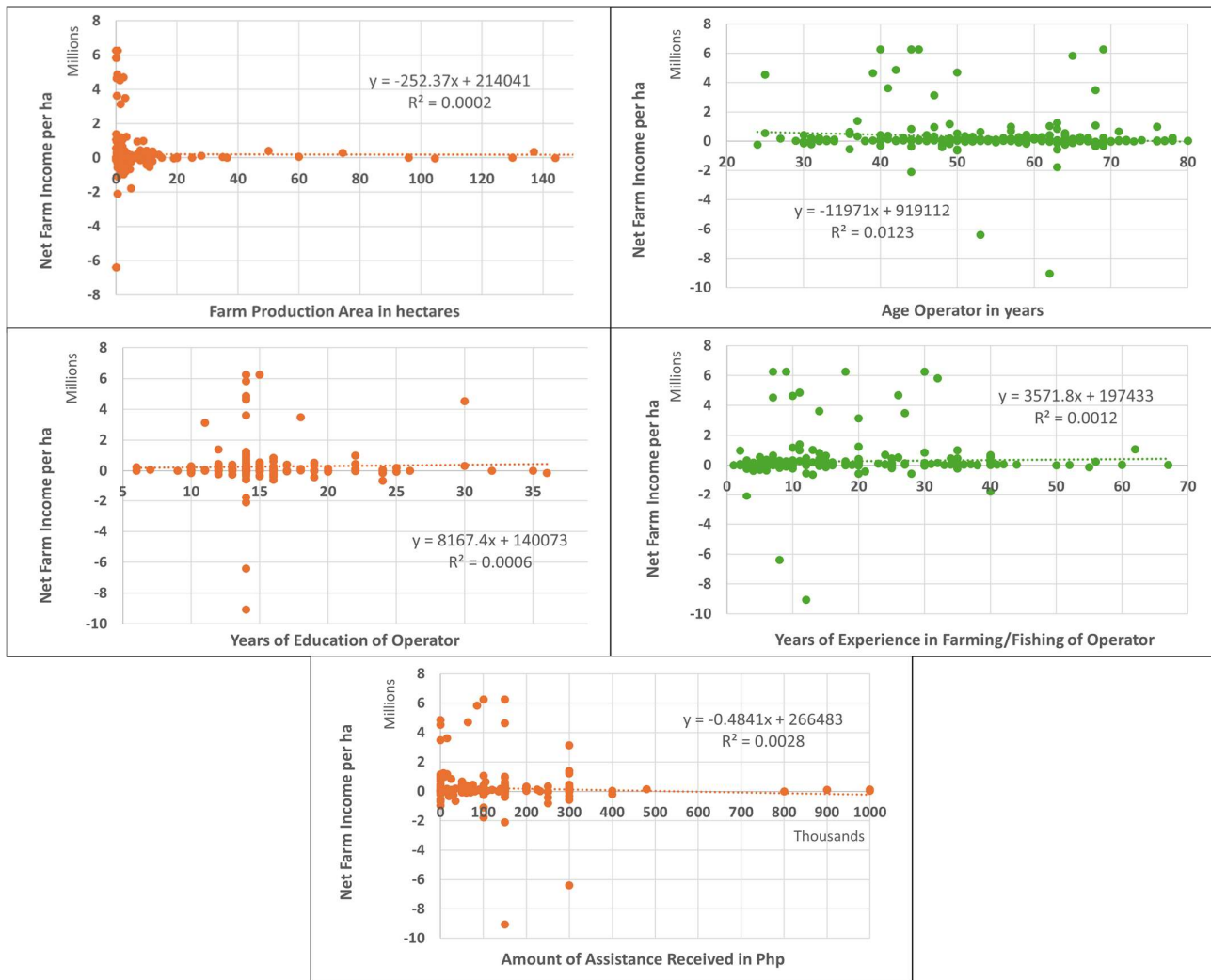


Figure 6. Scatterplots of Net Farm Income per Hectare vs. Quantitative Explanatory Variables

Table 38. Regression Results: Net farm Income per Ha.

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: Net farm income per ha.</b>			0.0122
Production area	-8,984.9	0.469	
Age of operator	-15,826.8	0.040*	
Female operator	-294,681.8	0.113	
Experience of operator in years	8,557.3	0.249	
Education of operator in years	14,331.1	0.904	
Assistance received as LSA	-0.9405	0.179	
Farm school	20,855.2	0.905	
Constant	1,161,911.0	0.040*	

\* - significant at 10% level; \*\* - significant at 5% level.

Source of Basic Data: BTI Survey

### Number of Income Brackets Crossed

Alternatively, the number of jumps across gross income brackets of the LSA between its first year and current year of operation (as in Table 21) may be defined as the dependent variable. Figure 7 shows the scatterplots with the same set of explanatory variables, and Table 39 gives the regression results. However, the fit of this model is quite poor, with the adjusted R<sup>2</sup> even turning negative.

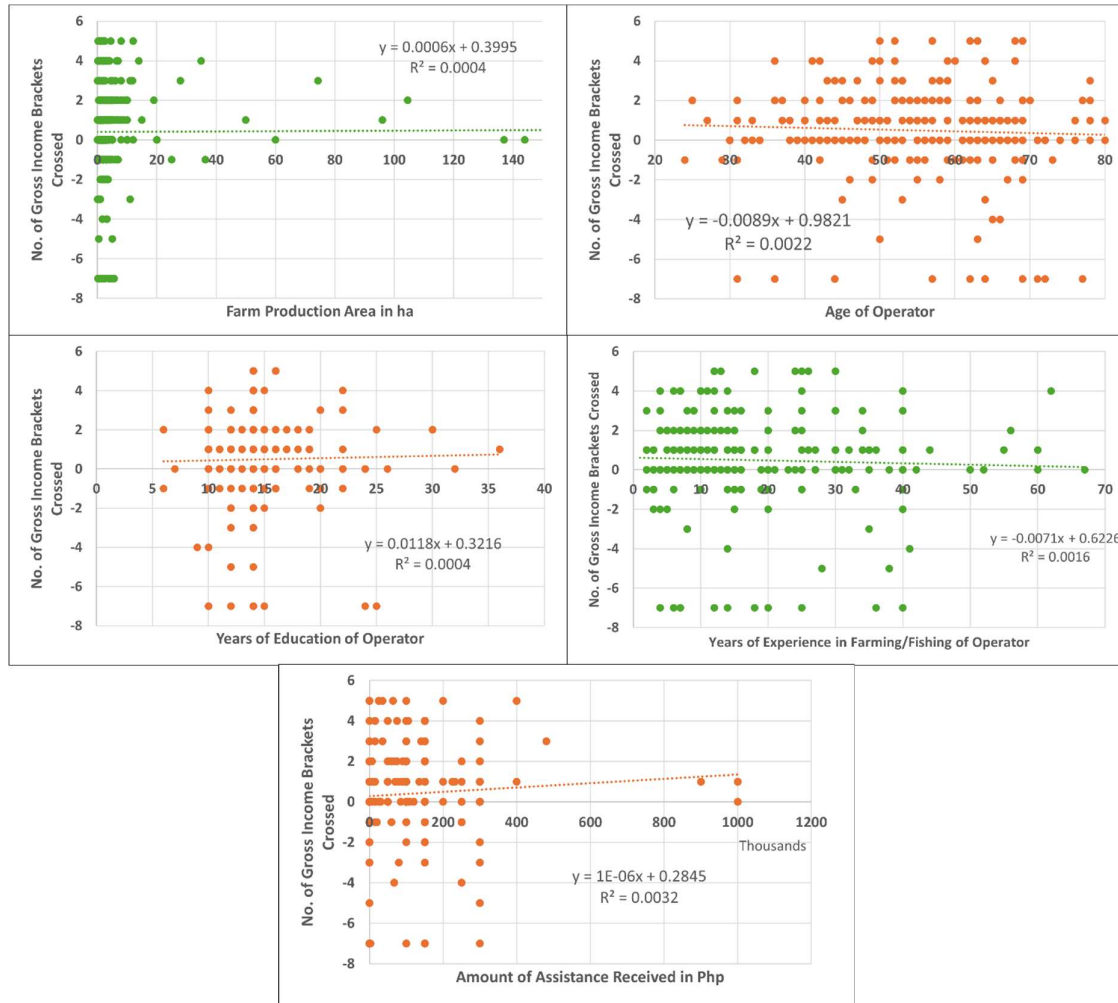


Figure 7. Scatterplots of Number of Income Brackets Crossed vs. Quantitative Explanatory Variables

Table 39. Regression Results: No. of Income Brackets Crossed

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: Change in income bracket</b>			-0.011
Production area	0.032	0.131	
Age of operator	-0.0095	0.472	
Female operator	0.146	0.646	
Experience of operator in years	-0.0007	0.953	
Education of operator in years	0.105	0.609	
Assistance received as LSA	0.000000615	0.608	
Farm school	0.186	0.538	

Constant	-0.0095	0.472	
----------	---------	-------	--

\* - significant at 10% level; \*\* - significant at 5% level.

Source of Basic Data: BTI Survey

### Number of Trainees Served

A third possible proxy indicator for LSA success is the total number of trainees cumulatively served by the LSA. Again, the scatterplots (Figure 8) show no clear link between the explanatory variables and the number of trainees served by the LSAs. However, the regression results (Table 40) show significant coefficients for Age of operator, consistent with what one might expect: that is, younger operators tend to serve more trainees. The adjusted R-squared value of 0.156 is better than in the previous two formulations and is closer to the norm in cross section studies. The model's explanatory power nonetheless remains weak.

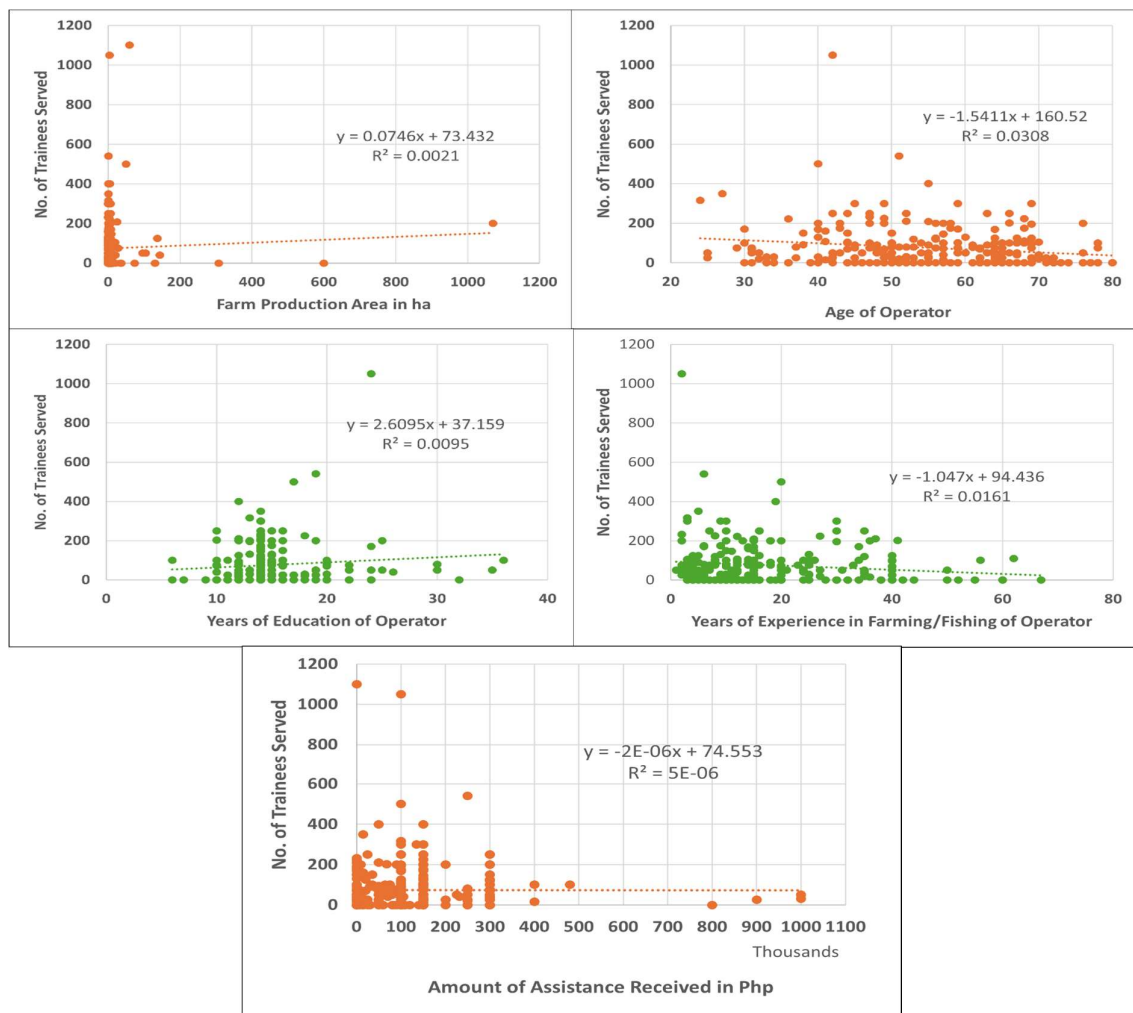


Figure 8. Scatterplots of Number of Trainees Served vs. Quantitative Explanatory Variables

**Table 40. Regression Results: No. of Trainees Served**

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: No. of Trainees Served</b>			0.1558
Production area	1.402	0.139	
Age of operator	-1.483	0.012**	
Female operator	1.521	0.914	
Experience of operator in years	-0.284	0.616	
Education of operator in years	3.015	0.740	
Assistance received as LSA	-0.00002	0.634	
Farm school	1.402	0.139	
Constant	-1.483	0.012**	

\* - significant at 10% level; \*\* - significant at 5% level.

Source of Basic Data: BTI Survey

***Nonlinear effects***

The least squares models examined so far assume a “linear effect,” i.e. each unit increase in the explanatory variable has a constant effect on the dependent variable (given by the value of the coefficient). This may be seen as too restrictive, that is, effects may be nonlinear. For instance, the effect may be relatively large at low levels but relatively small at high levels. For illustration, additional years of schooling for operators with tertiary education may have a greater effect on gross income compared with additional years for post-graduate education. One way to incorporate non-linearities is to adopt a logarithmic transformation for continuous variables on the right-hand side, namely area, age, years of experience, years of education, and value of assistance. We use the dependent variables of the previous linear models, namely net farm income per ha., number of brackets crossed, and number of trainees served. The result is shown in Table 41. The nonlinear version has a better fit than the linear model except for the slight decline in explaining number of trainees. In the following, we focus only on those nonlinear models that have a better fit than their linear model counterparts.

For net farm income per ha, the adjusted R<sup>2</sup> is 0.0332, higher than the 0.0122 of the linear model. Total production area has a significant negative effect, again reflecting diseconomies of scale; age of operator is likewise significant with a negative effect. None of the other variables has a significant effect.

**Table 41. Regression Results: Net farm income per Ha, Nonlinear model**

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: Net Farm Income per ha</b>			0.0332
Production area, logarithm	-164,396.8	0.023**	
Age of operator, logarithm	-780153.1	0.039**	
Female operator	-271437.5	0.138	
Experience of operator in years, logarithm	189436.1	0.101	
Education of operator in years, logarithm	116340.1	0.751	
Assistance received as LSA, logarithm	-10975.46	0.558	
Farm school	54113.22	0.756	
Constant	-780153.1	0.039**	

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: Number of brackets crossed</b>			0.0113
Production area, logarithm	0.192	0.121	
Age of operator, logarithm	-0.475	0.461	
Female operator	0.111	0.723	
Experience of operator in years, logarithm	0.108	0.584	
Education of operator in years, logarithm	0.400	0.525	
Assistance received as LSA, logarithm	0.075	0.020**	
Farm school	0.151	0.613	
Constant	0.656	0.793	
<b>Dependent variable: Number of trainees</b>			0.1295
Production area, logarithm	3.224	0.562	
Age of operator, logarithm	-65.216	0.025**	
Female operator	1.327	0.925	
Experience of operator in years, logarithm	-6.957	0.434	
Education of operator in years, logarithm	6.263	0.825	
Assistance received as LSA, logarithm	1.921	0.185	
Farm school	73.886	0.000**	
Constant	279.516	0.013**	

\* - significant at 10% level; \*\* - significant at 5% level.

Source of Basic Data: BTI Survey

When the dependent variable is the number of gross income brackets crossed, assistance received has a positive coefficient that is statistically significant at 5% level. The model's goodness-of-fit rises from a negative number to 0.0113; however, this remains a very low number. Finally, when the dependent variable is number of trainees, goodness of fit declines to 0.1295, from 0.1558 of the linear model. The coefficient of operator's age remains negative and statistically significant; also statistically significant is Farm school, which raises the average number of trainees per year by 74, all other factors constant.

In all these regressions, the assistance received as an LSA has not been statistically significant, except for the number of brackets crossed. However, interpreting this effect is difficult unless we normalize by number of years since LSA certification. The corresponding regression is shown in Table 42. The fit is slightly better than the previous regression with number of income brackets crossed as dependent variable, but non-normalized assistance received. The coefficient of production area is positive and statistically significant, indicating economies of scale. The coefficient of assistance received is still positive and statistically significant, but only at 10% level. But despite its statistical significance, the quantitative effect is small. The value implies that, at the mean assistance level (Php 172,532), a one-percent increase in assistance (Php 1,725 increase) will increase 0.000341 brackets; at 250,000 per bracket, this translates to a gross income gain of only Php 85.00. One reason why the assistance has little effect is that many LSAs received assistance even if they were not able to subsequently increase their gross income bracket; in fact, those who suffered a **decline** in income bracket actually received an average assistance of Php 88,208. In other words, the LSA assistance was not able to properly discriminate between those who could use the assistance productively and those who could or would not.

**Table 42. Regression Results: No. of Income Brackets Crossed per year**

	Coefficient	Pr( $t > t_c$ )	Adjusted R <sup>2</sup>
<b>Dependent variable: No. of Income Brackets Crossed per year</b>			0.0145
Production area, logarithm	0.144	0.040**	
Age of operator, logarithm	-0.239	0.513	
Female operator	0.167	0.347	
Experience of operator in years, logarithm	0.059	0.601	
Education of operator in years, logarithm	0.181	0.611	
Assistance received as LSA, logarithm	0.034	0.062*	
Farm school	0.112	0.507	
Constant	-0.239	0.513	

\* - significant at 10% level; \*\* - significant at 5% level.

Source of Basic Data: BTI Survey

### ***Discrete Explanatory Variables***

Apart from the above regression analyses to examine the effects of numerical explanatory variables on the proxy indicators of LSA success, comparisons may be made across discrete attributes of LSAs or operators. In particular, the following attributes are examined: gender of operator (male-female), whether or not an LSA is also a TESDA-accredited Farm School, educational attainment of the operator (elementary, high school, college or postgraduate), and type of LSA (LSA I/Coco, LSA II, or RCEF-LSA). Table 43 summarizes the comparisons of means of the success proxy indicators across the discrete values of the explanatory variables, with Net farm income per hectare as dependent variable.

**Table 43. Comparisons of Mean Values of Net Farm Income per Hectare**

Net Farm Income per Ha				
Gender of Operator	Mean Farm Income/Ha.	Variance	t-statistic	
Male	364,262	1,355,788	1.7876	
Female	38,820	1,295,445		
TESDA FS?	Mean Farm Income/Ha.	Variance	t-statistic	
Yes	228,148	925,715	-0.3146	
No	185,540	1,510,763		
LSA Type	Mean Farm Income/Ha.	Variance	Prob>F	
LSA I/Coco	255,594	1,484,221	0.6766	
LSA II	174,178	606,100		
RCEF LSA	106,436	318,010		
Educational Attainment	Mean Farm Income/Ha.	Variance	Prob>F	
Elem	123,635	164,565	0.9623	
HS	229,444	672,352		
College	301,399	1,556,773		
MS	148,506	700,055		
PhD	122,082	250,285		

In spite of the seeming substantial differences among the means with respect to gender of operator, TESDA Farm School accreditation, LSA Type, or educational attainment of the operator, the t and F statistics all indicate these differences to be statistically insignificant, owing to the large variances in net farm income across farms in specific categories.<sup>2</sup>

Table 44 compares mean values of the number of income brackets crossed by the LSAs since certification as the proxy success indicator. Again, the wide variances in the indicator render the differences between the means to be largely statistically insignificant, with t-values falling short of the rule of thumb value of 2, while the probabilities of the F-values exceeding the critical level are again too high and close to a 100 percent probability of accepting the null hypothesis. However, differences in outcomes across the three LSA types appear to be slightly significant, with the probability of accepting the null hypothesis at slightly less than half.

<sup>2</sup> The t-statistics are too low (i.e., fall short of the rule of thumb value of 2), and the probabilities of the F statistic exceeding the critical values are too high, which would imply acceptance of the null hypothesis that the mean values are not statistically different from one another.

**Table 44. Comparisons of Mean Values of Number of Income Brackets Crossed**

Brackets Crossed				
Gender of Operator	Mean Brackets Crossed	Variance	t-statistic	
Male	0.4472	2.3714	-0.4647	
Female	0.5974	2.2493		
TESDA FS?	Mean Brackets Crossed	Variance	t-statistic	
Yes	0.4216	2.1330	0.1301	
No	0.3852	2.7497		
LSA Type	Mean Brackets Crossed	Variance	Prob>F	
LSA I/Coco	0.2703	2.4677	0.4674	
LSA II	0.6029	2.5165		
RCEF LSA	0.6296	1.9357		
Educational Attainment	Mean Brackets Crossed	Variance	Prob>F	
Elem	0.5000	2.1213	0.5683	
HS	-0.0870	2.9063		
College	0.5030	2.3385		
MS	1.0370	1.6980		
PhD	0.3684	2.3145		

The analysis is again repeated with the number of trainees serving as the proxy indicator for LSA success. The results are summarized and graphed in Table 45. This time, the differences are significant between LSAs that are also TESDA-accredited farm schools and those that are not, with the former getting nearly three times the average number of trainees obtained by non- TESDA accredited Farm Schools. This is consistent with the common observation made in the field that most LSAs aspire to become TESDA-accredited Farm Schools, as it brings greater opportunities to obtain training programs and corresponding trainees. In fact, a large number of LSAs apply for certification with ATI with TESDA accreditation being their real objective. The LSA type also makes a difference for being able to serve more trainees, especially for RCEF-funded LSAs, which have had an average of 132 trainees, as against 72 for LSA II and 58 for LSA I and Coconut based LSAs supported by CFIDP funds. The difference clearly lies in the much greater funding available to support RCEF LSAs. For the other types of LSAs to match the performance of the RCEF LSAs, there is a need to allocate more training support for regular LSAs. While LGUs are now expected to be the primary sponsors of LSA-based training programs directed at farmers, local funds are mostly inadequate for this purpose, indicating that matching support grants from the Department of Agriculture need to be provided. This point is also discussed and further elaborated in the qualitative analyses in succeeding sections.

**Table 45. Comparisons of Mean Values of Number of Trainees Served**

Number of Trainees Served			
Gender of Operator	Mean No. of Trainees	Variance	t-statistic
Male	75.22	113.47	-0.1217
Female	77.04	100.26	
TESDA Farm School	Mean No. of Trainees	Variance	t-statistic
Yes	99.64	118.95	-4.8969*
No	36.52	105.46	
LSA Type	Mean No. of Trainees	Variance	Prob>F
LSA I/Coco	57.90	103.78	0.0001*
LSA II	72.31	87.33	
RCEF LSA	131.95	167.90	
Educational Attainment	Mean No. of Trainees	Variance	Prob>F
Elem	50.00	70.71	0.6856
HS	47.78	69.59	
College	79.83	113.21	
MS	66.75	69.24	
PhD	87.38	151.97	

The figure contains four bar charts corresponding to the data in Table 45:

- Gender of Operator:** A bar chart comparing Male (75.22) and Female (77.04). The y-axis ranges from 70.00 to 80.00.
- TESDA Farm School:** A bar chart comparing Yes (99.64) and No (36.52). The y-axis ranges from 0.00 to 200.00.
- LSA Type:** A bar chart comparing LSA I/Coco (57.90), LSA II (72.31), and RCEF LSA (131.95). The y-axis ranges from 0.00 to 150.00.
- Educational Attainment:** A bar chart comparing Elem (50.00), HS (47.78), College (79.83), MS (66.75), and PhD (87.38). The y-axis ranges from 0.00 to 100.00.

### 4.3.2 LSAs and Sector Performance

As indicated in section 2.1.4, secondary data on a more aggregate level may be examined to explore, as a hypothesis, whether LSAs have an effect on overall performance of the agriculture and fisheries sector, say at the regional level. One might ask, for example, if regions with a higher density of LSAs per land area manifest superior agriculture and fisheries sector performance over those regions where LSAs are fewer in number. Table 46 examines LSA densities (number of LSAs per 100 hectares) across regions, along with agricultural value added (agriculture’s contribution to GDP) in 2012 (when the LSA program started) and 2023, and growth in agricultural GDP within that period.

**Table 46. LSA Density and Agricultural GDP Growth in Constant Prices, by region, 2012-2023**

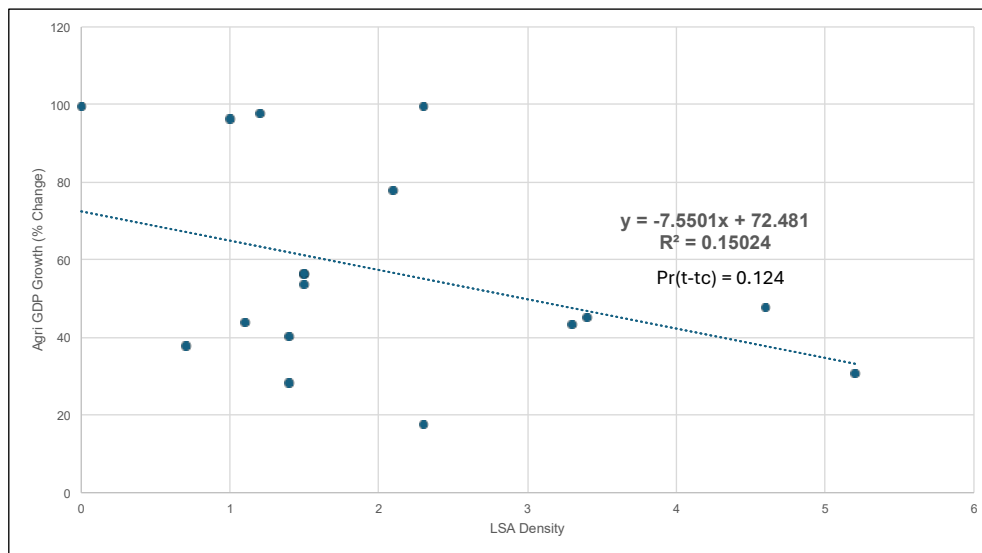
Region	No. of LSAs	Agri Land Area (000 Has.)	LSAs per 100 Has.	Agri GDP 2012* (in Php Million)	Agri GDP 2023* (in Php Million)	Agri GDP Growth (% change)
NCR	2	20.3	1.0	0.3	0.6	96.2
CAR	72	138.8	5.2	26.0	34.0	30.7
1	101	218.7	4.6	91.0	134.3	47.6
2	165	481	3.4	90.8	131.9	45.3
3	65	446.2	1.5	204.9	320.0	56.2
4A	74	497.7	1.5	115.7	181.3	56.7
4B	68	445.6	1.5	53.8	82.6	53.6
5	107	774.2	1.4	73.7	94.6	28.2

6	64	467.8	1.4	130.6	183.0	40.2
7	61	292.5	2.1	65.6	116.9	78.0
8	106	453.6	2.3	63.4	74.5	17.5
9	51	448.2	1.1	67.8	97.5	43.8
10	129	565.2	2.3	128.7	256.6	99.4
11	70	575.6	1.2	116.9	230.9	97.5
12	42	638.3	0.7	117.1	161.3	37.8
13	150	461.4	3.3	33.3	47.7	43.5
BARMM	0	346.5	0.0	68.9	137.5	99.5
<b>Total</b>	<b>1,329</b>	<b>7,271.60</b>	<b>5.47</b>	<b>1,448.5</b>	<b>2,285.2</b>	<b>57.8</b>

\*in constant prices

Source: ATI, PSA

If the hypothesis is supported, the data would show that regions with higher density of LSAs would also show better improvement in agricultural production as indicated by the growth in regional agricultural GDP. However, eyeballing the numbers in Table 46, particularly columns 4 (LSA density) and 7 (regional agricultural GDP growth over 2012-2023) shows no apparent correlation. The scatterplot in Figure 9 reveals no apparent significant correlation between the two variables. What might appear to be a negative correlation is counterintuitive, inasmuch as this implies that a higher density of LSAs is associated with inferior performance in agriculture as reflected by agricultural GDP growth. Regression analysis indeed shows that the coefficient of LSA density is not significant (with a p-value of 0.124), and the R-squared is low at 15 percent.



**Figure 9. Scatterplot of Agricultural GDP Growth vs. LSA Density per Region**

One might infer from these results that (1) there are other important factors besides presence of LSAs that influence agricultural production performance in an area/region; or (2) LSAs have actually had little to no effect on improvement of aggregate agricultural production and productivity in their service areas, or (3) there may be more appropriate indicators other than regional agricultural GDP to assess the positive impacts of LSAs, or (4) LSAs have had too limited scope and extent of their services in the areas they serve, etc.

## 4.4 Qualitative Analysis: Issues and Concerns

The orientation of the LSA program evolved through the years from an initial focus on organic agriculture to the more comprehensive scope it now covers. As a result, the program's guiding strategy and operational framework has effectively undergone changes and now needs a clear redefinition to better guide the implementation of the program moving forward.

Wide consultations through discussions and interviews held with various stakeholders of the LSA system, as listed in section 2.2.3, helped highlight strengths of the program along with issues and challenges therein. This section discusses various issues and concerns that qualitatively bear on the success or effectiveness of LSAs as instruments for improving farmers' productivity, incomes and welfare.

### 4.4.1 Institutional and Operational Concerns

#### ***Operational Relationship Between ATI and LSAs***

Under the ideal devolved extension system, LSAs would be actively utilized by LGUs to conduct capacity building for their farmer constituents, while ATI may also engage them to do Training of Trainers (TOT) for AEWs and farmer leaders who will in turn echo the training to their members. The implementation of the Mandanas-Garcia ruling and Executive Order 183 that put it into action reasserted the devolution of agricultural services and extension, as mandated in the 1991 Local Government Code (RA 7160) and the 1997 Agriculture and Fisheries Mechanization Act (RA 8435). ATI thus asserts that their direct training clientele are AEWs and farmer leaders, while LGUs are to take responsibility for extension services for the farmers. This implies that ATI would only fund and undertake training programs for AEWs and farmer leaders under a TOT mode, which may or may not be done in LSAs. When not physically done in an LSA, resource persons may be sourced from among LSA operators who possess the needed expertise and experience in specific training topics, as is in fact already happening.

Many LSA operators appear to have a misplaced expectation that once they are certified, ATI will send farmer trainees to them under organized training programs, in the same way that TESDA uses accredited Farm Schools for such training activities. However, it is properly the LGUs that would conduct direct farmer training, which would ideally be done mostly as hands on mentoring at LSAs. But given LGU budget limitation and the additional costs associated with holding trainings in an LSA (i.e., for hiring of training facilities, resource persons and food services), LGUs often conduct trainings directly using their own facilities and in-house or volunteer/pro-bono experts, when available. Given a common propensity of LGUs to allot very limited budgets to agriculture, especially where local chief executives do not prioritize the sector, such training activities tend to be infrequent, which implies a need for DA's budgetary allocations to LGUs that are dedicated for undertaking such trainings, especially those making use of LSAs, preferably through matching grants that will draw commitment of LGU funds for the purpose.

#### ***LSAs as TESDA Farm Schools***

Many LSAs have attained accreditation from TESDA as Farm Schools, qualifying them to implement TESDA training courses on various aspects of agricultural production, and receive scholars for training under TESDA's national competency (NC) programs. In the process, TESDA has come to rely on ATI's certification process for LSAs, requiring Farm School applicants to acquire LSA certification

from ATI to qualify as a TESDA Farm School. This has led to a situation where LSAs are regarded as a mere “stepping stone” to become a TESDA Farm School. In fact, some interviewed LSA operators admitted that they applied with ATI to be LSAs with the end goal of attaining TESDA farm school accreditation, to avail themselves of income opportunities from running the well-funded TESDA training programs.

The issue with this is that TESDA Farm Schools are geared towards providing National Competency certifications mostly needed by trainees to seek employment, often overseas. On the other hand, ATI LSAs are intended to either help existing farmers improve their productivity and incomes, or train would-be farmers to enable them to venture into farming. These are distinct and different goals catering to different types of beneficiaries, and when operating as TESDA farm schools, the LSAs may actually be detracted from training farmers and end up contributing less to farm productivity improvement. One might argue, nonetheless, that if TESDA Farm School graduates are able to earn and save from their employment engagement overseas or domestically, they may eventually save enough to go into farming as an enterprise, thereby still contributing to the ultimate objective.

The challenge is to strengthen complementarity between ATI and TESDA with regard to the LSAs and Farm Schools in order to address this issue. Specific concerns that have arisen include the following:

- Some stakeholders question TESDA’s involvement in agriculture and fisheries production, and see it to be an unnecessary “encroachment” on the function and mandate of ATI, which is seen to be better equipped for this, with doubts even expressed on TESDA’s capability in the sector. In view of this, some suggest that TESDA focus its training activities on agricultural machinery operation along with processing and value adding of agricultural products, but leave agricultural production training to ATI and LSAs. This could imply delinking TESDA’s Farm School accreditation process from ATI’s LSA certification process.
- The expressed preference for Farm School status by many LSAs arises from greater opportunities to conduct trainings and earn therefrom, as TESDA is endowed with scholarship budgets that permit it to sponsor regular trainings at its Farm Schools. Such trainings even provide allowances to training scholars, unlike LSA trainings that don’t. This suggests the need to allocate similar budgets to ATI to enable it to assist LGUs with meager endowments to pursue direct training of their constituent farmers (as mandated under devolution), to a similar degree as TESDA-funded trainings in Farm Schools.

### ***Special Training Funds for Rice and Coconut***

The Rice Tariffication Act (RA 11203) and the Coconut Farmers and Industry Trust Fund (CFITF) Act (RA 11524) both allocated funds from the RCEF for rice and from the CFIDP for coconut, for extension and training of farmers, to be implemented by both ATI and TESDA. These provide funds for TESDA’s farm schools to conduct training for farmers on coconut production, including coconut-based farming systems where coconut is intercropped or produced in combination with other (usually horticultural) crops and/or livestock and/or aquaculture fisheries. On the other hand, ATI’s training clientele has been refocused to AEWs and farmer leaders under training of trainers (TOT) programs, in adherence to the long-mandated devolution of agricultural services and extension. Hence, ATI’s direct training of farmers under the RCEF and CFIDP runs counter to its focus on AEWs and farmer leaders. The appropriate mode for ATI to use these funds would thus be to work through

LGUs in the utilization of the RCEF and CFITF ESETS funds, ideally through matching grants where LGUs contribute counterpart funds to undertake training for rice and coconut farmers, with LSAs as venues for the training.

### ***LSAs as Farm Tourism Sites***

The Farm Tourism Development Act of 2016 (RA 10816) was enacted with the objective of promoting the combination of agriculture with tourism and encourage development of farm enterprises that will attract visitors with their innovative features and practices. Agrotourism or farm tourism sites (FTS) are commercial farm, ranch or agribusiness enterprises that attract visitors for the purposes of entertaining and/or educating the visitors, while generating income for the enterprise. An ATI-certified LSA is a prime venue for farm tourism as it allows visitors to witness and learn about innovative farming methods and experience rural life through activities like farm tours, workshops, harvest demonstrations and hands-on harvesting/picking of produce, and farm-to-table dining. The DOT supports LSAs that have been designated as FTS with technical training, particularly for farm design, landscaping and tour guiding, as well as in marketing (i.e., accredited FTS are included in DOT tourism brochures and website). DOT, in coordination with other agencies, could also help FTS via improved access infrastructure.

The value of LSAs as FTS lies in how it provides even wider opportunity for the LSA to attract more people, especially the young, to the agricultural sector as a career direction through farm visits (See **Box B**). It's in this way that the FTS and LSA programs complement one another in ultimately promoting a stronger agriculture and fisheries sector.

#### **Box B LSAs and the Youth**

A yet largely under-appreciated value of LSAs to society lies in their potential contribution to attracting young people to take up careers in agriculture and agricultural entrepreneurship. This is crucial at a time when it is widely lamented how the successor generation of farmers is in peril due to weak interest from the youth, and with it, prospects for the future food security of the nation. There are several ways by which LSAs could help in this regard.

One is exemplified by the partnership of Jopat Integrated Farm in Mangaldan, Pangasinan with the Department of Education in the province, to be a training site for schoolteachers tasked with managing the *Gulayan sa Paaralan* (school garden) programs of schools in the province. By providing hands-on training to those teachers, they are endowed with the right interest, appreciation and knowledge about various aspects of farming that they could in turn echo to their elementary and high school students as they undertake the practice of gardening in their schools. Jopat Farm also regularly hosts high school and college students in their required practicum during their senior year. The visiting study team was particularly impressed by the candid sharing of one such practicum student, Denny de Guzman, who affirmed that his experience at Jopat Farm has reinforced his decision to take up agriculture as a career. This is yet another way that LSAs could help kindle the interest of young people to take up careers in agriculture/agribusiness.

A third way is in simply hosting visits by school children on field trips organized by their school, or by children with their families on recreational visits to the LSA as a farm tourism site. Several LSAs visited by the study team around the country had indicated that they were in fact regularly hosting such visits by school groups and children visiting with their families. If these visits can be deliberately planned and designed by the LSAs to be a stimulating and inspiring experience, then it would already be making a very important contribution toward sustaining the country's agricultural sector and its future food security. Even without conducting

training for farmers or extension workers, just the hosting of young people's farm visits could already be an LSA's important contribution toward sustaining the country's farm sector, to the extent that these inspire and attract more young farmers to be the successor generation to today's rapidly aging farmers.

The inspiring story of **Cantongtong United Youth Association (CUYA)** in Jiabong, Samar is a testament to the untapped potential of young people in agriculture. Composed mostly of teenagers (13-35 years old), CUYA transformed a small spur-of-the-moment garden into a multi-awarded diversified farm enterprise and TESDA certified Technical-Vocational Education and Training Institution just within three years. Largely through self-help, CUYA leveraged the power of social media for learning, skill-building, and marketing of produce and has been sharing these with other youth groups in neighboring communities. Its remarkable achievements have served as an inspiration for young people to engage in agriculture, and attracted award monies and significant external assistance that it immediately invests in expansion. CUYA's rapid success demonstrates how youth-led initiatives can thrive with access to knowledge and innovative practices, and attract significant investments.

CUYA's journey shows that youth enthusiasm and resourcefulness can develop farms quicker even without being dependent on external assistance. By leveraging the success of CUYA, agricultural programs can inspire and empower more young people to pursue careers in farming and agribusiness. CUYA's model highlights how youth-driven LSAs can address the challenges posed by an aging farmer population while ensuring long-term food security. This approach not only cultivates the next generation of agricultural leaders but also demonstrates farming as a dynamic and rewarding career path for the youth.

### ***Other Institutional and Operational Concerns***

There are two general types of LSAs based on nature of ownership: those owned/operated by government or public entities (including state universities and colleges or SUCs), and those owned by a private entity. The latter may further fall under three types of owners: a private corporation, including big business firms (e.g., East-West Seed Co.), a farmers' cooperative, or a private individual (or family) proprietor. There will be variations across these types regarding technical knowledge and capabilities, access to financial and physical resources (e.g., equipment), operational modalities, and choice of clientele. One SUC-based LSA expressed concern that ATI's certification of more private LSAs has reduced their access to training programs. The team also heard sentiments that privately owned LSAs are only for the rich and well-endowed, as only they would have the resources to put up the needed facilities to comply with ATI's minimum requirements for LSA certification.

On the other hand, private LSA operators have argued that being perceived as "rich" should not be taken to mean that they do not require assistance from the government to acquire specific equipment and materials that would make them even more responsive to actual needs of farms and farmers in their area. This issue is discussed further in section 4.2.3 under Financing concerns. Partnerships with SUCs for agricultural engineers to develop certain machines to meet peculiar needs of LSAs would also be useful. Country Fields Agri in Butuan City, for example, expressed the need for a machine that can grate their macapuno into variable strand thicknesses and lengths to meet institutional buyers' specifications.

ATI RTCs have deliberately assisted LSAs to organize into associations, usually covering the entire region, or province. The associations become a good venue for knowledge and experience sharing, pursuing collective advocacies, complementation of their program offerings, consolidation of their production for better leverage in the markets or with processors, and possible complementation in their value chains. LSAs in Regions I and VIII, for example, have attested to the significant value of their being organized as associations and acknowledge and appreciate the support and assistance of ATI in this regard.

**Box C**  
**LSAs and Socio-Economic Impact**

**GLS Integrated Farm** and **ADC Farm**, while both successful, differ significantly in terms of their socio-economic capabilities, with GLS being more financially robust and self-sufficient, and ADC Farm relying more heavily on government support and community collaboration to thrive. GLS Integrated Farm, based in New Washington in Aklan, stands out with its extensive financial resources, strategic partnerships, and access to grants from DA. It boasts of modern farming practices, incorporating rice and aquaculture with advanced technology and infrastructure, as well as training and tourism facilities. GLS's financial stability and strong capability to allow it to operate without the need for constant external funding, relying more on its internal capability in mobilizing resources (e.g., bid for training and catering) and alumni networks to drive growth and innovation. The farm's leadership and vision have enabled it to set high standards despite its rapid growth.

In contrast, **ADC Farm**, showcases the power of resilience and ingenuity in the face of adversity. Though the farm started with modest resources, relying initially on coconut meat extraction from the shell in Balete public market, it has grown into a self-sustaining operation producing value-added coconut products, mainly shell crafts from shell waste of his business. Despite facing challenges like a devastating fire, ADC Farm has successfully rebuilt itself with the help of government programs and external support. The farm's ability to thrive is due to its strong community ties and the leadership of Mr. Aries, who has been helping establish a cooperative to help farmers access processing machinery and better market for their products. While GLS may have more financial power and the capacity to operate without external support, ADC Farm proves that even with fewer resources, success is attainable through collaboration, government aid, and a strong sense of commitment to the farm's mission.

The socio-economic difference between these two farms lies not just in their financial capability but in their approach to growth. GLS Integrated Farm, with its significant resources, operates with a vision of sustainability and modernization and a firm foundation that allows it to stand independently. In contrast, ADC Farm demonstrates the importance of leveraging external support to build a thriving, self-sustaining business, showing that success does not only come from financial strength but also from the power of community, partnerships, and innovation.

What unites both farms, however, is their unshakable commitment to their vision. GLS's financial capabilities enable it to push for technological advancements and large-scale growth, but ADC Farm's resourcefulness, innovation, and community-oriented approach have also made it a beacon of success. Both farms prove that regardless of socio-economic status or the need for external support, success in farming comes from a deep-rooted desire to make a difference and a vision that guides their commitment to growth.

#### 4.4.2 Strategic Planning, Targeting, and M&E

ATI's Operations Manual (2022) speaks of the "New Extensionist" that is characterized as a "New Agricultural Extension Paradigm" that is demand-driven, pluralistic, and ensures wider local participation in planning, decision-making, and monitoring and evaluation (M&E). It also spells out in its logical framework its plans and targets for 2024 that would achieve its goal of a "food secure and resilient Philippines with prosperous and empowered farmers and fisherfolk". Specific to LSAs and ESPs, the targets for 2024 are as follows:

- 300 certified, 120 enhanced/improved, 120 upgraded LSAs per year.
- 100,000 extension related activities implemented by LSA cooperators annually.
- 150 LSAs certified by ATI and registered by TESDA as Farm School annually.
- 20 private individuals or groups accredited as ESPs annually.

- 1,000 extension related activities implemented by ESPs.

These targets were set based on desired outputs of certified LSAs and accredited ESPs to serve as demonstration sites. However, the rational basis for both the desired outputs and targets are not stated or explained, e.g., through a situational analysis and expression of clear strategies to address gaps and weaknesses. One might question whether more certifications and accreditations are indeed necessary at this time when (1) there are so many LSAs that are underutilized or unable to perform their supposed functions, (2) there is a low level of interest in becoming LSAs and ESPs, and (3) there are too many and uncoordinated players at the local level. The results of the survey, consultations and desk review indicate that LSAs are not optimally distributed in number across the country and the types and production focus do not appear to correspond well with national and local priorities. There is also an apparent confusion in many ways and at various levels given the demands imposed by several laws and programs. Strong sentiments have been expressed regarding weak vertical and horizontal coordination among the players. While resources abound from various programs and other sources, utilization is constrained resulting in suboptimal spending, and fund leakages.

The New Extensionist Paradigm, the pressure towards devolution, and the fast-changing technology call for an intensive and integrated examination of the ESET system including its legal, institutional, and budgetary support. Under institutional support for instance, there is a need for a coordination protocol among ATI, TESDA, PCA, DOT, RCEF, and the LGUs. Internally, reskilling or upskilling of ATI personnel is for the peculiar challenges they face. Several ATI personnel mentioned their need for continuing exposure and refresher courses to keep them abreast of fast-changing technologies, to make them effective in promoting DA's and ATI's drive towards modernization. ATI has undertaken several studies including surveys undertaken under the RBMES. All these could help put together a strategic plan that will guide the implementation of ESETS.

Specific to the LSA Program, the formulation of a strategic plan that has a clear operational component and M&E system would be very useful in rationalizing LSA certification, enhancement, and implementation. The plan must be guided by an LSA Theory of Change (ToC) that could build on the AFE ToC. The M&E system must focus more on outputs and outcomes.

#### **4.4.3 Financing Concerns**

LGUs typically allot very limited funds to agriculture, usually far from adequate to enable them to undertake effective training programs for their constituent farmers, much less engage LSAs to conduct such farmer training activities. As mentioned earlier, LGUs often conduct trainings directly in their own premises or facilities, using their own in-house staff, to minimize costs. Thus, the need for resource assistance from DA through ATI may be inevitable if extension is to be provided effectively at the local level.

The disparity between training funds at the disposal of ATI as against much larger training budgets in TESDA has been cited as main reason that LSAs are usually seen as mere "stepping stones" to becoming TESDA-registered Farm Schools, which requires prior certification as LSAs. This raises the question of a possible substantial increases in budgetary allocations to ATI for actual training programs to reach more farmers, with the bulk of the increment used to augment LGUs' meager training funds through matching grants. The administration of these grants under the Province-led Agriculture and Fisheries Extension System (PAFES) may be designed to address the common

apprehensions on LGU accountability and documentation delays. For example, ATI could undertake the necessary procurement of goods and services, rather than pass on cash directly to LGUs.

The issue of privately-owned LSAs being perceived as wealthy and not deserving of government funding assistance merits some consideration. Some advanced private LSA operators argue that their own philanthropy can only go so far and given the beneficial service they are able to provide surrounding farms, government support to further improve their capabilities could yield far greater returns on the public investment than in other similar uses. Their appeal is to amend eligibility rules in various government assistance programs (e.g., from DA including PhilMech, DTI, DOST, DOT) so that government grants of equipment, improved seeds, planting materials, fertilizers etc. could also be accessed by deserving (e.g., innovative) individual LSAs as well, rather than limit access to coops, farm associations, and public sector LSAs. Tuminugan Farm in Bukidnon has expressed the need for improved training facilities to accommodate even more farmers than they can already gather on their own under self-organized training sessions, and expresses the hope to obtain assistance from the government (including possibly the provincial government) for the purpose.

#### 4.4.4 Program Strengths and Challenges

There is general agreement across the various stakeholder groups that the LSA system and the LSAs are a valuable and essential element in the national agriculture and fisheries extension landscape. Apart from being **repositories of knowledge and experience** in innovative and effective technologies and practices in agriculture across the value chain, they are important in **addressing the common “jak pati ja kita” (to see is to believe) sentiment** among farmers regarding such innovations. As “model” or demonstration farms, **positive results are made clearly visible** to erstwhile skeptical farmers, helping improve receptiveness to improved technologies and practices that could cut costs, raise their productivity, and ultimately raise their incomes and family welfare. LSAs also **provide ready facilities for training**, and their operators provide a **pool of technical resource persons** that are regularly tapped by ATI, TESDA and LGUs for various training activities directed at both AEWs and farmers directly.

From the individual farm’s point of view, being an LSA gives the advantage of a **potential additional revenue source** and attaining the **satisfaction (“psychic income”) that comes with being able to help peer farmers** improve their practices, hence their situations. Many LSAs complain that after investing in improved facilities to qualify as an LSA, “ATI does not give us trainees,” based on a seeming misconception that ATI is obliged to do so. But there are others for whom the non-monetary rewards are a source of fulfillment in themselves. “We thrive on our intentions,” asserts LSA operator Jonathan Jose Patawaran of the Jopat Integrated Farm in Mangaldan, Pangasinan, alluding to the positive psychic reward their family gets from knowing that other farmers have benefited from what they do. He contrasts this with the “business orientation” they have observed in other similar LSAs/farm schools. They have taken to heart the **“big brother” farm-to-farm mentoring** role that they are able to fulfill vis-à-vis less endowed and less capable neighboring farms – as originally envisaged by ATI to be a major function of LSAs. Jopat has also become a chosen partner of DepEd for training basic education teachers who will in turn use the knowledge gained to manage the *“Gulayan sa Paaralan”* programs of their respective schools, a service they apparently provide pro bono to DepEd. At the same time, Jopat is also in a partnership with the University of Pangasinan whereby it hosts the latter’s senior high school students on their required practicum training, teaching them various improved farming practices while strengthening their interest in agriculture as an occupation and enterprise. Similarly, Tuminugan Farm in Manolo Fortich, Bukidnon

takes satisfaction from being able to teach neighboring farmers sustainable farming practices in their particularly environmentally challenged upland area (**Box D**). It also provides livelihood activities to the local women by training them on value-adding/processing of their farm products into a variety of food products such as chips, peanut butter, and other food preparations. In Digos, Davao del Sur, Benzene Kennedy Sepe takes pride in being able to help fellow farmers venture into non-traditional horticultural crops, i.e., temperate fruits that many consider alien to the Philippines, especially apples, pears, raspberries, blueberries and figs.

**Box D**  
**LSAs and Sustainability**

Sustainability is essential in agriculture because of the circular relationship between people, land, and water. The urgent challenges of climate change require establishing a strong partnership among these production elements. Sustainability calls us to extend compassion and empathy toward natural resources and their inhabitants—people, flora, and fauna.

At **Tuminugan Farm** in Manolo Fortich, Bukidnon, Renee Perrine champions this farming philosophy through Permaculture classes that teach sustainable farming, regenerative design, and holistic living. The farm's lush environment, with its abundant flora and fauna, reflects its sustainable practices and thoughtful approach to living and producing with nature. The farm understands that each plot of land is unique, thus adapts its methods to the environment rather than forces nature to conform to its will. This approach mirrors Indigenous Peoples' values and practices —living by nature's rules, receiving its care, and protecting it through harmonious practices. This understanding and consideration of people, culture, environment, and ecology has uplifted the quality of life of indigenous peoples in Mt. Kitanglad and neighboring areas. Tuminugan has been serving as a model for reforestation, regeneration of the soil, food sustainability and livestock management.

The **Conservation Agriculture with Trees Training Center** in Claveria, Misamis Oriental similarly embraces environmental sustainability. Under Dr. Agustin Mercado, Jr., the center prioritizes the tropical rainforest ecosystem of Region 10. Despite challenges from deforestation and CO2 emissions from nearby coal-powered plants, Dr. Mercado responds through carbon sequestration initiatives and plant partnerships. As an advocate for conservation agriculture, he implements a multi-strata agroforestry system tailored to the region's climate. His LSA combines rubber, banana, cacao, coconut, and durian crops, creating a sustainable, interdependent plant setup that withstands climate and market changes.

These LSAs demonstrate how sustainable farming practices benefit both the land and those who harvest its bounty. As our current circumstances show, promoting sustainability must be everyone's priority. These learning sites not only share technical farming knowledge but also teach vital lessons about caring for the land—and by extension, ourselves.

Notwithstanding these program strengths, there is a continuing challenge on the program's ability to attract participation from farms. ATI's Agriculture and Fisheries Extension Results-Based Monitoring and Evaluation (RBME) system's 2023 and 2024 Reports noted the "high level of disinterest to LS certification, which indicates barriers to participation or lack of perceived value in the certification process." The 2024 RBME reports that among the 3,622 trained farmers surveyed, only 15 percent or 533 acquired LSA certification in 2024. Of those still not LSAs, 66 percent said that they are not interested in becoming learning sites. The 2023 RBME report showed more disappointing figures of LSA accounting for only 5 percent of respondents and about the same percentage of disinterested respondents. The reports attribute this disinterest to limited awareness, complex application processes, and lack of support or resources. There is also a seeming low regard for the important

inherent role of LSAs, as consultations that assured confidentiality of responses revealed that many seek certification only to become Farm Schools.

The LSA is ATI's key mechanism for exercising its role as the apex unit of DA for providing extension, support, education, and training services (ESETS). The LSA program thus needs to be strengthened to allow ATI to assert this role, especially in capacitating and empowering the agricultural extension workers and farmer leaders within a devolved system. Barriers to participation must be addressed, but more importantly, the value of LSAs must be enhanced and more widely understood and appreciated.

**Box E**  
**LSAs and Community Building**

Community building among agricultural groups is a transformative force that fosters resilience, sustainability, and growth, as demonstrated by various LSAs in the Philippines. The story of **GLS Agricultural Integrated Farm**, the first DOT-accredited agritourism site in New Washington, Aklan highlights the power of initiative, resourcefulness, and community building. Upon its operation in early 2021, GLS quickly developed the farm to consecutively acquire ATI LSA and TESDA certifications in the same year, and DOT certification just over a year later. One of its key initiatives was to organize its training graduates into a formal association, which serves as its platform for exchange of ideas and experiences that help improve the farms and productions of the farmer members, pooling of experts that serve as resource persons for its training courses, and consolidation of products for common processing and marketing. Through these collaborations, the GLS and members of its association have modernized traditional farming practices and uplifted its community. Despite challenges like tracking graduates and providing continuous support, the farm remains committed to growing its impact and encouraging others to join the movement for agricultural modernization.

Similarly, **ADC Farm** of Balete, Aklan exemplifies the power of innovation and perseverance towards community building. Overcoming a devastating fire, former seafarer Mr. Aries D. Cuales, ADC's owner and operator, rebuilt ADC Farm and expanded it into a hub for coconut and coco-shell craft production. Through partnerships with TESDA and PCA, he developed a training curriculum for coconut farming, which he has been using in conducting training courses for farmers. However, he realized that training alone could not uplift the situation of the coconut farmers in his community as they need equipment and resources to be more productive and add value to their coconut produce. While the PCIDF responds to these needs, the farmers must formally organize themselves. Thus, Mr. Cuales encouraged the farmers that he trained through TESDA to organize themselves and has now been assisting them to register as a cooperative. Meanwhile, ADC Farm has been making its facilities available to the farmers to develop coco-shell crafts for livelihood. Mr. Aries has not only shared his expertise but also empowered others to succeed. By creating a space where resources, knowledge, and opportunities are shared, ADC Farm proves that community-driven efforts can lead to sustainable growth and success in agriculture.

Meanwhile, **OMRO (Organikong Magsasaka ng Rehiyon Otso) of Region 8** takes community building to new heights by embracing a "Lakbay Alay" or K.I.T.S. (Knowledge, Inputs, Technology Sharing) Journey, where organic farmers actively assist one another. OMRO's members, which include many LSAs, offer practical solutions, share resources like seeds and fertilizers, and introduce natural farming methods to solve common problems. They also market their collective produce and engage in reforestation efforts to combat global warming. Inspired by OMRO's usefulness to farmers, Mr. Miguel Pedrosa, an LSA owner and operator (Miguel Pedrosa Farm), spearheaded the establishment of the **Association of LSAs in Region 8** in August 2024 from among 40 LSAs in the region. The association intends to replicate OMRO's sharing and partnership schemes but focused on the common development concerns of LSAs. These formations emphasize the importance of collaboration, resilience, and the collective spirit of farmers helping farmers to overcome adversity and thrive in organic agriculture.

These three stories collectively illustrate that community building in agriculture is not just about sharing resources but about fostering a culture of mutual support, knowledge exchange, and innovation. Whether it's through alumni networks, cooperative structures, or hands-on sharing of farming practices, the strength of these communities lies in their ability to empower one another, drive sustainable growth, and transform agricultural landscapes across the Philippines.

## 5 Summary and Recommendations

### 5.1 Summary by Objectives

This section summarizes the observations, findings and analyses discussed in the foregoing discussions and organizes these findings in relation to the defined objectives of the study, in accordance with the project Terms of Reference, and enumerated in the Introduction in Section 1.

#### *Socio-economic Characteristics and LSA Outcomes*

Considering the survey sample for the study as representative of the nationwide landscape, LSAs are predominantly farmer/family-owned (about three quarters), whether LSA I/Coco, LSA II, or RCEF-LSAs. The next most common type (about one-fifth of the sample) are those operated by private organizations, with the balance consisting of those operated by public institutions like LGUs or SUCs. There are 15 publicly run LSAs in the sample comprising 6 percent of the total, eight (8) of which are run by LGUs, three (3) by State Universities and Colleges, and two (2) by DA offices.

Socioeconomic status and resource endowments vary over a range, but LSA operators tend to be well-educated, with the bulk of private LSA operators having a college education and beyond (83%). Of these, the largest group (24% overall, and 30% of LSA II) studied agriculture, forestry, fisheries, and veterinary sciences. But sizable portions of the group studied business, administration and law (15.5%), engineering, manufacturing and construction (15.5%) and education (13.1%). Average age is 55.8 years, with average LSA II operators slightly older at 58.6 years. Female operators dominate, comprising 70 percent of the sample population. Years of farming experience also varies across LSA operators, averaging 18 years, with rice (RCEF) LSAs having a higher average of 21.6 years.

Analysis of the various determinants of success of LSAs is constrained by the supply side perspective of the study, as provided in its Terms of Reference. While the success or effectiveness of LSAs are best assessed on the basis of how their farmer clients achieve improved productivity, incomes and welfare as a result of knowledge gained from the LSA, the study could only use proxy variables such as farm income of the LSA itself, how such income has increased since the farm's certification as an LSA, and the number of trainees trained. Possible success determinants include size of the farm; attributes of the operator including age, gender, educational attainment and length of farming experience; and assistance received from government and other sources.

However, a quantitative examination and analysis of these variables based on the survey data fails to reveal any clear or significant statistical relationship between the possible determinants of success, and the outcome indicators employed. These results, coupled with the qualitative analysis from field observations and consultations, indicate that **the most critical determinant for success goes back to the attitude and dedication of the operators themselves**. The LSAs have been most effective and

successful where the owner/operator manifests the motivation for true service to fellow farmers, rather than for business income to be earned as an LSA. Mr. Jonathan Jose Patawaran of Jopat Integrated Farm aptly summed this up when he proudly declared: “we thrive on our motivations.”

### ***Achievement of Program Objectives***

The LSA program is aimed to achieve the following outputs and outcomes:

1. **Increased Farm Income.** Farmers involved in LSAs have reported increased income due to the adoption of improved agricultural practices and technologies.
2. **Enhanced Agricultural Knowledge.** Farmers and students gain practical knowledge and skills through hands-on training and demonstrations.
3. **Improved Farming Practices.** LSAs have been exponents of Good Agricultural Practices (GAP), Good Animal Husbandry Practices (GAHP), and organic farming techniques, thereby leading to improved farm performance and outcomes.
4. **Stronger Community Engagement.** LSAs serve as venues for training and extension activities, thereby fostering community involvement and knowledge sharing.
5. **Sustainability.** The program deliberately promotes sustainable farming practices and environmental conservation, hence contributes to sustainable agriculture.

Achievement of these outcomes can be attributed to the program's activities, which include regular training sessions, technology demonstrations, and continuous monitoring and evaluation. The involvement of successful farmers as partners in the implementation of these activities also plays a crucial role in achieving the desired results.

Key elements of the program implementation strategy are observed to be critical to achievement of its objectives, viz:

1. **Hands-On Training.** The program emphasizes practical, hands-on training, which allows farmers to directly apply what they learn in real-world scenarios, and witness their outcomes firsthand. This approach has helped bridge the gap between theoretical knowledge and practical application, and addresses the “*jak pati, jak kita*” (to see is to believe) typical among farmer beneficiaries of agricultural extension.
2. **Community Involvement.** LSAs, by serving as community hubs for training and extension activities, help foster a sense of ownership and collaboration among local farmers and stakeholders. This community engagement has been a crucial element for the program's sustainability and success.
3. **Technology Demonstration.** Regular technology demonstrations and farm visits provide farmers with exposure to the latest agricultural practices and innovations. This has helped them adopt improved techniques that increase their productivity.
4. **Partnerships and Collaboration.** The program involves partnerships with various stakeholders, including government agencies, educational institutions, and private organizations. These collaborations ensure a diverse range of expertise and resources, enhancing the program's overall impact.

Overall, the LSA program's implementation strategy appears well-aligned with its objectives, and the combination of hands-on training, community involvement, technology demonstrations, partnerships, and continuous evaluation are important contributors to its success.

### ***Sustainability of LSAs***

While the future always holds uncertainties, the LSA program's focus on sustainable practices, community engagement, capacity building, and strong partnerships provides a solid foundation for its benefits to continue well into the future.

1. **Adoption of Sustainable Practices.** As it promotes GAP, GAHP, and organic agriculture, the program encourages sustainable farming methods that not only improve productivity, but also ensure long-term environmental health, making it more likely that the benefits will persist over time.
2. **Community Engagement.** The program's strong emphasis on community involvement ensures that the knowledge and practices gained are shared and perpetuated within the community. This creates a ripple effect, whereby more farmers can benefit from the program's knowledge dissemination over time.
3. **Capacity Building.** The hands-on training and on-the-job learning process provided by the program equip farmers with the skills and knowledge to adapt to changing conditions and new challenges. This capacity building is crucial for the long-term success and sustainability of the program's benefits.
4. **Strong Partnerships.** The collaboration fostered across various stakeholders, including government agencies, educational institutions, and private organizations, provides a robust support system for the program. These partnerships can help secure resources, expertise, and continued support for the LSA program's activities.

There are, nonetheless, constraints and challenges to the effectiveness and sustainability of the program, which are the same long-standing traditional challenges to the development of the Philippine agri-fisheries sector as a whole. These include:

1. **Access to Finance.** The availability of inputs such as seeds, fertilizers, and equipment directly impact on the program's success. Adequate resources ensure that farmers could implement the practices taught in the LSAs effectively. But limited access to farm credit has been a traditional constraint to farmers' ability to practice improved farming practices through procurement of improved inputs like hybrid seeds, fertilizers and farm equipment.
2. **Facilities and Infrastructure.** The adequacy and conduciveness of support facilities, including irrigation systems, postharvest and storage facilities, have played a crucial role in the program's effectiveness. Outcomes are demonstrably superior where such infrastructure are amply provided, but these are often lacking in the face of more short-sighted priorities.
3. **Training and Extension Services.** The quality and frequency of training activities and extension services provided to farmers have a direct bearing on the program's outcomes. Regular hands-on training and technology demonstrations help farmers adopt new techniques and improve their productivity. But this has depended directly on the willingness and ability of local governments and their executives to provide these services, as the task of directly capacitating farmers falls on them under the devolved system. Unfortunately, many

local chief executives have yet to accord the high priority to the sector that it deserves in their overall local development efforts.

4. **Partnerships and Collaboration.** Collaboration with government agencies, educational institutions, and private organizations have helped provide additional resources, expertise, and support for the program. Where actively pursued, these partnerships enhanced the program's impact and sustainability. However, such inter-agency and multisectoral collaboration are often impeded by lack of proactive communication and coordination.
5. **External Factors.** Challenges such as climate change, land conversion, and macroeconomic conditions have also influenced the program's outcomes. Adapting to these external factors is crucial for maintaining the program's effectiveness and sustainability.

By deliberately addressing these factors and continuously improving the program's implementation, the LSA program can achieve its objectives and sustain its benefits over time.

### ***Role in DA Programs and Local Agri-fisheries Development***

The results of the LSA program are deemed largely consistent with the intended outcomes of the DA commodity programs. Both initiatives aim to enhance agricultural productivity, promote sustainable farming practices, and improve farmers' skills and capacities, and ultimately, their incomes and welfare.

The LSA program's focus on hands-on training, technology demonstration, and community engagement aligns well with the DA's goals of inclusive growth, increased yields, and improved farm productivity. The program's emphasis on sustainable farming practices also supports the DA's objective of ensuring long-term environmental health and food security. Overall, the LSA program's outcomes, such as enhanced agricultural knowledge and improved farming practices, reflect the intended outcomes of the DA commodity programs.

The LSAs are observed to have brought significant changes to beneficiaries, created socio-economic opportunities, and contributed to local agriculture and fisheries production and enhancement of the local economy. The significant changes brought about in the direct beneficiaries include:

1. **Improved knowledge and skills** – LSAs provided training and education on modern farming techniques, sustainable practices, and efficient resource management.
2. **Increased productivity** – Beneficiaries learned how to increase crop yields and improve livestock management, leading to higher productivity.
3. **Enhanced income** – With better farming practices and increased productivity, beneficiaries often saw an improvement in their income levels.

LSAs have contributed to the expansion of socio-economic opportunities in their localities via:

1. **Employment generation** – LSAs helped create jobs by promoting agro-based enterprises and encouraging entrepreneurship among beneficiaries.
2. **Improved access to resources** – Beneficiaries gained access to resources such as seeds, tools, and financial support to start or expand their agricultural activities.

3. **Community development** – LSAs fostered community collaboration and support networks, which can lead to collective growth and development.

The program's positive contribution to local agriculture and fisheries production and enhancement of the local economy can be seen in the form of:

1. **Boosting local production** – With adoption of improved farming and fishing techniques and practices, local production of crops, livestock and fishery increases, contributing to improved food security.
2. **Fostering economic growth** – Increased agricultural productivity and the establishment of agri-based enterprises stimulate local economies, creating a ripple effect of economic benefits via job creation and increased income generation.
3. **Promoting sustainable farm practices** – LSAs promote sustainable agriculture, which has helped preserve the environment and ensure long-term productivity.

Overall, LSAs play a crucial role in transforming the agricultural landscape, improving the livelihoods of beneficiaries, and boosting the local economy.

### ***Strengths and Weaknesses***

Strengths of the LSA program lie in the following:

1. **Knowledge Repositories** – They are important repositories of knowledge and experience in innovative and effective technologies and practices in agriculture across the value chain.
2. **Demonstration or Model Farms** – They help improve adoption of improved technologies by farmers who need “to see to believe” or be convinced that improved practices, technologies or inputs are worthwhile investments to make. As “model” or demonstration farms, positive results are made clearly visible to erstwhile skeptical farmers, helping convince them to adopt and invest in improved technologies and practices that could cut costs, raise their productivity, and ultimately raise their incomes and family welfare.
3. **Training Facilities and Resources** – LSAs also provide ready facilities for hands-on experiential training, and their operators provide a pool of technical resource persons that are regularly tapped by ATI, TESDA and LGUs for various training activities directed at both AEWs and farmers directly.
4. **Collaboration and Partnership** – LSAs provide good venues for collaboration among private farm owners, government agencies, educational institutions, and private organizations toward the shared ideals of improved agricultural productivity, inexpensive and nutritious food, higher farm incomes. and food security
5. **Community Development** – The program fosters a sense of community and collaboration among farmers, which encourages knowledge sharing and mutual support.
6. **Enablers of Sustainability** – By promoting sustainable farming practices, the LSA program helps ensure long-term agricultural productivity and environmental health.
7. **Adaptability** – Continuous monitoring and evaluation allow for timely adjustments, ensuring the program remains relevant and effective.

Weaknesses and vulnerabilities in the LSA program lie in the following:

1. **Theory of Change** – A solid Theory of Change is lacking to systematically guide planning, execution and evaluation of the LSA program in order to ensure its effectiveness.
2. **Resource Constraints** – Limited availability of resources in the form of funding, training materials, and equipment hinder the program's reach and effectiveness. Their attractiveness to clients as an LSA vs. as a TESDA farm school has been undermined by this relatively smaller funding support compared to TESDA-sponsored training programs.
3. **Scalability** – Logistical and budgetary constraints limit the feasibility of scaling up the program to more regions or scaling up of activities.
4. **Levels of Support, Engagement and Commitment** – Local political leaders range widely on the priority they accord to agricultural productivity and development, hence their appreciation of the value and role of LSAs in local development. Similarly, not all community members are equally engaged or willing to adopt new practices. These can impact on the overall success of the program.
5. **External Factors** – Challenges beyond the program's control such as climate change, market fluctuations, and policy changes can affect the program's outcomes and sustainability.
6. **Sub-optimal Allocation and Distribution** – LSAs are not evenly distributed across farming areas around the country, with some regions having high concentrations while sparse in others. The nature of LSAs in an area also often do not correspond to the actual magnitude of needs in terms of farming activities or products prevalent in the area.

#### ***Is the investment in LSAs worthwhile?***

The biggest investment made by the government thus far has been the financial assistance to LSAs, which have reached a modest Php 93.7 million over a span of four years (2018-2022). The impact has been shown using survey data and statistical analysis to cause an increase in gross income of LSA farms. The impact is found to be quantitatively small, and seemingly not commensurate on a peso-for-peso basis. This suggests that extending development grants as done in the past may not be the best strategy to promote LSAs as training centers and model farms. It might be argued that LSAs did not critically need financial assistance, as they could raise funds on their own; or perhaps the items selected for investment were not the ones really required for LSAs to advance in their mission.

Still, in light of the preceding discussions and balancing upsides and downsides across the LSA program landscape, there is no question that the investment made by the government in the program has been beneficial. The relatively modest investments made in the program for over a decade pale in comparison to the multi-faceted benefits yielded by the program, which have been amply discussed previously. The question is not whether the program should be continued or discontinued, but how its efficiency and effectiveness can be further improved to reap even greater overall returns from the investments made in the program. For this, recommendations towards program improvement are offered and discussed in the next section.

## 5.2 Lessons and Recommendations

The various observations, findings and insights gained from the survey of LSAs and multisectoral consultations with various stakeholders of the LSA system yield several lessons learned from the program:

- **Practical Learning is Essential:** Hands-on, experiential training is crucial for effective knowledge transfer. Farmers learn best by doing, and practical demonstrations can lead to better adoption of new techniques.
- **Sustainability as a Focus:** Promoting sustainable farming practices is vital for long-term agricultural productivity and environmental health. Programs should emphasize practices that conserve resources and protect the environment.
- **Continuous Monitoring and Evaluation:** Regular assessment of program activities and outcomes allows for timely adjustments and improvements. This adaptive approach ensures that the program remains relevant and effective.
- **Partnerships Enhance Impact:** Collaborations with government agencies, educational institutions, and private organizations can provide additional resources, expertise, and support. Leveraging these partnerships can enhance the program's reach and impact.
- **Resource Optimization is Key:** Efficient use of resources, including funding, materials, and labor, is essential for the program's success. Programs should focus on maximizing the impact of available resources.
- **Addressing External Challenges:** Adapting to external factors such as climate change, market fluctuations, and policy changes is crucial. Programs should thus be flexible and resilient to navigate these challenges.
- **Scalability and Replication:** Successful programs should consider strategies for scaling up and replicating their activities in other regions. This can help expand the benefits to a larger number of beneficiaries.

Moving forward, ATI may consider several imperatives toward improving the efficacy of and enhancing the benefits from the program:

### 1. Develop a Theory of Change and Impact Pathway

The ToC is crucial to ATI's shift to the New Extensionist Paradigm, which operationalizes demand-driven, pluralistic, and participatory planning, decision-making, and monitoring and evaluation (M&E). It can help enable ATI to effectively exercise its role as the apex body for providing training and extension services and heighten the effectiveness and impacts of LSAs. The ToC maps out specific interventions or set of actions and their pathway towards the attainment of desired outcomes and impacts for the LSA program. It will help ATI in systematically planning, executing, and evaluating the LSA program to ensure its effectiveness in addressing contemporary challenges and contributing to the attainment of the objectives of the DA's flagships. Thus, carefully developing a ToC for the LSA Program is a priority undertaking because it will serve as the framework for the succeeding interventions, primarily planning, implementation, and evaluation of the LSA Program.

The components of a ToC are standard and easily learned from literature and online resources. However, only ATI and the LSA stakeholders/community can develop the logic model and its visual representation and ensure that the process is participatory and iterative. Figure 10 is a simplified example of a visual representation of a ToC for the LSA Program, the contents of which may serve as a starting point for ATI. It outlines the path from inputs to impacts. It indicates the change pathway

and how this change may happen, including how resources and activities lead to significant improvements in agri-fishery practices, rural economies, and community empowerment.

It starts with identifying current challenges and spelling out the desired **impacts** then developing the pathway and needed change to move from inputs to impacts. Figure 10 expresses the impacts of the program to be the attainment of inclusive rural development and prosperity, sustained food and nutrition security, and empowered local institutions and communities, all through improved agricultural and fisheries practices. To generate these impacts, the farms, particularly those of LSAs, should be provided with **inputs (resources)** such as financing, knowledge, skills, technologies, advisory services, etc. The program can leverage these key resources to undertake various activities that are relevant and supportive of the production of desired outputs and outcomes that will eventually cause changes or improvements that will generate impacts. Among others, the **activities** could include the (a) conduct of training-workshops on advanced farming techniques, smart technologies, farm management, marketing, etc.; (b) mentoring and advisory services especially on prevailing farm challenges; and (c) formation of support groups or LSA association to foster collaboration, peer learning, and community building. These activities produce **outputs** such as (a) certified and enhanced LSAs, (b) trained/better-skilled farmers and fishers, (c) organized groups or associations, and (d) farmers and fishers engaged in agro-processing. **Outcomes** are then generated by the process, which could include (a) enhanced knowledge and skills of farmers and fishers, (b) improved farming practices, (c) improved yield/productivity, (d) increased volume of agri-fishery products, hence higher revenues generated, etc.

In ToC, the pathways and the mechanisms of change from inputs to outcomes must be defined based on a set of assumptions and by considering persistent threats that pose risks to the success of the program. In the development of the ToC for the LSA Program, it is important to make relevant and appropriate assumptions, especially pertaining to the success factors identified in this study, such as the following:

- a) Financial support and resources are adequate and available throughout the program.
- b) Young and innovative farmers and fishers increase in number and engage with and adopt new technologies and practices.
- c) Collaboration is strong among local institutions, government agencies, and communities.
- d) The market for fresh and processed agri-fishery products is large, accessible, and stable.

It is also important to understand the internal and external risks and how these may be mitigated through the change pathways of the ToC. Examples of risks are:

- a) Climate change and other environmental factors affect agricultural and fishery productivity.
- b) Global and domestic market fluctuations and changes in consumer demand for agri-fishery products affect income.
- c) Weak coordination and collaboration among stakeholders (especially DA-ATI, LSA operators, LGUs, and the private sector) affect program effectiveness.
- d) Reluctance to embrace smart agri-fishery innovations from certain farmer or fisher groups hinders adoption of new practices and technologies.
- e) Operators are aging and young people veer away from agriculture and fishery.

The process of ToC development dictates or influences the quality of the ToC. It is strengthened by the strong participation and cooperation of the stakeholders, including partners, of the LSA Program; and enriched by the robustness of the iterative process.

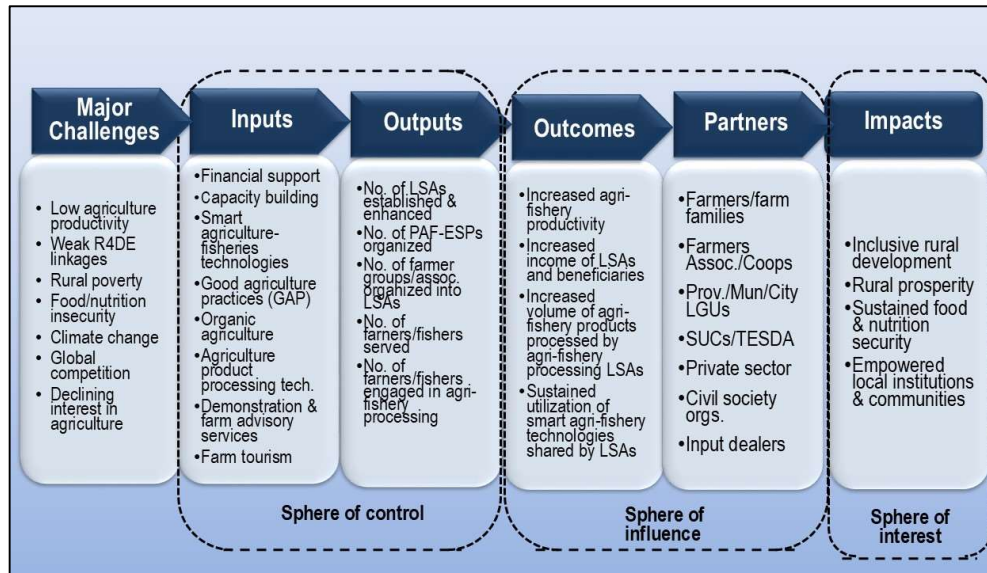


Figure 10. Theory of Change and Impact Pathway of the LSA Program.

## 2. Develop a multi-year strategic plan and annual operational plan.

A ToC and a plan are important tools for achieving long-term goals but they differ in orientation and focus. The ToC identifies and communicates the underlying assumptions and logic of how change will happen towards a desired outcome, while a plan outlines specific goals, targets, strategies, and actions to achieve the desired changes, outcomes, and impacts within a defined timeframe. Meanwhile, a **strategic plan** is a high-level, long-term development framework, while an **operational plan** is a short-term (1–2-year period) and possibly roll work plan that helps ensure that the goals and objectives of the strategic plan will be attained.

The strategic plan that could possibly run for 5-6 years, must be aligned with the underlying assumptions on how change would occur as spelled out the ToC. It should set SMART (Specific, Measurable, Achievable, Realistic, and Timely) goals and realistic targets that may be attained through a set of strategic policies, tactics, and mechanisms for among others, growth and development of LSAs, partnerships and linkages among stakeholders of LSAs, coordination and collaboration among agencies responsible for or involved in ESETS for agriculture, etc. It must strongly assert ATI's role as the apex institution in the context of devolution and LSAs as platforms for ESETS. An annual operational plan may also be prepared, mainly as a guide to the day-to-day implementation of the strategic plan by ATI, especially the Partnership and Accreditation and Policy and Planning Divisions and the Regional Training Centers. The operational plan ensures the implementation of the strategic plan, close monitoring of activities, and attainment of targets. It also makes possible the mid-term corrections/adjustments in the strategic plan, particularly its targets and activities as a result of M&E.

## 3. Establish a smart monitoring, evaluation, learning, and adaptation (MELA) system.

A **monitoring, evaluation, learning, and adaptation (MELA) system** is an important and indispensable component of any plan and program. The **M&E** tracks progress of plan and program implementation and the attainment of set goals and targets. It analyzes and informs about

successes, challenges, and bottlenecks in implementation and the *learning* or knowledge from this information becomes the basis for policy- and decision-making and action (*adaptation*), e.g., corrections or adjustments in the strategies or activities in the plan and program. MELA is a smart way of ensuring program effectiveness and sustainability and promotes evidence-based decision-making. Digitalization of MELA makes the system a lot smarter.

Currently, ATI only has a digitalized data collection system, i.e., the semestral submission of electronic reports by diligent LSA operators. It still does not track or monitor the movements of specific indicators, analyze the data submitted by the LSAs, and submit evaluation reports with recommendations to policy- and decision-makers. It only has a national-level semestral report that contains consolidated data so the RTCs, which also do not analyze the data at the regional level, do not have a comprehensive view and understanding of their LSAs. In other words, ATI only has half the M of MELA at this stage.

***ATI must improve its regional and national capacity to optimize the use of collected data from LSAs.*** towards continuous program improvement and responsiveness to the needs of its clients and success of the LSA Program. This would require deliberate investments in time, effort, and resources in the following:

- Reviewing and revising the data collection instrument for the semestral report with the objective of removing unnecessary data and keeping only those that are necessary for MELA. This strategy could also help increase the response rate.
- Identification of a short list of strategic indicators with equal emphasis on inputs, outputs, outcomes and impacts, and for which data are readily available or accessible. These indicators readily surface from a well-formulated ToC and strategic plan.
- Periodically tracking the data and indicators and understanding the reasons why these move fast or slow, or up or down.
- Regularly preparing an executive report that focuses on successes and challenges and provides necessary recommendations for corrective measures on challenges or promotion of successes; and sharing the report with decision makers, staff at national and regional levels, LSAs and program partners.
- Adapting/Applying necessary changes in the LSA Program, if these were recommended in the report and studied and approved by decision makers.
- Dedicating a full-time staff for the MELA system who is trained in data processing, data analytics, and M&E at both the national and regional levels.
- Providing incentives for accomplishing the data collection instrument to increase the response rate, hence improving the various components of the MELA.

#### **4. Pause, Assess and Rationalize.**

Consider declaring a 1- to 2-year ***moratorium on LSA certification*** to allow the individual assessment of existing LSAs, development of the guidelines for LSA implementation, and rationalization of LSA certification and distribution. Obviously, this entails as well a ***moratorium on providing development assistance to LSAs***. All these tasks must be guided by the ToC and the strategic plan, informed by a deeper analysis of semestral reports, and complemented by LSA visits and interviews of operators. Ideally, the Information and lessons from the LSA assessment process should feed into the development of the strategic framework and operational plan and vice-versa. The assessment of

LSAs could help improve the criteria for the selection of LSAs for certification. The results of this study indicate that the strongest factor to an LSA's success as a farm and as a learning site is the personal traits of the owner/operator. Thus, the criteria for selection should give weight to the following attributes of the owner/operator:

- Visionary and active
- With well-placed motivation and perseverance
- Predisposition for success
- Young and open to novelty and technology adaptation
- Having resources is a plus but not a big factor

The one LSA per municipality and non-competing products rules should be reviewed as these do not seem to create an environment conducive to an LSA's growth and development. A template approach does not fit the wide differences in contexts and situations of practically all municipalities in the country. Thus, there is also a need to rationalize the LSA deployment according to regional/provincial/municipal plans and priorities on agricultural commodities, farmers/fisherfolks population, training needs, markets and market access, and value chains. Mapping the geographic locations, socio-economic profiles, products, sizes of farm and business, etc. would be useful. This map may be superimposed over various maps like agriculture and agri-processing areas, high poverty areas, etc. as means to help rationalize the deployment. The data generated from the survey of this study could be a starting point for this exercise.

Certification may subsequently be resumed under a rationalized deployment scheme developed during the moratorium period. However, the current national level evaluation and certification process must also be revisited. It seems more rational for the RTCs to issue certifications as these know better the agriculture and tourism potentials of a locality, the priorities of the region and the province where the applicant LSA is located, and the LSA itself. This will also shorten the certification period.

While some areas have more LSAs, many agricultural areas are still without LSAs. ATI intervention becomes necessary in such cases. It must find ways to attract or encourage the establishment and certification of LSAs in such areas through provision of incentives/resources, knowledge, mentoring, and linkages. Lastly, resumption of certification brings with it availability of development assistance, but this should be selectively allocated to LSAs who show potential for expanding their operations, and demonstrating new technologies, but otherwise face difficulty in obtaining financing.

## **5. Strengthen partnerships and institutional linkages with LGUs and NGAs at the local level.**

In the FGDs with operators, there was a strong manifestation of the need to attract more participants to the LSA program. This may be pursued by strengthening linkages with LGUs and NGAs at the local level. With their wide grassroots networks, LGUs and NGAs can greatly assist operators in recruiting participants to the LSAs. This can be done by ensuring regular and open lines of communication with LGUs and NGAs through regular meetings, joint planning sessions, and other platforms of partnerships; catalyzing the sharing of resources such as funding, technical expertise, and equipment; tracking the progress and outcome of collaborative efforts; harmonizing local policies; and providing incentives and recognition for successful collaboration. These initiatives are best pursued through the organizations/associations of LSAs within a province or region, where present, or by assisting in the establishment of such organizations/association, where still absent.

## **6. Assert and pursue the Province-Led Agriculture and Fisheries Extension System (PAFES) model of devolution.**

Notwithstanding the foregoing discussions, the most viable institutional arrangement for strengthening local linkages is the PAFES. This initiative aims to strengthen partnership and effective collaboration among DA, local government units, academe, and private sector. PAFES is being institutionalized to bring extension services to the grassroots amid the challenges of devolution. Its major objective is to establish a pluralistic extension system to enhance LGUs' capacities in delivering strategic agri-fishery interventions under a Collaborative Provincial Agriculture and Fisheries Extension Program (CPAFEP) through co-planning, co-management and co-investment. As of November 15, 2024, 74 provinces have signed MOAs establishing PAFES; 73 have created Provincial Extension Centers (PAFECs); 54 have mapped out CPAFEPs; and 35 have signed co-investment agreements with the DA. *Given these encouraging developments, the reported move to renationalize agri-fishery extension services would be ill-advised and counterproductive and will only set back the progress already being made towards more responsive and effective assistance to farmers.* Eventually, the LSA program should be included under the PAFES umbrella and funded with a co-financing agreement between the DA-ATI and PLGUs. Formulation of CPAFEPs as mandated under the PAFES has provided the impetus, while establishment of PAFECs has provided the venue for multi-agency and multisectoral coordination and collaboration, especially among the LGUs, DA-RFOs, ATI-RTCs, SUCs, private sector and civil society organizations, in the delivery of extension services, especially through the LSAs.

## **7. Clarify the delineation of roles and responsibilities between ATI and TESDA.**

There should likewise be agreement on areas of collaboration pertaining to ESETS. It is important that ATI and TESDA's programs complement, rather than appear to compete, overlap, or duplicate with one another. This will entail careful consideration by each agency of their respective clienteles and clearly defining their distinct missions to guide a proper delineation of their roles in the overall knowledge development landscape in agriculture and fisheries. In particular, it must be clarified and asserted that TESDA's ultimate clientele through its accredited Farm Schools mostly consists of jobseekers who require competency certifications for employability in domestic or overseas crop, livestock or fishery enterprises. On the other hand, ATI-certified LSAs have the ultimate goal of improving the productivity and incomes of practicing or aspiring farm/fishery operators, including inspiring and encouraging young visitors to take up agriculture and/or fisheries as a career path. A possible modus vivendi between ATI and TESDA would have the latter limit its training focus to the operation and maintenance of farm/fishery equipment and processing/value-adding of agri/fishery products, which are the skills mostly required of hired employees in commercial agribusiness or fishery enterprises. On the other hand, ATI's certified LSAs would take responsibility for building capacities on innovative or improved farm or fishery practices, including farm/fishery enterprise management. With such delineation, funding support for ESETS including those embodied in commodity-based programs should henceforth be directed mainly if not exclusively to ATI (i.e., not ATI and TESDA as done with the RCEF and CFIDP ESETS components). This could bolster funding support for ATI- and LGU-administered training programs for AEWs and farmers/fishers, respectively, which should be deliberately channeled through LSAs. With enough funding support provided for training programs done at LSAs, there should be less tendency for LSA certification to be regarded as a mere pathway to TESDA FS accreditation.

## **8. Work towards standardization of the entitlements for training.**

Trainings administered by ATI, LGUs, TESDA and DOT must have standardized entitlements (i.e., allowances for trainees, fee rates of resource persons, food budget allowances per participant, payments for training facilities and equipment) to avoid distortion of incentives for these trainings relative to one another. There must also be coordination of trainings, and pooling of resources to attain synergy and sustain the set standards. LSAs, Farm Schools and Farm Tourism Sites each serve an important purpose and distinct target audiences. Variances in the level of resource support for each type of facility could lead and have already led to distortions in preferences of the farms for one or another mode of operation. Thus, it is important that the agencies involved undertake a more thorough analytical exercise to avoid such distortions, particularly in the nature and level of resource supports to each respective type of facility. This will help strengthen complementation among the LSA, Farm School and FTS programs, and avoid a situation where farms who have certification/accreditation on all three find themselves in an “identity crisis” situation.

## **9. Consider revising the nomenclature for LSAs.**

The current first-level LSA category may be relabeled as “**Showcase Farms**” rather than use the term “learning sites,” to forestall the misplaced expectation that once certified, the farm will receive training programs and trainees from ATI. What needs to be highlighted in their case is their “big brother” mentoring role to surrounding farms that are less capable and productive, and as a site to host visitors who can witness innovative and novel farm practices, rather than as a formal training center. If such visits, especially by students at the elementary and secondary levels, succeed in stimulating interest in agriculture among young visitors, the “showcase farm” would have already served an important purpose of helping reverse the widely-lamented tendency of the youth to shun agriculture as an occupation, which imperils the nation’s ability to develop the successor generation of farmers, and with it, future food security. Meanwhile, the current category of LSA II could simply be called LSAs, which connotes the ability to offer formal training programs that feature hands-on field experience. In the ladderized scheme, groups of these LSAs can be upgraded into ESPs as currently defined in the LSA guidelines.

## **10. Relax the rules for availment and eligibility for government grants.**

Finally, it would be worthwhile to consider relaxation of the rules on grants by various agencies (such as DTI, DOST, LBP, DBP and DA-attached agencies like SRA, PCA and others) in the form of equipment, improved seeds, planting materials, fertilizers etc. to permit access by individual privately-owned LSAs (and not just coops or farmers’ groups, or state-owned LSAs). It must be ensured, however, that such individual private recipients satisfy a clear set of criteria that demonstrate exceptional circumstances that would lead to much wider benefits. For example, the criteria for qualification could include determining whether the private LSA helps to: (1) open new livelihood, market or financing opportunities especially for other farmers, or (2) bridge technology gaps that could unleash more economic opportunities for rural populations/communities, or (3) improve value chains to permit greater farmer shares in the final value of their products, or (4) promote sound environmental management and sustainability, or contribute to improved social welfare, human development outcomes (e.g., education and health), and community development. The feasibility of public-private partnership schemes to address these needs should also be explored.

## **6 Concluding Remarks**

There is no doubt that the LSA system is a critical tool toward effective empowerment of Filipino farmers toward higher productivity, improved incomes, and uplifted welfare for themselves and their families. This assessment has helped highlight the strengths of the system and continuing challenges that need to be addressed towards maximizing its usefulness to the rural population and achieve inclusive countryside development. It will require even closer inter-governmental and multi-sectoral coordination and collaboration, incremental budgetary resources, and a shared commitment to uplifting the farm sector and ultimately, attainment of food security for Filipinos.

## References

- Administrative Order No 42. (Series of 1999). Guidelines in Planning, Implementing, Monitoring and Evaluating Extension Programs for Agriculture and Fisheries Modernization Implementing Rules and Regulations Pursuant to Republic Act 8435, Department of Agriculture: Quezon City.
- Administrative Order No. 06. (1998). Implementing Rules and Regulations pursuant to Republic Act 8435: "An act prescribing urgent related measures to modernize the agriculture and fisheries sectors of the country in order to enhance their profitability, and prepare said sectors for the challenges of globalization through an adequate, focused and rational delivery of necessary support services, appropriating funds therefor and for other purposes", otherwise known as "The Agriculture and Fisheries Modernization Act of 1997," Department of Agriculture: Quezon City.
- Agricultural Training Institute (2022). Operations Manual, ATI: Quezon City
- ATI. (n.d.) Agricultural Extension and Training Operations Manual for Coconut Farmers and Industry Development Plan (CFIDP), ATI: Quezon City
- ATI. (2023 and 2024). Agriculture and Fisheries Extension Results-Based Monitoring and Evaluation System, ATI, Quezon City.
- ATI. (2024). Current LSA Database 2018-2022.
- ATI. (2024). ATI Financial Accountability Report for quarter ending June 30, 2024. Retrieved from [https://ati2.da.gov.ph/ati-main/content/sites/default/files/users/user29/FARs%20%282024\\_2nd%20Qtr%29.pdf](https://ati2.da.gov.ph/ati-main/content/sites/default/files/users/user29/FARs%20%282024_2nd%20Qtr%29.pdf)
- Aton, Alfredo. (2019). Memorandum No. M19-10-412. Guidelines on the Establishment and Enhancement of Rice Competitiveness Enhancement Fund- Learning Site for Agriculture (RCEF-LSA), ATI: Quezon City.
- Department of Agriculture, Agricultural Training Institute. (2024). Financial Accountability Reports: Consolidated reports of Central Office and Regional Training Centers (Ref. No. 2024-07-1443). Department of Agriculture.
- Department of Agriculture - Agricultural Training Institute. (2023). Philippine agriculture and fisheries extension strategic plan 2023-2028: Reframing agriculture and fisheries extension and advisory services for Philippine food systems transformation. Department of Agriculture - Agricultural Training Institute. ISBN: 978-621-483-018-3.
- Department of Agriculture. (2024). FY 2025 plan and budget proposal. Presented at the National Agriculture and Fisheries (NAF) Council Meeting, April 17, 2024. Department of Agriculture.
- Department of Agriculture - Agricultural Training Institute. (2022). Learning site for agriculture briefer (ATI-QF/PAD-162 Rev. 00). Department of Agriculture - Agricultural Training Institute.
- Department of Agriculture - Agricultural Training Institute. (2022). The compendium of agriculture and fisheries extension policies: Vol. 1. Department of Agriculture - Agricultural Training Institute. ISBN: 978-971-9673-90-3.
- Executive Order No. 116. (1987). Renaming the Ministry of Agriculture and Food as Ministry of Agriculture, reorganizing its units, integrating all offices and agencies whose functions relate to agriculture and fishery into the Ministry and for other purpose, Office of the President: Malacanang, Manila.

- Executive Order No. 138. (2021). Full devolution of certain functions of the Executive Branch to Local Governments, creation of a Committee on Devolution, and for other purposes, Office of the President: Malacanang, Manila.
- Gordo, G. M., Importante, G. A., Jadraque, A. E., Castillo, R. A., Felisarta, W. M., & Satorre, R. C. (n.d.). Evaluating the effectiveness of ATI-RTC XI learning sites and schools for practical agriculture in Region XI. *Southeastern Philippines Journal of Research and Development*.
- Mula, Rosana. (2022). Memorandum No. MI22- -206. Guidelines on the Enhancement of Learning Site for Agriculture I and II (LSA I AND II), ATI: Quezon City.
- Philippine Statistics Authority (PSA) OpenSTAT. (2024). Gross Value Added in Agriculture, Forestry, and Fishing, by Region.
- Republic Act 7160. (1991). The Local Government Code of the Philippines, Congress of the Philippines, Manila.
- Republic Act 10816. (2015). Farm Tourism Development Act of 2016, Congress of the Philippines, Manila
- Saliot, Asterio. (2012). Memorandum No. M12-05-114. Implementing Guidelines for the Establishment of Learning Site(s) as Implemented by the Agricultural Training Institute in support to the National Organic Agriculture Program, ATI: Quezon City.
- Taposok, Luz. (2017). Memorandum No. 2017-Q5-232. Adoption of Revised Guidelines in the Establishment of Learning Sites and Schools for Practical Agriculture, ATI: Quezon City.

**Annex A. Final Survey Questionnaire (separate file attached)**

## Annex B. Sampling Formulas Used

Sampling is applied to the “Other LSAs”, categorized into 277 RCEF LSAs, and 957 regular LSAs. For this group we draw a stratified random sample, to ensure a margin of 5% error at 95% confidence level. The strata are the RCEF and regular LSA categories, divided by island group (Luzon, Visayas, Mindanao), for a total of six strata. To compute total sample size  $n$ , denote the following:

$N$  = population size

$z_{\frac{\alpha}{2}}$  = z-value corresponding to  $\frac{\alpha}{2}$

$p$  = population proportion

The formula is:

$$n = \frac{z_{\frac{\alpha}{2}}^2 p(1-p)N}{z_{\frac{\alpha}{2}}^2 p(1-p) + (N-1)e^2} \quad (1)$$

We have, from the directory,  $N = 1,234$  (covering Other LSAs). The adopted significance level is 5%, hence  $z_{\frac{\alpha}{2}} \approx 1.96$ ; the margin of error is set at 0.05. The maximum variability is at 50% proportion, hence  $p = 0.50$ .

Using Yamane’s simplification, we have:

$$n = \frac{N}{1 + Ne^2} = \frac{1,234}{1 + 1,234(0.05)^2} \approx 302$$

## Annex C. FGD-KII Template Guide Questions

### Topics to Be Explored

#### For LSAs

- Factors that make the program very/less effective and impactful, e.g., regularity and effectiveness of capacity building/knowledge enrichment/field training.
- LSA investments vs learning outcomes
- Means to strengthen partnership, collaboration, and cooperation among LSAs, between the LGUs and LSAs, and between LSAs and other stakeholders (e.g., SUCs, NGAs).
- Alternative approaches to delivery of extension services under the LSA program considering the current leadership of the LGU in this area.
- Effectiveness of monitoring and evaluation mechanisms in the LSA program to make it more responsive.
- Issues on the level and configuration of the government agriculture budget as it impacts on the effectiveness of the extension system, hence the LSA role.
- Role of social, environmental and cultural/ethnic factors in determining the effectiveness of the extension system and LSA program.
- General and specific recommendations for improvement in the LSA program.

#### For Ex-LSAs (that did not renew registration)

- Reasons for not renewing registration as an LSA
- General and specific recommendations for improvement in the LSA program.

#### For Trainees

- Perceived strengths & weaknesses in specific LSAs encountered, and the LSA system in general
- Usefulness and responsiveness to actual needs of training(s) undergone
- Overlaps or redundancies encountered, in the case of multiple trainings
- General and specific recommendations for improvement in the LSA program.

#### For Trainers/Resource Persons

- Process for developing training modules used, and flexibility in their design and execution
- Role of trainees in determining curriculum and training module contents (feedback mechanisms)
- General and specific recommendations for improvement in the LSA program.

#### For NGA executives/officials

- Involvement and contributions, if any, of the agency (e.g., TESDA, DOT, DTI, BFAR) in the LSA program.
- General and specific recommendations for improvement in the LSA program.

#### For LGU executives

- LGU's vision and strategies for agriculture and fishery development in its locality especially pursuit of Collaborative Provincial Agriculture and Fisheries Extension Programs (CPAFEPs) if present.

- Usefulness and significance of the LSA program to the LGU and its locality's socio-economic growth and development, especially during the transition between ATI-led to LGU-led agriculture and fishery extension system.
- Existing/Envisioned role of LSAs in attaining the goals of CPAFEP and level of resource support to LSAs to help attain such goals.
- Modalities for partnership and coordination with LSAs.
- General and specific recommendations for improvement in the LSA program.

### **Specific Questions**

#### **A. For LSAs:**

1. (Curriculum & Content) What is the process for developing your LSA's training curriculum offerings, and their content? What are the respective roles of ATI, the LSA, and trainees in determining this? Are trainees asked to about needs/preferences for training content?
2. (Collaboration) How do you collaborate with your LGU, the SUCs in your area, and other related agencies in developing and delivering your training courses?
3. (Cost) What is the desired level of investment that will permit sustainability of your LSA's operation in the long run?
4. (Monitoring & Evaluation) Do you make an effort to track your trainees and their farms? If so, how do you gather and use this information?
5. (Improvement) What recommendations would you have for improving the LSA program?

#### **B. For Ex-LSAs (that did not renew registration)**

1. What made you decide not to renew your registration as an LSA? What could possibly lead you to seek registration again?
2. What recommendations do you have for improving the LSA program?

#### **C. For Trainees**

1. (Strengths & Weaknesses) What did you like best about the LSA you trained in? What needs improvement in the LSA?
2. (Usefulness) How did you make use of your learning experience? Was your training worth the time, effort and cost spent?
3. How many trainings have you undergone? If more than one, were there overlaps or redundancies in the trainings?
4. What recommendations do you have for improving the LSA program?

#### **D. For Trainers/Resource Person**

1. What was the process for developing the training modules you used? How much leeway did you have in its design, and how much is set as prescribed?
2. Are trainees asked about their particular training needs? Do you (can you) make adjustments to the content based on their expressed needs?
3. What recommendations do you have for improving the LSA program?

#### **E. For LGU Officials:**

1. Do you have a Collaborative Provincial Agriculture and Fisheries Extension Program (CPAFEP) in your area? If yes, is this being pursued through the LSAs?
2. How are the LSAs contributing to the pursuit of your agriculture programs?
3. What are the modes of cooperation and coordination of ATI and concerned NGAs in supporting the LSA?

#### **F. For NGA Officials:**

1. How do LSAs complement or supplement your agency's interventions in your area of operation?
2. How do you collaborate/coordinate with ATI and other concerned agencies in the operations of the LSA?
3. Does your agency provide financial or logistical support to the LSA? In what form? How much?

## Annex D. List of Persons Consulted

ATI			
Central Office			
1. Antonietta J. Arceo	Deputy Director	4. Lian Janelle Valencia	Development Management Officer I
2. Bernard James R. Tandang	Project Evaluation Officer III	5. Romermart Aubigne Penamora	Development Management Officer III
3. Chandra Rachel C. Panol	Planning Officer II		
ATI-RTC 1		ATI-RTC 8	
1. Alladin C. Tabo	TGP Focal	1. Gizell Jill D. Nuñez	Training Specialist
2. Junelyn S. Repanco	Climate Change Focal	2. Allen P. Geroy	Agriculturist II
3. Shiela S. Corpuz	Regulatory & PAFES Focal	3. Venus Jane J. Taghoy	Planning Officer II
4. Krizel Joy B. Natividad	MPS II	4. Maria Rica Jea G. Labina	PES I
5. Almera M. Montano	Agri II	5. Anotnio E. Cadalin	Senior Agriculturist
6. Alyssa Caryl L. Vallo	DMO II		
7. Maricel D. Dagapas	Chief of Information Services Section		
8. Diana Renz Ubod	Technical Support Staff		
9. Betty Grace DC Kanlas	LSA Focal		
10. Rogelio C. Evangelista	Retired Center Director		
ATI-RTC 2		ATI-RTC 10	
1. Vladimir B. Caliguiran	Informaton Officer III	1. Cristine Galupo	Agriculturist II/LSA Focal
2. Mayflor R. Macmac	Planning Officer II	2. Angelli Doña	Technical Support Staff
3. Jhimcelle Salvador	Training Specialist III	3. Jeric Cabatac	Agriculturist II/Livestock
4. Johnson S. Lameg	Training Specialist I	4. Moisa Paglinawan	Training Specialist II/HVCDP
		5. Javier Andalan	Sr. Agri/O37 Focal
		6. Afren Macario	AO IV/TWG
		7. Samantha Rodriguez	TSS/MLE Associate
		8. Jhoylie Caumban	Rice/RCEF Coord.
ATI-RTC 6		ATI-RTC Caraga	
1. Florepe M. Mortalla	Information Officer III	1. Mary Grace B. Salve	Media Production Specialist II
2. Eraldgen n. Bernaldo	Training Specialist III	2. Cristal L. Peñero	TSS-II
3. Jerick B. Navarro	TSS -IV	3. Florita G. Lozada	Agriculturist II/Livestock Point Person
4. Norbell Q. Villaflor	TSS -IV	4. Alian P. Gomez	TSS-I
5. Jeflor L. Dela Cruz	DMO I	5. Jason Paul Dads E. Jampac	Media Production Specialist II
		6. Matt Janfour B. Cabahug	Development Officer I/RCEF Point Person
		7. Neil C. Capin	TSS-III

Regional Government Agencies and State Universities			
Region 1		Region 8	
1. Juanito Macazo Jr.	ACC II, DA-RFO	1. Antonio Abamo	Executive Director, VSU
2. Melinda A. Untalan	Trainer, TESDA PSAT	2. Rodel C. Balierbare	Sr. TOO, DOT
3. Queen Bernadette C. Virat	Instructor I, TESDA PSAT	3. Christelda S. Membreve	Faculty, SLSU
4. Cruzaldo Z. Lomibao	Asst. Professor/Trainer, TESDA, PSAT	4. Jorge A. Deñado	RITA-DTI (RAPID), DTI
5. Johnny F. Corcha Jr.	Faculty, DMMMSU	5. Emy Fe P. Palmares	Sr. TESDA/RO Focal, TESDA
6. Ferdinand M. Navarro	Dean, College of Agriculture, DMMMSU		
7. Meldnito C. Baga	School Farming Coordinator, DMMMSU		
8. Mary Ruth O. Menor	Assoc. Professor, ISPSC Sta. Maria		
9. Jessereile A. Laudencia	TOO I, DOT		
10. Derickson Chrisandrei S.	CDVO II/FOC, BFAR		

Mandar			
11. Benjie L. Oboza	Aquaculturist II, BFAR		
12. Lloyd Adrian Lucena	Instructor I, DMMMSU		
13. Rogelene M. Bartolome	TIDA, DTI		
<b>Region 2</b>		<b>Region 10</b>	
1. Sotera T. Taguinod	Sr. TESD Specialist, TESDA	1. Ronald Pasilan	SSRS, DA
2. Riza I. Undiana	FRO II, BFAR	2. Rusty Cagas	TESDA Focal, USTP-Claveria
3. Frederick B. Castro	Sr. TOO, DOT	3. Lasaro Gomez	Coordinator, IGET, USTP-Claveria
4. Lucio G. Calimag	Sup. SRS, DOST	4. Austolio Igot	Chief. Regional Dept Div., TESDA
		5. Juveth Jane Balinas	Trade-Industry Dev Specialist, DTI
		6. Ness Ababa	DFT/Aqual, BFAR
		7. Alle Guilamo	AQ II/PFO Staff, BFAR
		8. Charly Alcantara	Dean, USTP-Claveria
<b>Region 6</b>		<b>Caraga Region</b>	
1. Reinheart Kevin G. Villan	Agriculturist, PCA Iloilo	1. Lyra Joy Villaruel	TESD Specialist I, TESDA
2. Ester Ruth F. Torreverde	Asst. Dir. Agri-Crops, DA-RFO	2. Chris Siatan	PDO III, PCA
3. Tim Ticar	Sr. TOO, DOT	3. Rosalina A. Sagocsoc	Professor IV, CSU
4. Joyce M. Nagnal	Farm Manager, DepEd Farm School		
5. Annalyn M. Catacutan	Farm School Coordinator, DepEd Farm School		
6. Jessica C. Esmao	Training Center Specialist, BFAR 6		

<b>Provincial and Municipal Local Government Units</b>			
<b>Region 1</b>		<b>Region 8</b>	
1. Necy B. Benosa	Agri Technologist, San Jacinto, Pangasinan	1. Eduardo Y. Zabaut	Agri Technologist/PCPC, Leyte
2. Jonathan E. Lagera	Agri Technologist, Mangaldan, Pangasinan	2. Renavic B. Melgazo	Agriculturist II, Leyte
3. Lerma P. Enriquez		3. Imelda D. De Veyra	ACC I, Leyte
4. Gerald I. Qunit	MI III, Calasiao, Pangasinan	4. Doris P. Quieta	OM. Agriculturist, Leyte
5. Milo M. Cervantes	Agri Technologist, Mangaldan, Pangasinan	5. Jobert C. Catindoy	Agri Technologist, Alangalang, Leyte
6. Violeta M. Laforteza	Sup. Agriculturist, Pangasinan	6. Teresita R. Lamrente	Municipal Agriculturist, Leyte
7. Lani A. Soriano	Agri Technologist, Mapandan	7. Anita R. Taran	Prov. Agriculturist, Samar
8. Jan Marae V. Datuin		8. Herminigildo Sanchez	ITO-I, Samar
9. Gian Karl G. Quindara	Farm foreman, Agoon, La Union	9. Ma. Urfelie D. Maliper	Asst. City Agriculturist, Catbalogan, Samar
10. Gemma N. Macusi	CAO IV, La Union		
11. Rhuezan A. Ysit	Agriculturist II, La Union		
12. Heisaboy T. Tubaang	Agriculturist I, La Union		
13. Raquel P. Difuntorum	Admin officer V, La Union		
14. Christine Naomi Joy S. Aloat	Aquaculturist II, La Union		
15. Domingo Bobby C. Calub III	Provincial Vet, La Union		
16. Beverly S. Ridual	Agri Technologist, Rosario, La Union		
17. Carlomagno Castillo	Aquaculturist II, La Union		
<b>Region 2</b>		<b>Region 10</b>	
1. Dolores I. Seridon	Rice & OA Focal /Agriculturist II	1. Resty Cagas	Agri Technologist, Mis. Or.
2. Allen Jefferson I. Valdez	Agricultural Technologist	2. Charlie Nacaya	Agriculturist II, Mis. Or.
3. Samuel C. Duque Jr.	Agricultural Technologist	3. Rose Laquibla	Sr. Agri, Mis. Or.

4. Janies C. Balubal	Municipal Agriculturist	4. Maridol Guinita	Agritourism/SLS Coordinator, Bukidnon
5. Bienvenido R. Mariano Jr.	Agricultural Technologist	5. Rosell Vasaya	Veterinarian II, Bukidnon
		6. Catherine Galeno	Aquaculture, Bukidnon
<b>Region 6</b>		<b>Caraga Region</b>	
1. Mabel C. Sinel	OPVET / PVET, Aklan	1. Donato A. Alegado	Supervising Agriculturist (R&D), Agusan del Norte
2. Engr. Alxys Apolonio	Provincial Agriculturist, Aklan	2. Jeffrey E. Waive	Agriculturist II (Fish), Agusan del Norte
3. Ildefonso T. Toledo, Ed. D.	Provincial Agriculturist, Iloilo	3. Howard L. Abasituas	Agriculturist I (LV), Agusan del Norte
4. Geron E. Magbanua	Senior Agriculturist, Iloilo	4. Jim A. Razonabe	Agriculturist II (HVCDP), Agusan del Norte
5. Marlo Cabanero	Municipal Agriculturist, Tigabauan, Iloilo	5. Miguelito D. Velasco	Agriculturist II (Corn), Agusan del Norte
6. Norlie Villa	Municipal Agriculturist, Passi, Iloilo	6. Dale Francis O. Cordora	Agriculturist II (Livestock), Agusan del Norte
		7. Maribeth C. Napuli	Agriculturist I (Rice), Agusan del Norte
		8. Benjie M. Villaruben	OIC – Provincial Agriculturist, Agusan del Norte
		9. Elena S. Bausing	Senior Agriculturist, Agusan del Sur
		10. Genalin L. Montero	Livestock Inspector, Agusan del Sur
		11. Danny I. Simbre	Engineer IV, Agusan del Sur
		12. Reymark L. Avila	Engineer II, Agusan del Sur
		13. Corazon D. Escasinas	Agriculturist II, Agusan del Sur
		14. Aia Mae Sarsaba	Agriculturist II, MLGU- San Francisco, ADS

<b>Learning Sites</b>			
<b>Region 1</b>		<b>Region 8</b>	
1. Renato Jacaban	President/Cooperator, 3K TDCI	1. Jose Castillejos	Owner, Pitahaya Farm
2. Benigno A. Asprec	Treasurer, 3K TDCI	2. Alex Aborita	Owner, Cuatro Marias Farmers Academy
3. Jonathan Jose Patawaran	Owner/Operator, Jopat Integrated Farm	3. Julie Ann Pore	Trainer, Cuatro Marias Farmers Academy
		4. Sherry Mae A. Espejo	Staff, Alde Farm
		5. Dennis T. Martin	Owner, D' Martila Integrated Farm
		6. Renie Boy D. Labago	President, Cantongtong United Youth Association
		7. Reynaldo E. Labine	CEO, Cantongtong United Youth Association
		8. Lery C. Miralles	BOP, BOSIS
<b>Region 2</b>		<b>Region 10</b>	
1. Servando A. Gumabay	CAFC Chairperson, Tuguegarao City Demo Farm	1. Beverly Mañara	Technical Field Officer, KT-Technohub
2. Fernando P. Tasi	CAFC PRO, Tuguegarao City Demo Farm	2. Mary Yare	Field Officer, KT-Technohub
3. Anthony S. Requimin	Assistant City Agriculturist, Tuguegarao City Demo Farm	3. Samantha Parba	
4. Wirthlin John M. Cambri	Agricultural Technologist, Tuguegarao City Demo Farm	4. Aila Ibañez	Senior Knowledge Transfer Specialist, KT-Technohub
5. Lorenzo M. Caranguian	Owner/Operator, Caranguian Integrated Farm	5. Sarah Jane	Field Officer Zamboanga del Norte, KT-Technohub

		6. Jovie Anne	Technical Support Staff/Hands-on research, KT-Technohub
		7. Elmer Laguna	On call farmer, KT-Technohub
		8. Lugug Agulo	Farmer, KT-Technohub
		9. Charlyn Abales	
		10. Renee Perrine	Owner, Tuminugan Farm
		11. Agustin R. Mercado Jr. Ph.D	Owner, Conservation Agriculture with Tree Training Centre
		12. John Tubal	Farm Trainee, San Roque Dairy Farm
		13. Rheeno Akwa	
		14. John Sornilo	
		15. Arnie Catubig	Farm Volunteer, San Roque Dairy Farm
		16. Christian Ceniza	
		17. Reymart Pioquinto	Daughter of owner, San Roque Dairy Farm
		18. June Lancin	
<b>Region 6</b>		<b>CARAGA Region</b>	
1. Lilibeth C. Sacapaño	President/ Owner, GLS Integrated Farm	1. Leizel C. Navarra	Farm School Administrator/Assessment Center Manager, EM Nature Farms
2. Gia R. Esmeralda	Auditor, GLS Integrated Farm	2. Julieta Paler	Farm Owner/Operator, Hosea Farm
3. Jhonmark L. Idorita	Operation Manager, GLS Integrated Farm	3. Jionatchy Petes	Farm Manager, Afdal Farm
4. Regina M. De Eyoy	R.I.C Secretary, GLS Integrated Farm	4. Gina A. Mojado	Chairperson, Kamayu Producers Cooperative - KAPCO
5. Emmanuel Soviet Russia Dela Cruz	Executive Director, Aklan Agri-Aqua Demonstration Farm and Training Center		
6. Aries D. Cuales	Owner, ADC Farm		
7. Joyce M. Nagnal	Farm Manager, Tiu Cho Teg-Ana Ros Foundation Integrated Farm School		
8. Annalyn M. Catacutan	Farm school Coordinator, Tiu Cho Teg- Ana Ros Foundation Integrated Farm School		
9. Ariel Taton	Owner, Dreamers Valley Camp		
10. Shanes Taton	Entrepreneur, Dreamers Valley Camp		
11. Estrelieta E. Torreflores	FTFA Secretary, Dreamers Valley Camp		
12. Jona T. Tinagaw			
13. Fatime Ebanen	Owner, Novavita Integrated Farm		
14. Jessie Ebanen	Secretary, Novavita Integrated Farm		
15. Mark John B. Galero	Owner, MJG Native Farmhands		
16. Adelito Lopez	Owner, Sassy Native Farm Hause		

LSA Graduates and Trainees			
Region 1		Region 8	
1. Lilibeth C. Sacapaño	LSA Graduate, Kasanayan Kabuhayan Kaunlaran	1. Jessie Cañete	Training Graduate, Pitahaya Farm

2. Andrea S. Quero	Training Development Denter (3K TDCI) Inc.	2. Julie Ann Pore	Training Graduate, Cuatro Marias Farmers Academy
3. John Michael P. Quero			
1. Jozzana P. Bastro	Nurse II, DepEd – Graduate, Jopat Integrated Farm		
2. Glenn Erickson T. Basto			
3. Christian Espiritu			
4. Theresa P. Parayno	MD III, DepEd – Graduate, Jopat Integrated Farm		
5. Ronalyn D. Abrigo	Student, PSU – Graduate, Jopat Integrated Farm		
6. Diana Rose D. Abrigo			
7. Denny R. De Guzman	Graduate, DMMMSU		
<b>Region 2</b>		<b>Region 10</b>	
1. Servando A. Gumabay	CAFC Chairperson – Graduate, Tugearao City Demo Farm	1. Elmer Lagun	On call Farmer, KT-TechnoHub
2. Fernando P. Tasi	CAFC PRO – Graduate, Tugearao City Demo Farm	2. Luglug Agulo	Ongoing Farm Trainee, KT-TechnoHub
		3. Charlyn Abales	
		4. Arnie Catubig	Farm Volunteer – Graduate, San Roque Dairy Farm
		5. Christian Ceniza	
		6. Reymart Pioquinto	
<b>Region 6</b>		<b>CARAGA Region</b>	
1. Clarin R. Barriot Jr.	Training Graduate, GLS Integrated Farm		