Asian Journal of Education and Social Studies

Volume 42, Issue 1, Page 1-8, 2023; Article no.AJESS.98242
ISSN: 2581-6268

Short-Term Courses in Organic Agriculture for Home Gardens: A Potential Approach to Securing Household Food Supply

Myra Luz M. Homillano [a*]

[a] *College of Development Education, Central Bicol State University of Agriculture, Philippines.*

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/AJESS/2023/v42i1904

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/98242

Original Research Article

Received: 22/01/2023
Accepted: 25/03/2023
Published: 28/03/2023

ABSTRACT

Aims: The Central Bicol State University of Agriculture (CBSUA) takes responsibility and leadership in the Bicol region's agriculture and allied technological sciences field. This study determined the possibility of offering short-term courses in Organic Agriculture at the Central Bicol State University of Agriculture.
Study Design: Descriptive design was used in the study.
Place and Duration of the Study: The study was conducted in Pili, Camarines Sur, Philippines, for six months in 2019.
Methodology: A survey questionnaire was used to determine the demographic profile, motivations, reasons, and learning areas of interest among prospective enrollees on short-term courses in organic agriculture. The respondents were selected using purposive sampling, including 30 SHS teachers, 58 School Administrators, and 91 home gardeners. The data were tabulated through frequency count and percentage.
Results: Results revealed that most prospective enrollees are from the old age bracket (42.25%), interested in home gardening (50.84%), want to learn about basic competencies of organic

**Corresponding author: Email: myraluz.homillano@cbsua.edu.ph;*

agriculture (29.05%), and earn a National Certificate for teaching purposes (25.69%). Their main reasons if they are to enroll in the program was health or personal well-being (22.91%). Most respondents wanted to learn about crop and animal production (44.69%) among the learning areas in organic agriculture.
Conclusion: This study indicates that short-term courses in organic agriculture have the possibility to be offered at the University.

Keywords: Organic agriculture; short-term course; home gardening; food security; household.

1. INTRODUCTION

Food Security has been an elevated challenge in the Philippines since then. In the report of Galang [1], he noted that the Philippines ranked 64th out of 113 countries in terms of its four dimensions of food security based on The Economist's 2021 Global Food Security Index (GFSI). He added that food security was officially defined and included in government laws, policies, and programs. The United Nations (UN) defines food security as a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life [2].

To address the challenges to food security in the Philippines, the Central Bicol State University of Agriculture (CBSUA) is looking into the possibility of offering short-term courses in organic agriculture. As the University takes responsibility and leadership in agriculture and allied technological sciences through Republic Act No. 9717 [3], it envisions being the center of Organic Agriculture that offers agriculture-related development programs for Bicolanos. An approach to this is the creation of short-term courses in organic agriculture. Short-term courses are indeed an approach to promote and equip the public with the competencies for organic agriculture. Wang [4] further noted that short-term courses allow people to update their skills in a short time, usually for a few weeks to a few months. This program also offers numerous benefits, like improving someone's personal and professional development. Organic Agriculture encouragement is supported by the law and the human desire to lessen conventional agriculture's negative environmental impact. Thus, CBSUA stands to prove its creation is worthy of respect by showing an exemplary curriculum responsive to its charter and relevant to the Bicol Region's needs.

With the effects of conventional agriculture on the environment, as observed by farmers and scientists, the essence of organic farming was realized [5]. Organic agriculture is a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity, and cycles adapted to local conditions rather than inputs with adverse effects. It combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved [6].

In Philippines, organic agriculture adopted before promulgating the Philippine Organic Agriculture Act of 2010. The act strengthened the advocacy for using organic agriculture practices and principles to decrease conventional agriculture's negative environmental impact. The essence of organic farming was realized when farmers and scientists observed the adverse effects of conventional agriculture in various areas of the community. These areas include the environment, the use of farmlands, and the farmers' health and socioeconomic conditions [5].

Home gardening is widespread practice all over the world. Odebode (2006) defines home gardening as cultivating a small portion of land around the household or within walking distance from the family home (in Galhena, 2013). Galhena [7] described home gardening as a mixed cropping system that encompasses vegetables, fruits, plantation crops, spices, herbs, ornamental and medicinal plants, and livestock that can provide a supplementary food source and income. He broadly categorized the benefits of home gardening into three components: 1) social, 2) economic, and 3) environmental benefits.

The study's main objective is to determine the feasibility of offering short-term organic agriculture courses at the Central Bicol State University of Agriculture. Specifically, it aims to: 1) describe the demographic characteristics of prospective enrollees in short-term courses on OA; 2) to identify the motivations and reasons for prospective enrollees to take short-term courses

on OA; and 3) to identify the learning areas of Organic Agriculture where the prospective enrollees are interested. Prospective enrollees include school administrators, teachers, and home gardeners. However, developing a structured curriculum for short-term courses in organic agriculture is beyond the scope of this study.

2. METHODOLOGY

The following methods were used to assess the potential of short-term courses in organic agriculture.

The study employed descriptive, non-experimental research that used a survey instrument. Respondents were required to answer a researcher-made survey questionnaire with items aligned with the problems stated. Unstructured interviews were also conducted to ensure the reliability of the data. The prospective enrollees of the short-term courses for organic agriculture were school administrators, teachers, and home gardeners who reside and work in Pili, Camarines Sur. A list of school administrators and teachers was acquired from the Department of Education, Camarines Sur office of Pili. The home gardeners were selected in the locality.

A questionnaire for the survey was researcher-developed. It was used to obtain the respondents' demographic characteristics, motivations and reasons if they are to enroll in a short-term course on OA, as well as learning areas they are interested in. An interview guide was used for the unstructured interviews. The collected data were compiled and shown in frequency tables. The entries which had the highest frequencies were pointed out and noted.

3. RESULTS AND DISCUSSION

The following aspects were considered to determine the marketability of the proposed short-term courses on organic agriculture: a) demographic profile, motivations, and reasons to enroll in short-term courses on OA, and b) learning areas in OA that respondents want to learn.

3.1 Profile of the Prospective Enrollees

3.1.1 Age

As shown, most (45.25%) of the respondents were in the age bracket of 46-60, coming close (31.28%) were in the 31-45 age group, and only a few (23.46%) were within the 18-30 age group. The data is consistent because ages 40-50 are productive years, and people tend to participate actively in society. The study of Plessis, Anstey, & Schlumpp [8] supported that adults participate in educational programs because of personal interests, social contact, and a desire to maintain a high level of self-efficacy and functioning (both cognitive and physical). It implies that individuals who belong to old age can engage in various training and courses which can improve their skills and knowledge as well as their professional development. Older adults prefer to participate in skill-related courses that can help them be productive despite their age.

Table 1. Demographic profile of the prospective enrollees of short-term courses in organic agriculture

Attributes	f	%
Age		
young age (18-30)	42	23.46
middle age (31-45)	56	31.28
old age (46-60)	**81**	**45.25**
Total	179	100
Sex		
Male	**103**	**57.54**
Female	76	42.46
Total	179	100
Highest Educational Attainment		
post-baccalaureate	26	14.53
college graduate (baccalaureate)	49	27.37
high school graduate	**65**	**36.31**
elementary graduate	32	17.88
elementary level	7	3.91
Total	179	100
Current Job/Occupation		
School Administrator	30	16.76
Teacher	58	32.40
Home Gardeners	**91**	**50.84**
Total	179	100

3.1.2 Sex

More than half of the respondents (57.54%) were male, and the remaining (42.46%) were female. This reflects the almost equal representation of gender in the respondents, thereby showing gender responsiveness in the undertaking. As such, the study proved compliant with the mandated GAD policies. The result similarly reflects the Gender Profile of the TVET Sector [9], where there is a predominance of males in institution-based programs for technical and vocational education and training (TVET), accounting for 56% of total enrolment in 2015.

Agriculture has been associated as a course mainly participated by males in past years. In the Philippines, males engage more in agriculture-related practices and processes, which leads them to participate in skill-development programs like short-term courses.

In contrast to the result, UNESCO World Education Report [10] shows that more females are participating in higher agricultural studies for those regions where females constitute the majority of food producers. This implies that females also play a vital role in agriculture, engaging them in various agricultural courses.

According to UNESCO [11], Technical-Vocational Education Training (TVET) comprises education, training, and skills development relating to various occupational fields, production services, and livelihoods. In the Philippines, the Technical Education and Skills Development Authority (TESDA) also includes training and courses related to agriculture, like organic agriculture production, agro-entrepreneurship, aquaponic food production, crop production, and fruit growing. This implies that many people nowadays, regardless of sex, engage in multiple skills development programs like short-term courses to be equipped with knowledge and skills toward individual sustainable development.

3.1.3 Highest educational attainment

Most of the respondents (36.31%) were high school graduates. Most home gardeners intend to enroll in short-term courses to develop further their skills and knowledge in their chosen field, even without earning a degree in college. Similarly, the study of Rasanjali et al. [12] revealed that in the Bandarawela agriculture zone, those who obtained basic education are aware of the rapid developments in technology, science, business management, and other skills affecting agriculture. Sikudhani's [13] study showed that most people who engaged in agriculture jobs in rural areas finished only the primary level of education. However, he further noted that they are involved in agriculture seminars and short courses to understand various agricultural knowledge and productivity improvement. It implies that home gardeners have obtained at least formal education to help them cope with the changing world of agriculture.

3.1.4 Current job/occupation

Regarding the respondents' current jobs or occupations, 50.84% were home gardeners, 32.40% were teachers, and 16.76% were school administrators. This implies that many home gardeners engage themselves in further training in organic agriculture. Today's home gardeners view organic agriculture as an option to secure their household food security, offering greater environmental, social, and ecological benefits.

3.2 Motivations to Enroll in Short-term Courses in OA

Agriculture courses indicate a remarkable decline in enrolment throughout the Philippines. The Philippine government-hosted Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) confirmed that enrollment in agriculture and related courses has been declining by an average of 1.5 percent yearly [14]. To address this concern, the Philippine government advocates for agricultural education in the country to become more focused on creating business opportunities from agriculture and developing students' technical and entrepreneurial skills [15]. This leads the University to create short-term courses accessible to everybody who wants to learn basic organic agriculture skills, knowledge, and practices.

3.2.1 Basic competencies in OA

Table 2 shows that 29.05% of the prospective enrollees of the short-term organic agriculture courses wanted to learn the basic competencies in organic agriculture. The implementation of the K to 12 Basic Education Program in the Philippines, which includes a technical-vocational curriculum for Senior High Schools students, expects teachers who handle agriculture-related subjects must level up their teaching strategies and methods to nurture the future workforce that will propel the agriculture sector [16]. Short-term courses in agriculture and related areas can help educators be equipped with competencies that intend to develop knowledge, skills, values, and attitudes to prepare students for the world of work. SEARCA has proposed the local use of the Regional Model for Competency Standards (RMCS) in Agriculture and Aquaculture to address the TVET enhancement and have a standard competency system. RMCS is divided into eight function areas: 1) land maintenance and preparation (soil testing, managing pests); 2)

planting and harvesting (managing crop growth, saving of seeds); 3) installing irrigation and drainage; 4) operating gravity-fed or pressurized irrigation; 5) fruit and vegetable production; 6) rice growing and processing (maintaining rice paddy); 7) artificial insemination in poultry, incubating eggs, maintaining free-range poultry; and 8) maintaining aquaculture tanks, collecting broodstock, and controlling aquaculture pests and diseases [17].

3.2.2 National Certificate for OA

The majority (25.69%) want to earn a National Certificate after the course (Table 2). In the Philippines, TESDA [18] offers Organic Agriculture Production, which consists of competencies that a person must achieve to produce organic farm products such as chicken and vegetables, including organic supplements such as fertilizer, concoctions, and extracts. This implies that short-term courses for Organic Agriculture will address the needs of farmers, practitioners, and interested individuals to learn different aspects of organic agriculture.

> *"Dakulang tabang po sakuya na magkaigwa ako ning NC sa organic agriculture ta ngarig magamit ko ang sakong mga naaraman sa pagtatanom ko ning gulay sa samuyang tanuman sa harong."* (It is a great help for me to earn NC for organic agriculture so that I can use my learnings in planting vegetables to our home garden.) – Dan

> *"An sakuyang National Certificate para sa organic agriculture ay gagamiton ko pagtukdo manungod sa subject na agriculture. Bilang sarong paratukdo mawot ko na matukduan ning marhay an sakuyang mga estudyante ngarig magamit man ninda ini sa ibang aspeto kan saindang buhay."* (I will use my National Certificate on organic agriculture in teaching agriculture subject. As a teacher, I want my students to use whatever they have learned from me in any aspects of their life.) – Cora

Some respondents are willing to enroll in short-term courses in organic agriculture to earn a National Certificate, especially those teachers who handle TLE and TVET subjects. This program will capacitate them to teach the students effectively about organic agriculture practices. It can also be an avenue to encourage students of this generation to engage in agriculture.

3.2.3 Days to attend short-term course in OA

Fifteen respondents (8.37%) chose to attend the short-term course for about five days. Similarly, SAFE Young Organic Farmers offers organic agriculture courses for three to eleven days, up to 17 weeks, depending on what the students want to learn at a time [19]. It shows that students choose courses due to schedule flexibility, course duration, minimal costs, and personal or professional development.

A total of 12.29% preferred having short-term courses for OA held on weekends. This indicates that prospective program enrollees have busy schedules during weekdays and only have free time on weekends.

Table 2. Motivation to enroll in short-term courses in organic agriculture

Item of query	f	%
Learn the basic competencies in OA	**52**	**29.05**
Earn a National Certificate (NC)	**46**	**25.69**
Attend a Short-term Course? If yes, how many days?		
30 days	3	1.68
24 days	3	1.68
15 days	3	1.68
14 days	3	1.68
10 days	8	4.46
8 days	3	1.68
7 days	3	1.68
5 days	**15**	**8.37**
3 days	8	4.47
2 days	3	1.68
What particular days of the week?		
Weekdays	7	3.91
Weekend	**22**	**12.29**
Total	179	100

3.3 Learning Areas in OA

Table 3 shows that 44.69% of the prospective enrollees wanted to learn crop production in organic agriculture, 25.70% were interested in organic fertilizers/concoctions, and 17.88% were interested in animal husbandry. Results revealed the prospective enrollees' expectation to learn not only about crops but also about animal production. This means that offering short-term courses in organic agriculture must include crop and animal production competencies to encourage more enrollees.

Table 3. Learning areas in organic agriculture

Learning areas	f	%
Crop and Animal Production	**80**	**44.69**
Organic Fertilizer/Concoctions	46	25.70
Animal Husbandry	32	17.88
Urban Gardening	19	10.61
Fishery	2	1.12
Total	179	100

3.4 Reasons to Enroll in OA Short-term Courses

When asked about the reasons if they are to enroll in a short-term course on OA, Table 4 indicates that 22.91% answered for health reasons/personal well-being, 17.88% considered it a business opportunity, and 17.32% saw it as another possible source of income. Findings revealed respondents' likelihood of patronizing the short-term course as they already have reasons to enroll. It also manifests the respondents' awareness of the potential of organic agriculture in promoting health and wellness. The results are similar to Utsugi's [20] study, where some respondents understood that organic agricultural methods are more environmentally-friendly than conventional agriculture and that organic agriculture is a way to produce healthy food and maintain environmental sustainability, and support the community. DOST-PCAARRD noted a small but rapidly increasing market for organic produce where the demand for organic products increases as people opt for a healthier lifestyle [14].

3.4.1 Home gardening engagement

> *"Magayon sa pagmati na may sadiri kang tanuman na pwedeng kuanan nin pagkakan arog kan gulay asin iba pa. Nakakamenos sa samuyang paggastos sa aro aldaw lalo na sa pagkakan."* (It is a fulfilling experience for me to have home garden where you can enjoy food like vegetables and many more. It helps us to minimize the expenses for food.) – Ed

> *"Sa paagi kan home gardening nakakapagpatalubo kami nin mang-iba-ibang gulay asin prutas na pwedeng ipabakal sa samuyang kataraid na nakakadagdag sa samuyang income."* (In home gardening, we grow different kinds of vegetables and fruits which can be sold to our neighbors that could add in our income.) – Tony

Home gardening is gaining popularity in some areas, whether urban or rural areas, in the country. Barrameda [21] noted that people across classes raise their own food in backyards, parks, open spaces, window sills, and porches to ensure food security and control over the food they eat. The potential of home gardens as a food security strategy could lead to its practical adoption, especially for those in the poverty line. The short-term courses in organic agriculture can help enrich the Bicolanos in engaging positively in home gardening [22].

Table 4. Reasons to enroll in short-term courses in Organic Agriculture

Reasons to enroll	f	%
Hobby	17	9.50
Health reasons/personal well-being	**41**	**22.91**
Employment	13	7.26
Business Opportunity	32	17.88
OA practitioner	7	3.91
Other sources of income	31	17.32
For promotion	13	7.26
Become a trainer in OA	9	5.03
Would you like to set up a farm school?	5	2.79
To achieve aspiration	10	5.58
Others (please specify) (to learn more)	1	0.56
Total	179	100

4. CONCLUSION

Most prospective enrollees of the short-term courses on organic agriculture are in the age bracket of 46-60; male; high school graduates; and jobs or occupations were home gardeners.

Some respondents wanted to learn about organic agriculture's basic competencies. Responses of the respondents suggest that many are willing to enroll in short-term courses in organic agriculture and earn a National Certificate, especially those teachers who handle TLE and TVET subjects. They preferred to have sessions of the short-term courses during weekends with an approximate of five days duration. Health reasons/personal well-being was the most preferred reason to enroll in the short-term course on organic agriculture. Furthermore, respondents wanted to learn more about crop and animal production.

The University may consider short-term courses in organic agriculture to be offered during the weekends, wherein a National Certificate can be earned within five days of implementation. Crop and animal production topics shall be the focus to capacitate the takers of the short-term course through livelihood that will address the challenges in food security and alleviate poverty.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Galang IM. Is food supply accessible, affordable, and stable? the state of food security in the Philippines; 2022. Available:https://www.pids.gov.ph/publication/discussion-papers/is-food-supply-accessible-affordable-and-stable-the-state-of-food-security-in-the-philippines#:~:text=Based%20on%20The%20Economist's%202021,four%20dimensions%20of%20food%20security.
2. Gibson M. Food security-a commentary: What Is It and Why Is It So Complicated?. Foods (Basel, Switzerland). 2012;1(1):18–27. DOI:https://doi.org/10.3390/foods1010018
3. Republic Act No. 9717, 14th Cong. (enacted); 2009. Available:https://www.officialgazette.gov.ph/2009/10/12/republic-act-no-9717/
4. Wang A. 5 benefits of short-term professional courses; 2020. Available:https://www.fluxmagazine.com/benefits-short-term-professional-courses/
5. Landicho LD, Paelmo RF, Cabahug RD, Visco RG, Abadillos MG. Prospects and challenges in promoting organic agriculture in the upland communities in the Philippines: Implications to food security and nutrition. International Proceedings of Chemical, Biological, and Environmental Engineering. 2014;67:60-65. DOI: 10.7763/IPCBEE.2014.V67.12
6. International Federation of Organic Agriculture Movements (IFOAM) (n. d.). Definition of organic agriculture. Available:https://www.ifoam.bio/why-organic/organic-landmarks/definition-organic
7. Galhena DH, Freed R, Maredia KM. Home gardens: a promising approach to enhance household food security and well-being. Agric & Food Secur. 2013;2:8. DOI:https://doi.org/10.1186/2048-7010-2-8
8. Plessis KD, Anstey KJ, Schlumpp A. Older adults' training courses: Considerations for course design and the development of learning materials. Australian Journal of Adult Learning. 2011;51:161-174. Available:https://files.eric.ed.gov/fulltext/EJ951991.pdf
9. Illo JF. Gender profile of the TVET sector; 2019. Available:https://www.tesda.gov.ph/Uploads/File/GAD/2019/Gender%20Profile%20of%20the%20TVET%20Sector%20(final).pdf
10. UNESCO. World Education Report 2000. The right to education, towards education for all throughout life. UNESCO Publishing. 2000;176. Available:http://www.unesco.org/education/information/wer/PDFeng/wholewer.PDF
11. UNESCO. Technical and Vocational Education and Training (TVET). UNESCO in Beirut; 2022, October 2017. Available:https://www.unesco.org/en/fieldoffice/beirut/tvet
12. Rasanjali WMC, Wimalachandra RDMKK, Sivashankar, Pathmanathan, Malkanthi, Pushpa. Impact of agricultural training on farmers' technological knowledge and crop production in bandarawela agricultural zone. Applied Economics & Business. 2021; 5:37. DOI: 10.4038/aeb.v5i1.27.

13. Sikudhani Y. (n.d). Impacts of seminars and short courses to knowledge enhancement among farmers: case study of agricultural training [Unpublished Manuscript]. Available:https://www.academia.edu/24717458/IMPACTS_OF_SEMINARS_AND_SHORT_COURSES_TO_KNOWLEDGE_ENHANCEMENT_AMONG_FARMERS
14. Climate Tracker. Organic agriculture in the Philippines: What you need to know [Fact sheet]; 2022. Available:https://www.icmc.net/future-of-work/report/06-philippines/
15. Padin MG. Enrollment in agriculture courses continues to decline. Business Mirror; 2015, August 26. Available:https://businessmirror.com.ph/2015/08/26/enrollment-in-agriculture-courses-continues-to-decline/
16. Heria EA. Engage students, enhance their knowledge, skills in agriculture. Panay News; 2018, July 6. Available:https://www.pressreader.com/philippines/panay-news/20180706/281539406710605
17. Business Diary PH. International Labor Org's agri skills competency standards pushed in Ph, ASEAN as Filipino farmers' average age reach 57. Business Diary Philippines; 2020, January 21. Available:https://businessdiary.com.ph/14453/international-labor-orgs-agri-skills-competency-standards-pushed-in-ph-asean-as-filipino-farmers-average-age-reach-57/
18. Technical Education and Skills Development Authority (TESDA). (n.d.). Training Regulations: Organic Agriculture Production NC II. TESDA. Available:https://tesda.gov.ph/Downloadables/Organic%20Agriculture%20Production%20NC%20II.pdf
19. IFOAM Organics International. Empowering the Youth in the Philippines to Take Centre Stage in Organic Agriculture. Organic without Boundaries; 2022, April 5. Available:https://www.organicwithoutboundaries.bio/2022/04/05/empowering-the-youth-in-the-philippines-to-take-centre-stage-in-organic-agriculture/
20. Utsugi T. Motivating factors for young adults in the brattleboro area to start in organic agriculture for their career. Capstone Collection. 2012;2567. Available:https://core.ac.uk/download/pdf/232732115.pdf
21. Barrameda TV. Surviving in the city through home gardens: A case study of home gardeners in Brgy. UP Campus. Philippine Journal of Social Development. 2017;9:39-62. Available:https://cswcd.upd.edu.ph/wp-content/uploads/2021/10/PJSD-Vol-9-2017_Barrameda.pdf
22. Jayakumar, Narayanan, Surudhi M. Gender equality in agricultural education. Journal of Extension Education. 2015;27:5387-5393. Available:https://www.researchgate.net/publication/321107039_Gender_Equality_in_Agricultural_Education

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/98242