

Organic Gardening Program at AUP's Partner Community: Impact Study

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Abstract

The study determined the increase of income and the other benefits of the Organic Gardening Program (OGP) initiated by the Community Extension Services Center (CESC) of the Adventist University of the Philippines (AUP). Monitoring form and interviews were used to collect the data from 15 families who were purposively selected among the 44 participants of OGP at Barangay Hoyo, the partner community of AUP in Silang, Cavite. The results show that the average weekly income of the participants from OGP was PhP170 or about PhP680 per month as reflected in the monitoring forms given to the participants at the onset of the five-month program. The highest weekly income from the OGP was PhP600 per week which is around PhP2,400. This family has also the highest gross monthly income and has only five family members. Five families got the lowest weekly income from OGP, PhP50 per week. From the interview data, the participants reported that OGP increased their income thus it has improved their economic status and it became a source of fresh and healthy food thus it alleviates food scarcity and malnutrition. The other benefits the participants obtained from organic gardening program included the following themes: stress relief and source of joy, improved social relations through giving, and health benefits. Thus, OGP positively impacted the economic, health, and social status of the participating families in the community of Hoyo. It is recommended that more families should be encouraged to join in OGP and more varieties of seeds should be provided by the municipality of Silang in cooperation with the Department of Agriculture to alleviate food scarcity, poverty, and malnutrition.

Keywords : community Extention Service Center, organic gardening program, livelihood, food scarcity and proverty alleviantion, malnutrition.

I. INTRODUCTION

Poverty reduction is the primary goal of all nations. Establishing a sustainable organic garden may increase family income thus preventing hunger or malnutrition caused by poverty. Community people who usually suffer poverty are mostly the unemployed, elderly, full time housewives and working poor (Jael et al., 2014). They may have jobs but still their earnings are not enough to sustain the need for the whole family in a certain period of time. As a result, it causes malnutrition that further hinders the development of the future of the country. However, the government has a big role in eradicating this global problem. In the Philippines, the Department of Health (DOH), Education (DepEd), and Agriculture (DA) suggest that every Filipino family should have (organic) vegetable garden so as to increase source of family income as dying of hunger is one of the worst things that may happen to a

family member (UNICEF, 2014).

Statistics shows that there are 805 million people in the world today who do not have enough food to lead a healthy active life (UNICEF, 2014). UNICEF's study also shows that a proportion of stunted and underweight children was far higher than the national average and in the Philippines, about 28 million Filipinos are unable to buy food to meet their nutritional requirements and other basic needs as stated by FAO. Local Governance Performance Management System (LGPM, 2009) reported that the municipality of Silang has high poverty incidence because the rate of unemployment is still alarming and that many families live below poverty threshold Children may choose to work instead of going to school to help the family with basic necessities such as food. . Low family income impacts the education of children. Poor nutrition due to imbalance food intake may lead to many forms of illnesses or

worse, even death.

The Commission on Higher Education mandates institutions of higher learning such as AUP to respond to serve the people in the community through extension services program so as to establish and promote the general well-being of the residents upon identification of their specific needs. These are designed primarily to increase livelihood security; to alleviate poverty and reduce illiteracy; to improve health and nutrition, and; to create governance system that promotes, supports, and sustains human development and protects and preserves the environment (Bidad & Campiseno, 2010). In response to this mandate, AUP CES initiated the Organic Gardening Program. This program was conceptualized after the assessment done by the College of H0ealth of AUP in June 2013 showing that 105 out of 240 pupils were underweight at Hoyo

Elementary School. The Bachelor of Science in Nutrition and Dietetics implemented feeding programs for two consecutive school years 2013-2014 and 2014-2015 but knowledge on nutrition and subsidiary feedings have not been enough to sustain a healthy living. Knowledge on nutrition and sustainable livelihood programs should go in hand to improve the quality of life in the community. Thus, organic gardening program was introduced in Barangay Hoyo and this study assessed the impact of this program to the community.

The Organic Gardening Program

AUP Community Extension Services (CES) office initiated and implemented the Organic Gardening Program at Barangay Hoyo, Silang, Cavite. Assessment on sources of income like livelihood and family gross of the residents was conducted. This became the basis for the framework of program development of the CES in coordination with the Parents and Teachers (PTA) of Hoyo Elementary School together with the Department of Agriculture (DA) of the Local Government Unit (LGU) of Silang. With AUP CES's coordination with the LGU, the Department of Agriculture trained the barangay participants in the said OGP. Forty four families joined in the training for organic gardening during the first phase of the program in November 2014 and 15 families during the

second phase in May 2015.

At present, (AUP) CES is committed to provide continuous livelihood trainings and health seminars to economically challenged residents of our partner communities so to enable them to have an alternative source of income to sustain their families economically and live a healthful and happy life (CES Manual, 2013-2018). This study may contribute to the existing knowledge on the benefits of organic gardening and its relationship to economic sustainability among families in the community.

Objective of the Study

The purpose of this study was to evaluate the impact of the Organic Vegetable Gardening program at Barangay Hoyo, Silang, Cavite. It specifically determined the impact of the project to the program participants based on the income they generated and other benefits they gained from their participation in the program.

II. RELATED LITERATURE

Community Extension Services

Community Extension Services (CES) by its name and practice emphasizes the concept of "integrated extension services" over the concept of "dole-out outreach programs" to attain its ultimate goal, i.e., sustainable development. CES serves as facilitator of development by helping people discover their hidden potential, by promoting visions, and by provision of alternative solutions. It aims to discover and train change agents among the people in the community promoting and building self-reliance (CES Manual, 20132018).

One of the functions of CES is to meet social needs or to provide the social services needed to combat social and economic ills of the society. Therefore, AUP have to move ideas along the road to action, to develop knowledge needed, and to apply useful knowledge in the solution of society's major problems. This is carried on through the establishment of the extension programs and services like the organic gardening program (Bidad & Campiseno, 2010). Generating a collective effort of the community allows the people to establish initiatives, develop independence and interdependence that can influence the key decision makers in various issues and

challenges. Thus, it becomes a central tenet providing a holistic and participatory way to address community problems such as employment, underemployment, poverty, as well as some social and environmental issues (Untalan, 2009).

Organic Gardening

Albert Howard developed organic gardening concept in the year 1940. He thought the need of composting and recycling materials, which include sewage sludge for soil fertility onto farmland. His concept of soil fertility centered on building soil humus with an emphasis on how soil life was connected to the health of crops, livestock, and mankind (Heckman, 2006). Organic agriculture will likely to evolve in response to ongoing social, environmental, and philosophical concerns of community people (Heckman, 2006).

Benefits of Organic Gardening

Quoting the founder of the American Organic Movement, J.I. Rodale, "Healthy soil, healthy food, healthy people" (Rodale, 2015, para. 6) sums up the benefits of organic gardening.

Healthy soil. Organic soil is derived from peat, which is the accumulated plant residues of swamps and bogs, according to Beaumont (2014). Peat may be derived from trees and other woody plants, sedges, rushes, grasses, or sphagnum moss, Beaumont explained. Well-decomposed peat with considerable admixed mineral soil is known as muck, which is darker in color and stickier when wet, he added. Both peat and muck usually require lime and fertilizers, particularly phosphate, potash, and copper for maximum crop production, the author said. Organic soils may be found on home sites, but fairly large areas of them are sometimes located near enough to population centers to make them suitable for community garden, Beaumont further pointed out.

A high-quality soil is free of chemicals that might harm the plant and farmers can certainly till high-quality soil because it generates higher yields with less effort (Magdoff & Van Es, 2009). The soil should have a sufficient supply of nutrients throughout the growing season, the authors recommended.

A new magazine was mailed to 14,000 American farmers in the springtime of 1942. The magazine is all about organic farming and gardening. It promised that through organic

methods will not only improve the soil fertility of gardens but it will command higher prices for premium crops. The man behind the magazine,

Rodale believes that synthetic fertilizers and pesticides used by farmers made food less nutritious and consumers less healthy.

Healthy people. Projects in the community about organic gardening extend benefits beyond food security, as gardens provide fresh vegetables and families experience the wonderment of growing food products from seed to harvest. According to Lang, "It is widely recognised that regular contact with plants, animals and the natural environment can improve our physical health and mental well-being. When we grow food..., we are engaging with the natural world at a pace that provides a welcome antidote to the stresses of modern life (Davies, Devereaux, Lennartsson, Schmutz, & Williams, 2014, p. 3). Indeed, watching plants we grow in our garden is relaxing, how much more in organic garden which relies on nature.

The participation of family members in the production of yellow and dark-green leafy vegetables at the household level may provide economically deprived families in the community with direct access to vitamin A-rich foods and other nutrients needed by the families especially undernourished children.

The process of gardening does not only provide good experiences but also involves physical exercise, which can improve their health.

Healthy relationships. Gardening has fostered a sense of responsibility that transcends disciplines bringing family together to improve their lives.

Family and social relationships can also be strengthened through community gardening; since community members provide advice and support to help overcome challenges and all receive the benefits the gardening project offers (Carney, Rdesinski, & Nichol, 2011). **Improved economic status.** Carney et al. (2013) asked their participants about how much intake of vegetables they had, if they worry about scarcity of food, and if they were skipping meals before and after the gardening season. Their results showed that the frequency of vegetable intake by adults, *several time a day* increased from 18.2% to 84.8%, and the frequency of children's vegetable intake of *several time a day* increased from 24.0% to

64.0%.

The total frequencies of *sometimes* and *frequently* worrying months before that food would be running out before they have money to buy more food was 31.2% which total frequencies decreased to 3.1% at the end of the gardening time. This study shows how gardening can improve the economic status of families in the community. Gardening, can indeed enhance the food security of community people.

Significance of the Study

Organic Vegetable Gardening program determines to contribute to the following:

Participating community. This study may contribute to the existing knowledge on organic gardening and its relationship to the nutritional status and economic sustainability among families in the community. Further, it may determine the practicality and workability of larger projects in the future. This can provide prospective job opportunities for the community and create awareness on the roles and responsibilities of the residents and barangay officials in fighting hunger and poverty.

AUP-CES. This will serve as a guide and reference in establishing sustainable extension programs in the community. It will also link with other NGO's and government organizations to its own even when AUP-CES will leave the community.

AUP. It will serve as reference in the allocation of budget for community extension services.

LGU-Silang. This study opened the opportunity for the Department of

Agriculture, Silang to implement the field school of Integrated Crop Management Program in the area.

III. Methods

This study used mixed method or quantitative-qualitative design to identify the impact of the Organic Gardening Program in Barangay Hoyo. It used quantitative paradigm to measure the supplemental income of the families from joining in the OGP. A monitoring form was given to each family to fill up every time they harvest vegetable from This study also used qualitative method to gain deeper insights from the participants on the

other benefits and experiences of OGP.

Participants of the Study

There were 44 families who joined in the Organic Gardening Program (OGP). Fifteen families voluntarily participated in this study according to their availability when the researchers visited them house-to-house. The participants' gross monthly income ranged from PhP2,000-14,000. The family members of the participants ranged from 3-13. They came from four areas of Barangay

Data Gathering Techniques and Procedures

To measure the income of the participants, monitoring form was used. The form was given to every family at the onset of the five-month program so that they would be able to monitor their weekly income. The monitoring sheets were checked by the CES staff and AUP students to get the average weekly income of the OGP participants. The recorded weekly income of the participants of this study was tabulated.

At the end of the OGP, the participants were interviewed individually to find out the benefits they have acquired from their participation in the program. The one-on-one interviews were conducted by the CES staff. The recorded semi-structured interviews conducted in Tagalog were translated and analyzed.

their garden and put value based on the market price. Monthly average income from the produce

The results show that the average weekly income of the participants was PhP170 or about PhP680 per month. The highest weekly income from the OGP was Php600 per week which is around Php2,400. There were five families who got the lowest weekly income from OGP, i.e., Php50 per week.

(PhP14,000) and has only five members. There were five families who got the lowest weekly income from OGP.

Hoyo: Kanluran (west), Silangan (east), Gitna (middle), and Ibaba (lower) where vegetable gardening was not yet widely practiced until the introduction of the OGP.

Table 1. *Participants' Family Demographics and Their Monthly Income From OGP*

Family No.	No. of Family Members	Occupation of Husband/Wife	Gross Monthly Income	Approximate Garden Income Per Week (In Peso)	Approximate Garden Income Per Month (In Peso)
F1	5	Painter/Community Health Worker	13,000	400	1,600
F2	5	Farmer/Factory worker	14,000	600	2,400
F3	13	Woodcarver/Housewife	6,000	250	1,000
F4	8	Carpenter/Housewife	9,600	250	1,000
F5	7	Construction/Housewife	8,000	200	800
F6	5	Carpenter/Housewife	9,000	150	600
F7	5	Aluminum Installer/ Housewife	5,000	100	400
F8	6	Housewife	2,000	50	200
F9	4	Road Sweeper	3,000	50	200
F10	5	Farmer/Housewife	4,000	150	600
F11	5	Farmer/Housewife	10,000	100	400
F12	6	Farmer/Housewife	6,000	100	400
F13	7	Carpenter/Housewife	10,000	50	200
F14	3	Security/BHW	12,000	50	200
F15	4	Construction Worker	8,000	50	200
AVERAGE				PhP170	Ph680

IV. RESULTS

As shown in Table 1, the family who got the highest monthly yield (PhP2,400 per month) has also the highest gross monthly income was computed and analyzed. The increase in family income in the quantitative data is supported by the interview data. The participants of the study reported during the interview that their gardening helped them increase their family income supporting the quantitative data gathered through the monitoring form.

The qualitative data derived from the focus group interview showed also other benefits the participants obtained from organic gardening program. These benefits included the following: source of income, source of fresh and healthy food, stress relief and source of joy, improved social relations, and health benefits. The verbatim words of the participants translated into English are presented under each theme below.

Source of Income

The participants considered organic gardening as a source of income. For example, Elen, a full time mother with three children said:

Malaki talaga ang tulong sa aking pamilya, may naibebenta ako at

ginagamit ko pambaon ng mga bata sa school, at kahit papaano may pambayad din sa test paper at iba pang kailangan nila sa eskwelahan.

Gardening helps my family a lot. I can sell my produce to the market. I have extra money for their allowance in school, for their test papers and school supplies" Elenita. (35 years old, full time mother with three children)

Like Elen, Mila who is 25 years old with three children and a full time housewife also considers her organic gardening as a source of income. She said:

May kinikita, nakakatulong sa pangkonsumo araw-araw. Ang kinita pambili ng sabon panglaba ko sa araw-araw na uniporme, toothpaste, asin, mantika at iba pang kailangan.

I earned from my garden. My garden income has helped with our daily expenses such for buying detergent soap for my daily washing of uniforms, toothpaste, salt, cooking oil and other household needs. (Mila, 25 years old, full time housewife with three children)

Organic gardening as a source of income was also recognized by Laila, 45 years old with four children:

Malaking tulong sa pamilya, nakakabenta ako ng mga gulay kagaya ng pechay at mustasa. Itong mga gulay na ito ay madaling alagaan at madaling maharvest, ilang lingo lang. Madali ako kumita dito. Alam mo naman dito lang ako sa bahay wala naman akong trabaho kaya wala akong pera. Ngayon na nag-garden ako may pambili na rin ng kailangan sa bahay. Pag may garden ka, malaking bagay kasi malaking tipid.

Gardening is a big help for my family. I can sell my produce such as pechay and mustard greens. These vegetables are easy to take care and can be harvested in just a few weeks. I can easily earn from these vegetables. You know being a full time housewife I don't have money to contribute but by having a garden, I can earn from it to help me a lot in our daily expenses.

Eugenio, 36 years old, father of three children, and a former vegetable farmer for five years has earned much from his organic vegetable garden. Eugenio said:

Nakakatulong sa araw araw naming pagkain. basta magluto si misis ay kumukuha lang siya ng pangulam namin sa aming garden. At di lang yon, marami pa akong nabebenta sa Buklod lalo na nong marami akong mustasa malaki ang napagbebeentahan ko, umaabot ako ng 300.00 arawaraw kaya may pambili na ako ng bigas at mga groceries namin. Minsan may naiiwan pa akong pambayad ng tubig at kuryente namin, nakakatulong talaga di gaya non na kunti lang tinatanim ko kunti lang din ang inaani ko nainganyo lang ako na magtanim uli ngayon kasi tinanim ko lahat ng mga buto na binigay niyo. Mas maraming itanim, mas maraming aanihin.

It helps in our daily food because everytime my wife cooks she will just go to our garden to pick fresh vegetables. Not only that, I have a lot

of yields from my mustard greens which I sell in Buklod in which I earn about PhP300.00 so I can buy rice and other grocery supplies. Sometimes I have extra money to pay our water and electric bills. It helps us a lot unlike before that I planted just a few so I also got lesser yield. Now I got encouraged to plant more especially now that I plant all the seeds that you have given us. The more we sow, the more we reap. (Eugenio, 36 years old, father of three children, and a former vegetable farmer)

Another participant who considered organic gardening as a source of income was Violy, 56 years old, mother of three children, a wife of a farmer. Violy shared:

Nakakadagdag pa sa kita ng asawa ko sa kanyang farm kasi may farm din kami pero sa malayo siya kaya di ako pumupunta doon. Buti nagsimula ang programa niyo naging active na ako dito. Ang asawa ko ay matagal ng nagbubukid. Ang tanim niya ay pinya, papaya at saka mais. Ako'y nagsimula na mag-garden dito sa harap ng bahay nong sinabihan niyo kami. Buti maayos naman hanggang ngayon. Nagtanim na rin ako ng madaling maharvest na tanim gaya ng pechay, kamatis, labanos, Baguio beans, ampalaya at sitaw.

It adds to our family income from farming because my husband is a farmer but our farm is far from here so I don't go there. It's good you have this gardening program so I become active with it. My husband usually plants pineapple, papaya and corn. I started to have my own organic garden in front of our house when you introduced this program which is good until now. I have planted vegetables which can yield fast produce such as pechay, tomatoes, raddish, Baguio beans, bitter gourd, and string beans. Violy, 56 years

old, mother of three children, a wife of a farmer)

Randy, 43 years old, school guard, and a father of three children also considered organic gardening as an extra source of income.

Noong sumali ako sa Organic Gardening

Program ay nakatipid ako ng malaking pera, kasi ngayon na may tanim na ako hindi na ako pumupunta sa palengke doon sa Buklod para bumili ng mga gulay. Laking tulong talaga ng magkaroon ako ng garden dito sa bahay, tipid talaga to!

When I joined Organic Gardening Program, I'm able to save money because I don't have to go to Buklod market anymore to buy vegetables as I have them right in my garden. It's such a big help to have our own garden at home. We can save a lot! (Randy, 43 years old, school guard, and a father of three children)

Source of Fresh and Healthy Food

Another theme that emerged from the interview data on the other benefits of organic gardening was source of fresh and healthy food. For example, Virgie, 58 years old, housewife with five children said:

Mabuti pag may garden ka kasi sariwa ang gulay kaysa bibili ka. Sa hirap ng buhay ngayon kailangan may pagkukuhanan ka ng panggulay, kasi wala naman kaming ibang trabaho. Karamihan po dito ay full-time housewives, walang trabaho. Dito sa programa niyo, ang kailangan ay magsipag ka lang na gumising para magtanim at alagaan ang mga tanim para meron kang kakainin sa araw-araw.

It's good to have your own garden because you have fresh vegetables rather than buy them from the market. Life is so hard nowadays so we should have a source of vegetables especially that we don't have livelihood. Most of us here are housewives, no job. In your [interviewers'] program, all you need is work hard, wake up early to take care for your plants, so that you will have source of food every day. (Virgie, 58 years old, housewife with five children)

Norie, who is 56 years old, childless, and taking care of her sick husband also counts her gardening as a source of fresh and healthy food. She said:

Mas maganda talaga ang may sariling organic garden kasi sigurado ako na organic kaysa palengke. Alam ko ang mga tinitindang gulay

sa palengke ay may mga fertilizers. Ang mga kemikal sa pagkain ay hindi maganda sa kalusugan, di ba? Ang asawa ko ay mataas ang presyon at may allergy sa balat, kaya mas maganda pa rin talaga ang may sariling taniman ng gulay kasi makakapaghanda ka ng simple at malulusog na gulay kung talagang kinakailangan.

It's better to have my own organic garden for I am sure that it is really organic compared to the vegetables in the market. I know that the vegetables sold in the market have fertilizers. Chemicals are not good for health, right? My husband has hypertension and skin allergy, so it's better to have our own vegetable garden so that we can prepare simple but healthy food needed by our body. (Norie, 56 years old, childless, caretaker of sick husband)

Stress Relief and Source of Joy

Aside from source of income and food, gardening also lessens stress and is a source of joy, according to the participants of this study. Femmy, for instance, 63 years old, a housewife with five children (two of them are married) and three grandchildren all are staying with her in their house stated:

Bukod sa pag-aalaga ng aking mga apo, ako din naman ay natutuwa na mag-tanim sa aming garden sa likod ng bahay. Araw-araw ako ay laging pumupunta sa garden ko at nasisiyahan akong makita ang aking mga pananim, habang tinatangal ko ang mga damo sa gilid nito, habang nagdidilig, at habang binubungkal ko ang mga lupa. Sa pamamagitan nito ay nararamdaman ko na nawawala ang lungkot sa puso ko at napapalitan ito ng tuwa kapag nakikita kong malulusog ang aking mga itinanim hanggang sa anihin ko na ang mga ito.

Aside from taking care of my grandchildren, I am busy with my garden at our backyard. I visit my

garden everyday and I'm so happy to see my plants, to uproot the weeds, water my plants, and cultivate the soil. I feel that gardening replaces the sadness of my heart with joy if I see my plants growing so robust until I harvest them. (Femmy, 63 years old, housewife with five children and three

grandchildren all staying with her)

Like Femmy, Marie, 48 years old, a barangay health worker and housewife with one child, also releases her stress by gardening. Marie reported:

Sa pamamagitan ng pagtatanim ay nababawasan ang aking pag-aalala sa mga problemang dumarating dahil nararamdaman kong mas ginaganahan pa akong magtanim sa tuwing pupunta ako sa garden ko. Kahit na maliit lang ang bakanteng lote para sa pagtataniman ko ay pinipilit ko pa rin na magtanim kasi nakakatuwa na mag-alaga ng mga gulay. Minsan nga gumagamit nalang ako ng mga gamit na lalagyan ng tubig at mga kalakal na plastic para taniman ng marami pang gulay. Tapos pag na-harvest ko na yong mga tinanim ko ay ang saya sa pakiramdam, parang yong mga pagod at pawis na pinuhunan mo ay nawala lahat, pati mga problema mo. Ang saya sa pakiramdam talaga!

Gardening lessens my worries over my problems because I am inspired every time I visit my garden. Although I got only a small space to plant, I still do gardening no matter what because I find joy in taking care of my vegetables. Sometimes I use empty water containers or plastics to plant so that I can grow more vegetables. Then at harvest time, I feel so good like I forget all the tiredness, all the sweats I have invested planting

and all my problems. Gardening really makes me so happy! (Marie, 48 years old, a barangay health worker and housewife with one child)

Improved Social Relations

Giving of vegetable produce to neighbors and friends as well as time spent together by the family gardening improves social relations. This is one of the benefits of organic vegetable gardening presented by the participants of the study. For example, John, only 13 years old, Grade 6, with one sibling, contractor father, and overseas worker mother, said:

Nakakatuwa nga kasi pag naka-harvest ako ng gulay binibigyan ko ang mga kapitbahay at masayang-masaya sila na makatangap ng gulay. Sabi nga ng isang ali na kapitbahay namin, "Alam mo napakabuti mong bata, kahit na wala ang mga magulang mo alam mo ang gagawin mo! Natutuwa ako sayo!"

I feel joy when I harvest my vegetables and share some to our neighbors. My neighbors are happy to receive my vegetables. A mother said to me, "You know, you're such a good boy! Even if your parents aren't around, you know what you're doing! I'm happy about you!" (John, only 13 years old, Grade 6, with one sibling, contractor father, and overseas worker mother).

Eugenio also shared how he improved his social relations by OGP:

Madalas ang pag-tatamin namin ang nagiging paraan para magkaroon kami ng bonding sa pamilya, lalo na pag mag haharvest, puno ng tawanan at asaran. Yong tatlo kong anak gustung-gusto nila yung mag-harvest ng mahahabang sitaw tapos tulung-tulong kaming mag-harvest ng pechay at mustasa kahit na yon lang ang kadalasan na tanim ng garden namin ay masayang-masaya na kami. Pero naisip ko na magtanim pa ng iba't-ibang klase

ng gulay para mas marami pa akong maibigay sa mga kapitbahay sa tuwing bibisita sila dito sa amin.

Very often, gardening provides bonding time for our family especially during harvest time when we fill the air with laughter and teasing. My three children love picking long string beans and we help each other harvest our pechay and mustard greens, the only vegetables we usually plant in our garden but we're so happy. I think of planting more kinds of vegetables so that we will have more to share to our neighbors when they come visit us. (Eugenio, 36 years old, father of three children, and a former vegetable farmer for five years)

William, 48 years old, corn vendor, and a father of seven children, also shared his joy of giving to others his vegetable produce. He said:

Kadalasan sa mga nahaharvest ko ay ibinibigay ko din sa mga kapitbahay, lalo na yong alam kong talagang nangangailangan talaga ibinibigay ko itong libre, saka ko nararamdaman na mas naging malapit ang loob namin sa isa't-isa. Kung minsan binibenta ko yung iba, pero kung dito sa bahay pag pumunta sila, ipinamimigay ko na sa kapitbahay. Ayos lang naman sakin kahit na ubusin nila, eh di magtanim ulit basta nakatulong sa iba masaya na ako don!

I give most of my vegetable produce to my neighbors for free especially to those who really need it then I feel that we become closer to each other. Sometimes, I sell some but if the neighbors come to our house, I just give my vegetables for free. It's okay with me even if they take them all as long as I'm able to help. It makes me feel good to help

others. Anyway, I can plant again! (William, 48 years old, corn vendor, father of seven children)

Another participant, Bernie, 33 year old tricycle driver also expressed how he improved his relationship with his friends through gardening.

Bernie stated:

Dahil sa programang organic gardening ay naramdaman kong naging mas matibay, mas masaya kaming magkakaibigan, kasi dati wala kaming paki-alaman. Kung magtanim ka eh di magtanim ka, pero ngayon ginagawa namin ito ng magkakasama, at doon ay nararamdaman ko ang kasiyahan sa bawat isa. May kasamang kulitan at tawanan kapag magkakasama, at higit sa lahat ay ang pagbibigayan.

Because of organic gardening program, I feel a stronger relationship with my friends. We're now happier unlike before when we didn't care for each other, like if you want to plant, then you plant on your own. But now we do gardening together as friends and we feel the joy with each other. We do gardening with fun, teasing each other and above all, we share what we have in our garden. (Bernie, 33 years old, tricycle driver)

Health Benefits

Aside from the economic and social benefits organic gardening provided to the participants of the OGP, they also reported that the program also gave them health benefit. This benefit is shown by the following interview excerpts. For example, Eugenio shared:

Sariwa at organic na gulay para sa pamilya ko? Wow! Hindi na nakakatakot kumain kasi alam mong malayo ka sa sakit tulad ng kanser. Sa panahon pa naman ngayon eh marami ang nagkakasakit at isa sa

pangunahing dahilan ay ang pagkain. Pero pag sinabing organic na gulay ay alam mo na, wala itong kemikal na nakakalason at minsan pa ay nakakakanse, di ba? Tapos pag ikaw pa ang nagtanim makakapag-ehersisyo ka pa! Hindi na ako mag-aalala, kaya nga malayo ako sa sakit lalo na sa stroke, kanser at iba pang mga sakit-sakit.

Fresh organic vegetables for my family?

Wow! It's not scary anymore to eat vegetables because you're safe illness like cancer. Nowadays many are suffering from cancers and food is one of the factors. But if you say organic vegetables, no toxic chemicals that may cause cancer, right? Another benefit of gardening is exercise. I don't worry anymore that's why I'm free from illnesses such as stroke, cancer and any illnesses. (Eugenio, 36 years old, father of three children, and a former vegetable farmer)

Yolly also shared how she benefited in terms of health from her organic gardening. She said:

Sa totoo lang talaga, gustung-gusto ko ang magtanim. Meron nga rin akong taniman ng bulaklak eh! Ginagawa ko din itong therapy kasi nakakatagal ng problema. Hindi kasi ako umuininon ng mga gamot, ito na bale ang pinaka-ehersisyo ko habang nagtanim eh! Makakalanghap ka pa ng sariwang hangin. Pinapalibutan ka ng mga kulay green na dahon at halaman na nakakapag-relax ng iyong sarili at ito ay nakakatulong sa aking kalusugan walang pangamba!

I really love gardening that's why I have flower garden, too. It is a therapy for me as it makes me forget my problems. I don't usually take medicines. Gardening is a form of exercise. I can breathe clean fresh air. I'm surrounded with green

leaves, plants that are relaxing. This helps me to stay healthy and worry-free. (Yolly, 56 years old, mother of three children, farmer's wife, flower gardener)

V. DISCUSSION

Organic vegetable gardening is a big income booster for families particularly with only one parent working. In this study, most of the participants are full-time housewives. Thus, gardening became not only an income booster but also a major source for healthy foods. Even if the average income reported by the participants is not much, only PHP680 per month, organic vegetables became readily available to the community people anytime they needed them for food. The participants reported that they did not have to go to the market anymore to buy vegetables as they would just pick them fresh from their garden. Aside from the intended outcome of the program to make OGP as a source of income and food to alleviate malnutrition, other benefits reported by the participants included the following: stress relief and source of joy, improved social relations, and health benefits.

Participants gained a special sense of delight and joy as they watched their plants grow. Gardening provided therapy and stress relief to them. Their participation to OGP convinced them to plant more kinds of vegetables. Overall, OGP provided them with good experiences as a family and as a community. It impacted their relationship with their neighbors through sharing of their garden produce. Participants were able to work together with their family members from soil preparation, planting, harvesting and selling produce around community and in the market place. Closer relationship between family members and among neighbors was enhanced.

The results of this study support the findings of Carney et al. (2013) who found that organic vegetable gardening helps solve food scarcity and improves food intake by the family. Their study showed vegetable intake frequency by adults, *several time a day* increased from

18.2% to 84.8%, and the frequency of children's vegetable intake of *several time a day* increased from 24.0% to 64.0%. In this study, the participants reported that they did not have to worry about what to cook

anymore because they could just readily pick from their garden anytime and they could eat more vegetables assured that they are chemical-free. Although the participants of this study did not mention about healthy soil as a benefit of organic gardening, as in Rodale's quote, "Healthy soil, healthy food, healthy people," they highlighted how it provides fresh and abundant food and makes people healthy. The improved social relationship among family members and neighbors is also consistent with the results of Carney et al. (2011) who found that gardening as an activity enhances social relationships.

VI. CONCLUSION AND RECOMMENDATION

As shown in both quantitative and qualitative results, OGP is a good source of extra income for families in the community. The quantitative results show that the average weekly income of the participants from OGP was PhP170 or about PhP680 per month as reflected in the monitoring forms given to the participants at the onset of the five-month program. The highest weekly income from the OGP was PhP600 per week which is around PhP2,400 per month. The participants claimed that their extra income can buy food and basic household needs such as detergent soap, sugar, cooking oil, and rice. Some participants reported that they were also able to pay their utility bills such as water bills, electric bills, etc. from the extra income they gained from gardening. OGP was also a direct source of fresh and healthy food as the participants did not have to buy vegetables from the market anymore. Therefore, although the average monthly income of the participants is not high, food scarcity and poverty have been alleviated by OGP as it provided the community with extra source of food, the most basic need of every family and other prime household commodities. Aside from source of income and food, the other benefits reported by the participants such as improved social relations among family members and neighbors as well as health benefits are big impacts of the Organic Gardening Program of the Community Extension Services of AUP. Thus, OGP was effective in improving the economic, health, and social status of the participating families in the community of Hoyo, the partner barangay of the Adventist University of the

Philippines.

From the results of the study, more families should be encouraged to join in OGP. It is also recommended that more varieties of seeds be provided by the municipality of Silang in coordination with the Department of Agriculture to alleviate poverty, food scarcity, and malnutrition in the community.

References

- Bidad, C.D., & Campesino, E.R. (2010). Community extension services of SUCS in Region 1X: Basis for sustainable community enhancement program. *E-International Scientific Research Journal*.
- Beaumont, A. (2014). Garden soils, their use and conservation. Cornell University Library. *Core Historical Literature of Agriculture*. Retrieved from <http://chla.library.cornell.edu/cgi/t/text/pageviewer-idx?c=chla;cc=chla;idno=3136828;node=3136828%3A6;frm=frameset;view=image;seq=48;page=root;size=s>
- Carney, P., Rdesinski, R., & Nichols, K.R. (2011). *Impact of a community gardening project on vegetable intake, food security and family relationships: A communitybased participatory research study*: Oregon, Portland, OR 97239, USA.
- CES Manual 2013-2018. Adventist University of the Philippines.
- Davies, G., Devereaux, M., Lennartsson, M., Schmultz, U., & Williams, S. (2014). *The benefits of gardening and food growing for health and wellbeing*. Retrieved from <http://ahta.org/news/benefits-gardeningand-food-growing-health-andwellbeing#sthash.DJ6aC26K.dpuf>
- Heckman, J. (2006). *A history of organic farming: Transitions from sir Albert Howard's war in the soil to USDA national organic program. Renewable Agriculture and Food Systems, 21*, 143-150. doi:10.1079/RAF2005126

- IFPRI. (2014). *World hunger and poverty facts and statistics. World hunger education service.*
- Jael, S. A., De Ocampo, M. V., Virgines, M. O., Ledesma, G. M., Balila, E. A., Tobias, V., ... Vitto, J. R. L. (2014, April). *Improving the quality of life of livelihood program beneficiaries in Silang, Cavite. AUP Research Journal, 17(1), 98-105*
- LGPM. (2009). *State of local development, electronic report municipality of Silang, Cavite, PY 2009.* Retrieved from gov.ph/lgpmv2/appshome/report/rpt_eSLDR.php?frmIdLgu=673&frmIdDcfCode=6
- Magdoff, F. & Van Es H. (2009). *Building soils for better crops.* Retrieved from <http://soilandhealth.org/wpcontent/uploads/0302hsted/030218bettersoils.pdf>
- Rodale, M. (2015, January 28). *Organic life.* Retrieved from <http://www.mariasfarmcountrykitchen.com/rodale-organic-life/>
- Thompson, J., & Manore, M. (2013). *Nutrition for life* (3rd ed.). USA: Pearson Education, Inc.
- UNICEF, 2014. *Philippines health nutrition.* Retrieved from http://www.unicef.org/philippines/health_nutrition.html#.VG2RMDSUctx November 18, 2014
- Untalan, A.T. (2009). *Concepts and guidelines in community development* (3rd ed.). Philippines: Educational Publishing House.
- Van Cotthem, W. (2015). *Hungry and malnourished families grow their own food.* Retrieved from <https://desertification.wordpress.com/2015/04/27/drought-hit-hungry-households-could-easily-grow-food-in-containers/>
- Villar, C. (2014, Dec 14). *Malnutrition still prevalent among Pinoys.* Retrieved from <http://searcha.org/index.php/news-and-events/searcha-in-the-news/1932malnutrition-still-prevalent-among-pinoysvillar1932>
- White, E. G. (1938). *Counsels on diet and foods.* Washington, D.C.: Review and Herald Publishing Association.
- Worldeconomics. (2010). *The impact of national eradication program.* Retrieved from chituaeconomist.blogspot.com/2010/04/impact-of-national-poverty-eradication.html