



Urban Gardening: A Resiliency amidst Pandemic

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Abstract

The "urban gardening," or "urban agriculture" or "urban farming," is the process of growing plants of all types and varieties in an urban environment (Ganz, 2020). With the previous outbreak of pandemic which brought food insecurity and changes on food consumption among urban settlers in the Kidapawan City. The researcher aimed to determine the level of success of urban gardening and the level of food consumption after the implementation of urban gardening. Addition, it also aims to find out its relationship. A self-made questionnaire was used to gather data. The respondents of the study were the residence of Kidapawan City. They were selected through purposive sampling. The researcher personally administered the survey to the target respondents. The data were analyzed and interpreted using Pearson r Momentum Correlation. The data revealed that the level of success of urban gardening and the level of food consumption after implementation of urban gardening were rated high. This indicates that urban gardening has great effects to their living as perceive by respondents during pandemic. Furthermore, the results show that there is very high positive correlation between level of success and level of food consumption after implementation of urban gardening. Thus, null hypothesis was rejected.

Keywords: *Urban gardening, Resiliency, Food consumption, Pandemic, Level of success.*

Original Research Articles

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I. Introduction

A healthy environment is a great place to live. This is an evident line that some individual often heard every time environment became the star of the topic. According to Haileyesus (2019) that urban gardening is an essential component that can contribute to the well-being of individual and communities, including city's food system. The pandemic caused by COVID-19 has high-lighted in the advanced countries the vulnerability of the agri-food system, interconnected with the worldwide supply chain and the local demand for growers in the field and capillary delivery to the consumers (Payne, 2020). Many communities' even consumers had to adjust to the current setting in order to sustain their living in new normal set-up.

Department of Agriculture - Agriculture and Fisheries Information Division (DA-AFID) (2020) stated that the reduce of risk in COVID-19 infection, implementation of guidelines must be religiously followed. While staying at home policy, a measure that mandated by the Administration of Duterte the "Plant, Plant, Plant Program" or "Ahon lahat, Pagkain Sapat (ALPAS) Laban sa COVID-19", this program was implemented nationwide by the Department of Agriculture (DA) for the benefit of farmers, fishermen and consumers. The enactment of program was done not only in Luzon, but it extended Visayas and Mindanao. In Davao City, the pandemic outbreaks affected most of the community through insufficient supply of food in the market. Davao City Food Terminal Complex (DFTC) implemented a



program to improve the trade market between farmers and consumers through the formation and strengthening of farmers' organizations (Cudis, 2021).

With above concept and the trends of current issues, the researcher personally experienced and observed that the outbreak of pandemic has resulted in food insecurity and changes on food consumption among urban settlers in the Kidapawan City. It is one of the reasons that the researcher needed to assess how pandemic affects food consumption, and to determine the resiliency of having urban gardening as a food initiative in amidst of pandemic. The study aimed to determine the resiliency of urban gardening to attain food sustainability and food security in the midst of Pandemic. Specifically, it aimed to **determine the level of success of urban gardening; determine the level of food consumption after the implementation of urban gardening; and find out the significant relationship between the level of success and level of food consumption after implementation of urban gardening.**

The study serves as eye opener that the urban gardening is vital not only during pandemic but in their daily living. It helps the community to sustain in producing crops without relying to other communities. This study will serve as a guide to expand and support various programs in different places, particularly in food sustainability in order to acquire food security. The Local Government Unit may make more programs to support long-term solutions through enhancing community resiliency. This study would also give the parents an idea and encourage them to be productive in producing crops and engage them to access healthy and organic food. This study would help them to generate more crops to sell and increases their income. The study also gives an assurance to have fresh crops which reduces the cost of income if their crops are in old stocks. This study would serve as reference in planning activities and helping them away from vices. The activities implemented will create bonds and social relations among youth. This study would serve as

reference for future researcher and expand the variables and coverage related to urban gardening and resiliency.

II. Methodology

The study utilized a descriptive-correlation method of research. The design was used since the inquiry dealt on the resiliency of urban gardening during pandemic. This research study determined also whether there is a significant relationship between the level of success of urban gardening and level of food consumption. The descriptive research method is a design that collects data from a group of people using questionnaires to map out/describe a specific circumstance, situation, or set of events (Vijayamohan, 2021). Dudley (2019) stated that correlational research design refers to a design that studies the relationship between two variables, it discusses about link between different things.

The respondents of the study consist of fifty (50) residence particularly the 4H Club Organization from Belarmino Subdivision, Lanao Kidapawan City. The said respondents were those individuals who were affected by food insecurity by the pandemic. The criteria on selecting them was based on the experiences of the respondents.

The checklist survey questionnaire was used as an instrument to get the accurate information about the level of success of urban gardening and the level of food consumption after implementation of urban gardening. The questionnaire was made up of series of questions that will answer the objectives. The questionnaire was divided into two parts, namely Part I: Level of Success of Urban Gardening and Part II: Level of Food Consumption after implementation of Urban Gardening. The development of questionnaire was self-made. It was validated with three experts from the field. It has 4-point scale which 4 is the highest and 1 is the lowest. Table A shows the Likert Scale on the level of success of urban gardening and level of food consumption after the implementation of urban gardening.

Table A. Likert Scale on the Level of success of urban gardening and level of food consumption after the implementation of urban gardening.

Rating	Verbal Description	Interpretations
4	High	It has great effect in his/her living
3	Above Average	It has substantial/average effect on his/her living
2	Below Average	It has less effect on his/her living
1	Low	It does not give changes/effect in his/her living

The respondents were purposively selected as basis for study samples considering the experiences and effort to be utilized by the researcher in the gathering of data. The researcher conducted pre-assessment to the respondents in identifying the beneficiaries on the urban gardening program. The identified beneficiaries were the official respondents of the study. Further, the study utilized frequency count, and weighted mean to determine the level of success of urban gardening and level of food consumption after implementation of urban gardening. To measure the significant relationship, Pearson r was used.

III. Results and Discussions

Level of Success of Urban Gardening

Table 1 shows the level of success of urban gardening. The data revealed that the total weighted mean is 3.77 described as High. This indicates that the level of success of urban gardening has great effects in daily living of the respondents. Thus, all statements were got High rated mean obtained 3.90, 3.60, 3.66, 3.60, 3.72, 3.82, 3.90, 3.86, 3.80, and 3.88 respectively.

Moreover, the statement 1 “Addresses the food shortage”, and on statement 7 “Promotes healthy lifestyle choices” got the highest weighted mean among the statements. It implies that there are more benefits acquired and food availability through the produce of urban gardening.

As stated by Gaynor (2020), that pandemic has a huge effect on economy around the world, with a good implementation, peri-urban farming which addresses some of the food shortages, job growth,

permanently or temporarily jobless, or have more time at home. Further, Garcia et al., (2017) said that there is potential to influence food-related processes, in the promotion of healthy lifestyle choices through urban gardens. The public health literature has reported numerous health benefits related to increased consumption of fruits and vegetables (F&V) and decreased consumption of ultra-processed foods. Addition, Garcia related the environment to people in the access of urban gardens which appears to be a significant factor of local (F&V) availability.

On the other hand, statement 2 “Raises the economic status of the resident when they choose to sell their produce”, and statement 4 “Increases the vegetable and fruit of local residents” had the lowest weighted mean. According to Stewart et al. (2013) stated the importance of urban gardening appeared to be a logical solution to the problem of food scarcity, one proposed solution is urban agriculture, which has received widespread support as a solution to the food crisis confronting increasingly urban populations. It is thought to provide food and a source of potential income to the urban residents while also improving the urban environment and reducing pressure on discrete farmland. Some of them are prefer to sell their goods in the public, however others are not preferring to sell associated urban health risk and implications for the environment.

Moreover, Arbuckle (2015) mention that fruits and vegetables are essential components of individual’s diet, but few people consume the recommended amounts. Incorporating produce into the diet provides many essential nutrients and may help reduce the risk of chronic disease, control obesity,

and improve mental function. In order to increase intake, a program was developed that provided fresh

fruits and vegetables just like in dense populated area.

Table 1. Level of Success of Urban Gardening

Statements	Mean	Verbal description
1. Addresses the food shortage.	3.90	High
2. Raises the economic status of the resident when they choose to sell their produce.	3.60	High
3. Increases food production and ensures food sustainability.	3.66	High
Increases the vegetable and fruit of local residents.	3.60	High
4. Supplement local fruits and vegetable supply.	3.72	High
5. Provides organic and fresh food.	3.82	High
6. Promotes healthy lifestyle choices.	3.90	High
7. Alleviates food insecurity through the produce provided to residents.	3.86	High
8. Cultivates responsibility and healthy coping mechanism.	3.80	High
9. Improves emotional well-being of a person and can have stress reduction.	3.88	High
Total Weighted Mean	3.77	High

Legend:

Scale	Range	Description
4	3.26 - 4.0	High
3	2.51 - 3.25	Above Average
2	1.76 - 2.50	Below Average
1	1.00 - 1.75	Low

Level of Food Consumption after Implementation Urban Gardening

Level of food consumption after implementation of urban gardening were depicted in Table 2. The data revealed that the ten (10) statements were rated high with the mean of 3.80, 3.52, 3.50, 3.60, 3.72, 3.80, 3.86, 3.82, 3.86, and 3.92 respectively. Thus, the total weighted mean got 3.74 or high. This indicates that the level of food consumption after implementation of urban gardening has great effects to their living as perceive by respondents during pandemic.

Moreover, statement 10 “My belief that urban gardening increases consumption of locally produced fruits and vegetables is...” had the highest weighted mean. It implies that there is sufficient supply of fruits and vegetable in the community.

The United Cities and Local Governments Asia-Pacific (UCLG) (2020) assert that urban gardens increases the sustainability on food consumption of the people around the world. It enhances the growing demand to strengthen and escalate local food production in order to mitigate the negative effects of global food shocks and price fluctuations.

It was also mentioned by Lal (2020) that the increase consumption of locally produced fruits and vegetables access when implementing more resilient

food systems, reduce food waste and boost local food production. Home gardening and urban agriculture are important strategies for increasing availability at the household and community levels. Fruit consumption ensures optimum health, provides instant energy, and provides vitamins and minerals that are beneficial to body functioning. Residents are hesitant to their health status most especially in times of crisis that most of them have time and can spend more time at home, food availability is the concept that is now convenient as perceive by locals through urban farming (Amao, 2018).

Meanwhile statement 3 “My consumption of vegetable-based viands is...” got the lowest weighted mean among the 10 statements. This result coincides to the report of Yang et al. (2022) COVID-19 has also influenced people's hygiene behaviors as well as their food choice motives and appetitive traits. The pandemic, and the restrictive measures implemented to combat it, have frequently caused uncertainty in demand and supply disruptions, affecting product prices and household food consumption. It was found that many of people's food consumption may have decreased in the early stages of the epidemic due to factors such as being unable to work, having lower incomes, using more savings for medical care, and being disrupted by fear.

Table 2. The level of food consumption after the implementation of urban gardening

Statements	Mean	Verbal Description
1. My consumption of vegetable is...	3.80	High
2. My consumption of fruit is...	3.52	High
3. My consumption of vegetable-based viands is...	3.50	High
4. My consumption of vegetable salads is...	3.60	High
5. My consumption of nutritious food is...	3.72	High
6. My belief that I have more balanced diet is...	3.80	High
7. My belief that I have easy access of food in the community is...	3.86	High

8.	My belief that urban gardening provides more sufficient food supply chain is...	3.82	High
9.	My belief that urban gardening decreases Consumption of ultra-processed foods (e.g. canned goods) is...	3.86	High
10.	My belief that urban gardening increases consumption of locally produced fruits and vegetables is...	3.92	High

Total Weighted Mean

3.74

High

Legend:

Scale	Range	Description
4	3.26 - 4.0	High
3	2.51 - 3.25	Above Average
2	1.76 - 2.50	Below Average
1	1.00 - 1.75	Low

The Relationship between the Level of Success and Level of Food Consumption after implementation of Urban Gardening

Table 3 shows the relationship between the level of success of urban gardening and level of food consumption after implementation of urban gardening. The result of the study revealed that there is significant relationship between the level of success of urban gardening and the level of food consumption after implementation of urban gardening with r value of 0.90 and the computed t is 14.02 which is greater than the tabulated t value of 1.960 at two tailed. It implies that there is high positive correlation between the two and null hypothesis is rejected with 0.05 level of significance. The level of food consumptions is parallel to the level of success. It means that the higher the level of consumption will bring higher success on the implementation of urban gardening.

As stated by Dewey (2021) urban gardening play a vital role in the cities or at home this is due to that it provides numerous benefits not only for health, body, well-being but entirely transforming community. It alleviates the problem of food insecurity in cities by making fresh, nutritious food

available to Filipinos. Russu (2020) conclude that "resilience" and "sustainability" are often connected with urban agriculture or urban gardening. Food as nourishment is an essential requirement during times of crisis, whether caused by poverty, unemployment, confusion, or pandemics. Being able to cultivate own veggies not only reduces the expenses that weigh on family budgets, but it also allows us to tackle situations where market access is difficult or impossible (resilience). Because of job and income loss, as well as reduced food access, the COVID-19 pandemic has had a substantial impact on household food intake and nutrition. As mentioned in the article of Chatterjee et al. (2020) growing food for human consumption in cities could be one way to increase global food supply in the face of rising population growth and food security concerns. While previous research has demonstrated the productivity of urban agricultural systems, urban agriculture the practice of growing food for human consumption on already cleared urban land, may be one way to increase the world's food supply without resorting to further deforestation.

Furthermore, Chow (2021) in her study revealed on impact of urban gardening to the food

consumption, she indicated that the success of implementing urban gardening was helpful to

achieve the resiliency of food security.

Table 3. Relationship between level of success and level of food consumption after implementation of urban gardening

	r-value	tc	$t_{\alpha 0.025}$	Decision	Interpretation
Level of success vs food consumption	0.90	14.02	1.960	Reject Ho	Very high positive correlation; significant

IV. Conclusion

Based on the findings, the researcher concluded that the level of success is parallel to the level of consumption after the implementation of urban gardens. It also concluded that through urban gardening addresses the food shortage and promotes healthy lifestyle in the community as perceived by the respondents. On a larger scale, urban gardening can contribute mitigate the problem of food scarcity in densely populated areas. Moreover, it can help to alleviate the problem while also improving the beauty of communities and residences. Above all, it has the potential to launch a successful massive city farming movement in the future, with people who change their behavior and thinking.

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