

Mapping of Organic Farms in Davao City, Philippines

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Abstract

The research was conducted to plot organic farms on the three districts of Davao City and to identify the profile of the organic farm producers particularly on the legal form of business and level of certification. The study also identified the profile of the organic farm owners, the organic farm sector and the labels used to determine their produced. Furthermore, the study gathered information about the common problematic areas encountered by the farmers.

Data were gathered from members of Agro-Eco Philippines and those listed in the City Agriculture office as organic farms. These farms were selected and acknowledged by the Agri technician assigned on every barangay. To realize the objectives, the study used geographic information system to plot organic farms and descriptive research analysis. A self-constructed questionnaire was utilized to collect primary data from organic farmers. Statistical analysis was executed through frequency counts and percentages.

Organic farms exist in all the three districts of Davao City, Philippines. District three has the most production of vegetable and beans, high valued crops, garden salad and herbs, local fruits, poultry, and other dairy products. Majority of these farms are owned by one owner and usually backyard farms. In terms of the level of certification, most of the farms are self-proclaimed. Organic farms in the city are relatively young, existing mostly five to ten years and usually less than five hectares in area. Farmers seldom employ people to help them but sometimes they hire during harvest period, a helper mostly at an average age between 36 to 45 years old. The harvest of these organic farms is usually brought by other traders and frequently they have “suki” or repeat buyers. Organic farmers are dominated by males, aged between 36 to 55 years old, married and mostly elementary graduate. Majority of the organic farms in Davao City are producing crops which include vegetables, grains and cereals, banana, cacao, coffee, durian, and other high valued crops. Organically produced is usually the label used by organic farmer to refer to their produced. Product marketing and packaging is the most common problematic area encountered by organic farmers.

Keywords: Mapping, Organic Farms, Organic Farmers, Organic Farm Sector, Organic Farm Label

Introduction

Organic agriculture or organic farming is a system wherein the land is cultivated and crops are produced in such a way that promotes the sustainable health and productivity of the ecosystem. This system seeks to eliminate the use of synthetic inputs and replaced with management practices that maintain and increase the long term soil fertility and prevent pest and diseases. Several environmental benefits of organic agriculture include long term ecological sustainability, better soil quality and structure, enhanced water infiltration, enhanced beneficial organism populations, and climate change mitigation.

Shifting to organic farming will totally involve a considerable amount of investment and time. Due to the tedious task of producing organic products plus its high production costs, there isn't much economic inducement for farmers to shift into organic farming. Cost is also one of the factors why Filipinos are not yet into organically grown food commodities, because these are more expensive than those grown in conventional farming.

Although organic farming is yet to be embraced by most of our local farmers, the advantages and benefits derived from it, has led to its growing importance in the agricultural sector. In fact, the country is set to go all natural in agriculture, through Republic Act 10068 also known as the Organic Agriculture Act of 2010, which aims to strengthen the state's policy to promote, propagate, develop further and implement the practice of organic agriculture.

Several organizations are now engage in organic products and farming. Their main objective is to develop poor communities into sustainable communities through social enterprises. However, there is no sufficient data yet as to their number and as to the type of products that they mainly produce. Thus, there is a need to come up with this study particularly in Davao City.

The main objective of the study is to create a map of organic farms in Davao City to identify which part of the city organic farms are located. It is also the desire of the study to create a database of organic farms as to the legal form of business, level of certification, crops cultivated, production volume, major products, age and size of the farm, age and number of employees and their market outlet. Moreover, the study seeks to understand the common problems faced by the organic farmers in relation to their organic farming business.

The result of the study is beneficial as an advocacy tool of the organic agriculture management council to strengthen the promotion of organic farming in the country. The study provides the council valuable statistics in their information and education campaign on organic farming. The result of the study can assist in the data base building of the Center of Business Research and Extension (CBRE) of Ateneo de Davao University. It can also help the center in coming up with training modules and materials on how to help organic farming section of the country. The data gathered can also be utilized by the center for policy recommendation and can be used for the lobbying of the declaration of organic agriculture zones in the city. The local government of Davao City, Philippines may be able to use the result of the study to assist them in their zoning of Davao City. It can also assist the city government in achieving its objectives of mainstreaming organic agriculture as main agriculture.

The scope of the study is limited to organic producers in Davao City. Furthermore, the study only covers organic producers and does not include those businesses that process organic products nor those businesses that provide organic input such as fertilizers and pesticides to the farmers.

Review of Related Literature

There are several definitions for organic agriculture, but all come to a common state that it is a procedure that relies on ecosystem management instead of external agriculture inputs. It begins to consider potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives, and contamination.

According to the Food and Agriculture Organizations of the United Nations/World Health Organization Codex Alimentarius Commission, 1999, organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. Organic agriculture systems and products are not always certified and are referred to as "non-certified organic agriculture or products". There are agriculture systems that by default do not use artificial inputs, due to lack of soil building practices and degrade land. This is common to backyard gardening. The latter is excluded in the so called category of "non-certified organic agriculture or products". Food and Agriculture Organization (FAO) acknowledged three different driving forces that can be identified for organic agriculture. These are consumer or market-driven organic agriculture; service-driven organic agriculture; and farmer-driven organic agriculture.

In consumer or market-driven organic agriculture, consumers have a strong influence over organic production. Products are clearly identified through certification and labelling. Buyers take a very conscious choice on how their food is produced, from processing to handling up to the point of selling. Service-driven organic agriculture generates environmental goods and services, such as reducing groundwater contamination and creating a more organically diverse landscape. In some countries such as in European Union (EU), they subsidies for organic agriculture to attain such end of reducing the risk groundwater pollution and through the use of greater biodiversity.

The farmer-driven organic agriculture is a farmer-initiated move towards organic farming. Some farmers believe that conventional agriculture is unsustainable. They have developed a complementary ways of production that can improve their family health, self-sufficiency and farm ecology. In many developing countries, such as Philippines, organic farming is adopted as a means to improve household food security or to reduce input costs (on chemical/synthetic inputs). Their produce is for household sustenance; any excess can be made available in the market without a price distinction since it is not certified. In developing countries, small farmers are increasingly developing direct networks to deliver non-certified organic produce to consumers. In the United States of America (USA), farmers marketing small quantities of organic of produce are formally exempt from certification.

According to the local organic group Organic Producers Trade Association (OPTA), the risk of consuming non-organic food is becoming more perilous to human health as high-yielding Agri-produce or the so-called "green revolution crops" developed in the province of Los Baños, Philippines—one of the country's major agricultural research hubs—have been identified as one of the causes of brain damage particularly resulting to impaired intellect to people in poor or third world countries. Moreover,

these crops that are produced under modern agriculture techniques that use large doses of pesticides, herbicides and fertilizers are decreasing brain size, thus slowing down one's intelligence capabilities. International studies have likewise shown that chemical-infused crops have resulted in cancer, hormone disruption, neurological disorders and other life-threatening illnesses.

As chemical farming destroys the environment, OPTA says beneficial micronutrients in the soil that are needed by a human body are also killed such as calcium, magnesium, iron, zinc, copper, selenium, manganese and many others. On the other hand, OPTA reveals that livestock and aquaculture grown in chemical-industrial animal farming systems are also huge health hazards. These animals are fed and injected with synthetic chemicals to force them to grow fast and survive the pathogenic microorganisms such as antibiotics, growth hormones, steroids, synthetic vitamins and minerals. The danger of these chemicals has been proven to be so grave that it compelled the European Union to ban the use of antibiotics and growth hormones in their livestock.

Although Philippines has not resorted to completely ban the use of synthetic chemicals in animal farming, the country is set to go all natural in agriculture through Republic Act 10068 that aims to strengthen the state's policy to promote, propagate, develop further and implement the practice of organic agriculture. Through the law, the farming community are hoped to ensure and cumulatively condition and enrich the fertility of the soil, increase farm productivity, reduce pollution and destruction of the environment, prevent depletion of natural resources and protect the health of the farmers and of the general public.

Certification is the procedure by which an independent third party gives written assurance that a clearly identified production or processing system or methodically assessed and conforms to specified requirements/ standards. Certification is defined as a system by which the conformity of products, services, practices, etc. to applicable standards is determined and confirmed. In organic agriculture, this confirmation can be done either by: the first party – the supplier; the second party – the customer; or the third party – an independent body.

In the first party certifications, a person or an organization says it meets certain claims; this is not usually an independent test to verify those claims. These are usually a fairly simple claim, such as that the product is an organic produce or not. In second party certification, an association or group provides the assurance that a product meets certain criteria. This type of certification offers little assurance against conflicts of interest. The certifying body has developed a set of standards and which awards the use of their logo if companies comply with these standards. In Davao City, Participatory Guarantee System (PGS), a second party organic certification is recognized internationally by the International Federation of Organic Agriculture Movements (IFOAM). The PGS certification locally focused quality assurance system. Certification would be issued to producers based on active participation of stakeholders such as the City Agriculturist's Office (CAO), City Veterinarian Office (CVO), and the Department of Agriculture (DA). These agencies are working with the Davao PGS Committee.

The third certifications are issued by independent testing companies based on impartial evaluation of a claim by expert unbiased sources with reference to a publicly available set of standards. Third party certification is considered the highest level of assurance you can achieve and the most expensive among the three. An example of the third party certification system in the Philippines are Organic Certification

Center of the Philippines (OCCP) and Negros Island Certification Cervices (NICERT). Most of the companies certified under these governing bodies are big companies, corporations and organization such as Cosmic Farm of La Trinidad Benguet and AZ AGRI PRODUCTS CORPORATION of Barangay Valencia Quezon City.

Private Institution La Liga Policy Institute recommends that for people to totally go into organic, it should raise consumer awareness which is marketing. La Liga says there is much to be gained in enhancing the labeling, standards and certification of organic products and byproducts to sustain ecological agriculture. La Liga managing director Roland Cabigas said that a concrete labeling system with clear government check mechanism for the validity of labels, the promotion of organic products and byproducts would boost trading system that would benefit more consumers and producers. This means developing labels and standards that range from organic, semi-organic, organically grown, naturally farmed, pesticide free or less chemicals. The appropriate labels will provide the consumers the appropriate food information and proper guidance. Likewise, certification processes should be attuned to the interest of the small farmers to make it more economical to go into organic farming.

Methodology

The research design is descriptive. The result describes the profile of the organic producers in the city, the profile of the farmers, the level of certification of organic producers in the city and the common problems faced by the farmers in relation to their organic farming. Face to face interview was used in the data gathering. Geographic Information System (GIS) was used to map the organic farmers in Davao City.

The study was conducted in the three congressional districts of Davao City, Philippines. Although more respondents came from the 3rd districts since this area is the agricultural district of Davao City. The respondents of the study are the member farmers of Agro- Eco Philippines formerly known as MASIPAG Mindanao, Incorporated in Davao City, Philippines and those listed in the City Agricultures Office. The data generated was quantitative and utilized primary and secondary data. The secondary data was sourced from the Agro-Eco Philippines and City Agriculture Office. The primary data was gathered by conducting a face-to face interview with the organic farmers.

The data for this study was gathered through a survey questionnaire. This includes an informed consent form allowing the researchers to gather their responses. The study utilized descriptive statistics such as frequencies and percentages. With the aid of graphs and charts, the researchers generated how data are distributed. Using the frequency distribution tool, the researchers was able to view the responses for each category.

Results and Discussions

Profile of the Organic Farm Producers in Davao City

Form of Ownership and Level of Certification

Majority or 74.86 percent of organic farms in Davao City, Philippines are owned by one owner and these are usually backyard farms. These are followed by farms owned by corporations and cooperatives at 21.86 percent and the remaining 3.28 percent covered in the study are owned by parishes, NGOs and associations. As to the level of certification, there is an equal number of farms which are certified by third parties as organic farms and those that are self-proclaimed organic farms. There are 43.48 percent

for 3rd party certification and 47.28 percent for the self-proclaimed. Only 9.24 percent of the farms covered have Participatory Guarantee System (PGS) certification.

Farm Produce, Annual Volume, and Farm Location

Organic farms are found across all three districts in Davao City, Philippines. In terms of volume, District three has the most production of vegetables and beans, high valued crops, garden salad and herbs, local fruits, meat, poultry and other dairy products. Under the grouping vegetables and beans, the city is producing more vegetables for pinakbet, utanon and chopsuey. Among the high valued crops, the most number of crops (in terms of kilos) that are being produced in Davao City, Philippines is the banana of Cavendish variety. As to garden salad and herbs category, organic farms in the city produced mostly lettuce. Davao City is known for durian and most organic farms producing local fruits have durian produce. As to meat, poultry and dairy products category, native eggs, milk and native chicken are the common products of these organic farms.

Age of Farms and Farm Size

Majority of the organic farms in the city are relatively young. These are operating for more than 5 years but less than 10 years with equivalent weight of 45%. This is followed by farms who are less than 5 years in operation. Only 15.93% of the organic farms in Davao City are in operation for at least 20 years. Most or 97.80% of the organic farms in the city have a size of less than 5 hectares. Only few or 2.20% have a size of more than 5 hectares.

Number of Employees and Age of Employees

Majority or 70.49% of organic farms in the city do not employ people. Of the organic farms that have employees, most of these farms have less than 10 employees. Those who are employed in the organic farms in Davao City are in the age bracket of 36 to 45 years old. This is followed by those who are in the age bracket of 26 to 35 years old. There is an equal percentage whose age bracket are in 18 to 25 years old and those in the age bracket of over 55 years old.

Market Outlet

Most products of the organic farms in the city are being bought by other traders. The respondents replied “pick-up” or the buyers of their produce “pick-up” their harvest from the farm when asked on the how they are able to sell their products. Most of these farms have “suki” or repeat buyers. This is followed by those who bring their produce to the public market (26.03%) and those who sell their products in the cooperative where they are members (23.29%). A few of the farms interviewed display their produce in the Friday market at the Rizal park, Davao City (4.57%) while the remaining respondents (3.20%) said that they used to sell their produce in their own resto.

Profile of Organic Farm Owners in Davao City

Age, sex, education and civil status of the Organic Farm Owners

Many of the organic farm owners in the City are in their forties and beyond. Majority of the organic farm owners are in the age bracket of 55 years old and above. This is followed by those who are in the 46 to 55 years old bracket (29.93%), then by those belonging to 36 to 45 years old (28.87%). Only few farmers are in the relatively younger age group. There are 5.99% belonging in the 26 to 35 years old and 2.11% belonging to 18 to 25 years old.

There are more male organic farm owners than female farm owners in the city. 61.62% of the organic farm owners in the city are male while there are only 38.38% female who are organic farm owners. Majority or 44.01% of the organic farm owners in the City are able to complete elementary education. Some are able to attend high school, finish college and with college level. Others were able to finish high school, with post graduate and vocational studies. Furthermore, majority or 84.86% of the organic farm owners in the City are married. This is followed by those who are single (9.51%), widowed (4.23%), separated (1.06%) and those living with partner (0.35%).

Organic Farm Sector

Ninety-two percent of the organic farms in Davao City are in producing crops, which includes vegetable, grains and cereals, banana, cacao, coffee, durian and other high valued crops. This is followed by farms producing poultry, livestock, and dairy products (7.03%) and fishery (0.54%)

Labels Used by Organic Farm Owners to Refer to Produce

Almost eighty percent or 79.58 % of the organic farm owners in the city are using “organic produce” to refer to their produce. This is followed by those who refer as naturally farmed (18.32%) and those who refer to their produce as free range (2.09%).

Common Problematic Areas Encountered by the Farmers

The top problematic area encountered by the farmers is product marketing and packaging of their products with 26.67% of the total. This is followed by farm financing, lack of appropriate farm technology, and production management. Another concerns are farm management, certification of the organic products and financial management.

Conclusions and Recommendations

Majority of the organic farms in Davao City are owned by one owner and usually backyard farms. As to the level of certification, most of the farms are self-proclaimed. Also, there is a little disparity between farms which are certified by third parties as organic farms and those that are self-proclaimed organic farms.

Organic farms are found across all three districts in Davao City, Philippines and are producing more vegetables for pinakbet, utanon and chopsuey. Among the high valued crops, the greatest number of crops (in terms of kilos) that are being produced in Davao City is the banana of Cavendish variety. As to garden salad and herbs category, organic farms in the city produced mostly lettuce. In terms of volume, District three has the most production of vegetables and beans, high valued crops, garden salad and herbs, local fruits, meat, poultry, and other dairy products.

Most of the organic farms in the city are relatively young, existing mostly five to ten years and usually less than five hectares in area. Farmers seldom employ people to help them in the farm but sometimes they hire during harvest time, a helper mostly at an average age between 36 to 45 years old. Most of the time, the produce of the organic farms in the city are being bought by other traders. Commonly, these farms have “suki” or repeat buyers. Some farmers bring their harvest to the public market, some sell to cooperatives and others to Rizal Park, Davao City, Philippines.

Majority of organic farmers are male aged between 36 to 55 years old, commonly married and were able to complete elementary. Most of the organic farms in Davao City are producing crops which include vegetables, grains and cereals, banana, cacao, coffee, durian and other high valued crops. Organically produce is mostly the label used by organic farmer to refer to their produced. Among the common problematic areas encountered by organic farmers, product marketing and packaging is on top of the list, followed by financing, farm technology, production management, farm management, certification, and financial management.

Based on the conclusion that most organic farms in Davao City are owned by one owner and are usually backyard farms, the following actions are recommended:

1. Strengthen certification processes: Since most farms are self-proclaimed as organic, it is important to enhance certification procedures to ensure that organic claims are verified by reliable third-party organizations. This will improve the credibility and trustworthiness of organic products from Davao City.
2. Promote collaboration and cooperation: Encourage organic farmers to form cooperatives or associations that can collectively address common challenges such as marketing, financing, and farm management. By working together, farmers can leverage their resources and knowledge to overcome these obstacles more effectively.
3. Support marketing and packaging initiatives: Recognizing that marketing and packaging are identified as the top problematic areas, provide training and resources to help organic farmers improve their marketing skills and develop attractive packaging for their products. This could involve workshops, mentoring programs, or collaborations with marketing professionals.
4. Foster financial support and management: Address the financing concerns of organic farmers by providing access to loans or grants specifically tailored for organic farming. Additionally, offer financial management training to help farmers effectively manage their finances and improve their overall business sustainability.
5. Enhance farm technology adoption: Facilitate the adoption of modern farming technologies among organic farmers. This can be achieved through training programs, workshops, and demonstrations on sustainable and efficient farming practices. By embracing appropriate technologies, farmers can enhance productivity and improve their overall profitability.
6. Prioritize production and farm management education: Develop educational programs or workshops focused on production and farm management. These programs should cover topics such as crop rotation, pest control, soil fertility management, and other essential farming practices. By improving their knowledge and skills in these areas, organic farmers can optimize their yields and ensure the long-term sustainability of their farms.
7. Strengthen market linkages: Facilitate connections between organic farmers and potential buyers, including traders, cooperatives, and local markets. This can be achieved through networking events, trade fairs, or online platforms that promote direct interactions between farmers and buyers. Creating strong market linkages will help organic farmers secure stable and profitable markets for their produce.

By implementing these recommendations, the organic farming sector in Davao City, Philippines can overcome the identified challenges and further develop its potential. It will result in improved market access, increased productivity, and enhanced sustainability for organic farmers in the region.

Appendix

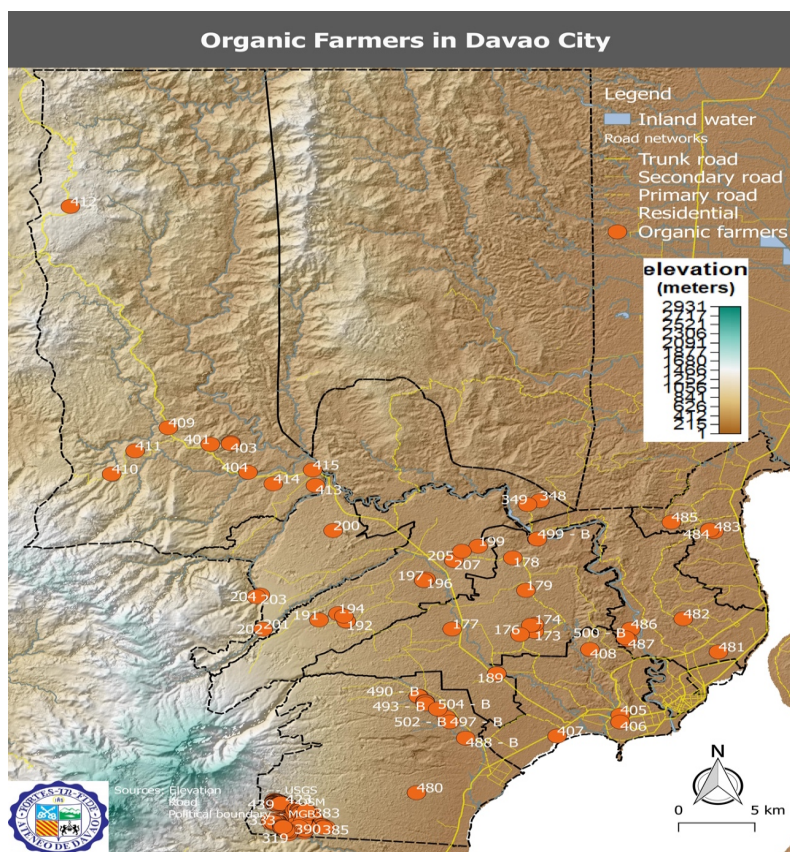


Figure 1. Map of Organic Farmers in Davao City, Philippines

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