



# The floriculture industry on the grassroots: The issues on ornamental plant growing, extraction and trading in Baganihan, Southern Philippines

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**Abstract.** Ornamental plant production and trading is one of the most ventured means of livelihood in Baganihan, Southern Philippines. Many inhabitants cultivate ornamental plants and collect some endemic species from the forest for marketing purposes. Hence, there is a need to assess the production and collection practices, and the trading of ornamental plants in the area for proper intervention. The study is descriptive employing a triangulation method of Survey, Focus Group Discussion and Key Informant Interview. Most vendors are women, but wild plant collectors are men. There is a difference between the income of male and female ornamental plant vendors. Growers use traditional technology. They are confronted with issues like lack of capital, inadequate production technology, inadequate business linkages, and absence of alternative livelihood. In general, ornamental plant trading is a good source of livelihood and a potent enterprise, but assistance from the National and Local Government Units and private sector is needed to help address the issues confronting the traders. Interventions concerning extraction from the wild are needed.

**Key Words:** cultivation, livelihood, endemic species, gender role, forest flora.

**Introduction.** Many countries found ornamental plant growing and trading a profitable business, popularly called as floriculture. Its global industry however is concentrated in developed countries (Ghule & Menon 2013). Netherlands is the largest floriculture producer of the world and it has a highly mechanized industry. Producers heavily use fossil fuels, borrowed capital, chemical fertilizers and pesticides (Hulst 2012). Likewise, developing countries are also engaging in ornamental plant business. In Sri Lanka, floriculture is handled by few exporters, middle-level growers and small-scale growers. The business is generating good income and is seen to be a potent means of the country's socio-economic development. The increase in the utilization of flowers and indoor plants appears to be a favorable ground for plant growers to develop and expand their operations (Padmini & Kodagoda 2017). In India, the business offers excellent employment and good remuneration to small and marginal farmers. It offers higher profits than cereal farming and other crops. It is seen to be the best alternative to traditional and other horticultural crops farming (Kalmegh & Singh 2016). In recent years, floriculture industry in India has gained a momentum (Khuraijam et al 2017). In Pakistan, floriculture business is concentrated among small growers, though the industry suggests an increasing return of investment (Manzoor et al 2001) while in Serbia, production of ornamental plants represents a valuable potential in agricultural production (Vukajlovic et al 2017). However, Hernandez et al (2013) reported that the socio-economic conditions of the floriculture sector in Mexico has lesser returns than other crops like papaya, 946 USD ha<sup>-1</sup> versus 9,332 USD ha<sup>-1</sup>.

The increase in demand of flowers is associated with the increase of standard of living of the people (Kalmegh & Singh 2016). With improvement of standard of living,

floriculture is becoming a highly profitable industry. There is a high demand of flowers in hotels and restaurants, and this opens marketing opportunities and higher profit for small scale growers. In fact, what the Philippine produces is not enough to supply the demand. The country is importing flowers to cater the domestic demand (Garcia 2013). During special occasions like All Souls Day, Valentine's Day, fiestas and Christmas day, prices of flowers increase. Prices change depending on the occasion. This is because our growers do not have sufficient processing technology that may prolong the life of flowers while waiting for the occasion (Dait 2015). Considering that ornamental plants are produced mainly for aesthetic value, its quality attributed like freshness, color and form are very important (Rout et al 2006). During peak seasons, supply of flowers falls short by 30% (Naranja 2007).

For the Filipinos, ornamental plants are a big part of their everyday living, regardless of culture, religion, and political landscape. In every Filipino household, there are always pots of decorative plants (Naranja 2007). Their love for flowers, which they believe have symbolic meanings, makes floriculture industry flourishing.

Floriculture industry in the Philippines started as a home yard operation and evolved into a regular profitable business activity for small and medium entrepreneurs. The country is endowed with good soil and a favorable climate that allow growing of ornamental plants all year round. In 1991, there were 1,416 hectares that had been planted to ornamentals. The principal centers for ornamental production include the Cordillera Administrative Region (CAR), Central Luzon, Southern Tagalog, Western and Central Visayas, and Northern and Southern Mindanao, including the Davao Region (Naranja 2007).

Likewise, trading of ornamental plants is one of the most ventured means of livelihood in Baganihan, Marilog District, Davao City, Philippines. Many individuals and families rely on it as sources of income. They cultivate ornamental plant and extract some plant species from the forest for marketing purposes. Hence, it is important to study the place's ornamental plant trading that would assess its production, collection, and commodification practices. In particular, the study identifies the most saleable ornamental plants and the plants extracted from the forest, describe the marketing flow, and analyses the issues confronting the ornamental plant growers.

**Material and Method.** The study was conducted in barangay Baganihan, Marilog District, Davao City in March to July 2018. It assessed the production, collection, and trading of ornamental plants and analyzed the issues confronting the cultivators. The study is descriptive using a combination of survey and Focus-Group Discussion (FGD) among ornamental plant vendors and collectors. A Key Informant Interview (KII) among the barangay officials of Baganihan and leaders of the Indigenous Peoples (IP) were sought to elucidate and validate the information gathered. There were 35 ornamental plant vendors in Baganihan, and 31 were taken as respondents through purposive sampling. The questionnaire was self-formulated and was peer-reviewed. It had five parts: Biographical Information, Cultivation and Extraction Practices, Commodification and Marketing, Dependence on the Forest, and the Issues Confronting ornamental plant growers. The FGD had 5 participants who were identified by the barangay officials. The discussion revolved around the profitability of ornamental plant trading and its related issues. The research produced quantitative and qualitative data. The quantitative data were analyzed through frequency count and percentages, and the qualitative data were analyzed through thematic analysis. Qualitative data were categorized in matrix form to identify discernible patterns and were revised based on emerging themes. To come up with an analysis, SWOT (Strength, Weaknesses, Opportunities and Threats) method was used. The results of the study were presented back to the community for validation.

The research was conducted observing research ethics. The project was granted a Gratuitous Permit by the Department of Environment and Natural Resources, and a Memorandum of Agreement was signed between Central Mindanao University and the Local Government Unit (LGU) of Baganihan, Marilog District. A prior informed consent (PIC) and an Institutional Ethics Review Committee (IERC) clearance were sought before the conduct of the study. Likewise, the interviewers explained to the respondents the

nature and purpose of the study conducted and assured them that their identity would be kept anonymous. They were asked to participate, but were also made aware of their right not to answer questions which they believe were offending and discriminatory.

**Location of the study.** Baganihan is one of the 12 barangays of Marilog District, Davao City (Figure 1). It is 46.9 kilometers from the heart of Davao City. Based on the 2017 data gathered by the barangay, it has 400 households with a population of 1,456 of which 745 are females and 711 males. It has a total of 5,349,100 m<sup>2</sup> agricultural lands, 82,713 m<sup>2</sup> residential lands, 256 ha forest lands, 152 ha timberlands and 64 ha of watershed. The place has 3 fishponds and 40 business establishments. It has 7 falls and 28 caves but only 5 have of the falls have been explored. It is a part of Matigsalug-Manobo Tribal People Council of Elders Davao Incorporated (MAMATRIPCEDI). The place is largely inhabited with indigenous peoples.

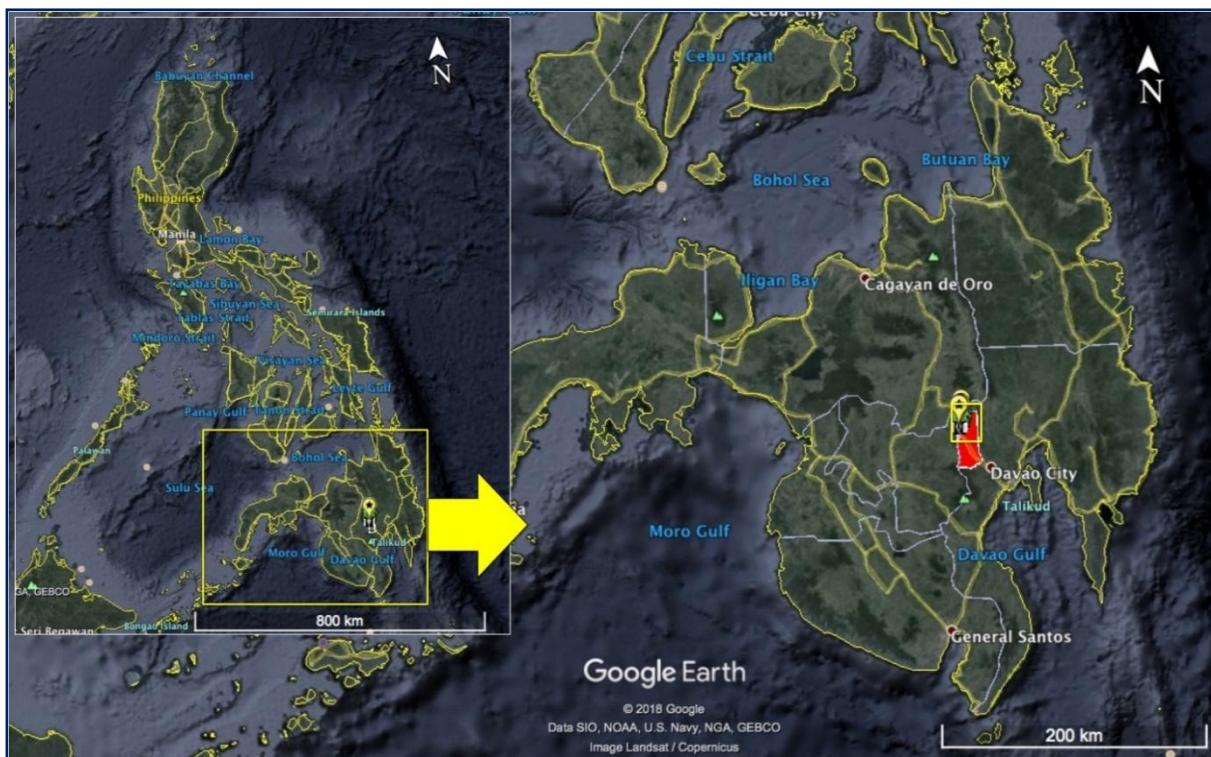


Figure 1. Map of Marilog District, Davao City, Philippines, 2018.

**Results and Discussion.** The research assessed the production, collection, and trading of ornamental plants in Baganihan, Southern Philippines. Likewise, it put forward the issues on ornamental plant trading.

**The respondent's biographical data.** Most (74.19%) of the ornamental plants vendors in Baganihan are females, while only few (25.81%) are males. As shown in Table 1, female traders are younger by few years than the males. The youngest trader is 18 and the oldest is 79. Half (50%) of the male respondents and most (82.61%) and female respondents in Baganihan are married. Their level of education is low. Most (37.5% of the males, 43.48% of the females) have attended elementary only, others (46.74% of the male and 34.78% of female respondents) have attended high school. Only few (25% of the males and 21.74% of the females) have attended college. None has finished a degree. Male respondents have higher income compared to female. The average gross monthly income of the males is 6,750.00 PhP (127.41 USD) with a minimum of 3,000.00 PhP (56.63 USD) and a maximum of 21,000.00 PhP (396.38 USD), while female respondents have an average monthly gross income of 3,710.00 PhP (70.03 USD) with a minimum of 1,000.00 PhP (18.88 USD) and a maximum of 12,340.00 PhP (232.92 USD).

Table 1

Distribution of respondents according to sociodemographic profile, Baganihan, Marilog District, Davao City, Southern Philippines, 2018

<i>Variable</i>	<i>Male</i>		<i>Female</i>		<i>Total no. of respondents</i>	<i>Total (%)</i>
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>		
<b>Age</b>						
18-25	1	12.5	3	13.04	4	13
26-35	2	25	9	39.13	11	32
36-45	3	37.5	4	17.39	7	27
46-55	0	0	3	13.04	3	6
56-65	1	12.5	2	8.7	3	11
65 and above	1	12.5	2	8.7	3	11
Total	8	100	23	100	31	100
Average	44		39			
Minimum	21		18			
Maximum	79		69			
<b>Civil Status</b>						
Single	3	37.5	0	0	3	19
Married	4	50	23	100	27	75
Widow	1	12.5	0	0	1	6
Total	8	100	23	100	31	100
<b>Educational Attainment</b>						
Elementary Level	1	12.5	5	21.74	6	18
Elementary Graduate	2	25	5	21.74	7	23
High School Level	2	25	5	21.74	7	23
High School Graduate	1	12.5	3	13.04	4	13
College Level	2	25	5	21.74	7	23
Total	8	100	23	100	31	100
<b>Gross Monthly Income</b>						
1,000-5,000 PhP (18.88-94.38 USD)	5	62.5	20	86.95	25	75
5,001-10,000 PhP (94.39-88.75 USD)	2	25	2	8.70	4	17
10,001 PhP and above (188.77 USD and above)	1	12.5	1	4.35	2	8
Total	8	100	23	100	23	100
<b>Religious Affiliation</b>						
Catholic	4	50	9	39.13	13	45
Non-Catholic	3	37.5	14	60.87	17	49
No Religion	1	12.5	0	0	1	6
Total	8	100	23	100	31	100
<b>Ethnic Origin</b>						
Bagobo-Matigsalug	2	25	5	21.74	7	24
Cebuano-Matigsalug	5	62.5	7	30.43	9	47
Mandaya-Matigsalug	0	0	3	13.04	3	6
Maranao-Matigsalug	0	0	3	13.04	3	6
Tagabawa-Tagabawa	0	0	5	21.74	5	11
Waray	1	12.5	0	0	1	6
Total	8	100	23	100	31	100

Most ornamental plant vendors have ethnic origin but are already acculturated. They have the blood of a Matigsalug, the most dominant ethnic tribe in the community. Intermarriages between Manobo with other ethnic groups like Mandaya, Maranao, Tagabawa, Cebuano, and Waray is apparent. Hence, no one claims to be a pure Manobo. They speak Cebuano and are embracing the Christian faith (45% are catholics and 49% are non-catholics). However, most still observe some indigenous rituals like "Panubad", and beliefs like the presence of spirits in the mountains and big trees.

This community belongs to the grassroots. They are ordinary people with a

minimal income whose livelihood is more on cultivation, extraction, and trading.

**Ornamental plant production, collection and trading.** Filipinos are ornamental plant lovers. They cultivate ornamental gardens, and their houses are decorated with hanging or potted plants. This culture cuts across socio-economic landscape (Naranja 2007). Likewise, the burgeoning of hotels and restaurants, ornamental plant industry has become a profitable business in this part of the world, and this opens marketing opportunities for both large scale and small-scale ornamental plant vendors and traders (Garcia 2013). Floriculture industry in the Philippines has evolved into a profitable business activity. Ornamental plants are used to beautify the lawns and parks of hotels, restaurants, churches, public plazas, and even houses of affluent personalities. Likewise, flower collection and well-manicured lawns symbolize status in society, hence affluent personalities delve into this. Moreso, the Filipinos' love for celebrations like Valentine's Day, All Souls Day, birthdays, Christmas, graduation, anniversaries, etc., cannot be truly special without flowers. This culture makes the ornamental plant growing in Baganihan a viable livelihood and a good business venture.

There are 35 households who take ornamental plant growing a major livelihood, and 31 became respondents to the survey. What are traded in Baganihan are potted plants, not cut-flowers. In cultivating potted plants, growers use polyethylene bags of different sizes. They mix rice hulls with top soil and put on it the plant twigs or seeds. The young plants are stored in the nursery for weeks or months before they are transferred to the display area. Nurseries are usually situated near the growers' houses. Plants are transferred to the display area only when they are mature enough. Maturity depends on the variety of the plant, early-maturing plants are displayed after 15-30 days from planting, while delayed-maturing plants are displayed after 6 months – 2 years from planting.

**The most saleable ornamental plants.** There are 167 varieties of ornamental plants traded in Baganihan. Table 2 shows the list of the most saleable plants, which means they are the plants that are more reproduced because they are the most saleable. These potted plants are mostly used in landscaping.

Table 2  
Top ten most saleable ornamental plants, Baganihan, Marilog District, Davao City,  
Southern Philippines, 2018

Scientific name	Common name	Price plant (1 USD=52.98 PhP) PhP	Price plant USD	No. of vendors selling	Quantity per week per plant	Total no. of plants	Ecological status
<i>Achyranthes bettzickiana</i>	Kutcharitas	20.00	0.38	19	35	665	Exotic
<i>Impatiens</i> sp.	Impatiens	35.00	0.66	19	11	209	-
<i>Aglaia odorata</i>	Poprice	25.00	0.47	17	4	68	Exotic
Unidentified	Popcorn	25.00	0.47	13	5	65	-
<i>Dahlia pinnata</i>	Dahlia	100.00	1.89	14	4	56	-
<i>Cymbidium floribundum</i>	Cymbidium	50.00	0.94	13	4	52	-
<i>Cupressus</i> sp.	Cypress	150.00	2.83	28	1	28	-
<i>Citrus limon</i>	American Lemon	40.00	0.75	20	1	20	Exotic
<i>Tibouchina urvilleana</i>	Tibouchina	150.00	2.83	14	1	14	Exotic
<i>Hydrangea macrophylla</i>	Million Flower	70.00	1.32	14	1	14	Exotic

The cheapest plant was sold at 20.00 PhP (0.38 USD) plant<sup>-1</sup> and the most expensive was sold at 150 PhP (2.83 USD) plant<sup>-1</sup>. These flowers are all exotic. They are not endemic or

native of the place. These were brought by the growers from neighboring places and are propagated (Figure 2). Barter, which means exchanging of plants among growers is also practiced. In cases when a flower variety is expensive or unaffordable by one grower, he/she offers to have a barter, 2-3 flowers in favor of one flower. In this particular community, people know each other, and most of them are even related by blood, hence the culture of barter is a common practice.



Figure 2. Top 10 Most saleable ornamental plants, Barangay Baganihan, Marilog District, Davao City, Southern Philippines, 2018. (A) *Achyranthes bettzickiana*, (B) *Impatiens* sp., (C) *Aglaia odorata*, (D) Popcorn, (E) *Dahlia pinnata*, (F) *Cymbidium floribundum*, (G) *Cupressus* sp., (H) *Citrus limon*, (I) *Tibouchina urvilleana*, (J) *Hydrangea macrophylla*.

**The most expensive ornamental plants.** Bonsai are the most expensive ornamental plant. They are placed usually on a dish decorated with pebble rocks and a small quantity of top soil taken from the forest. It takes years to grow a bonsai, and it involves an intricate process. The price depends on its age and shape. One bonsai costs 500.00 PhP (9.44 USD) to 5,000.00 PhP (94.37 USD). Other most expensive ornamental plants include American lemon (*Citrus limon*), Yellow Bells (*Tecoma stans*), Almost white, Rose (*Rosa gallica*), Dwarf Guava (*Gardenia jasminoides*), Pocahontas (*Penstemon digitalis*), Cypress (*Cupressus* sp.), December flower (*Euphorbia pulcherrima*) and Rosal (*Gardenia jasminoides*). Among the plants mentioned earlier, only Cypress belongs to the 10 most saleable plants. These plants are expensive because unlike other plants they are difficult to grow. They are sensitive to the climate, and they need a tender care (Table 3).

Table 3

Ten most expensive ornamental plants, Baganihan, Marilog District, Davao City, Southern Philippines, 2018

Scientific name	Common name	Price per plant (1 USD=52.98 PhP)	
		PhP	USD
-	Bonsai	500.00-5,000.00	9.44-94.37
<i>Citrus limon</i>	American Lemon (fruit-bearing)	500.00	9.44
<i>Tecoma stans</i>	Yellow Bells	500.00	9.44
-	Almost White	350.00	6.61
<i>Rosa gallica</i>	Rose (flowering)	250.00	4.72
<i>Psidium guajava</i>	Dwarf Guava (fruit-bearing)	250.00	4.72
<i>Penstemon digitalis</i>	Pocahontas	250.00	4.72
<i>Cupressus</i> sp.	Cypress	150.00	2.83
<i>Euphorbia pulcherrima</i>	December Flower	150.00	2.83
<i>Gardenia jasminoides</i>	Rosal	150.00	2.83

**Plants collected from the forest: endemic species.** Some male plant traders are collecting plant species from the forest. It is the men who collect because the activity requires agility. Wild plants are usually clinging on the trees. One must climb the tree to pick them. These activities are considered masculine, hence could better be done by men. This is the probable reason why there are no female collectors. Likewise, the forest is quite far. It is around 5 kilometers from their houses. Considering that female vendors are mostly mothers, they cannot leave their posts. They are tied up to vending, taking care of children, and other household chores.

The species collected are rare and are considered as collector's items. Most of the plants collected are endemic, which means they are found only in the Philippines, and are vulnerable. These include Ant plant (*Hydnophytum formicarum*), Wild Medinilla (*Medinilla cumingii*), and Pitcher Plant (*Nepenthes* sp.). They are collected direct from the forest and are sold at low prices. They are not propagated, hence the practice is found not sustainable. Other plants collected from the forest are fox tail (*Acalypha hispida*) and Wild Eugenia (*Syzygium* sp.). The ecological status of these plants has not been identified by DAO 2017-11 (Table 4).

The Department of Environment and Natural Resources issued an Administrative Order known as DAO 2017-11 that identifies the Ecological Status and Conservation Status of plant and animal species in the Philippines. Classifies species as Critically endangered, Endangered, and Vulnerable based on scientific and internationally accepted criteria. The criteria include (1) present destruction, modification or curtailment of its habitat or range; (2) over utilization for commercial, recreational, scientific or educational purposes; (3) other natural or man-made factors affecting existence of wildlife; (4) perceived/observed population size reduction; (5) species' geographic range (extent of occurrence and/or area of occupancy); (6) small population size and continuing decline in such population; and (7) very small or restricted population. Critically Endangered Species refer to a species, subspecies, varieties or other infraspecific categories facing extremely high risk of extinction in the wild in the immediate future; Endangered Species are those species, subspecies, varieties or formae that is not critically endangered but whose survival in the wild is unlikely if the casual factors continue operating; Vulnerable Species refer to a species or subspecies, varieties, formae or other infraspecific categories of plant that is not critically endangered nor endangered but is under threat from adverse factors throughout its range and is likely to move to the endangered category in the future. This shall include varieties, formae or other infraspecific categories; and Other Threatened Species refer to a species or subspecies, varieties or other infraspecific categories that is not critically endangered, endangered nor vulnerable but is under threat from adverse factors, such as over collection throughout its range and is likely to move to the vulnerable category in the near future (DAO 2017-11).

Table 4

Plants harvested from the forest, Baganihan, Marilog District, Davao City, Southern Philippines, 2018

Scientific name	Common name	Price per plant (1 USD=52.98 PhP)		Ecological status	Conservation status
		PhP	USD		
<i>Hydnophytum formicarum</i>	Ant Plant	50.00	0.94	Endemic	-
<i>Acalypha hispida</i>	Fox Tail	50.00	0.94	Exotic	-
<i>Medinilla cumingii</i>	Wild Medinilla	25.00	0.47	Endemic	Vulnerable
<i>Syzygium</i> sp.	Wild Eugenia	10.00	0.19	-	-
<i>Nepenthes</i> sp.	Pitcher Plant	-	-	-	-

**Other resources taken from the forest.** Ornamental plant growers are getting materials from the forest which they use in preparing potted plants. They find the soil in lowland to be less fertile; hence they prefer to take "yuta" (top soil) from the forest. They also get "lumot" (moss) which they put on top of newly bagged plants to keep the plant cool, and "bato" (rocks/stones). Growers use small rocks as base-stands for bonsai. They also gather pebble stones which they use to beautify dish-gardens. Bonsai is an art form that stems from ancient Asian culture, originating in China and developed by the Japanese. A bonsai (pronounced "bones-eye") is literally a "tree in a pot," which further imitates, in miniature, the appearance of an old tree in nature (Relf 2015). Dish gardens are small scale landscapes. This is a miniature garden placed within shallow and open containers (such as "dishes"). Dish gardens are intricately designed in plastic or ceramic dishes or other common containers like jars, old milk cans, soup mugs, bowls, cans and logs that have been entirely hollowed out (Prontes 2017).

**Trading.** According to the respondents comprised in the survey, vending of flowers is a good livelihood. All it needs is industry and a pleasant attitude towards customers. It gives a sufficient income. The average income of an ornamental plant trader is 5,230.00 PhP (98.72 USD) a month. For the locals in Baganihan, this income is enough to support a family. It can sustain family's budget for food, clothing and shelter. Some respondents have constructed houses out from their income in flower trading. Data however shows a difference between the income of male and female traders. The average income of the former is 6,750.00 PhP (127.41 USD) while the latter has 3,710.00 PhP (70.03 USD). This is because male vendors can bring and market their products in some other places, hence they can have more customers. While most female vendors, being mothers, are just selling outside their houses, where their display tables are put-up. Their customers are just the passers-by, and few "suki" (patron-clients). Domestic activities and responsibilities limit the chances of women to have higher income.

Ornamental plant customers can be divided into 3 categories:

1. Single/Casual buyers - these are the buyers from distant places passing thru Marilog for Davao City or for Bukidnon. Many passers-by are drawn with the colorful flowers displayed along the road. These buyers cut across economic status. Casual buyers also include those who are celebrating their birthdays, anniversaries or weddings who prefer to give ornamental plants as tokens. Unlike before where tokens given to guests during special occasions were handicrafts or porcelains, tokens now are more on ornamental or decorative plants. Aside from it being symbolic, it is also more practical because it can be used for decorations and can even be propagated.
2. Regular buyers - these refer to the hotels, restaurants, churches that utilize ornamental plants for decorations. They are regular buyers because they order and buy flowers on regular basis, either for indoor decoration or for landscaping.

3. Flower Shows/Displays – during towns'/cities' fiestas or charter days, one of the highlights is flower shows. Many ornamental vendors in Marilog participate in these activities. They go as far as Davao City, Cagayan de Oro City, Bukidnon, General Santos City and Cebu City.
4. Special buyers - this refers to buyers who are considered as collectors. Mostly, these are affluent personalities wanting for rare plant species. They are the target buyers for indigenous plant species.

**The challenges and issues.** Naranja (2007) considers ornamental plant industry in the Philippines to be promising. However, such livelihood is confronted with issues and challenges. Likewise, the ornamental plant growers in Baganihan are confronted with the following issues:

1. *Inadequate production technology.* Production technology among the ornamental plant vendors of Baganihan is seen to be inadequate. Growers still collect top soil from the forest because they have observed that the soil in the lowland is less fertile. They also get pebble stones in the forest to serve as pot for bonsai. Some of the growers in Baganihan use Complete fertilizer (14-14-14) to help the plants grow, and also use organic matter such as rice hull. Cultivation and sale of ornamental plants, especially indigenous plants, is one way in which rural households or communities can generate income, but there is a need to have an adequate knowledge in production technology. Based on Integrated Community-based Ecosystem Management (ICEMA) project, an ornamental plant grower has to develop a plan for the nursery or display area, nursery structure and equipment, identify suitable plants and obtain plant material and set up the nursery (ICEMA).
2. *Lack of capital.* The growers/traders lack sufficient capital in running the enterprise. They need money to buy pots and polyethylene, and improve their nursery and display area. They also have to buy new variety of ornamental plants which they want to propagate. Likewise, they need money for their travels and accommodation so that they can participate in the flower displays in other places.
3. *Absence of cooperative.* The vendors in Baganihan are not formally organized, though they have informal linkages with each other because they are either friends or are blood-related. Nevertheless, it is good if they will be organized into a group and be formed into a cooperative. By so doing, there would be a mutual cooperation in addressing their needs, and a concerted effort in responding to calls for floral displays in other places. Likewise, there are funding institutions willing to fund loans applied by cooperatives or by organized communities.
4. *Inadequate display centers.* Most vendors do not have adequate display centers. Their stalls are small and they are just displaying along the highway of Baganihan. During the interview, the respondents expressed their desire to have bigger display centers and would want to expand their displays in other places. This requires money and better linkages.
5. *Absence of alternative livelihood.* Cultivation and trading of ornamental plants is a promising enterprise, but the livelihood as engaged by the grassroots in Baganihan is just small-scale. The activity cannot yet be considered full-blown, and the income of the vendors is minimal. Hence, the respondents need other sources of income, for what they have at present is just enough for their basic needs like food, clothing and shelter, but it could not fulfill the education of their children. They do not even have budget for medicines in cases when a member of the family gets ill. The respondents identified running a sari-sari store, operating a carenderia (small restaurants), livestock raising, and opening beauty parlors as good alternative livelihood.
6. *Lack of skills.* Some of the respondents have children who are unemployed. They are

not degree holders, hence chances for employment is limited. However, Marilog District and many other areas of Davao City are considered as tourist areas. Many hotels are operating that need workers. The respondents of the survey want their children to be trained in housekeeping by the Technical Education and Skills Development Authority (TESDA), so that they can qualify for employment in the hotels.

**Conclusions.** Ornamental plant cultivation and trading is a good source of income, and with proper support and intervention from the Local Government Units and the National Government agencies, it can be enhanced into a profitable industry. This industry manifests a gender issue, placing males at a more advantaged position. Domestic activities and responsibilities of women limit their chances to have higher income. Cultivators are using conventional technology, and they are extracting some materials and endemic plant species from the forest. Aside from being laborious, the practice is not sustainable as it may threaten the depletion of endemic species. In general, there is a need for the ornamental plant growers to develop a sustainable means of production, and improve its linkages with other institutions to receive and distribute their products in a larger scale.

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