SUBSISTENCE-ORIENTED CORN PRODUCTION IN CEBU: CONTRASTING LOCAL KNOWLEDGE AND DEVELOPMENT PERSPECTIVES

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This paper focuses on the agricultural environment with corn as primary crop in Bogo and Dumajug towns in Cebu, and on perceptions of peasant-farmers engaged in corn production, including their motivations, the corn varieties preferred, and consumption and utilization practices. The study finds that corn is valued as the staple food, and as such is embedded in the lifestyle and world views of these rural households. Members of households perform specific roles in the various processes of corn production, consumption and utilization. Corn is not primarily produced as a commodity to be sold for profit but as a subsistence crop to ensure food security for the household for an entire year. Thus, native corn varieties are preferred over the more recently introduced high-yielding varieties because they can be depended on for a steady supply of grain for household consumption. These findings are contrasted with the assumptions of the government's agricultural program for corn. The peasant worldview is sometimes misconstrued by government planners and program implementers as 'traditional thinking and refusal to adapt to modern ways' of agricultural production. But for these peasant households in rural Cebu, planting corn is a strategy to ensure households' staple food needs, rather than a source of cash.

***Keywords**: Corn production, farming systems research, local knowledge, peasants' perspectives*

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Introduction

Of the Philippines' main agricultural crops, corn is considered the second most important next to rice (followed by coconut, bananas and other fruits, sugarcane, tobacco and abaca). Corn is also the primary source of feed for poultry and livestock producers. Harvests of the traditional white corn varieties are mostly retained for domestic consumption as well as animal feed. There are roughly 1.8 million corn farmers in the whole country, many of whom are smallholders dependent totally on rainfall for production (Gerpacio et al. 2004).

Anthropology has contributed much to farming systems research, providing cultural analysis of farming production systems especially from the perspective of the farmers themselves. This has linked technocrats with the practitioners to come up with a synthesis of programs that are grounded on farmers' experiences but are also informed by technical expertise in terms of other aspects of agricultural production (Norman 2002). Our study compares technical government agriculture development programs and local knowledge and practices on corn production. It seeks to determine Cebuano peasants' perspectives on corn, as well as their motivations and current practices relating to corn production, corn varieties, and corn consumption and utilization, as contrasted with government agricultural program objectives, implementation and outputs. Many government agricultural programs are planned at the national level and implemented at the local level, and sometimes are not congruent with or applicable to the situation in specific farming communities.

Cebu is one of the few provinces in the Philippines where corn is a major staple crop. This may be due to the type of soil as well as the lack of irrigation in agricultural areas in the province, making it not suitable for rice production. In fact Cebu produces more corn than rice, and it is the top-producer of corn in Central Visayas. Data from the Bureau of Agricultural Statistics (BAS) (2012) show that in Central Visayas, Cebu has the biggest area planted to corn (55.2% of total area or 113,892 hectares out of the total 206,270 hectares planted to corn in the entire region). In terms of corn production, Cebu also leads (at 90,518 metric tons out of the total production of 172,138 metric tons in Region VII, representing 52.6% of entire production).

Local corn production in Cebu compares with other Third World countries[1] wherein non-mechanized methods are used and corn is grown in small-scale family farms (Tanchuling 2007). This situation reflects what Tadem (2018) refers to as a form of peasant moral economy largely based on subsistence needs characterized by a limited area for cultivation, low productivity, high production and transportation costs, low market prices, a scant surplus, and traditional modes of production. Tadem (2018) contends, based on field research in various communities in Luzon, that household-based peasant societies still persist in the Philippines despite changes in specific aspects of the economy, social relations, and political structures.

This study likewise underlines the peasant world view in local contexts. However, there is a dearth of studies on peasants'[2] perceptions, actions and decisions as regards corn production in Cebu. Studies on corn production have been done by government agencies and related institutions, mostly

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[1] Corn (maize) is a global commodity and a dietary staple for more than two hundred million people worldwide (King 1992). In Kenya, maize is central to household food security (STEPS Centre 2012). In Ethiopia, maize has the highest annual production and productivity among all other cereal crops. It is mainly used as food and its production, processing and utilization provide employment and income-generation activities for a big percentage of the population (Twumasi-Afriyie et al. 2001). Unlike in Africa where most of the corn grown is for human consumption, more than half of the corn grown in the United States is used for animal feed (McCann 2005). At present, the United States is the world's largest producer of corn comprising around 95% of total grain production (USDA 2006). But while corn production in the US uses mechanized and industrialized methods, most of the corn-producing underdeveloped countries produce and process corn by hand on small-scale family farms, such as in Malawi where corn is consumed as a "stiff porridge" (Conrad 2010).

[2] In peasant agricultural systems, the main economic actors are the persons who make a living from and have a way of life intimately connected with the land, as they produce agricultural crops primarily for subsistence (Redfield 1956; Firth 1950; Wolf 1969). The common definition of the term "peasant" in cultural anthropology is that they are cultivators whose primary means of livelihood is subsistence agriculture centered in a rural community. However, this definition later expanded to consider the relationship of rural villages and the state, the impact of macro-economic processes, effects of modernization on rural communities, and internal differentiation within peasant societies (Schüren 2003). As Harris (2005) points out, the importance of peasants to anthropology is their representation of a special economic situation wherein they are both in and out of the wider society and commodity markets. He posits that peasants embody a *dual* economic orientation, providing for themselves as well as for others at the same time. The term "peasant" thus evokes contradictory representations and realities.

focused on technical as well as economic aspects (Tanchuling 2007, Gerpacio et al. 2004). Yet Cebuanos in rural areas consider corn as their staple, and the peasant or subsistence farmers consume more corn than rice. In many areas of Cebu, corn cobs are dried, stored, and milled as needed for immediate utilization. This underlines the subsistence nature of corn production, as opposed to larger-scale yellow corn production in Luzon and Mindanao which is mainly sold to mills producing feeds (Gerpacio et.al. 2004).

The importance of corn to Cebuanos is moreover reflected in two festivals centering on corn in Cebu. One is the *Sinanggiyaw* festival of Dumanjug, and the other is the *Pintos* festival in Bogo. The Sinanggiyaw, coined from the terms "*sinanggi*" meaning 'harvested corn', and "*sayaw*" meaning 'dance', is observed in Dumanjug every fourth of October. The Pintos Festival in Bogo on the other hand, is celebrated during the last week of May. The *Sinanggiyaw,* was celebrated starting in the year 2001 to coincide with the town's fiesta, however it was later replaced with the "*Bisnok"* festival in 2012 [celebrating "*Bisayang manok*" (Bisaya/native chicken) food distinct to Dumanjug]. Bogo's Pintos Festival replaced the then *Kuyayang* festival [heritage courtship dance festivity]. in the year 2011 to highlight its main agricultural product which is corn. Both festivals highlight processes in corn production. The Sinanggiyaw is centered on planting and harvesting, while the Pintos festival focuses on an end food product called "*pintos*", made of ground corn and wrapped in corn husk. Our study was conducted in these two towns, Dumanjug and Bogo, with the fact that the local government units of these towns have recognized corn as an important product in their locality to be honored with a festival focused on corn, serving as the criteria for choosing these sites. In the course of data gathering, contrasting technical and local knowledge in these two sites surfaced.

The study was conducted in 2014 to 2015, and utilized focus group discussions (FGDs), in-depth interviews and field observation to gather information on people's awareness, perceptions and practices from their own points of view. Secondary data from Dumajug and Bogo local governments, as well as from the province of Cebu provide a general background of corn production and consumption in these areas.

A total of sixteen (16) focus group discussions as regards corn and food security were conducted, two—one for males and another for females of productive ages—in each of the four barangays in the two municipalities. The FGDs were participated in by 8 to 10 community members with similar socio-economic backgrounds. In-depth interviews (IDI) were conducted with

two or more purposively selected elderly informants aged 80 years old and above (one male and one female); and two adolescent informants aged 12 to 14 years old (one male and one female) for each of the four barangays in the two municipalities to get perceptions of those in the dependent ages as regards corn and changes over time.

With the prior verbal informed consent of the research participants, FGDs and IDIs were audio-recorded. The researcher also kept and maintained field notes containing field observations. Field observations were done on the process of corn production, processing and consumption; as well as during the corn festivals of each town. Photo documentation of specific practices in corn production and consumption in the target communities provided a visual presentation of field observation data substantiating the textual qualitative data.

The study participants were smallholder peasant households engaged in corn production and consumption. Identification of the specific barangays and households to participate in the study was done in coordination with the municipal agriculture offices of the local government unit. Selection criteria for inclusion were the two highest and two lowest corn-producing barangays. The Municipal corn coordinators of the Municipal Agriculture Offices and an official of each barangay LGU were interviewed to provide an overview of government programs and support services for corn farmers.

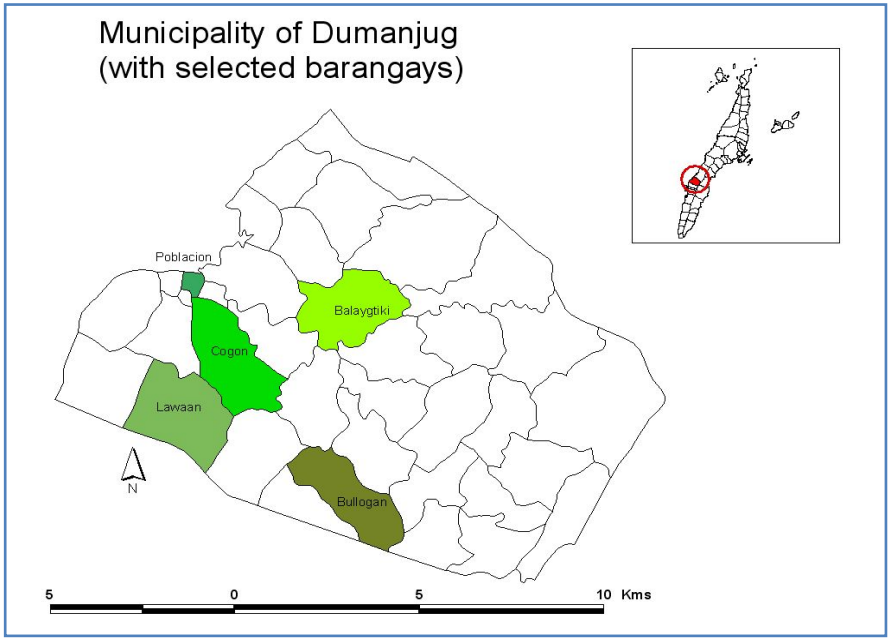
The texts and narratives in field notes were analyzed using thematic analysis (coding the text based on identified themes). Like-coded data were grouped together to determine recurring ideas, trends, similarities as well as differences relating to geographical location, gender, age, occupation/ livelihood, among others. Distinct direct quotes were taken note of in line with specific themes.

Corn farming in Dumanjug and Bogo

***Background of study sites*.** Dumanjug is a third class municipality in the southwestern portion of the province of Cebu located 73 kilometers from Cebu City. It has 37 barangays and a total population of 46,754 based on the 2010 Census of Population and Housing. It has a land area of 8,544 hectares, 4,755 has. of which is devoted to agricultural production. After consultations with the Municipal Agriculture Officer, we identified two barangays considered the top corn producer in the municipality namely Brgy. Lawaan and Brgy. Cogon. Another two barangays which have lower corn production due to the terrain of the land were likewise included, namely Brgy. Balayg

Tiki and Brgy. Bullogan located in the upland portions of the municipality. (See Map 1).

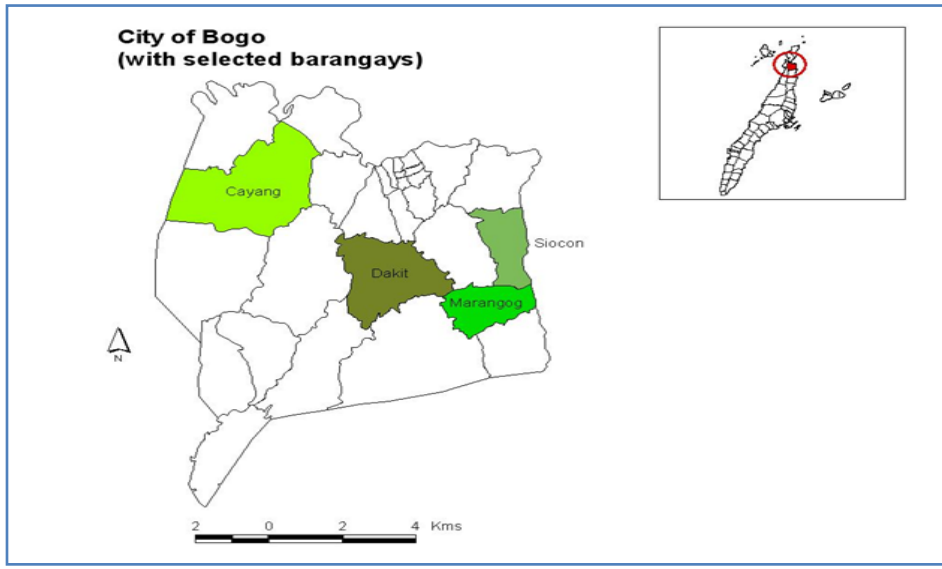
Bogo City on the other hand is a newly-chartered city located 101 kilometers north of Cebu City. It has 29 barangays and a total population 69,911 based on the 2010 census. It has a land area of 10,545 hectares and is considered the center of agro-industrial trade and commerce in northern Cebu. After consultations with the Corn Coordinator of the City Agriculture Office, two barangays were identified to be included in the study since they are the top corn-producing areas in the city, namely Brgy. Dakit and Brgy. Cayang. The other two barangays identified to be included in the study which had low corn production were Brgy. Siocon and Brgy. Marangog. (See Map 2).



Map 1. Map of Dumanjug showing selected study sites

Land relations and class structure. In both Dumanjug and Bogo City, peasant households on average cultivate farms of one hectare or less. Most have a landholding of less than a hectare; others are "*sa-op*" (tenants). The arrangement is referred to as "*nana-op*" (tenanting) or "*giabangan ang yuta*"

(leasing of land). The tenant is allowed to plant crops on the land, the landowner gets a share of the harvest. The common practice in both areas is "*tinulo*": one-third share to the landowner, and two-thirds to the tenant. Some farmers have their own land and plant in their own area but if this is not enough for their family's consumption they become tenants in other landholdings such as of landowners who no longer reside in the area or who cannot till the land themselves. As farmer-informants said, "*kana siguro di na sila katikad mao na nga dawat nalang sila og bahin limpyo ba, di na mahago*" ('maybe they can no longer till the land themselves, that is why they just receive a share with no sweat at all').



Map 2. Map of Bogo City showing sampled barangays

Division of labor by gender and age. In terms of paid labor for specific tasks on the farm, landowner-farmers as well as tenants may hire farm labor for plowing the fields, weeding, harvesting and other tasks on the farm. The usual arrangement for work rendered is payment in cash. However, for the work of harvesting, the usual arrangement is payment in kind (corn). Harvesting may also be done by groups. A number of people will help in harvesting in exchange for a small share of the corn crop.

Most of the time, farm labor is provided by household members. During land cultivation, males are responsible for plowing the field since it is considered as needing more strength which men may possess. Some women asserted that they too can plow a field, while others said that it was too strenuous for them. A plow and a carabao are necessary in plain areas. However, it is difficult to plow sloping lands, so farmers use the "*marik*" (a farm tool with a flat end on one side and a pointed end on the other side) to cultivate the soil. These are generally considered male tasks. The females in the household take charge of planting the corn seeds and placing fertilizers in the holes. Some children help in these tasks also. Farmers' children who are also students may help in the cornfield during weekends or after they are dismissed from school every day. The younger ones however do not help in fertilizer application since they do not know how to handle fertilizers, especially the inorganic ones which need extra care to prevent contamination of body parts or food items.

Shifting household livelihood strategies. Some respondents stated that children nowadays are not used to helping their parents full time in the farm since they are busy with school work during weekdays, and with playing or mingling with friends during weekends. Young people were described as more into using their cellphones and computers rather than doing farm work, although some still do help in the farm. Young people interviewed explained that "*wala man mi maanad ana*" ('we are not used to that type of work'), some of their parents also said "*dili mi gusto nga mapareha namo among mga anak, eskuyla jud ang unahon*" ('we do not want our children to be like us, thus we let them prioritize schooling'). This underlines how farming is viewed in general – it is considered a lowly job; engaged in by those who have not earned a college degree or have not found employment outside the farm. This view may be the reason why some farmers' children are not knowledgeable in planting corn, how to apply fertilizer, and the kind of fertilizer that is best for the corn. But according to young people interviewed, they do help their parents in harvesting sometimes and in the task of "*paglubo*" (detaching the kernels from the cob).

Sometimes, work exchanges are done—a farmer works in another's field in exchange for work done in his own field. Farmers' organizations have been organized by the municipal/city agriculture offices. These organizations were meant to serve as the bridge to access government agricultural development programs.

To earn additional income to defray other household expenses for food, schooling, and health needs, among others, household members engage in paid labor in other farms, in construction sites, or around the neighborhood. Some households also raise poultry, swine or livestock which they could sell in times of dire necessity. Others plant easy-to-grow vegetables such as horse radish, tomatoes, and eggplants for household consumption. They also grow perennial crops such as bananas and coconut to supplement farm income. Each household employs varying livelihood strategies to make ends meet given the limitations posed by limited land area, changing climate, and changing social relations. Those with larger landholdings of two or more hectares tend to diversify their crops more than those with just a hectare or less who tend to prioritize food crops, primarily corn.

Reasons and motivations for corn production

From the informants' narratives, it is apparent that corn production has been practiced for generations as this has provided subsistence to many peasant households. Thus, the same land which their parents planted to corn in the past, are still planted to corn until the present times. The knowledge on corn production has been passed on from one generation to the next and has allowed them to survive over the years. This is one reason why they are engaged in corn production, which 'has always been the means of making a living here' ("*mao nama'y naandan nga panginabuhian dinhi*").

Farmers in Dumanjug and Bogo also prefer corn because it is not water-intensive. Most of these peasant households largely rely on rain for their corn fields. Their fields do not have irrigation systems that could sustain the water needs of other crops. This is a major reason why they engage in corn production rather than rice production. The limited water available for crops is also a factor for the persistence of corn farming in Cebu despite the trend at commercial and industrial agriculture in other parts of the country. Meanwhile, there were also some corn farms that were left idle because those in the younger generation no longer want to engage in farming due to other work opportunities in the town centers or in the city. They see farming as a non-lucrative venture which cannot provide enough income for survival.

The peasant households engage in corn production for their own consumption rather than for the market. Corn is their staple food which sustains them day in and day out, month after month, and year after year. Growing their own food is the primary motivation behind planting corn, which ensures that they will have the staple food to eat, even if they do not

have money. Every cropping season the aim is to harvest enough corn for consumption until the next harvest.

Corn is stored and milled according to the consumption needs of the household. Milled corn cannot be stored for long, but corn still on the cob can be stored for long periods. The household estimates the consumption necessary in a month so that that would be the amount of corn milled for the period. The harvest for each cropping season is budgeted over the number of months before the next harvest to ensure that the household has have a steady supply of corn grain until they are able to harvest a new crop. Thus, food security is the primary reason for small peasant households to engage in corn production. As they said, "*magtanom jud mig mais kay para sigurado na ang pamugas, panud-an nalang ang kulang*" ('we really plant corn so that we are sure we have our staple, all we lack is the viand').

Corn is the preferred staple food among peasant households in both Dumanjug and Bogo City. If given the choice on whether to eat corn or rice, they said they would always prefer corn. According to most of the research participants, corn satisfies their hunger and provides them enough strength every day to do work on the farm. "*Mas lig-on og busog ang mais, dili ka dali gutmon*" ('corn is more filling and you won't feel hungry right away'). Participants stated that they are used to eating corn, as this is what they have consumed since they were still children.

They consider the land as the giver of life as it is the primary means by which they could provide food for their households' needs. This is the reason why they do not leave the land idle. They also said that their land has been given by God to them and thus, they should use it to produce food in order for them to survive.

The notion of food security surfaced upon asking regarding farmers' reasons and motivations for corn farming. The common response on why they continue to grow corn despite environmental changes and low productivity was because it ensured that they had food on their table for the succeeding months after harvest, even if sometimes it could not suffice until the next harvest. Farmers emphasized that having food from their corn harvest is better than having money from cash crops that would just disappear in a few days.

Despite the propagation of cash crops by government agencies and the emphasis on using new open-pollinated varieties of corn for commercial purposes, farmers in these municipalities insist on their traditional varieties since these have already been tried and tested through time. They say that

some of their neighbors with larger landholdings tried the new varieties introduced by the government, but these were easily infested with weevils, affecting storage life. Cash crops are okay with them as long as it does not take up a big percentage of their land, which has to be devoted more to corn production. Thus, the farmers usually plant banana or coconut at the sides of their corn farms as these would not take up too much space.

Preferred corn varieties

From the informants' narratives, the most commonly grown corn varieties both in Dumanjug and Bogo City are the native kinds, locally termed "*tinigib*","*minantika*", "*bisaya*", and "*karaan*". These types of corn have been planted over generations, and were used by their ancestors ("s*a amo pa ning katigulangan*").

Such varieties are also preferred because they can be stored for a longer period of time or until the next harvest. The native or local corn varieties moreover may be stored without being infested with weevils.

Tinigib" in particular is considered important for household consumption as their staple. According to the farmers interviewed this corn variety is easy to plant and grows fast without much attention. It can be harvested within a short period of time. Within two months, you can already harvest young corn for direct consumption either boiled or grilled; when it reaches three months, the corn is already dry, ready to be harvested for staple consumption. Based on the farmers' description of its physical appearance, tinigib has small seeds and small cobs, but when the corn seeds undergo grinding it can produce more corn grits compared to the hybrid variety.

In sum, hybrid and open-pollinated varieties (OPV)[3] are considered by majority of the peasant households as impractical to grow on their farms, which are largely for subsistence, and not commercial production. Cebuano peasant households prefer to plant native corn varieties since (1) they do not need a lot of fertilizers; (2) they are more pest-resistant; (3) they can be stored for longer periods; and (4) they yield more corn kernels and corn grits when milled.

[3] OPV are the corn varieties being introduced by the Department of Agriculture to the farmers. Based on agricultural descriptions, these seeds are those, which, if properly isolated from other varieties of the same plant species, will produce seeds that are genetically "true to type."

It was said that 'no amount of convincing from government agricultural technicians' can make them shift to hybrid or OPV. Some farmers have tried growing these seeds but after one try, they returned to planting the native varieties because growing hybrid or OPV entails more capital for fertilizers and pesticides. Moreover, these varieties cannot be stored for long periods, thus the household runs out of corn grits for consumption and they need to buy from the market. Thus only those with bigger landholdings were willing to plant hybrid or OPV; they could plant local corn for consumption and hybrid or OPV corn for commercial selling. While most of those owning only a hectare or less would prioritize corn production for household consumption given the limited area that they cultivate. Although there are potential buyers for their corn harvest, peasant households prefer to store the corn they produce for their household's consumption.

Decisions on what corn varieties to plant are also based on the taste of the product. According to our farmer-informants, the local corn varieties taste better. They are moreover considered more nutritious than milled hybrid and OPV. Examples of OPVs are "Yellow corn" which is largely for animal feeds and thus needs to be sold, not stored for household consumption. Another is "Sweet corn" largely sold as young corn for entrepreneurs selling steamed, boiled or grilled corn on the cob.

Corn consumption and utilization

As practiced by peasant households in Dumanjug and Bogo City corn is primarily harvested after 90 days when it is already mature and hard. This is for milling into corn grits to be cooked as staple food of the household. The harvested corn ears are then dried under the sun so that the kernels could be easily detached from the cob when they prepare the corn for milling. The dried ears of corn are placed in a "*kamalig*" or storage room which is either part of the house or a separate structure. The entire harvest could not be milled into corn grits altogether since it would lessen its storage life. Thus, what they do is they store the ears of corn. Before milling, the corn kernels are separated from the cob through the process called "*lubo"*. The household just estimates the amount of corn to be milled enough to sustain their consumption needs for a month. Then for the next month, they again have some corn milled into grits for consumption. If ever they run out of corn before the next harvest, they will have to buy corn grits for household consumption. That is why they really estimate the amount of corn to be milled for a given period so that their stock would not be depleted up to the next harvest. As they said, 'we are sure that we have corn grits, all we lack is

the viand to go with it' ("*sigurado na man nga naa mi bugas mais, sud-an nalang ang kulang*").

The corn kernels are milled either through traditional (manually) or 'modern' (by machine) ways. Nowadays, farmers prefer to have their corn milled using the mechanical process in corn mills for convenience. But in the past each peasant household owned a corn grinder made of either stone or wood. The milling process produces three outputs, namely, "*bugas mais"* (corn grits or grains), "*tiktik"* or "*binlod"* (corn meal), and "*tahop"* (corn bran). There are different sizes of corn grits: 12, 14 and 16 (12 is biggest and 16 is smallest). Our data showed that in Dumanjug, the preferred grain size is #16, while in Bogo the preferred grain size is #14. As a daily staple, corn grits are boiled with water to produce a hard porridge ("*kan-on nga mais"*), which is eaten with vegetables, fish or other viands. This is what people consume in three meals a day. *Tiktik* or *binlod* which is smaller than the #16 is used to cook soft porridge, and sweet snack foods such as *pintos* and the like. *Tahop* is considered a byproduct of the milling process; it is used as animal feed for swine and other farm animals. The payment for milling services may be either in cash or in kind [in corn]. Owners of mills accumulate a significant volume of corn for selling as a number of farmers have their corn milled in these facilities.

The "*pakaw*" or empty corn cobs are utilized by the households as fuel for cooking in supplement to the use of firewood.[4] The "*pakpak*" or corn peels are also animal feeds for cows, carabaos and other farm animals. The dry corn stalks are left to rot on the ground and serve as organic fertilizer. In short, nothing goes to waste— corn products and by-products have their respective uses for the peasant households.

Given the limited volume of these products, marketing these outside their immediate communities were not seen as lucrative enough. As their products are mostly used and consumed within the household or within a limited range in their respective communities, they have to engage in other income-generating or production activities in order to provide for their protein and other needs. This is why some corn farmers engage in construction work between planting and harvesting in order to earn income for "*panud-an*" (viand) and other household needs. The female members of corn producing

[4] Jokingly, some respondents said that they also use these rough cobs for cleaning their anus after defecating.

households, sometimes engage in paid domestic work in the town center or the city to contribute to their household income.

The government's Agri-Pinoy Corn Program

"*Dali ra bukbokon ang hybrid, dili matinir*". "*Mas maayo ang tinigib kay karaan man gud to siya nga variety unya mas gahi to.*"

('Hybrid varieties easily get infested with weevils, so it cannot be stored for long.' 'Native varieties are better because they have been used for ages, and they are harder.')

Open pollinated corn varieties have been propagated and promoted by government over the years through various agricultural programs implemented by the Department of Agriculture through the Municipal or City Agriculture Offices. The Agri-Pinoy Corn Program "aims to increase production of quality corn and also cassava for human consumption, feeds and industrial uses, as well as empower the farmers and increase their income, thereby improving their quality of life. Its overall strategy is to fast track expansion of hybrid corn, cassava and other feed crops.[5]

According to key informants from the Municipal Agriculture Offices, the corn program is a national program and the central office of the Department of Agriculture takes charge of its implementation in the various municipalities and provinces in the country, through the local agricultural offices. They narrated that the usual process is to convince one or more farmers to adopt the introduced variety and plant it on their farm. This is what they call a 'demonstration farm'. The variety is planted complete with the prescribed fertilizers and pesticides. They also mobilize local farmers' organizations to take part in the demo farm so that they could see for themselves the advantage of using these open-pollinated varieties. The next step is to convince other farmers to do the same in their respective farms. However, adoption by farmers in Cebu of these varieties has turned out to be quite low due to the high input requirements of the OPVs and their low resistance to pests, both during production and storage.

Research participants used the term "hybrid" to refer to the varieties of corn being promoted by government and which they described as bigger in terms of cob and kernel sizes. The different "hybrid" varieties mentioned

[5] "(T)o achieve food and feed self-sufficiency, enhance the competitiveness of the domestic livestock and poultry sectors through cheaper feed inputs as well as generate jobs in rural communities." (Department of Agriculture website)

include "var. 4", "var. 6", "var. 10", "yellow corn", and "sweet corn". These varieties have the tendency to have big cobs that are not necessarily full of kernels. Often the kernels do not fully develop and thus, cannot produce a lot of corn grits when milled. Furthermore, according to the farmer-informants, these varieties cannot be stored for long. They easily get molds or infested with weevils.

Farmers who have tried planting such varieties also said that it also took a longer time to grow these types of corn before they could be harvested. Hybrid corn takes around 105 to 110 days or 15 to 20 days longer than the native varieties. If the objective of planting corn is for selling it immediately after harvest, then the hybrid varieties bring in more cash for the household. However, since most peasant households produce corn for their own consumption, planting hybrid varieties is impractical since these cannot be stored for a long time. Because of this, the hybrid varieties need to be milled right after harvest and sold rather than stored for future consumption.

There are some peasant-households, specifically those with larger landholdings, who have ventured into planting hybrid and open-pollinated varieties of corn on their fields. These farmers have been trained under the Farmer Scientist Training Program of the Department of Agriculture. They are also recipients of corn production package programs from the municipal agriculture office including provision of seeds and fertilizers. They assert that hybrid corn has provided them with larger incomes from selling their produce. They also assert that they have had higher yields compared to when they were using native corn varieties. However, these peasant households are more the exception than the rule in both Dumanjug and Bogo City. Some farmer adopters said that indeed they earned large amounts from selling hybrid corn, but they also entailed more expenses for fertilizers and pesticides. Without these inputs, the hybrid varieties tend to have underdeveloped kernels. Thus, if the purpose of corn production for farmers is for household consumption, then planting hybrid varieties which require more inputs and have a shorter storage life would not be a welcome idea.

> "*unsaon man nimo ang halin sa mais kung wala kay bugas, mahurot ra nang kwarta unya wa na moy makaon"*
> ('what will you do with the income from selling corn while you do not have corn grains, the money will easily be spent and then you won't have anything to eat anymore').

Government programs promoting hybrid and open pollinated varieties are often unsuccessful in convincing peasant households to shift to these so-

called "better" varieties. According to personnel from the municipal and city agriculture offices, these varieties have larger cobs and larger kernels and could fetch a higher price when sold in the market.

Since corn production is largely dependent on rainfall patterns, changes in climate drastically affect cropping seasons as well as harvests. Natural hazards such as typhoons, floods as well as drought and dry spells periodically affect their corn crops. During the FGDs, farmer-participants lamented that "*di na man mutultul ang ulan og unsang bulana, lahi na man karon, di na magpareha kung kanus-a muulan, mao nga maapektahan among pagpamugas"* ('rainfall patterns have changed, it no longer rains when it normally should, that's why it affects our cropping patterns'). Aside from changing rainfall patterns, extreme weather conditions have been experienced recently. Peasant households in Dumanjug narrated devastating effects of flash floods on their crops during typhoon Seniang in December 2014. Due to delayed planting because of delayed onset of rain in August, some households had not yet harvested their corn crop when the typhoon occurred. They were able to salvage some of the corn crop since it was already somewhat ready for harvest at that time. The El Niño phenomenon bringing about long dry spells has also affected their corn crops. In fact, Cebu was declared under a state of calamity in 2015 as agricultural crops including corn suffered the effects of drought. The peasants in Bogo narrated the effects of supertyphoon Yolanda (international name Haiyan) in 2013 on their crops (including coconuts, banana, and other crops) severely affected their stocks of corn which were meant to last until the next harvest in April.

As perceived by majority of peasant-households in the two sites, the government lacks action in agriculture. In response to the devastation brought about by Haiyan, government was concentrating on infrastructure as well as dole-outs to affected households. The government was unable to provide necessary agricultural support services for farmers even after huge calamities brought about by supertyphoon Yolanda devastated farmlands in Bogo City; as well as flash floods from the typhoon Seniang in Dumanjug. The Municipal/City Agriculture Offices, for their part, lament their devolution to the local government units which seldom prioritizes agricultural development programs. National agricultural programs are very limited in scope and coverage.

Conclusion

Corn production is largely considered as a source of food rather than cash in Cebuano peasant households. This is the product of adaptation to certain

conditions such as water availability, land ownership, terrain, soil type, and climate. The native corn varieties planted, timing of cropping seasons, as well as social arrangements in production, consumption and utilization have enabled survival given the limitations of their natural and social environments. For cash, these peasant households turn to other sources such as livestock raising and wage labor on-farm or off-farm.

This paper has tried to point out contrasting perspectives reflected in government agriculture development programs in relation to local knowledge and practices on corn production in Cebu, where corn is considered the staple. Generally, these government programs are perceived as "modern" and "advanced"; while local peasants' practices on corn production are tagged as "backward" and "traditional" and have been disregarded in the planning of such government programs.

The local world view has been passed on from one generation to the next over the years. However, worldviews propagated by formal schooling, mass media as well as government implementers have slowly exerted a big influence on rural peasant households over time especially among the young people. Parents no longer want their children to follow in their footsteps as farmers cultivating the soil, they would rather send them to school, and earn a degree which would enable them to look for money-earning work in the city, or abroad. Mass media has succeeded in ensuring a consumerist culture based on the market economy. Furthermore, agricultural development programs implemented by the government emphasize commercial agricultural production rather than food security.

Despite such intervening factors affecting worldviews and values, corn production and consumption among rural peasant households has persisted largely due to the fact that it is well-embedded in an important aspect of life– their staple food. Food security is a foremost consideration in this case. Government agricultural programs need to be responsive to this worldview rather than try to change it or operate based on a commoditized view of corn.

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