FOOD TECHNOLOGY AND FOOD SAFETY

I. Introduction: In Focus-Negros Oriental

Despite being known as the sugarlandia of the Philippines, the island of Negros also boasts of its food industry covering a wide gamut of products that caters to local and export markets. Dried fruit varieties, herbal derivatives and sweets, to name a few, reach the international zones of the USA, Asia and Australia. The once sugar producers are now diversifying product categories to address the dynamic market, going into either farming of herbal plants or high value commercial crops, or are into the development of existing product lines, such as muscovado sugar from the usual refined ones, to cater to a niche market at premium prices.

The food service industry spells its own success. In the capital city of the province, restaurants and hotels that serve varying cuisines are growing like mushrooms. Supermarkets, groceries and malls increasingly abound which likewise marks as a potential drop off points for different local agricultural products. Consequently, the distinctiveness of the local delicacies which is quite unique in each municipality is one of the many reasons why the tourism industry of Negros Oriental is continually scaling up.

The food industry of Negros Oriental is vibrant and each local producer is exceptional. Opportunities for constant, if not better market expansion, abounds both globally and locally. However, these businesses, regardless of size, from ambulant vendors to small and medium companies to restaurants, are hurdled with common problems that limit market penetration.

Food safety compliance, third party certifications and quality issues are among the pressing concerns as these are the most obliged by the end markets to initiate or continue doing business with them. While a fraction of the processors are granted with licenses to operate from the Philippine Food and Drug Administration (PFDA), majority are still if not on the process of acquiring one, do not know or has no intentions of getting it.

A. Program Partner Profiles

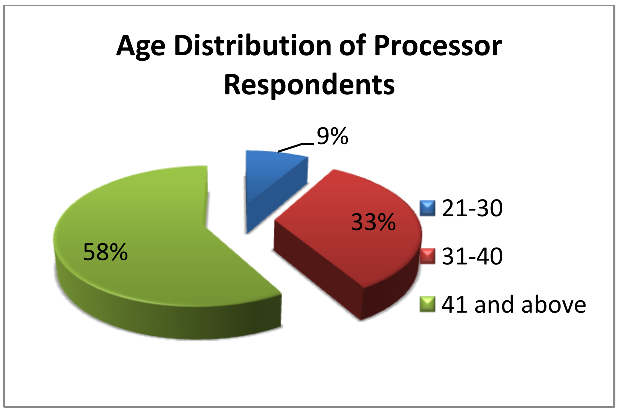
Under the OURFood Program, the Negros Oriental Chamber of Commerce and Industry have pre identified partner clients under the food processing sector. 12 processors were interviewed for the purpose of the baseline survey. The group is divided into the following two categories and sub categories:

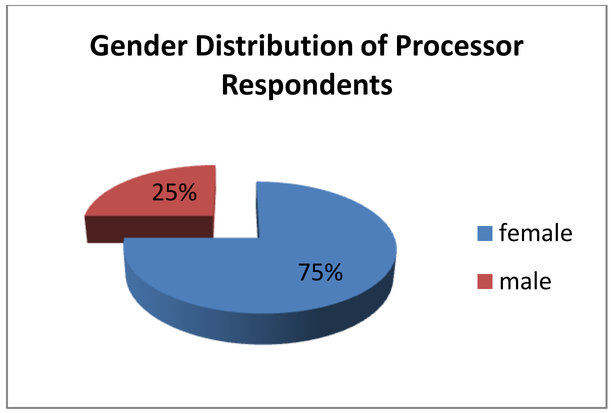
1. Food service sector
    a. Hotels and restaurants
    b. Micro to small enterprises involved in cakes and pastries

   c. Microenterprises selling local delicacies

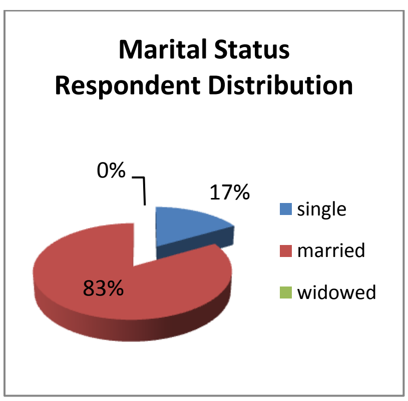
2. Food processing sector
   a. Micro to small enterprises involved in natural products
   b. Small to medium enterprises involved in fruit processing and derivatives with markets reaching the international arena
   c. Cakes and pastries producers for *pasalubong* centers

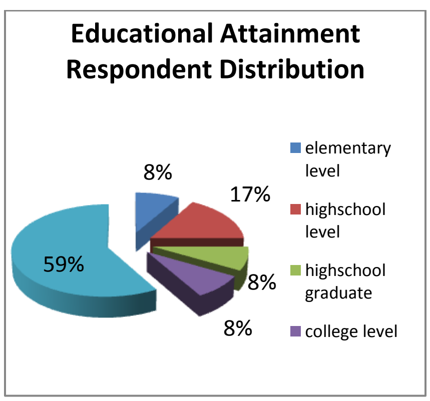
B. General Industry Sketch

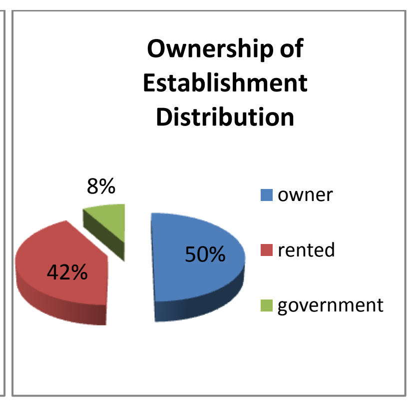




The respondents which are dominated by women at 75% of the total were either owners or department heads or supervisors. 58% of the respondents belong to ages 41 and above.







83% of the respondents have a family to support and 59% only have reached the elementary level of education. While 50% of the respondents owned the production units, 48% are renting their spaces for selling. These are all microenterprises that are vending local delicacies in public market areas. 2% is doing their business in government owned spaces, without any assurance as to until when they are allowed to use it. Moreover, they are utilizing the space for free.

II. <u>Assessment on Production and Income Status</u>

Category 1: Food Service Sector

Product	number of production unit	production cost	production volume	net income
Puto	1	196,600	3870 kgs	77,800
Chocolate	1	84,600	360 packs	49,500
Pilit/budbud	1	257,400	NA	180,000
Sweetened coconut	1	118,800	120,000 pcs	181,200

Under the food service sector, respondents were mostly vendors of local delicacies that sell in public market areas. They were selected since though micro on scale, the products are popular not only to the locals but to tourists as well, and have become the banner products of a municipality or city. Moreover, since the products are fast moving, the more there is the need to establish a food safety system to safeguard the consumers as well as the tourism business of the area.

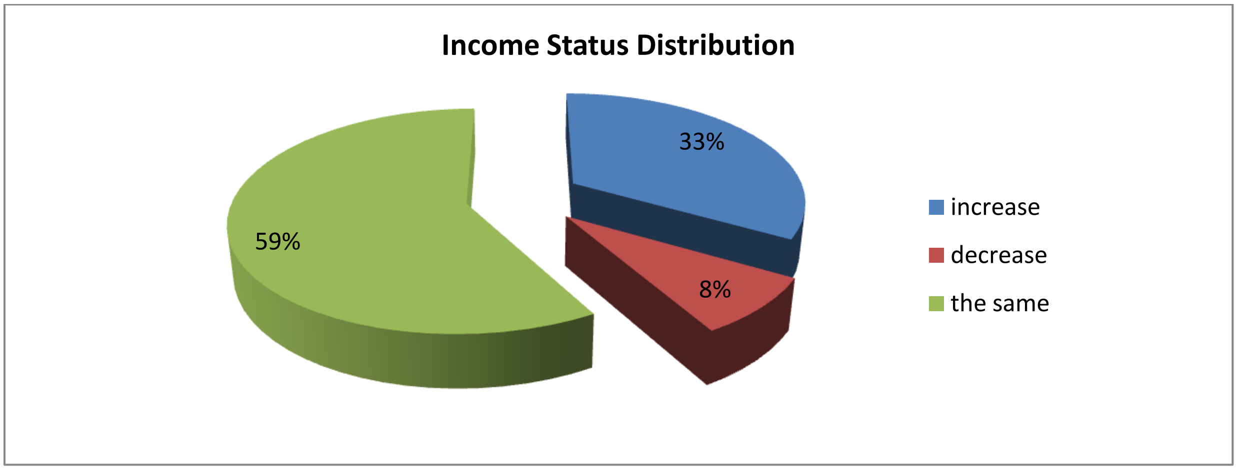
Product range covers *puto* and chocolate drink, two products that are always sold in tandem, *pilit/budbud* and *bukayo* or caramelized coconut. Processors only have one production unit with an annual production cost range of PhP 84,600.00 to PhP 257,400.00 which translates to an average monthly production cost of PhP 14,250.00. This produces an average of 3870 kgs of puto, 360 packs of chocolate drink and 120,00 pieces of sweetened coconut. Consequently, net income ranges from PhP 49,500.00 to PhP 181,200.00 or an average of PhP 9612.50 per month per business.

Though it may seem that income return is at 0.67 of production cost, these microenterprises did not consider the value of the individual labor of those involved in production. Accordingly, the daily income received from the selling activity is used for household expenses like food, utilities and education.

Category 2: Food Processing

Product	number of production unit	production cost	production volume	net income
calamansi concentrates	1	550,000	4,500 bottles	250,000
dried fruits	1	25,000,000	476,000 kgs	7,500,000
milk based products	1	3,700,000	109,000 liters	700,000
herbal powders	1	400,000	2,000 kgs	200,000
pastries	1	650,000	NA	NA

The food processors respondents' category is widely distributed between micro to medium, covering a range of production cost from PhP 400,000 to PhP 25,000,000 with a net income range of PhP 200,000.00 to PhP 7,500,000.00.



Generally, 59% of the respondents stated that their businesses are running flat for the period of January to May 2012. 33% have declared that there was an increase while 8% said otherwise. Increase in income were attributed to expansion of business, good weather, application of good manufacturing practices, and changed marketing strategy. On the other note, decrease in income was attributed to bad climatic conditions.

Source of income	No. of respondents	description	income for Jan-May 2012	ranking in terms of profitability	No. of respondents	ranking in terms of cash flow	No. of respondents
local delicacy	5	puto, chocolate, budbud and bukayo	36344	1	4	1	5
				2	1		
tricycle driving	1	transportation	36000	2	1	1	1
peanut butter and lumpia	1	selling	45000	1	1	1	1
dried mango	1	exporter	278000	4	1	3	1
dried papaya	1	exporter	2159000	2	1	2	1
dried pineapple	1	exporter	97000	5	1	5	1
cherry fruit bar	1	exporter	550000	3	1	4	1
cherry fruit mix	1	exporter	2963000	1	1	1	1
calamansi concentrates	1	juice drink	85000	1	1	1	1
milk products	1	Milk products and	1312500	1	1	1	1

		derivatives					
employee	1	government clerk	52175	1	1	2	1

Aside from food production, other income sources include labor as an employee of another organization or in rendering other services. In terms of profitability, all respondents have chosen food processing as top 1, with the same trend for ranking in terms of cashflow. The answers of the microenterprises have a huge influence on this result. This shows that there is total dependency of microenterprises to the food processing business that they are doing now. Other sources of income act as supplementary sources for additional household necessities.

Issues	Potential Solution
pests	pesticide application
quality products	product development
increasing input prices	
decreasing product prices	
little space	
international competitors	information drive
high production cost	product development
raw materials supply	contract growing
facility upgrading	Investment
technology upgrading	Investment
financing	look for financing source
employment status	continue production
time	hire an assistant
human resources behavior	Memo
market not yet maximized	market expansion

Issues concerning production and human resources raised by the respondents can be summarized in the following categories:

1. Product, Production and Operations
    a. Technology upgrading
    b. Facility upgrading
    c. Pest Infestation

    d. Poor product quality
2. Human Resources
    a. Inconsistent labor availability
    b. Employment status
    c. Human resource behavior at work place
3. Marketing
    a. Decreasing market prices
    b. Local and international competitors for supply and markets
4. Finance and over all administration
    a. Increasing input prices (high production costs)
    b. Raw material supply
    c. Minimal production space
    d. Assets and capital out lay

Product, Production and Operations. Overall product quality has been a primary problem of majority of the microenterprises. This covers good product characterization as well as suitable packaging that is appealing to the end market clients. Most of the products generally have acceptable physical characteristics with isolated cases on consistency concerns. Packaging material, however, is the chief concern, for aesthetic purposes and product stability for a longer shelf life. Consequently, there is a need for a major equipment and facility upgrading to at least meet the Philippine's minimum requirements on food safety. Once accomplished, the issue on pest infestation will be addressed, aside from the constant application of pest control chemicals that has health implications. Facilities of better layout, made of appropriate materials will facilitate good housekeeping procedures which is the utmost foundation of good manufacturing practices.

Human Resources. The problems in human resources were found to be common regardless of company size. Inconsistent manpower availability and employment status are the most common. While bigger companies rely mainly on their trained workforce to perform a specific process in the production, his absence has a big impact on the productivity and efficiency. Human resource behavior is more difficult to manage in bigger companies.

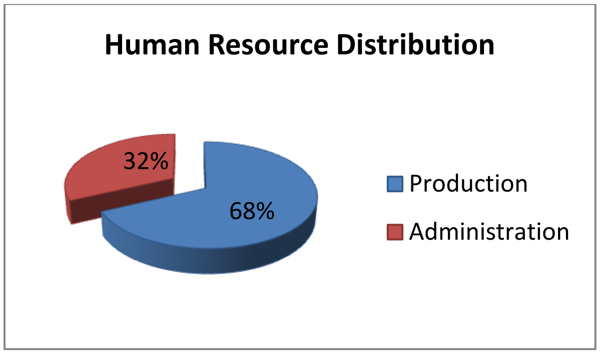
Marketing. Penetrating existing markets that the respondents are serving is one of their challenges. The demand is present; however, with the presence of local and international competitors that offers products or services in superior packaging materials at lower prices, they are challenged on forging bulk orders from buyers. International trading agreements have aggravated the situation, in the perception of the producers, since competitor products can move in without tariffs and taxes, which according to them, is one of their minimum safeguard against competition.

Finance and Over all Administration. Increasing prices of inputs is one of the major problems of the food processors, which also affects the price competitiveness of their products in the end markets. For the micro enterprises, this is aggravated by the lack of production space as well as the ownership of the facility and insufficient asset and capital outlay to improve productions. Bigger scale companies have additional problems on raw material outsourcing since industry competitors offer better prices to the limited number of suppliers with healthier trading arrangements, as perceived by the producers.

III. Assessment on Human Resource, Subcontracting and Employment

Operation Department	number of respondents	No. of Employees		Status of Employment	% to production cost
		Male	Female		
Whole processing	10	1-3	3	household	100%
management	2	1-3	8	regular	10% - 12%
production		1-15	2-12	agency	55% - 70%
warehousing			1	agency	3-25%
maintenance			2	regular	10%
laboratory		1		regular	5%
marketing		1	3-10	regular	10%

Workforce is distributed as 68% for the production and the remaining 32% performing administrative tasks. Micro enterprises usually have the involvement of family members to cut on overhead costs for human resources, with one or two, usually the head of households, carrying out the vital functions like food processing and business management. The rest of the family members act as helpers as needed by the primary persons. While this has proven to be effective for microenterprises with low capital input for additional manpower, one of the setback of this system is that the process is contained only to the persons who are directly involved in it. When they are absent or not in good shape to work, production is stopped.



Out of 12 respondents, 10 or 83% have stated that for the whole processing, manpower is purely from the household. This 83% are all microenterprises. From raw material sourcing to production and marketing, the heads of household perform the entire operations. Extra help is asked from other household members whenever needed, which is compensated on a per piece rate. For the whole processing, a range of 1-3 male laborers is required and 3 females.

On the other hand, for small to medium enterprises, company operations are departmentalized into management or administration, production, warehousing, maintenance, laboratory and marketing. The production department requires the most number of laborers taking a 55% to 70% of the total labor force. These are mostly hired through agencies. They carry out a specific portion of the process and is paid either on a daily wage or per piece rate. Administrative posts are assumed by regular employees. In general, operations are dominated by females.

IV. Raw Material and Production Inputs

Input	No. of respondents	Source & Location	No. of Suppliers	Price & payment system	relationship/ mode of procurement	frequency of supply	% to production cost
sugar	9	dumaguete public market/yanyan commercial, byanyek commerical dumaguete	2	2150 per sack	walk in	twice a month	9-13%
packaging material	6	nation printing cebu/mercury drug	1	industry rates	free delivery/walk-in	every production	8%
banana leaves	5	dumaguete public market	1	5 per leaf/cash	walk in	Everyday	3.24%
cacao	4	dumaguete public market	1	180 per kg/cash	walk in	everyday	
fuel	4	local fuel stations		industry rates	walk in	every production	5%
calamansi fruit	1	local farmers, camanjac	2	900 per bag/cash	delivered	per order	40%

		dumaguete					
carrageenan	1	shemberg cebu	1	9000 per sack/advance payment	delivery	every two months	2%
chemicals	1	Clark Chem and New Chem Manila City	2	30 days	truck delivery	quarterly	5%
coconut	3	dumaguete public market	1	15 per pc/cash	walk -in	everyday	6%
firewood	2	Negros Oriental	10	after sorting, payments are given	truck delivery for big company/walk in for micro scale	weekly/ everytime needed	5%
flavoring	1	la filipina bacolod	2	360 per kg/advance payment	delivery	monthly	30%
flour	1	yanyan cebu/ecoboy dgte		industry rates	walk-in	every production	10-70%
honey	1	yanyan commercial	2	200 per bottle/cash	pick up	per production	5%
labor	2	local/household	pakyaw	pakyaw		every production	20%
lemon grass	1	local farmers	25	10 per kg/cash	pick up	every 70 days	15%
malunggay	1	local farmers	25	10 per kg/cash	pick up	every 70 days	15%
mango	1	negros oriental	25	after sorting, payments are given	truck delivery	weekly	15%
oil	1	lucky trader/dumaguete	1	25 per flat/cash	walk -in	weekly	4.80%
papaya	1	valencia and bacong	15	after sorting, payments are given	truck delivery	everyday	30%
peanut	1	dumaguete public market	1	87.50 per kg/cash	walk -in	weekly	16.70%
pilit	4	dumaguete public market	1	50 per kg/cash	walk -in	everyday	18%
pineapple	1	amlan and calatrava	15	after sorting, payments are given	truck delivery	weekly	15%
raw milk	1	local dairy farmers	6	23 per ltr/ one week after delivery	delivery	daily	50%
starter culture	1	danasia, manila city	1	2500 per 100 gms/advance payment	delivery	every two months	5%
vegetables	1	dumaguete public market	1	300 per sack/cash	walk -in	every two days	57.40%
vinegar/salt	1	dumaguete public market	1	cash	delivery	monthly	0.20%

Results in the input supply questions showed that the most demanded production input is sugar, packaging material, and fuel. Sugar and fuel are abundant locally; however, packaging materials have to be sourced from Cebu, with minimal options. Respondents have raised the issue for the access to local label designers as well.

The availability of certain raw materials such as fruits for the production of fruit derivatives, either as dried products or into concentrates, was also an issue. For some businesses, it was hard to compete for the supply due to presence of other companies that provides better trading arrangements with the fruit producers, and is most of the time anchored on financial incentives (cash advances through agents).

V. Market and Marketing Assessment

Market: local delicacies	number of respondents	% of products sold	mode of payment
walk in	7	90%	cash
institutional buyers	1	10%	consignment

Respondents were categorized into two under markets. The first group are producers for local delicacies that has two types of buyers, walk-in and institutional buyers. Walk in customers comprises 90% of total sales with cash as immediate mode of payment. Institutional buyers takes a portion of 10% at product consignment arrangements.

Market: small-medium	number of respondents	% of products sold	mode of payment
walk in	3	33%	cash
institutional buyers	5	22%	consignment
local dealers	3	15%	consignment
others: export		30%	after one month
others: government			

The second group which is under small-medium size categories sells their products to walk-in, institutional buyers and local dealers. Walk-in clients still take the most portion of product sales at 33% through direct cash transactions, with institutional buyer and local dealers at 22% and 15% respectively.

Company Name	Location	Product Lines	Product Focus	Market

Chantilly Cake Hauz	Dumaguete City	Bakery products Local delicacies	Cakes and pastries and Budbud kabug	Lee Super Plaza, Cang's Supermarket, STEDS, Teletech, and Qualfon
Zigmund Enterprises	Dumaguete City	Fruit Concentrates	Calamansi concentrate	Cang's Supermarket, Bethel's Café Filomena, and Sidlakang Negros Showroom
Negros Dairy Processing Plant	Dumaguete City	Dairy Products	Plain & Flavored Fresh Milk, White & Mozzarella Cheese	Chantilly Cake Hauz
Ivon's Special Baye-Baye	Bayawan City	Local delicacies	Baye-Baye	Sangay Pasalubong Center, Ivon's Baye-Baye Store
Raw Brown Sugar Milling Co., Inc.	Pamplona	Sugar and sugar derivatives	muscovado sugar	Japan, Korea, and Domestic
Morgados Baye-Baye	Bayawan City	Local delicacies	Baye-Baye (Espasol)	Sidlakang Negros-Bayawan Booth, Morgados Baye-Baye Outlet
Sans Rival Food Devt Corp	Dumaguete City	Bakery Products	Cakes and Pastries	Scooby's and Sans Rival
Jose's Budbud Delights	Tanjay City	Local delicacies	Budbud	Sangay Pasalubong Center, and Bethel's Café Filomena
Jan's Kitchen Lalicious Pasalubong	La Libertad	Local delicacies	Banana Chips, Nutri-Frutti Real, Bucayo	Sidlakang Negros Showroom
Switz After Deli	Dumaguete City	Local delicacies	Bocayo de Negros	Cang's Supermarket, Lee Plaza Supermarket, Fortune Mart, NIJOSA, and Sidlakang Negros Showroom

Based on the respondent pre identified by the partner chamber in Negros Oriental, most of the partner groups are selling their products in the local market, distributing to supermarkets, groceries and *pasalubong* centers. Two companies are currently doing business in the export market, Orient Foods Incorporated and Raw Brown Sugar Milling Corporation. Orient Foods is into the manufacturing of dried fruits while Raw Brown produces muscovado sugar for Japan and Korea.

VI. Assessment on Technical Upgrading

Trainings attended	Providers	Relevance	Trainings Needed
Enhancing Food Safety and Quality from Farm to Table	CHO	improvement of livelihood	food handling
Food Handlers Training Course	AFOS/COSPO	Food safety	business management
Food Packaging Seminar	Cooperative from Balingasag Misamis Oriental	Appropriate packaging methods	export sales
Food Safety and GMP	DENR Region VII	hazard analysis on food products	food industry
Introduction to Hazard Analysis and CCP	DOST Region VII	how to effectively grow papaya in large quantities	management training
milk and milk products development	Guthne Fensen Aency	Improve product characteristics and increase variety	marketing
Pollution Control Training	NDA	how to minimize pollution problems	personal development
Sales training	NOCCI	how to sell effectively	processing
Technical Inputs for Papaya Contract Growers		how to produce right papaya quality on farm for plant processing	Refresher Course

When asked with the technical support for competency upgrading, most of the respondents selling local delicacies have not attended any other training aside from the requirement orientation conducted by the City Health Office for a permit to operate. On the other hand, micro and small food processors have undergone a number of extensive training programs on food safety management systems, including Basic Good Manufacturing Practices, HACCP, Product Development, and Food Packaging Seminars. These were provided by different organizations from the private and the government sector. However, establishment of a food safety culture is hampered by the following factors:

1. **Compliance requires financial expenditures**. Most of the food processors, especially the micro levels, may have to shed out additional investments to improve the production facility. Aside from financing the construction, some processors do not have their own spaces to improve.
2. **Lack of a competent staff to perform the task**. For bigger companies this may not be an issue, but it is for micro to small ones. As the whole production operations is taken over by

the household members to save on labor cost, hiring a new one for the purpose of food safety implementation is out of the question. The context of food safety may also be a jargon for some processors since the level of education attained limits their capacities to fully grasp the technicalities of the system. Although this can be resolved through a proper training and mentoring program with the right monitoring tools, the bigger problem comes in the availability of manpower to perform the task.

3. **Lack of incentive for change**. Most processors are not fully sold of improving current systems since they do not feel any incentives from the investment. While this may not be true for bigger companies selling to institutional and export markets, a big chunk of the program partners are microscale, selling to local clients, mostly walk-in. Generally, the consumer public in Negros Oriental looks for the price tag of the products, with quality and food safety as secondary factors for buying. Public awareness on food safety risks would play a significant role to effect a systemic industry transformation.

Company improvements	No. of respondents	percent distribution	improvements made	motivation of improvement	Source of information?
yes	4	33%	plant facility maintenance and improvement	market requirements	government
no	8	67%	LTO application	cost effectiveness	buyers
total	12	100%	product development	increase competitiveness	field

For the first semester of 2012, only 33% have executed improvements in their food production facilities, such as plant facility maintenance and improvement, application for licenses to operate and product development. The reasons for such activities were anchored on market requirements and productivity motivations. The remaining 67% of the respondents did not insititute any changes.

4. **Lenient regulatory implementation.** The Philippines has a number of good regulations to put food safety in place. National Meat Inspection Service has its own monitoring for meat and meat products, the Philippine Food and Drug Administration regulates the food processors, Bureau of Fisheries and Aquatic Resources do controls fish and fish products. However, there is difficulty in instigating strictly the law. There are inconsistencies in the implementation since apparently, for instance, there are still facilities that gets the licenses to operate even if these do not conform to the minimum requirements.

The respondents have identified the following needs for training:

1. Proper food handling
2. Food processing and product development
3. Business management and marketing vis a vis the food industry
4. Human resource management and values formation

VII. Personal Observations on Business Environment

Personal Observations of Business	Factors Affecting Business	Constraints	Potential Solution
business enough to provide daily basic needs	state of health	bad weather	better quality
business enough to provide daily basic needs but insufficient for education	bad weather	competition	nothing
business is showing progress	behavior of HR	economy	look for financing institutions
good product for a niche market	calamities	financing	training on values
increasing cost of inputs	competition of the same product lines	human resources	look for financing institutions
local market under class A-B	decreased support from LGUs	investment	product development
low sales for first quarter of 2012	events (fiesta)	low shelf life	
there is a big market opportunity for herbal products	financing since income goes to education	market penetration	
	increase price of raw materials	raw material supply	
	logistics	sickness	
	raw material sourcing		

The most common response when asked about how their observations on their businesses, was that it was enough to supply for the basic household needs. More often, the income they are getting from it is not sufficient for additional expenses like education and medical needs. The micro level businesses are for daily sustenance.

Although for some products like dried fruits, sales for the first quarter of the year are rather low as compared to the previous years, some products are gaining market grounds, especially those who are serving a niche market like herbal products. Low sales were attributed to increased input prices.

Among the identified important factors were state of health of the household member, natural calamities, climate change, manpower behavior, market competition of the same product lines, sustained financing for business, logistics and raw material supply. Most of these were also the constraints in business expansion, with additional forces like economy, and market dynamics. Based on the perception of the food processors, the best solutions for these identified setbacks for growth are product development for diversification, improving quality and upgrading competitiveness in the market, tying up with financing institutions for additional investment, and values training for the personnel. The seemingly most urgent concern is to address quality specifications and food safety concerns since 50% of the respondents said that they will get premium prices for their products if they have good quality.

I. <u>In Focus-Negros Occidental</u>

Negros Occidental is one of the five provinces that compose the Western Visayas Region (Region VI). It covers a total land area of 972,607 hectares is approximately 375 kilometers long from north to south. The island of Negros is made of volcanic matter which made its soil ideal for agricultural utilization. This was among the few reasons why the province was once eyed by the Spaniards for vast sugarcane plantations. In fact, Negros Occidental is still at current the country's major sugar producer, producing more than half of the total, with farms located in the north and west side of the island. Though primarily producing sugar, the province is still undergoing industry facelift since the sugar crisis in the 1980's. The campaign to diversify products is still ongoing which is why aquaculture, rice production, fruit and vegetable farming, and the like are continually expanding.

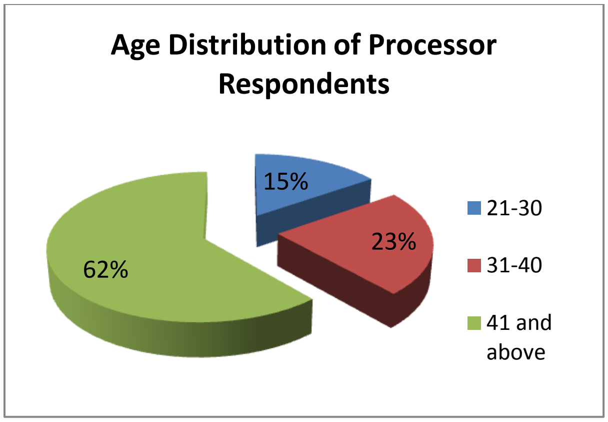
Bacolod City, the capital, is not just the center of commerce and finance of Negros Occidental. It is likewise the gateway to the culture, tourism and food of the province. It is where oil companies, factories, bottling plants, agribusinesses and aquaculture business ventures are found.

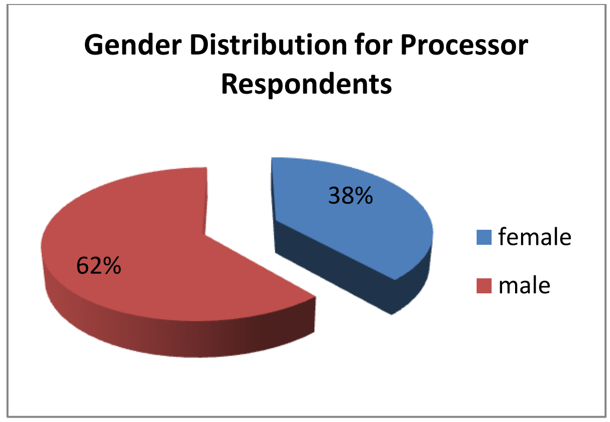
It is noteworthy to say that the province is currently giving focus on food security through the Negros First Program. This encourages the promotion of high value crops, corn, poultry, livestock and aquaculture production to make it self sufficient. High value crops identified included fruits such as mango, banana, pineapple, coconut, other crops such as *pili*, rubber, soybean, abaca and vegetable crops such as carrots, cabbage, celery, lettuce, squash, sweet pepper, ampalaya, mongo, pechay and radish. Organic or natural farming has also been a campaign. The province is giving priority on these recognizing the market opportunities it provides. While Negros Occidental is a food importing province, increasing productivity of these basic crops can improve their sufficiency levels, and likewise can bring in additional income to the people with the large market potentials of Cebu and Metro Manila.

A. Program Partner Profiles

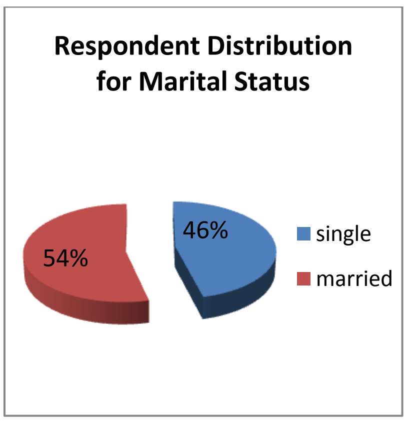
Identified partner processors for the OURFood Program were taken mainly from ANP's membership roster. Initially, the project in Negros Occidental will focus on companies which are into the productin of natural and fresh products. Aside from product category, track record in organizational participation was also factors that were considered during selection.

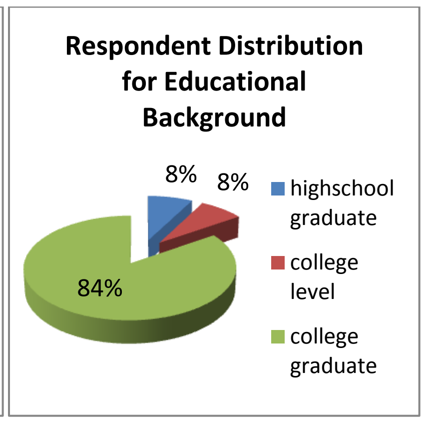
B. General Industry Sketch

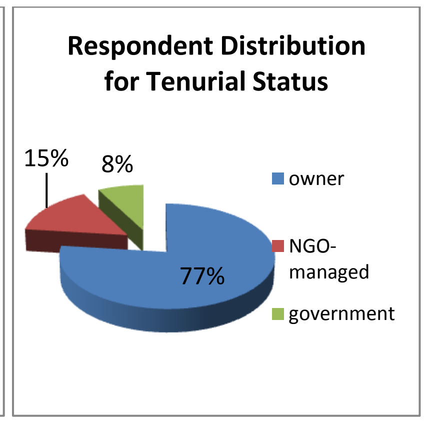




The respondents which are dominated by women at 62% were either owners or project heads or supervisors. 62% of the respondents belong to ages 41 and above. There were respondents between ages 21-30, who were either quality officers or sons and daughters of the company proprietors.







There is no big difference between respondents who were singles and who were married. 54% of the respondents have a family to support. More processors in Negros Occidental have reached a higher level of education with 84% earning college degrees. Most of the interviewees owned the company and the production units. 77%% of the respondents were owners, 15% are NGO-managed and the 8% is government-owned. Most of the respondents in Negros Occidental are under the small companies who are producing for institutional buyers.

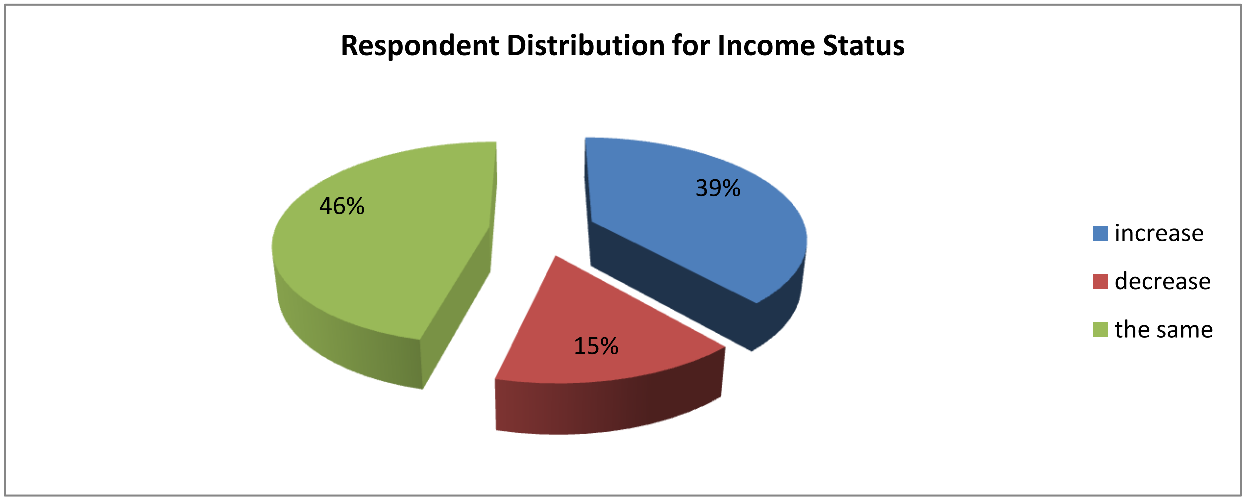
II. Assessment on Production and Income Status

Product Category	No. of Products	Estimated Annual Production Cost	No. of Employees	Annual Production Volume	Estimated Annual Income
Bakery Products	NA	NA	20	8,640	NA
Banana chips and Muscovado sugar	3	120,000,000	120	1.5 MT	8,000,000

papaya pineapple jam	10	NA	6	200 bottles	loss
Guava Jelly, Caramel Sauce, Ginger Beans	3	57,600	4	960 pouches	19,200
Pickled vegetables	24	60%	3	5760 bottles	25-30%
puto and cassava	250	1500000	10	228000 pcs	750000
pesto sauce, krispy kankong	18	60-80%	9	NA	NA
Complementary food	1	180,000	6	12 MT	480,000
Coffee	1	P110/pack	1	12 MT	NA
Herbal Tea and Capsule	1 to 11	960,000	12	120,000 capsules	NA
Essential Oils (Lemon grass and Citronella)	1	121,500	125	up to 1,080 liters	58,500

The food processors respondents are mostly into the production of natural products. This includes muscovado sugars, fruit and vegetables derivatives, coffee, herbal teas and supplements and essential oils. Company size widely varies from those that hire a minimum of 1-3 employees to companies that employs 250. Most of the companies have a range of 1-3 production units, with 1-7 retailing outlets. Some requested not to disclose financials. Producers of bakery products have their own outlets for selling and refreshment counters. They employ an average of 20 people to perform bakery operations. Skilled personnel are hired while the owners do the management. There were also producers of local delicacies with 10 employees. Income is 50% of production cost (PhP 750,000) annually.

Muscovado production is at an average of 1.5 metric tons, operating at a cost of PhP 120,000,000 yearly. This has a return of PhP 8,000,000, and is the highest of all respondents. Essential oils (lemon grass and citronella) can be produced up to 1,080 liters while herbal capsules is up to 120,000 pcs, at conservative estimates. Fruit and vegetable derivates can be produced at a range of 200 5760 bottles, depending on product.



Generally, 46% of the respondents stated that income from their food business has remained constant for the period of January to May 2012. 39% have declared that there was an increase while 15% have experienced income decrease. Increase in income, according to respondents, were due to expansion of existing production units, good weather, application of food manufacturing practices, market penetration and new markets served, increased market demand and the effect of marketing promotions. Decrease in income was attributed to increase in the cost of inputs.

Source of income	No. of Respondents	Description	income for Jan-June 2012
Business	10	product selling	NA
Donations	2	private donors	300000 to 20 million
Education Center	1	School	102000
Fund-raising	1	From different agencies	5 million
Social enterprise	1		240,000
Trading	1	Merchandise	300,000
Fabrication	1	rampumps, distillers, etc.	confidential
Piggery	1	Piggery (small scale)	50,000
Hotel Business	1	Hotel and restaurant	confidential

Income sources of the respondents included the food business, donations (for non government organizations), education center (school), fund-raising (for non government organizations), social enterprise, trading, fabrication, piggery and hotel. Disclosed incomes derived from business operations for the first semester of 2012, ranged from 50,000 to 300,000 while those which were raised by non government agencies from donations and project funds, reached to 20 million.

For most of the respondents, income from the food business ranked first in terms of profitability and cash flow. However, isolated number ranked it as second for both profitability and cash flow and has another business that gives more income.

Issues	Potential Solution
increasing input prices	Product development
decreasing product prices	Market penetration
little space	Look for financing source
high production cost	product development
raw materials supply	contract growing
financing	look for financing source
employment status	continue production
time	hire an assistant
human resources behavior	training on values formation
market not yet maximized	market expansion

5. Human Resources
    a. Human resource behavior at work place
6. Marketing
    a. Decreasing market prices
    b. Local and international competitors for supply and markets
7. Finance and over all administration
    a. Increasing input prices (high production costs)
    b. Raw material supply
    c. Minimal production space
    d. Assets and capital out lay

Human Resources. The problems in human resources were found to be common regardless of company size. Inconsistent manpower availability and employment status are the most common. Low worker motivation and poor behavior and productivity are a problem in most companies in Negros Oriental.

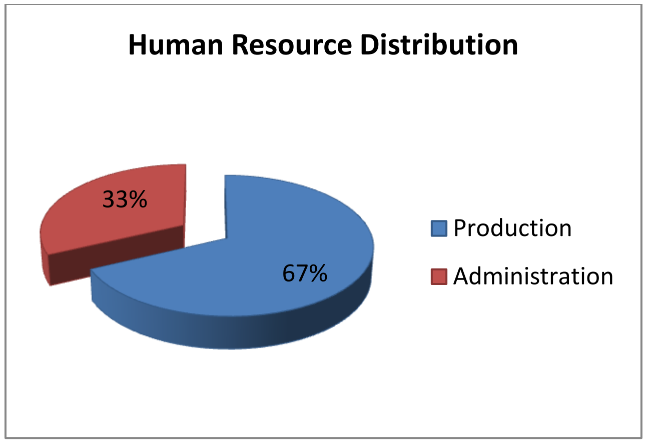
Marketing. The processors are challenged by the existing local competitors for their products. This is most true for bakery products, which has many producers in Bacolod alone. Companies are challenged with competitors that offer lower prices for the same products. Whereas some companies have promising market opportunities, such as herbal products and supplements, some companies on the other hand are experiencing market saturation. There are too many of the same product types being sold in the market.

Finance and Over all Administration. Increasing prices of inputs is one of the major problems, which also affects the price competitiveness of their products in the end markets. Companies that enjoy the fad on herbal and natural goods have problems on scaling up and improving facilities. They are hampered by investment requirements either to increase production, maintain facility, or to level up compliance to certain standards. Bigger scale companies have additional problems on raw material outsourcing since industry competitors offer better prices to the limited number of suppliers with healthier trading arrangements. Most often, there is little production on the required raw materials for their manufacturing plant.

III. Assessment on Human Resource, Subcontracting and Employment

Operations Department	No. of Employees		Status of Employment	% to production cost
	Male	Female		
Management and admin	1-5	2-4	hired per day/ household	19%
Production	1-4	1-20	hired per day/ household/per piece rate	40%
Marketing	1-2	1-7	hired per day/ household	30%
Laboratory	1	4	hired per day	6%
Finance	0	3	hired per day	5%

Generally, for Negros Occidental, company operations are departmentalized into management or administration, production, finance, laboratory and marketing. Workforce is distributed as 67% for the production and the remaining 33% performing administrative tasks. Employees are hired and paid either on a daily wage per production day or per piece rate with the company owners or their supervisors heading the operations. Skilled workers are hired to perform a specific task in the production. Generally, there are more females hired in each department as compared to males.



Production and administration departments are the most common in all the respondents. Bigger companies have the marketing and finance department to oversee advertising, promotions and sales as well as looking at the financial landscape of the organization. Production and marketing expenses takes the highest toll in the whole production at 40% and 30% respectively, with finance as the lowest at 5%.

IV. Raw Material and Production Inputs

Input	No. of Respondent	Source & Location	No. of Suppliers	Payment system	Mode of Procurement	Frequency of supply	% to production cost
Equipment	8	Manila, Silay, Bacolod	3	cash	delivery	when needed	19%
Packaging and labeling	13	Bacolod City, Manila, San Carlos, Cebu	1	cash	pick-up/delivery	weekly to monthly	26%
Logistics	1	Negros		cash	delivery	1	8%
Raw materials	10	Bago City, Binalbagan City, Talisay City, San Carlos, Bacolod	1-10	cash	pick-up/delivery	available when needed	47%

Raw materials and ingredients comprise the bulk of the production inputs at 47%. According to the supplier, although some still lacks supply, these can be sourced from the towns within the province of Negros Occidental. Processors have not tried sourcing from other provinces due to logistic cost considerations. Raw materials are ordered when needed which are picked up by the owner and is paid by cash. Some of the processors though, gets it from their own farms or from the farms of their farmer partners.

Packaging and labeling are the production inputs that are harder to source. Although there are available stores in Bacolod and San Carlos City, Cebu and Manila still has the better quality and provides more options for selection. Processors are still looking for more prototype choices suitable for their products, and at much lower cost, considering that it takes slightly more than a quarter (26%) of the production cost. Due to distance and price, processors order packaging materials and labels in bulk and schedule either a weekly or monthly acquisition.

Equipment and logistics were also considered by the respondents, which providers for fabricated machineries and logistics are found locally. There are some limitations in the type of service that these providers can offer such as the type of machine that can be engineered and the extent of distance to which logistics can carry the products.

V. Market and Marketing Assessment

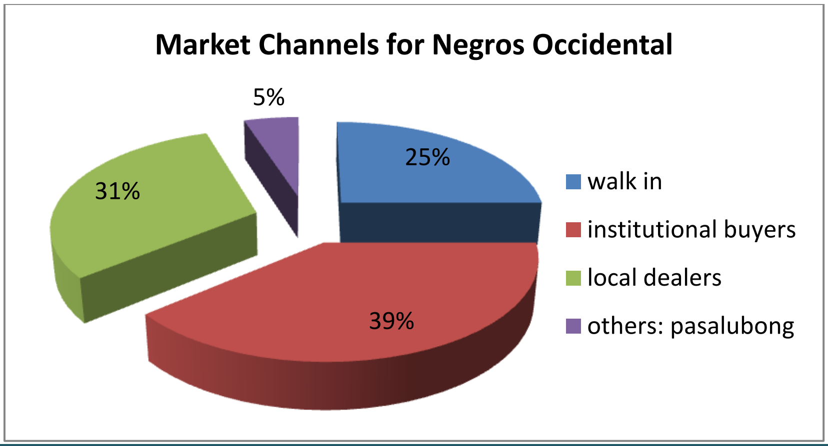
Identified processor-partners by ANP can be categorized by the type of products they are manufacturing:

1. Bakery products
2. Specialty and local delicacies
3. Fruits and vegetable derivatives
4. Essential oils
5. Herbal extracts and supplements

Company Name	City	Numbers of Own Production Units	Product Line(s)	You specialized in	Your Main Customer
CASA CARMELA KITCHEN	Bacolod	1	baked products; falvored piayitos; dipping sauces; bottled sardines; herbal tea	baked products	ANP Showroom, Rockwell Mall
El Ideal Bakery	Silay City	1	Baked products; pasalubong items; guapple and buko pies	Specialty Delicacies	ANP Showroom; Pendy's ; Silay outlet
Jarvi's	Bacolod	8	Puttanesca Sauce; tuna tapinade; saluyot cheese; crispy kangkong	pesto sauce; ensaymada	Negros Showroom; Pendy's; Supermarket; school canteens
QUAN/PUEBLO	Baoclod		pasalubong food; baked products; salad dressings; jams and jellies	pasalubong food; salad dressing	Quan Outlets; Negros Showroom; Pendy's
T-Flavors Food Products	Bacolod		pickled vegetables, fruits and salted products	pickled food	Negros Showrooms; Pasalubong stores; pendy's
Virgie's Homemad Products	Bacolod		Mangga Pastillas; Caramel Tart; Napolleone, Camias Twirl; Sugar puffs	baked products and pastries	Negros Showroom; Pendy's Supermarkets

ALTERNATIVE INDIGENOUS DEVELOMENT FOUNDATION, INC. (AIDFI)	Bacolod	3	Lemongras Essential Oils, Lemongrass Hydrosol	Renewable Technologies	Negros Showroom; Spa Centers; Cosmetic Company
Alter Trade Manufacturing Corp	Bacolod	17	Balangon Banana Chips, muscovado sugar	banana chips and muscovado	Germany; Japan; Switzerland;Malaysia; Austria
Herbanext, Inc.	Bago City		Herbal tea; Herbal extracts;	herbal extracts	Daily Apple outlets; Negros Showroom;
Mamabel's	Bacolod	1	Tea Tree Oil; Gotokola; Citronella oil	tea tree oil	Garden Shows; Negros Showroom;
Negrense Volunteers For Change	Bacolod	1	Flavored Piayitos , flavored polvoron , bottled meat food , candies and pate	Babies food	Negros Showroom Lacson,/ Rob Casa Carmela Store-lacson
Fortuna Café	Silay City	1	Guava Jelly , Caramel Jelly , Ginger Binge	guava jelly	
Leaf Organics			Malungay Capsule	moringa extracts	ANP Showroom, Manila
MUAD-Negros		5	Papaya -Pine apple jam, Banana otmeal brownish, malungay flakes, taro powder, taro chips		
SRM Herbal products	Bacolod	11	Herbal tea; herbal capsules; herbal pillows; liniments	dried herbs	Negros Showroom; Chinese Drug Store; YMCA ILOILO
NISARD Coffee	Bacolod	8	Robusta and Arabica Coffee		walk in customers; institutional buyers;

Products are sold in cash when it is a walk-in clients while for the rest, it is on a consignment basis. Some of the producers reach outside local markets such as Manila and Cebu for the essential oils, where the products are bought by spa centers. One respondent is catering to the export demand for muscovado sugar which takes 80% of his total production.



All of the respondents are processors and most are selling their products within domestic markets. For the local markets, 39% goes to institutional buyers such as groceries, supermarkets, and restaurants, 31% goes to local dealers while 25% of sales is attributed to walk in clients in own stores. The remaining 5% are those that are personally requested for *pasalubong*.

VI. Assessment on Technical Upgrading

Trainings Attended	Providers	Relevance	Needed Trainings
CGMP - Correct Good Manufacturing Practice	BFAD	Food safety	costing and pricing
Essential Oil Distillation	DOST	Technical Aspects of Distillation	food safety and technology
Chips Production and Food Safety	DTI	Farm based products processing	Packaging
Introduction to Hazard Analysis and CCP	ITDI	Food safety	quality control
Papaya wine and vinegar production	DOST	Alcohol Production	traceability

Food processors in Negros Occidental have undergone a number of extensive training programs on food safety management systems, including Basic Good Manufacturing Practices, HACCP, Product Development, and Food Packaging Seminars. They have also received process-based seminars specific for their product such as chips production, essential oil distillation and papaya wine and vinegar processing. These were provided by different organizations from the private and the government sector. The trainings were sufficient enough for the operators, yet at a glance, only a few have implemented food safety systems in the facility. The minimum requirements based on AO 153 are not even complied. However, establishment of a food safety culture is hampered by the following factors:

5. **Compliance requires financial expenditures**. Most of the food processors, especially the micro levels, may have to shed out additional investments to improve the production facility.

6. **Lack of a competent staff to perform the task**. Although most of the companies are capable of hiring a staff, personnel who are competent in food safety is not very common in Negros Occidental. The nearest university that offers a food technology course is University of the Philippines in Iloilo, where graduates opt to work in bigger cities such as Cebu and Manila as opportunities are better in these key cities.

7. **Lack of incentive for change**. Although most processors have acted on improving current systems, there are still some that have not, since they do not feel any incentives from the investment. Generally, the consumer public in Negros Occidental looks for the price tag of the products, with quality and food safety as secondary factors for buying. Public awareness on food safety risks would play a significant role to effect a systemic industry transformation.

Company improvements	% distribution	improvements made	motivation of improvement	Source of Information
yes	85%	accounting	business growth	DOST
no	15%	packaging material upgrading	commitment to market	FNRI
		equipment upgrading	market demand	Private consultant
		new product lines	improved quality	from trainings and seminars
		product research and development	cost effectiveness	personal observation
		production layout improvement	product standards	market requirement
		payment collection system	improvement in production	
		inventory analysis	improve quality	
		management systems improvement	improve competitiveness	
		added manpower	increase sales and income	
		recording system		
		production improvement		

85% of the companies made improvements in their operations. This include improvements in the accounting system, packaging material upgrading, equipment upgrading, created new products through research and development, improved the payment collection system, inventory analysis, management systems upgrading, establishment of a recording system as well improving production operations. According to the respondents, these changes were imperative in order to result cost effectiveness, improve quality to pump up marketability and competitiveness. Moreover, their markets have been demanding to meet certain minimum requirements to continue doing business with them. These facility development initiatives all boil down to increasing sales and income and forward business growth for the company.

8. **Insufficient available resources for improvement**. The companies who would want to further advance development in their companies are limited by the availability of certain resources essential to make the change. Specific examples include access to laboratory facilities for LTO-FDA requirements. The nearest laboratory is in Iloilo and some of the tests would have to be conducted in Cebu. More often, the lack of a common understanding is also a problem towards compliance, especially for food safety. Although there is the existing AO 153 as a basis for food safety for food processing, there is a hundred and one different perspective on how it should be implemented. Food processors are sometimes confused when they do not see it as auditors and inspectors, and other processors, or vice versa, see it.

9. **Lenient regulatory implementation.** The Philippines has a number of good regulations to put food safety in place. National Meat Inspection Service has its own monitoring for meat and meat products, the Philippine Food and Drug Administration regulates the food processors, Bureau of Fisheries and Aquatic Resources do controls fish and fish products. However, there is difficulty in instigating strictly the law. There are inconsistencies in the implementation since apparently, for instance, there are still facilities that gets the licenses to operate even if these do not conform to the minimum requirements.

The respondents have identified the following needs for training:

5. Costing and pricing
6. Food safety and technology
7. Packaging
8. Quality Control
9. Traceability

VII. <u>Personal Observations on Business Environment</u>

Personal Observations of	Factors Affecting	Constraints	Potential Solution

Business	Business		
business is improved due to improvements made	cash flow	available capital	financing institution
business is affected by economic changes	raw material supply	labor costs	upgrade equipment
business is down and unstable	market and competitors	product licensing	comply to minimum requirements
business is earning and growing	economy	competitors	explore more markets
market competition is rising	environment		
	weather		

Respondents in Negros Occidental have varying responses when asked to describe their personal observations on how the business is running. There were those who answered positively, saying that business has improved due to the developments implemented, and that the business is earning and growing. There were also negative answers such as business was affected by economic changes, business is down and unstable and that market competition is rising. Businesses were affected by available financing to keep it running. Consistent and sufficient raw materials are also becoming a hindrance for business growth. It is hard to keep up with the market demand when they have nothing to process, and the presence of competitors is more and more becoming a threat to their businesses. Other factors that are beyond their control are environment, economy and weather. Respondents also added product licensing as a constraint.

To sustain business in a very competitive market, especially that international laws have paved way for more competitors, food company owners still believe that there is no other way but up. And this can be done through continuous upgrading of process, facility and people parallel to further market penetration and/or exploration and compliance to minimum requirements through certifications.

COMPARATIVE SUMMARY OF THE BASELINE RESULTS FOR OURFOOD PROJECT AREAS

SECTION	NEGROS ORIENTAL	NEGROS OCCIDENTAL
Program Partner Profiles	NOCCI partners is categorized into the following two categories and sub categories: 3. Food service sector a. Hotels and restaurants b. Micro to small enterprises involved in cakes and pastries c. Microenterprises selling local delicacies 4. Food processing sector a. Micro to small enterprises involved in natural products b. Small to medium enterprises involved in fruit processing and derivatives with markets reaching the international arena c. Cakes and pastries producers for *pasalubong* centers	Basis for selection of ANP are the following: 1. Member or a prospect member of ANP 2. Involved in the production of natural and fresh products 3. Track record in the involvement of organizational activities
Involved Sector	Natural and fresh products Ambulant food service sector	Natural and fresh products processors
Product Categories	1. Fruit concentrates 2. Dried fruits 3. Milk-based products 4. Herbal powders and supplements 5. Bakery products and pastries 6. Local delicacies	1. Bakery products and pastries 2. Fruit and vegetable derivatives 3. Herbs and spice concoctions 4. Herbal tea and supplements 5. Essential Oils
Company Size	For both food service and food processing, company size vary widely from micro to small processors. The ambulant sector	Company sizes vary widely from household kitchen type to micro and small processors. A portion of the respondents have their

	for food service is also chosen to be a part of the project seeing the need to improve their service for food safety reasons.	own retailing outlets for their products.
General Industry Sketch	Majority of the owners/heads/supervisors of the companies are prime adults. The heads of operations are dominated by females, with males acting as a support system in the activities. Most of the respondents have families to support and generally, educational level for Negros Oriental partners is relatively low, with 59% reaching up to elementary level of education only.	Majority of the owners/heads/supervisors of the companies are prime adults. The heads of operations are dominated by males, but females also play a part in decision making. There is an even distribution between married and single respondents. Educational level of food processors is high as exhibited by the attainment of the respondents. Majority are college graduates and the lowest accomplishment is high school graduate
Ownership	Food processors have their own production areas, whether a separate facility or a kitchen at home. On the other hand, under the food service sector, the micro ones are operating under government property for a monthly rental fee.	Majority of production units are privately owned and are established with processing facilities. Liquidity of these private companies is mostly derived from business revenues. There are NGO or government-managed which gets further funding from donations and social enterprises.
Products and Production	Local delicacies Muscovado sugar Dried fruits Fruit concentrates Herbal supplements	Bakery products Pastries Local delicacies Muscovado sugar Fruit jams Herbal tea and capsule Lemon grass essential oil Citronella essential oil
Quality Specifications	Except for a few small and medium-scaled food processors, quality specifications have not	Most of the facilities did not have solid documentation regarding their operations. Quality

	been established especially for the ambulant food sector. Documentation is something to be installed for most of the companies.	specifications are established based on consumer feedback as well from own learnings from the owner's experiences.
Certification	Microenterprises generally are not yet FDA-licensed. Small or medium sized facilities have the license but only a few numbers have renewed or have applied for HACCP. The food sector secures sanitary permits from the city health office.	Mostly have acquired or are in the process of securing licenses to operate. Generally, apart from processing facility and equipment upgrading, documentation should be set up as a foundation for food safety compliance.
Scale	The food service sector respondents have only one production units, and the bigger ones have retail outlets and refreshment counters. Production volume is dependent on the size of the company. Average production is at 3870 kgs of *puto*, 360 packs of chocolate drink, 120,000 pcs of sweetened coconut. Production volume for food processors also vary ranging from 4, 500 bottles of concentrates, 476,000 kgs of dried fruits, 109,000 L of milk-based products, 2,000 kgs of herbal powder. Bakery products and pastries volume was not available.	Production scale varies widely, as a reflection of the varying company sizes. Some volumes are as follows: 1. Muscovado sugar – 1.5 MT Annually 2. Essential oil (lemon grass and citronella) – 1,080 L Annually, conservative due to raw material supply 3. Herbal supplements – 120,000 pcs annually conservative due to raw material supply 4. Fruit and vegetable derivatives – 200 – 5760 bottles, depending on product
Inputs and suppliers	Sugar, packaging material and fuel are the most demanded production input. Sugar and fuel are abundant locally; however, packaging materials have to be sourced from Cebu, with minimal options. Sugar and fuel are abundant locally questions showed that the	Raw materials or ingredients were identified as the main input and mostly are available within the province. Some are harvested from own farms. However there is insufficiency in supply locally for some of the raw materials like lemon grass and citronella. Packaging and labeling suppliers available in Bacolod City are

	most demanded production input is sugar, packaging material, and fuel. Respondents have raised the issue for the access to local label designers as well. The availability of certain raw materials such as fruits for the production of fruit derivatives, either as dried products or into concentrates, was also an issue. For some businesses, it was hard to compete for the supply due to presence of other companies that provides better trading arrangements with the fruit producers, and is most of the time anchored on financial incentives (cash advances through agents).	limited. Cebu and Manila provides better options for material and design, sometimes price, but distance is a limiting factor to acquiring their services.
Cost	Production cost vary from one food service to another, depending on size and product. On the average, annual production cost for the food service sector is at PhP 84,600.00 to PhP 257,400.00. Similarly, food processors follow the same trend. Annual production cost range from PhP 400,000.00 to PhP 25,000,000.00.	Production cost is relative to production scale. Some cost of the products as presented above are as follows: 1. Muscovado sugar – PhP 120,000,000.00 annually 2. Essential oil (lemon grass and citronella) – PhP 121,500.00 Annually, conservative and can still increase parallel to increase in volume 3. Herbal supplements – PhP 960,000.00 annually, conservative and can still increase parallel to increase 4. Fruit and vegetable derivatives – NA
Human Resource and Sub Contracting	Micro enterprises usually have the involvement of family members to cut on overhead costs for human resources, with one or two, usually the head of households, carrying out the vital functions like food	The company size dictates the number of employees hired and the status of employment. Household kitchen producers and micro enterprise production are carried out by 1-3 people, usually

	processing and business management. The rest of the family members act as helpers as needed by the primary persons and are compensated either on a daily rate or on per piece rate. On the other hand, for small to medium enterprises, company operations are departmentalized into management or administration, production, warehousing, maintenance, laboratory and marketing. The production department requires the most number of laborers taking a 55% to 70% of the total labor force. These are mostly hired through agencies. They carry out a specific portion of the process and is paid either on a daily wage or per piece rate. Administrative posts are assumed by regular employees. In general, operations are dominated by females.	comprising of heads of households. Micro and small companies hire additional staffing. Bakeries, for instance, employ an average of 20 people to perform bakery operations. Skilled personnel for a specific job task are hired while the owners do the management and the decision making. Generally, most of the companies have departmentalized operations to comprise of the following: 1. Management or administration 2. Production 3. Finance 4. Laboratory (isolated case) 5. Marketing Production has the most number of employees. Employees are hired and paid either on a daily wage or on a per piece rate (*pakyaw*). There are more females hired in each department as compared to males.
Technical Capacities	When asked with the technical support for competency upgrading, most of the respondents selling local delicacies have not attended any other training aside from the requirement orientation conducted by the City Health Office for a permit to operate. On the other hand, micro and small food processors have undergone a number of extensive training programs on food safety management systems, including Basic Good Manufacturing	Food processors in Negros Occidental have undergone a number of extensive training on food safety management systems (GMP, HACCP, Product Development, and Food Packaging Seminars). Other trainings are product-specific such as chips production, essential oil distillation and papaya wine and vinegar processing.

	Practices, HACCP, Product Development, and Food Packaging Seminars. These were provided by different organizations from the private and the government sector.	
Marketing	Based on the respondent pre identified by the partner chamber in Negros Oriental, most of the partner groups are selling their products in the local market, distributing to supermarkets, groceries and *pasalubong* centers. Two companies are currently doing business in the export market, Orient Foods Incorporated and Raw Brown Sugar Milling Corporation. Orient Foods is into the manufacturing of dried fruits while Raw Brown produces muscovado sugar for Japan and Korea.	The processors are selling their products within domestic markets. Local markets include institutional buyers such as groceries, supermarkets, and restaurants. Dealers and walk in clients have also taken a portion of the market. Most of the products are bought as *pasalubong*.
Finance and Over all Administration	The daily income received from the selling activity of the ambulant food service sector is used for household expenses like food, utilities and education. On the other hand, the food processors respondents' category is widely distributed between micro to medium, covering a range of production cost from PhP 400,000 to PhP 25,000,000 with a net income range of PhP 200,000.00 to PhP 7,500,000.00. Generally, 59% of the respondents stated that their businesses are running flat for the period of January to May 2012. 33% have declared that there was an increase while 8% said otherwise. Increase in income were attributed to expansion of	Income for most of the respondents has remained constant for the period of January to May 2012. Those who have stated increase in income were attributed to expansion of production units, good weather, and application of good manufacturing practice. New markets were also served and existing markets were penetrated even more. There were observed increases in market demands and marketing promotions played a role in this. Decrease in income; on the other hand, were attributed to the increase of cost of inputs. Disclosed incomes derived from

	business, good weather, application of good manufacturing practices, and changed marketing strategy. On the other note, decrease in income was attributed to bad climatic conditions.	business operations for the first semester of 2012, ranged from PhP 50,000 – PhP 300,000. Non government organization companies were able to raise donations up to PhP 20 Million.
	Concerns and Issues	
Product, Production and Operations	Overall product quality has been a primary problem of majority of the microenterprises. This covers good product characterization as well as suitable packaging that is appealing to the end market clients. Most of the products generally have acceptable physical characteristics with isolated cases on consistency concerns. Packaging material, however, is the chief concern, for aesthetic purposes and product stability for a longer shelf life. Consequently, there is a need for a major equipment and facility upgrading to at least meet the Philippine's minimum requirements on food safety. Once accomplished, the issue on pest infestation will be addressed, aside from the constant application of pest control chemicals that has health implications. Facilities of better layout, made of appropriate materials will facilitate good housekeeping procedures which is the utmost foundation of good manufacturing practices.	Generally, Negros Occidental project partners are more advanced than Negros Oriental. Product development relative to market specifications should always be on going. Packaging and labeling will have to be improved for some of the products.
Human Resources	The problems in human resources were found to be common regardless of company size. Inconsistent manpower availability	The problems in human resources were found to be common regardless of company size. Inconsistent manpower

	and employment status are the most common. While bigger companies rely mainly on their trained workforce to perform a specific process in the production, his absence has a big impact on the productivity and efficiency. Human resource behavior is more difficult to manage in bigger companies.	availability and employment status are the most common. Low worker motivation and poor behavior and productivity are a problem in most companies in Negros Occidental.
Marketing	Penetrating existing markets that the respondents are serving is one of their challenges. The demand is present; however, with the presence of local and international competitors that offers products or services in superior packaging materials at lower prices, they are challenged on forging bulk orders from buyers. International trading agreements have aggravated the situation, in the perception of the producers, since competitor products can move in without tariffs and taxes, which according to them, is one of their minimum safeguard against competition.	The processors are challenged by the existing local competitors for their products. This is most true for bakery products, which has many producers in Bacolod alone. Companies are challenged with competitors that offer lower prices for the same products. Whereas some companies have promising market opportunities, such as herbal products and supplements, some companies on the other hand are experiencing market saturation. There are too many of the same product types being sold in the market.
Finance and Overall Administration	Increasing prices of inputs is one of the major problems of the food processors, which also affects the price competitiveness of their products in the end markets. For the micro enterprises, this is aggravated by the lack of production space as well as the ownership of the facility and insufficient asset and capital outlay to improve productions. Bigger scale companies have additional problems on raw material outsourcing since industry competitors offer better prices to the limited number of	Increasing prices of inputs is one of the major problems, which also affects the price competitiveness of their products in the end markets. Companies that enjoy the fad on herbal and natural goods have problems on scaling up and improving facilities. They are hampered by investment requirements either to increase production, maintain facility, or to level up compliance to certain standards. Bigger scale companies have additional problems on raw material outsourcing since industry

	suppliers with healthier trading arrangements, as perceived by the producers.	competitors offer better prices to the limited number of suppliers with healthier trading arrangements. Most often, there is little production on the required raw materials for their manufacturing plant.
Others: Food Safety Compliance	Establishment of a food safety culture is hampered by the following factors: 10. **Compliance requires financial expenditures**. Most of the food processors, especially the micro levels, may have to shed out additional investments to improve the production facility. Aside from financing the construction, some processors do not have their own spaces to improve. 11. **Lack of a competent staff to perform the task**. For bigger companies this may not be an issue, but it is for micro to small ones. As the whole production operations is taken over by the household members to save on labor cost, hiring a new one for the purpose of food safety implementation is out of the question. The context of food safety may also be a jargon for some processors since the level of education attained limits their capacities to fully grasp the technicalities of the system. Although this can be resolved through a proper training and mentoring program with the right monitoring tools, the bigger problem comes in the availability of manpower to perform the task.	Compliance is limited by the following reasons: 1. **Compliance requires financial expenditures**. Most of the food processors, especially the micro levels, may have to shed out additional investments to improve the production facility. 2. **Lack of a competent staff to perform the task**. Although most of the companies are capable of hiring a staff, personnel who are competent in food safety is not very common in Negros Occidental. The nearest university that offers a food technology course is University of the Philippines in Iloilo, where graduates opt to work in bigger cities such as Cebu and Manila as opportunities are better in these key cities. 3. **Lack of incentive for change**. Although most processors have acted on improving current systems, there are still some that have not, since they do not feel any incentives from the investment. Generally, the consumer public in Negros Occidental looks for the price tag of the products, with quality and food safety as secondary factors for buying. Public awareness on

12. **Lack of incentive for change**. Most processors are not fully sold of improving current systems since they do not feel any incentives from the investment. While this may not be true for bigger companies selling to institutional and export markets, a big chunk of the program partners are microscale, selling to local clients, mostly walk-in. Generally, the consumer public in Negros Oriental looks for the price tag of the products, with quality and food safety as secondary factors for buying. Public awareness on food safety risks would play a significant role to effect a systemic industry transformation.

For the first semester of 2012, only 33% have executed improvements in their food production facilities, such as plant facility maintenance and improvement, application for licenses to operate and product development. The reasons for such activities were anchored on market requirements and productivity motivations. The remaining 67% of the respondents did not institute any changes.

13. **Lenient regulatory implementation.** The Philippines has a number of good regulations to put food safety in place. National Meat Inspection Service has its own monitoring for meat and meat products, the Philippine Food and Drug Administration regulates the food processors, Bureau of Fisheries and Aquatic Resources do controls fish and fish products. However, there is

food safety risks would play a significant role to effect a systemic industry transformation.

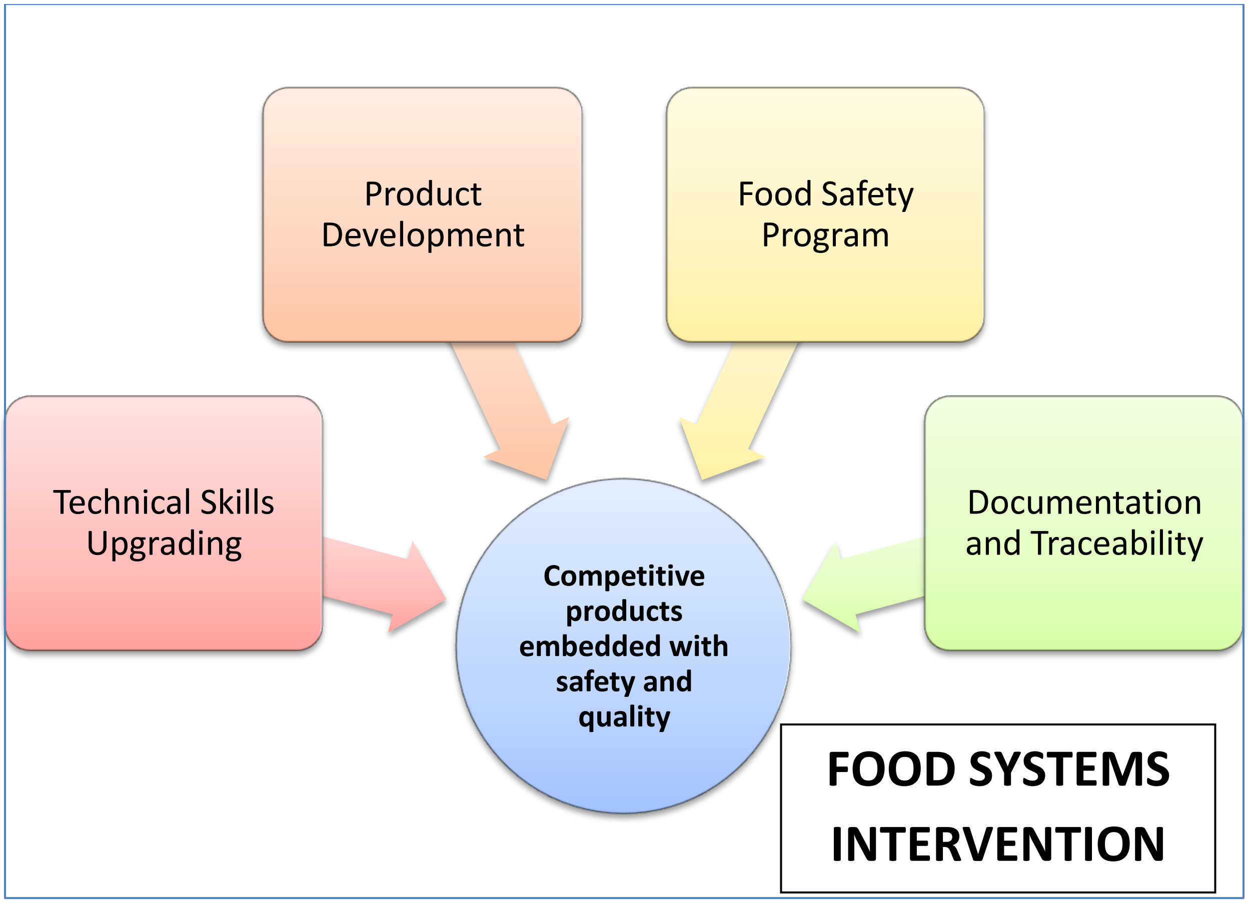
85% of the companies made improvements in their operations. This include improvements in the accounting system, packaging material upgrading, equipment upgrading, created new products through research and development, improved the payment collection system, inventory analysis, management systems upgrading, establishment of a recording system as well improving production operations. According to the respondents, these changes were imperative in order to result cost effectiveness, improve quality to pump up marketability and competitiveness. Moreover, their markets have been demanding to meet certain minimum requirements to continue doing business with them. These facility development initiatives all boil down to increasing sales and income and forward business growth for the company.

4. **Insufficient available resources for improvement**. The companies who would want to further advance development in their companies are limited by the availability of certain resources essential to make the change. Specific examples include access to laboratory facilities for LTO-FDA requirements. The nearest laboratory is in Iloilo and some of the tests would have to be conducted in Cebu. More

	difficulty in instigating strictly the law. There are inconsistencies in the implementation since apparently, for instance, there are still facilities that gets the licenses to operate even if these do not conform to the minimum requirements. The respondents have identified the following needs for training: 10. Proper food handling 11. Food processing and product development 12. Business management and marketing vis a vis the food industry 13. Human resource management and values formation	often, the lack of a common understanding is also a problem towards compliance, especially for food safety. Although there is the existing AO 153 as a basis for food safety for food processing, there is a hundred and one different perspectives on how it should be implemented. Food processors are sometimes confused when they do not see it as auditors and inspectors, and other processors, or vice versa, see it. 5. **Lenient regulatory implementation.** The Philippines has a number of good regulations to put food safety in place. National Meat Inspection Service has its own monitoring for meat and meat products, the Philippine Food and Drug Administration regulates the food processors, Bureau of Fisheries and Aquatic Resources do controls fish and fish products. However, there is difficulty in instigating strictly the law. There are inconsistencies in the implementation since apparently, for instance, there are still facilities that gets the licenses to operate even if these do not conform to the minimum requirements. The respondents have identified the following needs for training: 1. Costing and pricing 2. Food safety and technology 3. Packaging 4. Quality Control 5. Traceability
Recommendations		

Technical Skills Upgrading	1. Production Processes 2. Food Safety 3. Packaging and Labeling 4. Traceability	1. Production Processes 2. Food Safety 3. Packaging and Labeling 4. Traceability
Food Safety Compliance	1. Food Safety Training 2. Establishment of documentation and monitoring system	1. Food Safety Training 2. Establishment of documentation and monitoring system
Product Development	1. Product development activities based on market specifications and customer feedbacks	1. Product development activities based on market specifications and customer feedbacks
Packaging and Labeling Development	1. Sourcing of other material and design for packaging and labeling.	1. Sourcing of other material and design for packaging and labeling.
Marketing Support	1. Linkage to new markets 2. Improved product promotions	1. Linkage to new markets 2. Improved product promotions

Program Strategies: OURFood Program Food Systems Intervention



Products of the partners in Negros Oriental and Negros Occidental are currently serving good markets. However, product quality and safety establishment marks one of the most important aspects towards increasing the competitiveness of the company in a highly dynamic market system. Consequently, there is a need to further appreciate market specifications and comply with food safety minimum requirements and understand its relativity to developing income generating capabilities.

Implementation of a food systems intervention is indeed imperative to achieve project goals and objectives. The structure of project intervention is generic for the two provinces involving the following components:

1. Technical Skills Upgrading
2. Product Development
3. Food Safety Program
4. Documentation and Traceability

Negros Oriental

A. Technical Skills Upgrading

Program interventions on technical skills upgrading will focus on two sectors, food service industry (with ambulant vendors) and food processors. Modules on the production processes on baking and pastry making, local delicacies, fruit processing, milk production, herbal powders and supplements, and fruit concentrates and dehydration will be provided.

Additional skills requested by the target groups include business development skills and human resource management. The approach should fit to the educational levels of the target groups, and will be served in local dialect for better apprehension. Technical skills upgrading will also cover food safety, traceability and packaging and labeling trainings.

A training course on Food Technology, which will be product specific, will be developed stakeholders involved in food production (new and current in line production workers, line heads and production supervisors, management position holders, owners and entrepreneurs), to give them the basic foundation, skills and knowledge on the nature and science of the food they are handling. The curriculum will be offered by a partner institution in the province. It is recommended that the food sector of Negros Oriental will be able to set a minimum standard on qualification for skills in food processing. Moreover, this intervention intends to upscale capacities of in line workers and expands ability to enable them to undertake more than one function in the production facility.

B. Product Development

There is a need to improve product quality and consistency. Internal product development activities will be conducted, together with companies to address market demands and quality standards. Product development will also include packaging and labeling development. Existing packaging materials and labels will be evaluated by experts for further recommendation. Aside from addressing customer complaints on safety and quality, the main objective here is to develop existing products and/or diversify into new ones as deemed necessary, based on market demand.

C. Food Safety Program

1. Development of a Training Curriculum on Food Safety

Existing modules on food safety will be evaluated and improved custom fit to the requirement of the partners in Negros Oriental. These will be translated to Bisaya and examples to be used will address questions pertaining to the specific product categories of Negros Oriental.

2. Trainor's Training and Certification Program

NOCCI is currently establishing its Food Safety Team, under the supervision and mentoring of the Department of Science and Technology VI. This is with the general objective of establishing a group of local experts who can provide food safety-related services in the province. They will be trained in Good Manufacturing Practices, Hazard Analysis and Critical Control Points, US NRAServSafe and FSMS. A certification program for the trainors by DOST VI will be carried out together in the project. Other certifications can be acquired by the team if deemed necessary.

3. Food Safety Program

A first group of food processors have undergone a comprehensive food safety program under the supervision and mentoring of the Department of Science and Technology VI. A separate training course will be offered to the food service sector, especially those who are ambulant vendors serving local delicacies. Modules will be custom fit to the training needs of the partners.

Other project support interventions will cover one or all of the following, based on significance:

- Dialogues with Regulatory Agencies for Certification Orientation
- Linkaging with other agencies for infrastructure and equipment development
- Stakeholder dialogues for market requirements (quality and food safety)

4. Certification by regulatory or third party organizations

Once the food safety requirements are in place, Partner companies will be evaluated according to the following:

- LTO/NMIS Accreditation Acquired
- External certifications acquired (GAP/GMP/HACCP/FSMS?)
- Number of companies with internal employees competent for the implementation of minimum food safety program

D. Documentation and Traceability

Documentation and record keeping plays a significant role in the complete establishment of a food safety culture in a company. It provides the evidences that specific requirements are implemented in the whole production of a specific product, from raw materials receiving until packaging. Documents and records include but are not limited to, working instructions, standard operating procedures, laboratory analysis, and quality control records. It also serves as a major requirement when applying for a certification. The setup of documentation and record keeping comes hand in hand with the food safety program. It likewise provides the building blocks of a traceability system since it is only through records and documents that you can map out the flow of products.

Negros Occidental

A. Technical Skills Upgrading

Program interventions on technical skills upgrading will focus on the processed food sector. Modules on the production processes on baking and pastry making, local delicacies, fruit and vegetables processing, herbal powders and supplements, and essential oils production will be provided.

Additional HR capabilities as deemed necessary by the processors will include costing and pricing. The approach should fit to the educational levels of the target groups, not only to the owners but will include food workers, and will be translated to local dialect (Ilonggo). Other technical skills upgrading will likewise cover food safety, traceability and packaging and labeling trainings. These carried out will be in close participation of other concerned stakeholders in Region VI.

A training course on Food Technology, which will be product specific, will be developed stakeholders involved in food production (new and current in line production workers, line heads and production supervisors, management position holders, owners and entrepreneurs), to give them the basic foundation, skills and knowledge on the nature and science of the food they are handling. One possible partner institution that could offer the course would be La Salle Bacolod. It was previously planned that the Core Group of ANP will set a minimum standard for skills in food processing.

B. Product Development

There is a need to improve product quality and consistency for some companies. Internal product development activities will be conducted, together with companies to address market demands and quality standards. Product development will also include packaging and labeling development. Existing packaging materials and labels will be evaluated by experts for further recommendation. Aside from addressing customer complaints on safety and quality, the main objective here is to develop existing products and/or diversify into new ones as deemed necessary, based on market demand.

C. Food Safety Program

1. Development of a Training Curriculum on Food Safety

Existing modules on food safety will be evaluated and improved custom fit to the requirement of the partners in Negros Oriental. These will be translated to Ilonggo and examples to be used will address questions pertaining to the specific product categories of Negros Occidental.

2. Trainor's Training and Certification Program

The Department of Science and Technology of Region VI is rebuilding its food safety team, with the objective of bringing access of food processors to training and consultancy services. It will be a multi disciplinary team to composed of DOST employees, FDA personnel and other private practitioners in the field of Food Safety. ANP has signified interest to have an inhouse food technology on board to that team. They will be equipped in Good Manufacturing Practices, Hazard Analysis and Critical Control Points, US NRAServSafe and FSMS. A certification program for the trainors by DOST VI or ANP will be carried out together in the project. Other certifications can be acquired by the team if deemed necessary.

3. Food Safety Program

A food safety program will be implemented to the partners of OURFood Program in Negros Occidental. This will have the primary objective of not just introducing food safety to the food companies but will likewise install the documentation and monitoring system in place. Modules will be custom fit to the training needs of the partners.

Other project support interventions will cover one or all of the following, based on significance:

- Dialogues with Regulatory Agencies for Certification Orientation
- Linkaging with other agencies for infrastructure and equipment development
- Stakeholder dialogues for market requirements (quality and food safety)

4. Certification by regulatory or third party organizations

Once the food safety requirements are in place, Partner companies will be evaluated according to the following:

- LTO/NMIS Accreditation Acquired
- External certifications acquired (GAP/GMP/HACCP/FSMS?)
- Number of companies with internal employees competent for the implementation of minimum food safety program

E. Documentation and Traceability

This will be embedded in the Food Safety Program, and will have the same template with Negros Oriental.