



Grow**Asia**



Case Study

**Corn Working Group in the Philippines**  
Business Model



**PPSA**  
Philippines Partnership for Sustainable Agriculture

# Contents



<b>1 Overview</b>	3
<b>2 Challenges</b>	4
<b>3 The Project</b>	4
<b>4 Stakeholders</b>	5
<b>5 Core Activities and Structure</b>	5-7
<b>6 Progress and Achievements</b>	8
<b>7 Timeline</b>	8

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# 1

## Overview

### The Corn Sector in the Philippines

Agriculture is an important source of livelihoods for the Philippines. In 2014, agriculture contributed 10% to national GDP and employed 31% of employed persons. Corn is the second most important food crop in the Philippines, and the primary source of income for many smallholder farmers. In 2016, the country produced just over 7.2 million metric tons of corn.

Two main types of corn are produced in the Philippines: white corn and yellow corn. White corn is produced by farmers primarily for consumption within the household. Yellow corn is a major component of animal feeds and is the preferred grain by livestock producers. Previous studies conducted show that the biggest regional deficit in corn production is within Batangas, one of the major livestock food-producing regions

south of Manila. The livestock industry in Batangas requires a reliable supply of high quality feed. Due to the regional deficit, many feed mills in the region get their corn from other regions within the Philippines and some also rely on imported corn to ensure a steady supply and uniform quality.

The Mindanao region, has a surplus of yellow corn production - more than 300,000 MT as of 2009<sup>1</sup>. While 50% of production goes to the feed mills in Visayas and Luzon, there is an additional opportunity for areas of Mindanao to supply yellow corn directly to feed mills in Batangas.

Within the Mindanao region, Zamboanga Peninsula is ranked 11th in national production of corn (as of 2013). While the exact number of farmers engaged in corn production on the peninsula is not clear, yellow corn yields on Zamboanga

Peninsula are low, at less than 2 MT/ha<sup>2</sup>. Promisingly, the production of yellow corn in Zamboanga del Norte has increased by 119% between 2013 and 2016.

Zamboanga del Norte in particular is classified as one of the poorest regions in the country. While the incidence of poverty throughout the Philippines has declined in recent years, the incidence of poverty in Zamboanga Peninsula remains high. Zamboanga Peninsula has the 4th lowest average income per family in the country<sup>3</sup> and a poverty incidence of 30.9%. While there are many contributing factors to poverty in the region, reliance on subsistence agriculture is considered one. Linking smallholder farmers to cash crop markets, particularly yellow corn which has a higher net return than whitecorn per hectare, could contribute to increased incomes and help to alleviate poverty.

<sup>1</sup>Philippine Agribusiness Competitiveness and Benchmarking Study: Component on Trade Facilitation and Logistics, Final Report; IFC; July 2012; 157

<sup>2</sup>Philippines Statistic Authority, CountrySTAT: <http://countrystat.psa.gov.ph/>: Area Harvested and Volume of Production

<sup>3</sup>Statistical Tables on Family Income and Expenditure Survey (FIES) from the final results of the 2015 FIES

## 2 Challenges

**This, however, is not an easy shift. Some of the challenges for the increase in yellow corn production in Zamboanga del Norte include:**

### Change in the mindset of farmers

Farmers currently use production techniques geared more towards subsistence farming. To take advantage of the benefits that yellow corn farming can have, farmers need to shift their approach to that of farming cash-crops. While the shift in production techniques itself is difficult, the lack of trust that farmers have of banks and traders continues to hold back farmers from getting the most out of their small farms.

### Access to credit

Typically, finance institutions shy away from financing smallholder farmers, citing non-bankability and high risks. Farmers are therefore forced to rely on local loan sharks which charge high rates of interest and decrease the net return for farmers.

### Access to production technologies

Farmers need access to improved production technologies including seeds, organic fertilizers and farm mechanization in order to increase yields, which are comparatively low in the region.

### Access to market

Farmers in the region do not have direct access to a steady market buyer, and sell through traders, cooperatives and processing centers instead. Further, Zamboanga del Norte is not a traditional region for yellow corn production. For instance, San Miguel requires 25,000 MT of yellow corn per month<sup>4</sup>. In 2016, Zamboanga del Norte produced 3,750 MT of yellow corn<sup>5</sup>. Farmers need greater access to transparent prices and market information in order to coordinate yellow corn production with demand.

### Access to modern post-harvest facilities and storage

Farmers currently use inefficient manual systems for husking and drying corn. Modern post-harvest and storage facilities would improve efficiency of post-harvest processing, would improve the quality of the end product and would allow the grain to be stored so it can be sold when prices are more favorable. However current post-harvest and storage facilities in the area are underused or decayed. In large part, this is due to unstable electricity supply and poor management by state-owned entities. Private incentives have to be introduced to encourage improved management.

### High logistics cost

Moving the crops from farmers to postharvest processing centers can be costly given the location of individual farmers. In addition, the cost of moving the processed grain between Zamboanga del Norte and Batangas, where the demand is unfulfilled, is also costly.

## 3 The Project

**The goal of the project is to:**

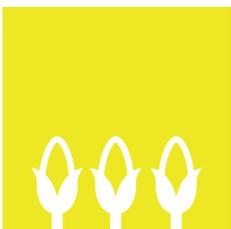
**Build a competitive supply chain of yellow corn feedstock from 10,000 smallholder corn fields in Zamboanga Peninsula to Batangas Region 4A cooperative and 24,000 small hog raisers.**

The Zamboanga del Norte Yellow Corn Project brings together value chain stakeholders to increase farmer participation in the supply chain and help them access markets, technologies and credit. The project, led by ZDMC Grains Inc. (or ZGI), aims to increase productivity, increase incomes and reduce poverty amongst 10,000 smallholder corn farmers and 24,000 livestock raisers by 2021. ZGI started as a company in 2012 by three entrepreneurs to address the constraints of yellow corn production in Zamboanga del Norte and fulfill the gap in demand within the livestock producing regions of the Philippines. By addressing both production and marketing challenges, the company has begun to convert low-income white corn subsistence farmers in Zamboanga del Norte to yellow corn producers growing good quality and affordable yellow corn feedstock and connect these farmers to end-users, mostly cooperatives, in Batangas.

The Zamboanga del Norte Yellow Corn Project is still in its early stages with many challenges yet to be addressed. Nevertheless, Grow Asia believes that there are many ingredients in place for a successful multi-stakeholder, value chain project. Issues around risks of crop failure, indebtedness, and longterm financial self-sustainability need to be addressed, through weather-index insurance, links to off-takers, and integrated training for farmers.

<sup>4</sup> Philippine Agribusiness Competitiveness and Benchmarking Study: Component on Trade Facilitation and Logistics, Final Report; IFC; July 2012

<sup>5</sup> Philippines Statistic Authority, CountrySTAT: <http://countrystat.psa.gov.ph/>: Area Harvested and Volume of Production



## 4 Stakeholders

As a member of the Corn Working Group, ZGI called on the support and cooperation of other Corn Working Group members in order to achieve this goal. The Corn Working Group is a multi-stakeholder group, currently made up of 14 members, established in late 2015 under the Philippines Partnership for Sustainable Agriculture (PPSA) and Grow Asia. The Corn Working Group is driven by the private sector and establishes projects and partnerships aimed at advancing food security and sustainable agricultural growth in the Philippines. The group meets regularly to explore and support innovative models for addressing specific issues in the corn value chain. The Zamboanga del Norte Yellow Corn project brings together stakeholders from across the value chain, including financial service providers, input suppliers, processors and buyers. The following stakeholders, are currently partnering with ZGI to support the Zamboanga del Norte Yellow Corn Project.

### Input Suppliers

- › Syngenta (Seeds)
- › Sinochem (Chemicals)
- › Leads Agri (Chemicals)
- › Yara (Fertilizers)

### Off-taker and processor

ZDMC Grains, Inc. (ZGI)

### End Users

- › Lodalod Cooperative – Lipa, Batangas
- › Sorosoro Ibaba Development Cooperative (SIDC) – Batangas

### Government

ACPC

### Banks

Philippine Postal Savings Bank (Post Bank)

## 5 Core Activities and Structure

### Sensitizing and organizing farmers

The project begins by identifying farmers and then organizing them into clusters. Group discussions are held to build trust, introduce them to the services being offered, and sensitize them to the process and market for yellow corn. Farmers first need to be convinced of the benefits of planting yellow corn instead of white. The discussions also help to break down the barriers of mistrust between farmers and banks, by explaining the bank requirements to farmers and using the meetings to collect information necessary for accessing loans.

### Linking farmers to markets

ZGI provides a regular market for farmers to sell their yellow corn and takes the burden of post-harvest shelling and drying off of the farmers. By grouping farmers, coordinating production and offering consolidated post-harvest processing and storage, ZGI not only links farmers to regional markets for yellow corn but also helps to maintain a competitive price for local yellow corn, helping to increase the bargaining power of smallholder farmers.

### Linking farmers to support institutions

The project also assists farmers to access key support institutions including financial services, insurance, and transportation, which helps to mitigate risks, improve their profitability and increase their productivity.

### Providing productivity improving services

The project introduces farmers to modern production technologies and inputs that increase yields and the quality of yellow corn, offers training and extension services, and links farmer groups with farm mechanization (primarily tractors) service providers.

## 5 Core Activities and Structure

**A full description of the business model for the Zamboanga Yellow Corn project, and the role of each of the contributing stakeholders is detailed below:**

### Consolidation

ZGI first forms local farmers into groups and works with them to initially convince them of the benefits of planting yellow corn and then by offering a suite of services, which includes production scheduling, links to finance, links to inputs and production information, and links to local private tractor services. These services, named Farmer Development Services, helps increase the trust between ZGI and its supplying farmers and also prepares farmers with the tools and support they need to switch to yellow corn production successfully. While to date the Farmer Development Services have been managed and financially supported by ZGI, the model is being adapted so that in the future a local NGO will manage Farmer Development Services, which will be sustainably supported by contributions from ZGI, the lending banks and input suppliers.

### Credit

Post Bank provides loans of PHP 40,000 (US\$800) per hectare to farmers to cover planting and production costs. The Agricultural Credit Policy Council (ACPC), an agency of the Department of Agriculture, has initially contributed a fund of PHP 40 million (US\$800,000) to Post Bank to cover loans for up to 1,000 farmers. Both the Department of Agriculture's Agri Guarantee Fund Program (AGFP) and ZGI provide a guarantee for the funds, of 85% and

15% respectively. Because of ZGI's close and trusting relationship with farmers and its role as guarantor, it works between Post Bank and farmers to ensure that farmers meet the lending requirements of Post Bank and then provides loan repayment directly to the Bank once farmers sell their corn. The intermediary role of ZGI provides extra security for the Bank as the company itself is invested in working with farmers to ensure a good harvest, and purchases directly from the individual farmers.

### Insurance

In addition, crop insurance is automatically provided to all farmer-borrowers benefiting from ACPC funds by the Philippine Crop Insurance Corporation. The insurance for corn covers the cost of production inputs plus an additional amount of cover up to a maximum of 20% of the value of the expected yield.

### Inputs and production

Through coordination with other members of the Corn Working Group, ZGI engages input and technology providers for inputs and technical advice. Syngenta, Yara, Sinochem and Leads Agri all showcased their products through harvest festivals, seminars and trainings. When farmers buy inputs, these providers also offer technical advice and help address any problems that may arise. For example, last year, Syngenta's technical advisors were deployed to Zamboanga del Norte to help the farmers address germination issues.

### Post-harvesting

ZGI now runs the post-harvest processing center in Sergio Osmeña under a tolling arrangement with the Government. Once ZGI purchases yellow corn from farmers it is transported to this center where it is consolidated, dried, processed, and stored until the grain is sold. ZGI ensures a regular market for yellow corn and coordinates with farmers on production scheduling, timing and provides transportation.

### Sales

Once purchased and processed, ZGI then ships the yellow corn to Manila Port, with Lodlod Cooperative as consignee who then sells the corn to various cooperatives in Batangas, including Sorosoro Ibaba Development Cooperative (SIDC).

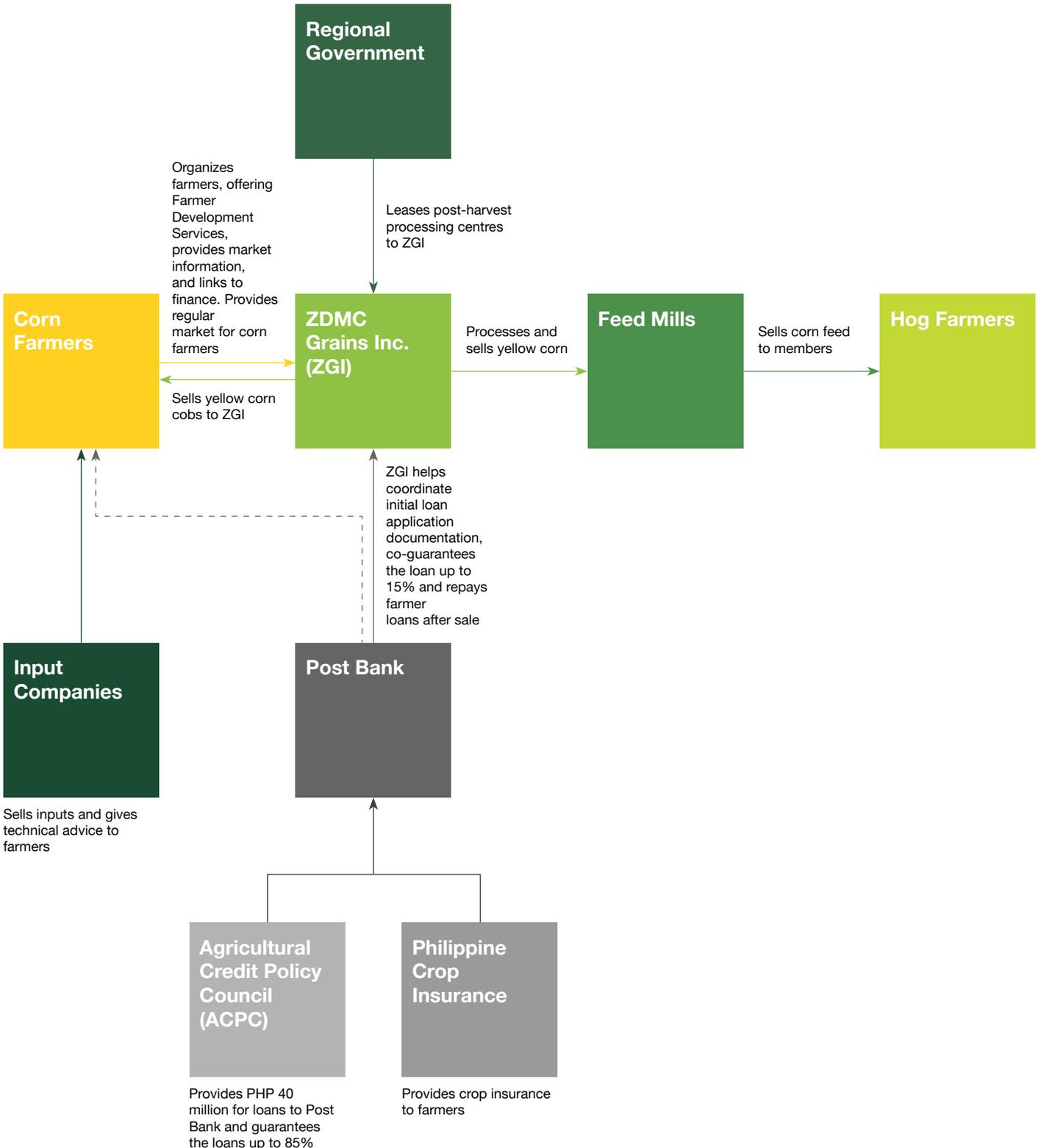
### Technical support

Other Corn Working Group members help to provide technical advice and address production challenges. After a field visit in 2016, Sinochem provided technical support by helping to conduct soil analysis and corn disease studies; as well as analysis of sustainable corn production strategies in sloping areas for ZGI.

The project has been underway since 2016 and plans for 2017 include scaling up in Zamboanga del Norte as well as expanding into Liloy in the southern part of Zamboanga Peninsula. Expansion to Liloy will use a similar model except that KCCDFI, is engaged to manage the Farmer Development Services; and First Valley Bank will offer finance to local farmers. Farmer Development Services are currently underway through KCCDFI while ZGI is finalizing plans with the local government to complete and activate the local post-harvest facility which has never been operational. The target is to reach 1,000 additional farmers in Liloy by the end of 2017.

# 5 Core Activities and Structure

## Business Model Structure



## 6 Progress and Achievements

**The pilot project in 2016 experienced some setbacks due to both the El Niño and La Niña weather phenomena which resulted in damaged crops. Many of the farmers as well as ZGI experienced losses to crops and income during the year. However, despite these setbacks some early progress was made during 2016:**

- 300 farmers trained
- 4 seminars/training programs held
- 2 harvest festivals held
- 365 farmers planting yellow corn on 836 hectares (average area per farmer 2.35 ha)
- Despite the severe weather of 2016, some high performing farmers who managed to harvest before the weather reached as high as 6.9 MT/ha. The highest yield after the heavy rains showed 4.4 MT/ha.
- 1,000 MT of total grains produced, from more than 2,500 MT of corn on cob delivered to ZGI processing facilities

By the end of 2017, ZGI expects to reach a total of 2,000 farmers, with 1,000 farmers in Zamboanga del Norte and another 1,000 farmers in Liloay.

In addition to the benefits experienced by individual farmers, the project as a whole is also demonstrating how models which aggregate and expand smallholder production can work for the industry.

This aggregation improves the channels of communication between smallholder farmers and the end market, increases the bargaining power of smallholder farmers, and can lower transaction costs for companies and financial institutions working with them. These benefits also rely on involvement from a wide variety of stakeholders, something which ZGI has managed successfully. While not all of the stakeholders involved are experiencing direct commercial benefits, there is a broader recognition by the Corn Working Group members that an end-to-end project that addresses issues across the value chain and connects production at the farm level to the end-buyer can have a significant impact on the lives of smallholder farmers, as well as the industry.

**“Before becoming part of the Grow Asia Corn Working Group our supply chain project was a lonely pioneering venture in an area not known for being corn country. Pioneers learn their lessons the hard way, and we were learning lessons bit by bit by ourselves, and it certainly hasn’t been easy for us. Becoming part of a Working Group has expanded our horizons, allowed us to identify our specific problems more accurately from various angles, and offers for solutions have come from several sides.”**

**Mr. George Aseniero**  
President of ZDMC Grains, Inc.

## 7 Timeline

2015

Corn Working Group (CWG)  
Established

May  
2016

ZGI invited to present Zamboanga  
Yellow Corn Project to CWG

July  
2016

CWG stakeholders visit ZGI in  
Zamboanga del Norte

Jan/Feb  
2016

Expansion into Liloay begins

**1 new buyer in market**  
(gives more choice to farmers)



**2 more seed companies**  
(increasing supplies to area increasing competition)



**2 cob dryer facilities rehabilitated (PPP), farmer development services started**

