

PRISMA Promoting Rural Income through Support for Markets in Agriculture





PISAgro Corn Working Group's

National Strategy Document

August, 2016

Table of Contents

1		Executive Summary	3
2	2.1	Introduction The Relevance of Agriculture	4
	2.2	PISAgro and the World Economic Forum	5
	2.3	Corn Working Group (CWG)	5
	2.4	Purpose of the CWG Strategy	5
3		A Brief Review of the CWG (June 2016)	6
	3.1	Activities and Progress	6
	3.2	CWG Findings	7
	3.3	Role of the PISAgro CWG	8
4		National Sector Context	8
	4.1	Profile/ Dynamics	8
	4.2	The Corn Value Chain	9
		Channel 1: Animal feed	9
		Channel 2: Human consumption	9
	4.3	Corn Production Data Inconsistencies	10
	4.4	Corn Supply Underperformance	11
		Yields are well below potential	11
		Returns from Corn are lower than other cropping options	13
		Cost of Production is Competitive to Imports but could be improved	13
		Supply Continuity a major Constraint	15
	4.5	Corn Demand Continues to be Greater than Supply	15
	4.6	Corn Imports Continues to Grow Because Domestic Supply is Inconsistent and Inadequate	
	4./	Corn Warehousing and Drying Capacity are Inadequate to Remedy Supply/Demand Gaps	1/
	4.8	Corn Price Competitiveness: Not an Unrealistic Goal	
5		A Common CWG Vision for the Corn Sector: A Strategy	19
	5.1	Sector Change	19
	5.2	Priority Intervention Areas	20
	5.3	Suggested Interventions	20
6		Recommendations for the CWG in the Implementation of this Strategy	22
	6.1	Upgrade the CWG Structure	22
	6.2	Appoint a Competent and Dedicated Coordinator to Support the Group	23
	6.3	Scale up or Reformulate Existing Interventions and Initiate a Second Generation	24
	6.4	Make the CWG More Relevant to the Government	25
	6.5	Reconsider How Outreach and Impact is Measured	

1 Executive Summary

Context

It is clear that ASEAN integration increases the need for greater competitiveness in Indonesian corn production and utilization. Nationally, demand is outstripping supply and Indonesian corn is currently not as competitive as imported corn, due mainly to the quantity and the timing of production. Major drivers of this under-competitiveness are inadequate production and low productivity as well as warehousing and logistics which, alongside poor domestic drying capacity, undermines efficiency in the sector. Developing consensus on what needs to be done is hindered by the lack of clarity around Indonesian production data that ranges from 9 to 20 million MT. The consequence of this uncertainty clouds the basis on which investment and policy decisions must be made. And yet Indonesia needs to rapidly improve the competitiveness of the corn sector in preparation for a more open market situation in the future. This is not an unreasonable objective as prices for Indonesian corn, compared to imported corn, fluctuate just 2-12% higher depending on the season. Current import levels of around 2.4 million MTs could be met by national production if concerted and market friendly attempts at raising productivity and reducing post-harvest loses could be implemented in the next few years.

PISAgro

PISAgro is an association of major private and public sector actors committed to improving the competitiveness of key agricultural commodities. It is an initiative of the World Economic Forum and the Government of Indonesia (Gol). PISAgro operates mainly through a set of working groups led principally by its members. The Corn Working Group (CWG) has ambitious targets. By 2020, the group plans to support 5 million corn farmers on 1.25 million ha of land – with a productivity target of 8MT/ ha leading to an additional corn production of 3.2 million MT. The current Chair, Dr. Lim Jung Lee, in consultations with other CWG members, has proposed that the elaboration of a strategy could help in streamlining and coordinating the activities of the group. A team from Australian Department for Foreign Affairs and Trade (DFAT), a CWG member, was deployed in April and June 2016, to interview members and key opinion leaders in the corn sector, to develop a **national strategy document**. There are two parts to this strategy:

- The first part is about developing a consistent vision, within the Corn Working Group, of **what** its sectorbased objectives are (i.e. national competitiveness); while
- The second part of the strategy addresses **how** the CWG and its members can go about fulfilling this mission.

CWG progress

The CWG has been active in seeking to support the corn sector primarily through interventions directed at improving productivity and income generation for small-holder farmers. Since its inception in 2011, seven pilots including interventions in Aceh, Central Java, Lombok and Sumbawa have increased the access of an estimated 240,000 farmers to higher production inputs and knowhow. A set of recommendations has been prepared, in consultation with CWG members, for how the CWG can substantially increase its impact, especially on farmers in the corn sector.

Part 1: Vision for the Sector

CWG members have outlined a clear vision of the corn sector in Indonesia as being both inclusive and competitive within regional and global markets. The groups' members feel this goal can be achieved through two broad areas of intervention:

- IA1: Improving the Production System. Measures for this are clustered around: improving productivity through production technologies (better seeds and appropriate use of fertilizers/ pesticides, and mechanisation) and co-creating enabling policies with government that support these measures for example, adapting the current application of corn seed subsidies.
- IA2: Ensuring Continuity of Domestic Supply. Measures for this are clustered around: improving sourcing
 efficiency ensuring continuity/ reliability of supply to commercial buyers thereby reducing major price
 fluctuations; and improving continuity/ reliability of supply through increased private sector investments in
 improved drying and storage facilities.

Part 2: Recommendations for the Corn Working Group

This strategy document provides five key recommendations for the CWG to best support the realisation of this vision. These include:

(1) **Upgrade the CWG structure** by expanding the membership of the CWG to be more representative of industry and developing a Corn Steering Group (CSG) of to guide all activities of the CWG and interact regularly with the appropriate Gol institutions on matters of policy;

(2) **Appoint a competent and dedicated coordinator** to the group with a high level of service orientation to facilitate the elaboration of interventions and to support the Chairperson without encroaching on their role;

(3) **Scale up or reformulate existing interventions** and initiate a second generation of interventions after agreeing on minimum criteria for intervention selection, including: consistency with the CWG's vision of the sector and scalability;

(4) **Make the CWG more relevant to the government**, by developing the space to interact with senior Government representatives building upon the relationship between PISAgro and the DG Food Crops and others; and,

(5) **Reconsider how outreach and impact can be consistently measured** by improving the collection of macro data against the PISAgro CWG targets and developing a data collection methodology for the CWG going forward.

2 Introduction

2.1 The Relevance of Agriculture

Agriculture remains a major part of Indonesia's economy; it accounts for approximately 35 per cent of overall employment and nearly 15 per cent of GDP. Around two-thirds of Indonesia's poor people live in rural areas and are dependent on agriculture for their livelihoods.¹ Corn is a vital part of the agricultural economy with approximately 5 million farmers involved in its cultivation. Because, in addition to human consumption, 80% of domestically produced and imported corn is processed into feed, its production and availability has serious knock on effects in poultry, beef and aquaculture, all of which have an important impact on the national levels of nutrition. A productive, efficient and competitive national corn sector will increase farmer incomes, reduce imports, enhance food security

¹ The Frame of Agricultural Policy and recent Major Agricultural Policies in Indonesia (July 2014) Tahlim Sudaryanto

and contribute to better health outcomes. This strategy paper outlines how the Indonesian private sector, coordinated by PISAgro, can play its part in achieving these national goals.

2.2 PISAgro and the World Economic Forum

In order to meet global food security challenges, the partners and constituents of the World Economic Forum developed a New Vision for Agriculture in 2010.² This vision integrates food and nutritional security, environmental sustainability and economic opportunity, with the goal of improving each by 20 per cent every decade until 2050. In Jakarta in 2011 the Indonesian government announced its commitment to these targets during the World Economic Forum (WEF) meeting for East Asia. It launched, at that time, the Partnership for Indonesian Sustainable Agriculture (PISAgro) initiative. PISAgro was formally established and legalised by a public notary with the Indonesian name *Kemitraan Pertanian Berkelanjutan* Indonesia in April, 2012.

PISAgro is an association of major private and public actors committed to improving the competitiveness of key commodity sectors and meeting the WEF targets. It has 11 working groups (WGs) in different priority areas, Cocoa, Coffee, Corn, Dairy, Palm Oil, Potatoes, Rice, Rubber, Soybean, Horticulture, and Agri-finance. PISAgro aims at supporting the Indonesian government to address national food security by increasing agricultural production in a sustainable manner while also improving the livelihoods of smallholder farmers. It has goals of increasing agricultural productivity, decreasing greenhouse emissions and reducing poverty in Indonesia, all by 20 per cent, over the next decade.³ It achieves these goals through its working groups where its substantial membership base of private and public firms and organisations collaborate to implement interventions consistent with these goals.

2.3 Corn Working Group (CWG)

The PISAgro Corn Working Group (CWG) comprises both public and private sector members committed to developing the corn sector in Indonesia. Members include national and multi-national companies (Syngenta, Monsanto, Cargill, Vasham), finance and insurance providers (ACA Asuranci, Bank Andara), development and government actors (Mercy Corps International and the Australian Department for Foreign Affairs and Trade (DFAT)), and representatives of the Indonesian public sector (Ministry of Agriculture at the Director General level, and the Coordinating Ministry of Economic Affairs). All members provide their time to this group on a voluntary basis. The CWG is chaired by the CEO of Syngenta Dr. Lim Jung Lee.

The PISAgro CWG has ambitious targets. By 2020, the group plans to support 5M corn farmers on 1.25 million ha of land – with a productivity target of 8MT/ ha leading to an additional national corn production of 3.2 million MT. The CWG has been testing various integrated corn supply chain partnership models in areas such as Aceh, Sulawesi, Central Java, East Java and West Nusa Tenggara. The purpose is to make the corn sector more competitive and also to be more inclusive by working with small-holder primary producers. The CWG has specific collaborative activities underway particularly in Amurang, Mojokerto, and Dompu, with plans for further activities in Madura and Southeast Aceh.

2.4 Purpose of the CWG Strategy

In April, 2016 in a meeting of the CWG, the group agreed that a strategy could be instrumental in streamlining and coordinating the activities of the group. DFAT, a member of this group, offered to support this process through the provision of a facilitation team, comprised of internal staff and external consultants. The facilitation team (referred to as the 'PRISMA Support Team') was fielded under DFAT's PRISMA project which is part of the AIP-Rural Program. The team undertook desk research, conducted scoping missions to Jakarta in April and June 2016,

² The New Vision for Agriculture can be found <u>here</u>.

³ The PISAgro goals can be found <u>here</u>.

including attendance at the CWG meeting (4th April 2016) and initiated several meetings with members of the CWG and other key opinion-leaders. Representatives of the PRISMA support team also visited a PISAgro CWG intervention in Bima/ Dompu in April 2016.

The aim of the strategy development process is to foster discussions and debate amongst the CWG members on how to increase the effectiveness of the group and improve collaboration between the public and private sectors so that the various activities and interventions of the group can lead towards a more competitive corn sector. This document is intended as an internal road map for developing consensus within the CWG. It is not intended as a **"stand alone"** document but rather an aid for concerted and well directed action for the CWG. It provides an analysis of the sector as articulated by the CWG members, as presented in Section 4, as well as a collection of insights obtained through bilateral meetings with CWG members and other key stakeholders. These are summarised in Section 6 with recommendations both for immediate intervention areas where the CWG can focus its efforts to maximise impact, and for how the CWG can develop and professionalise its operation to be more effective in implementing its vision.

In summary, there are two parts to this strategy: the first is to develop a consistent vision, within the Corn Working Group, of what its sector-based goals are (i.e. inclusiveness and national competitiveness); while the second part of the strategy addresses how the CWG and its members can go about fulfilling this mission.

3 A Brief Review of the CWG (June 2016)

3.1 Activities and Progress

The CWG has been active in supporting the corn sector primarily through interventions directed at improving productivity and income generation for small-holder farmers. This has included transferring production technology and crop knowledge through micro-finance and extension activities, aiming to make commodity chains more integrated and efficient through collaborative arrangements between CWG members, as well as promoting best practice/ knowledge sharing events. Altogether 7 pilots have been initiated: 2 have been cancelled, 2 are completed, 2 are being scaled up and 1 is in the pipeline.

Examples of the pilot interventions that the CWG is currently supporting include:

- *A Mega Expo* in Central and East Java in partnership between AIAT and Syngenta in which 2,050 corn stakeholders to educate farmers on the better use modern production systems.
- *Promotion of the use of hybrid corn in Ache,* a partnership between the local government and Syngenta through a number of farmer field schools and in the future through the addition of a micro-finance component (see Dompu intervention below).
- Integrated production and micro finance project in Mojokerto. This activity is a collaboration between Monsanto (lead), Bank Rakyat Indonesia (BRI), Cargill, and local farmers, with the goal of raising productivity through farmers applying better production technologies and good agricultural practices. The model features a lending scheme by BRI for seed distributors, Monsanto provides agricultural extension to farmers, and a contract farming agreement has been developed between Cargill and farmer groups.
- Micro finance project in Dompu. Mercy Corps (lead), ACA Asuranci, Bank Andara, and Syngenta are
 collaborating in this activity to transfer crop knowledge and technology to farmers through value chain finance.
 The model features wholesale financing to a micro-finance bank in Sumbawa that then works with value chain
 collectors, traders and Syngenta retailers who provide a range of services to corn farmers enabling them to
 invest in improved inputs through a voucher programme.
- Corn-coconut intercropping project in Amurang. This activity (Cargill in the lead with Syngenta, and Balikpalma)

provides an integrated set of products and services to farmer groups to enable them to intercrop corn with coconut crops. This improves the supply of copra and corn to commercial buyers like Cargill and to the local market. The model features extension services provided through an NGO partner (Winrock International) while the local government assists in farmer selection.

During a CWG meeting in April 2016 it was announced that Syngenta will lead two other projects in Madura and southeast Aceh, and Monsanto will extend the Mojokerto project to East and Central Java. There is also a PRISMA-facilitated intervention just starting in Madura, with DuPont, Monsanto, Syngenta, PT Ahasti and PT BISI targeted to reach more than 40,000 farmers with hybrid corn seeds and better agricultural practices communicated through a social marketing initiative.

So far, while the access numbers are encouraging the validated impact results of these interventions is still well below the ambitious targets set by the group. As with many other initiatives, moving from the pilot to the scale up stage is essential for demonstrating relevance and systemic change. Many of the suggestions from GWG members, in the next section of this strategy paper, address this issue of scale.

3.2 CWG Findings

The CWG is generally recognised to be one of the more active and productive groups under PISAgro. Stakeholders from outside the group, many with familiarity with other PISAgro working groups, confirmed to the PRISMA support team that there is a perception that the CWG has well-conceived interventions and is relatively well attended and chaired. In a spirit of continuous improvement CWG members, articulated a number of issues that they feel need to be collectively addressed for the group to more to the next level of efficiently in achieving its goals:

- The current portfolio's range of interventions is inadequate to meet the CWG's ambitious scale-up targets in the sector. CWG members identified a range of issues associated with the sector (see section 4) that require changes in both how the market operates and changes in the policy environment supporting the sector. The bulk of interventions focus on production but a competitive corn sector will need improvements in reducing post-harvest losses, professional extension services, more efficient local processing, and better coordination between private sector market actors and government (local and national).
- The viability of the current portfolio of interventions still needs to be demonstrated before they can be scaled. It is clear that considerable effort has been made to develop new collaborative arrangements by members of the CWG. It is indeed good practice for pilots to be conducted in order to develop evidence and enthusiasm and build trust between stakeholders. However, all of these interventions are still considered by CWG members to be in the 'experimental' stage and have not yet moved to scale. Several members expressed the view that only by achieving greater scale could the past efforts and resources be justified. These interventions should be professionally assessed to process lessons learnt and help in the design of the next wave of interventions.
- The CWG has paid too little attention to providing meaningful interaction between the public and private sector. While senior representatives from the Ministry of Agriculture and also recently the Coordinating Ministry for Economic Affairs, have been present in CWG meetings, it was felt that there was not sufficient discussion space in meetings to either help shape government policy or to glean sufficient policy information for the members to constructively respond to imminent changes in public policy. Many CWG members identified the opportunity to develop substantive relationships with government stakeholders as the most important aspect of their association with PISAgro and the CWG.
- There are still voices missing in the CWG if it is to be more representative of the sector. A common opinion expressed by CWG members was that the group needs to be more representative. Members feel that

it is currently seen as a group dominated by international seed suppliers and off-takers. The local feed industry, for example, despite being identified as a major player in determining the structure and operation of the market, is conspicuously absent. Moreover, national companies may have different ideas to the multi-nationals, and there are other constituencies and interest groups that are missing such as: poultry feed representatives, and other large local buyers, **traders' associations**, technology and mechanisation providers, etc. Members **questioned the CWG's ability to influence change in the sector, particularly with government, unless** its representation can be broadened.

• There is a lack of clarity in what numbers to report as achievements of the CWG. Currently the overall numbers given are not reflective of the value addition created through collaboration between the CWG members, rather they are the total outreach by members. Naturally there is a wide gulf in these numbers. This discrepancy may explain why the group has not been incentivised to scale its pilots; if the member outreach numbers are significant, and they are, then the pressure on scaling up pilots is relatively minimal. There is no specific guidance on how numbers should be collected, identified, and put forward by the group.

3.3 Role of the PISAgro CWG

The CWG members expressed the view that the group should play a more strategic role in improving the competitiveness of the Indonesian corn sector. Beyond the existing portfolio of projects, the CWG could also play a useful role in fostering **genuine public-private partnership** through providing a space for meaningful interaction between senior policy-makers and influencers in government and industry leaders on the commercial side. PISAgro can also facilitate meetings with the Ministry of Agriculture's, DG, and the Coordinating Ministry for Economic Affairs to encourage the government to initiate and invest in programmes that can support industry. From the public sector's perspective PISAgro was seen as a "sounding board" for policy ideas and for consulting the private sector on policy. Their view was that the CWG can act as a forum for public consultations prior to designing regulations that are often not tested sufficiently through private sector channels/ commercial interest groups. The CWG could provide a space for the co-creation of government policy and strategy. The next section of this document describes the corn sector in Indonesia and analyses its constraints with a view to re-developing consensus, within the CWG, around its priority areas of interventions

4 National Sector Context

4.1 Profile/ Dynamics

The demand for corn in Indonesia is outstripping domestic supply and the price of domestic corn is currently less competitive than imports. On the production side, the major drivers of the under-competitiveness of the sector are low productivity (yields) combined with small corn plot sizes leading to low net returns per household. On the post-harvest side, poor transport infrastructure combined with inadequate warehousing and drying capacities that are stretched to their limits during the domestic wet season harvest bulge (February to April) create inefficiencies that constrain competitiveness. Domestic feed millers require continuity of supply of consistent quality corn (low moisture) that is price competitive. For these reasons Indonesian corn struggles to remain competitive against imports.

Developing any form of consensus on how to improve the productivity and competitiveness of the sector through policy and investment interventions is hindered by a lack of agreement around Indonesian production data, estimates of which can vary by 100% within the same year depending on the data source. For Indonesia to address its growing corn demand, it will need to be competitive in regional and international markets, particularly against countries able to produce higher yields on larger land parcels, offsetting higher per tonne production costs through

smaller margins on larger volumes. Indonesia's ability to restrict or cap corn imports in the future will likely be reduced in the event that it is fully integrated into ASEAN.

4.2 The Corn Value Chain

There are effectively two channels, or end markets for the corn value chain in Indonesia. The primary channel represents the corn that is destined for animal feed industry, while the second channel, is ultimately corn for human consumption. The thickness of the arrows in **Error! Reference source not found.** illustrates the relative flow of quantities of grain and demonstrates that the vast majority of corn supplies animal feed production.



Figure 1: Corn Value Chain, Indonesia

Channel 1: Animal feed

The key actors in channel 1 are the farmers, collectors, traders (small and large), Bulog, feed mills and poultry producers. For the corn that ultimately ends up as a key component of animal feed, farmers obtain their inputs (seed, fertilizer, etc.) from both private sector input suppliers as well as via public sector seed and fertilizer distribution programs. Some farmers perform post-harvest activities such as husking, drying, shelling (removing the kernels from the cob) and transportation; while others conduct minimal post-harvest activities before selling to traders - seemingly in order to obtain funds as quickly as possible. Most small and large scale traders and collectors dry, store and transport the corn before supplying to feed mills and poultry farms where it is processed into feed. Bulog oversees the issuing of corn import licenses and enters the market to trade corn on an "as needs" basis. Very few farmers sell directly to feed mills. Both feed mills and traders sell either the feed or the milled corn to poultry producers. Some poultry producers and farmers process the corn into feed themselves, while most purchase already processed feed.

Channel 2: Human consumption

Channel 2 captures farmers that are growing and selling corn that is ultimately to be used for human consumption and processing into snacks. The amount of corn produced for human consumption in Indonesia is quite low (10%).

However, there are regions such as Madura Island and NTT where human consumption of corn is estimated as high as 30% of domestic production. In these regions, farmers cultivate corn for their own consumption. The flow of corn that is processed into snacks flows in much the same way as it does in Channel 1, but in this case traders also sell corn to individuals or businesses (instead of feed mills) that process the corn then sell it (mostly locally).

4.3 Corn Production Data Inconsistencies

There is, as previously mentioned, a lack of consensus around production data in Indonesia. This reduces the potential for a shared understanding between the government and private sector on which to base investment and policy decisions. Over the past six years, the Government of Indonesia (BPS data) states national corn production to be roughly two times higher than the USDA production estimates (see **Error! Reference source not found.** below).



Source: BPS, GPMT, USDA and FAO. Presented by Budi Tangendjaja, Balitnak, Badan Litbang Pertanian Ciawi, Bogor at the Ministry of Coordinating Economy, Corn Focus Group discussion, March 2016, Jakarta. *Figure 2*: Indonesian Corn Statistics 2004-2014 ('000 MT)

Further analysis of the elements comprising the total production data indicates that it is primarily the difference in the estimation of corn yield between the BPS and USDA which contributes to disparity in total production figures. (see **Error! Reference source not found.** below)

Indonesia Corn Producti	donesia Corn Production Data Comparison (2015)						
	USDA	BPS	% variation				
Harvested Area (,000 ha)	3,140	3,859	23%				
Yield (tonne/ha)	3.06	5.15	68%				
Total	9,608	19,874	107%				
Source: USDA and BPS, 2015							

Table 1. Com	narison of	Indonesian	corn	production	data hetween		and BPS	sources	(2015)
	panson or	muonesian	COIII	production	uala belween	UUUA		3001003	(2013)

The view of many of the private sector members of the PISAgro Corn Working Group is that the USDA data more accurately reflects the scale of total corn production tonnage in Indonesia. At the same time, average per hectare corn yields are often cited as slightly higher than the USDA 3.0 tonne per ha figure, ranging upwards of 4.0 tonne per ha.

4.5 Corn Supply Underperformance

The top seven corn producing provinces in Indonesia account for 80% of national corn production⁴. Corn is produced largely by small-holder farmers with small plot sizes (ranging from approx. 2 ha (NTB) to <0.3ha (East Java), with the majority of corn production and related services located in Central and East Java (see **Error! Reference source not found.** below). Corn produced under irrigation represents only 11% of the total production area⁵ in Indonesia Depending on the production data source, there are between 3 and 5 million corn producing households in Indonesia⁶.



Source: The Directorate General of Foreign Trade, Ministry of Commerce. Presentation at the Corn Working Group Focus Group Discussion, Coordinating Ministry of Economy, March 2016.

Figure 3: Distribution of Corn Production in Indonesia, 2016

Yields are well below potential

Corn yields not only vary between data sources; they also vary significantly between the various production areas in Indonesia. What remains, however, consistent across all production areas in Indonesia is the opportunity to improve corn yields. According to a study by Pasyuin et al (2008)⁷, corn yields from average farmers in the high production area of Central Java (2nd highest corn producing province) using hybrid seed and fertilizer under rain fed conditions are achieving 85% of the attainable yields⁸, this declines to 67% of maximum attainable yields in a favourable season (see **Error! Reference source not found.** below).

BPS, 2015

⁵ Impact of Maize Import Tariff Policy Changes on Production and Consumption in Indonesia: A multimarket model analysis, (2014).

⁶ BPS data vs USDA data

⁷ Pasuquin, J.M.C.A., and C. Witt, IPNI-IPI Southeast Asia Program, Singapore (2008) http://www.ipipotash.org/en/eifc/2007/14/4/english

⁸ The average attainable yield is defined as the yield achieved in farmers' fields with best management practices including water, pest, and general crop management where nutrients are not limiting.



Pasuquin, J.M.C.A., and C. Witt, IPNI-IPI Southeast Asia Program, Singapore (2008)

Figure 4: Corn Yield Potentials, Central Java, Indonesia (tonne/ha)

Even using BPS data on yields, compared with international producers, Indonesian corn yields underperform against the yields achieved in the major importing countries.



Source: Cargill Grain & Oilseed Supply Chain analysis

Figure 5: Corn Yields, Domestic vs Imported (MT/ha)

To narrow the yield gap, farmers are required to adopt the typical suite of technologies simultaneously (e.g. improved varieties, planting density along with nutrient, weed, pest and disease management) that offer improvements in yield and/or productivity against current practices.

Returns from Corn are lower than other cropping options

The returns from corn grown under rain fed conditions in Indonesia is low compared to the returns from most competing crops⁹ (see Figure 6). The introduction of irrigation has the ability to increase annual returns by nearly four and half times. This is a function of increased yield and a shift in the cropping intensity form one corn crop per year, to two and half crops per year. Despite the increased margins irrigation brings to corn production, corn is still less competitive than irrigated rice.



Figure 6: Corn Yields, Domestic vs Imported (MT/ha)

Cost of Production is Competitive to Imports but could be improved

The cost of production of corn on a per tonne basis from a high yielding (6tonne/ha) traditional wet season farmer in Indonesia are roughly two thirds that of farmers in the US (see line 5, Table 2). Even though Indonesian corn yields are low by international standards, the per tonne net return to farmers in Indonesia is nearly twice that of US farmers¹⁰ (see line 7, Table 2 below).

Table 2: Comparison of Corn Production Costs and Returns for Indonesia and US Producers

		Indonesia	United States	% difference Indo/US
	Yield	6 tons/ha	10.2/ha	59%
1.	Moisture	14%	14%	-
2.	Production cost per ha	6,330,000	16,632,000	38%
3.	Cost of production/tonne	1,055,000	1,630,000	65%
4.	The cost of transport to the feed mill (IDR/tonne)	350,000	440,000	80%
5.	Total costs (IDR/tonne) - includeing transport	1,405,000	2,070,000	68%
6.	Total costs (USD/tonne)	US\$108	US\$159	
7.	Price received at the feed mill (IDR/tonne)	3,000,000	3,000,000	-
8.	Net return (IDR/tonne)	1,595,000	930,000	171%
9.	Gross return (IDR/ha)	18,000,000	30,600,000	59%

⁹ Corn Production in Indonesia- challenges and opportunities, Cargill, Jan 2015.

¹⁰ Represents a high yielding wet season traditional corn production system.

10.	Net return (IDR/ha)	9,570,000	13,968,000	69%
11.	Average farm size	0.3 ha	190 ha	0.15%
12.	Net return (IDR/household)	2,871,000	2,653,920,000	0.1%

Source: Presentation by Prof Dr. Dwi Andreas Santosa, Bogor Agricultural University during the Coordinating Ministry of Economy Corn Focus Group Discussion 28th March 2016.

However, factoring in land size per household the net return for Indonesian corn farmers is only 69% of US farmers. The primary cause being lower Indonesian corn yields. Accounting for the difference in average farm size between Indonesia and the US, the total net return per household producing corn in Indonesia is approximately one tenth of one percent of US farmers.

In the example outlined above (Error! Reference source not found.), the higher than average yield of 6 tonne/ha enables Indonesian corn to be competitive on a cost per tonne basis landed at the feed mill compared to imports from the US. This simplified analysis is supported by a similar analysis performed by Cargill, which includes cost of production from other import countries. See Error! Reference source not found. below.



Source: Cargill, Corn production in Indonesia-challenges and opportunities, 2015

Figure 7: Indonesian Corn Total costs of Production versus Import

The cost of inter-island domestic transport for corn in Indonesia is high. It is comparable, and in some instances higher than international freight rates. See **Error! Reference source not found.** below.



Source: Corn Production in Indonesia, Challenges and Opportunities, Cargill, 2015

Figure 8: Corn Domestic vs International Freight Rates

In the example of high yielding rain fed corn production in **Error! Reference source not found.**, domestic corn freight accounts for up to 25% of the total cost of corn to the feed mill on a per tonne basis in Indonesia.

Supply Continuity a major Constraint

Nearly 50% of Indonesia's national corn production occurs during the 3 months from February to April¹¹ (see **Error! Reference source not found.** below). The second production season takes place from March to June (37 percent), and the third runs from July to September (14 percent). The concentrated supply of corn following the wet season harvest leads to significant domestic supply gaps that cannot be adequately managed by irrigation or post-harvest storage due to insufficient infrastructure and sub-optimal corn quality for storage (high moisture).



Figure 9: Indonesian Corn Harvested Area (ha) 2011 - 2015

4.6 Corn Demand Continues to be Greater than Supply

Leaving aside the validity of the data in the corn production debate, **Indonesia's d**emand for corn is outstripping domestic supply. Between 2009-13, domestic corn production increased at a Compound Annual Growth Rate (CAGR) of approx. 2%. For the same period, domestic corn consumption increased at a CAGR of approx. 7%.¹²

Long term modelling by Cargill in Indonesia estimates corn demand will nearly double from 7 million MT in 2013 to 13 million MT by 2020. The demand for corn is fuelled by Indonesian consumers' growing appetite for poultry as a preferred protein source as their incomes increase. According to data presented by the Indonesia Feed Millers Association (GPMT) and Cargill in 2013/14, the animal feeds industry in Indonesia consumed 87% of all corn produced. The poultry industry comprised 88% of all domestic animal feed consumption. As a result, roughly 76% of total corn consumption in Indonesia from domestic and imported sources is for the poultry industry.

Human consumption of corn and corn products in Indonesia is generally quite low (<13% of total production). It is regionally specific (NTT, Madura), and mainly within poorer areas. This remains the case despite some efforts to encourage consumption in processed foods to a mainstream consumer base.

¹¹ Further analysis from the USDA Grain Report, December 2015.

http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Indonesia%20Grain%20and%20Feed%20Update%20December% 202015_Jakarta_Indonesia_12-14-2015.pdf

¹² Corn Production in Indonesia- challenges and opportunities, Cargill, Jan 2015.

4.8 Corn Imports Continues to Grow Because Domestic Supply is Inconsistent and Inadequate

Indonesian corn imports increased sharply in 2010 and have fluctuated between 1.7-3.2 million MT over the past 5 years (see Figure 10 below). For the same period, the percentage of total corn consumption met by imports ranges between 20-35% of national corn requirements depending upon the data source¹³.





The timing and volume of corn imports bears little correlation to the period of peak supply of domestic corn during the months of January to March. The result is high domestic corn prices at these times.



Source: Directorate General of Food Crops, Ministry of Agriculture presentation to the Coordinating Ministry of Economy Corn Focus Group Discussion meeting 28th March 2016.

Figure 11: Indonesian Corn Harvested Area (ha) 2011 – 2015

The consistent monthly requirement for corn imports is best explained by the findings from a 2015 survey¹⁴ of 69 feed mills in Indonesia. The three major reasons why feed millers import corn are; a lack of continuity of supply in

¹³ Presentation by Prof Dr. Dwi Andreas Santosa, Bogor Agricultural University at the Coordinating Ministry of Economy Corn Focus Group Discussion 28th March 2016.

¹⁴ Directorate General of Food Crops, Ministry of Agriculture presentation to the Coordinating Ministry of Economy Corn Focus Group Discussion meeting 28th March 2016

the local market (35%), the difficulties in sourcing local corn (30%), and higher domestic prices compared to imports (20%). Inferior quality of domestic corn was mentioned as a reason by only 10% of respondents. (see Error! Reference source not found. below).



Source: Presentation by the Director General of Food Crops, Ministry of Agriculture, at the Corn Focus Group discussion held by the Coordinating Ministry for the Economy 28th March 2016.

Figure 12: Reasons Why Feed Millers Import Corn (% response)

Feed-millers are often quoted as saying that they prefer local corn rather than imports due to its 'freshness', higher xanthophyll-pigment levels (preferred for egg and poultry meat quality/colour); and improved pellet quality and throughput tonnage per hour in the feed manufacturing process. Despite these preferences the discontinuity of supply of domestic maize is the overriding factor for feed mills to source a reliable supply of potentially 'less fresh' corn through imports.

4.9 Corn Warehousing and Drying Capacity are Inadequate to Remedy Supply/Demand Gaps

Warehousing and the cost of sourcing domestic corn are major constraints, which, alongside domestic drying capacity, undermines efficiency in the corn sector. Quantifying the impact of post-harvest losses on the competitiveness of the corn sector is difficult. The major cause of post-harvest loss in Indonesia is high grain moisture content at harvest. The losses to farmers are in the form of quality downgrading by collectors and traders, and in some instances rejection due to high aflatoxin levels. Physical grain losses (primarily from weevil infestations) can be as high as 30-40% within three months of harvest if corn is not dried or stored appropriately. Sun drying of corn at the household level is the primary method used by farmers to reduce high grain moisture. There is an absence of small to medium scale commercial grain drying facility operating at the collector to trader level is approximately 6 years¹⁵. Once corn reaches the larger feed mills, the quality losses have all but been accounted for during the multiple transactions between corn collectors and traders.

¹⁵ Pers comm CEO, Vasham June, 2016

4.11 Corn Price Competitiveness: Not an Unrealistic Goal

Domestic corn in Indonesia is generally less price competitive than imported corn. During the 2014/15 season, domestic feed mill corn prices were between 2% to 12% higher than imported corn prices¹⁶. (see Figure 13 below).



Source: Directorate General of Food Crops, Ministry of Agriculture presentation to the Coordinating Ministry of Economy Corn Focus Group Discussion meeting 28th March 2016.

Figure 13: Domestic vs Imported Corn Price (IDR/kg) and Percentage Difference, 2014/15

The contributing factors hindering the price competitiveness of domestic corn are primarily: lower yields; price downgrading due to high moisture at time of harvest; higher drying costs to address the grain moisture issue; high transaction costs for feed mills sourcing corn from small holder farmers, collectors and traders and finally; high domestic transportation costs due to inadequate infrastructure.

There are multiple levers for addressing **Indonesia's** future growing demand for domestic corn. Increasing production through improved varieties (hybrids) and inputs (fertilizers) underpins the increase in supply. However, without improving the continuity and quality of domestic corn supplied to feed millers at a competitive price, imported corn will always remain an attractive or preferred alternative. The introduction of irrigation can certainly improve the continuity of corn supply, but similar to improving domestic transport infrastructure, investments are often large, complex and slow to develop. Improved post-harvest storage and drying facilities, focusing at the farmer, collector and trader entry points is a more realistic option which will ensure that the necessary increases in domestic production are fully realised by reducing quality downgrading and physical losses. Storing higher quality domestic grain prior to reaching the larger feed mills underpins the ability to extend storage intervals throughout the sector.

If Indonesian corn is to become competitive in regional markets, it will need to improve corn yields (tonne/ha) reduce the unit cost of production (\$/tonne) by increasing economies of scale of production through larger land parcel size, address price fluctuations through strategic imports and increased dying and warehousing capacity, and in the long

¹⁶ Directorate General of Food Crops, Ministry of Agriculture presentation to the Coordinating Ministry of Economy Corn Focus Group Discussion meeting 28th March 2016

term, with domestic transport representing up to 25% of total per tonne production costs, invest in better transport infrastructure.

5 A Common CWG Vision for the Corn Sector: A Strategy

5.1 Sector Change

Based on the foregoing description of the sector as presented in Section 4, CWG members have proposed a vision of the corn sector in Indonesia as being both "inclusive and competitive" in regional and global markets. Through discussions with the CWG members the following causal model was developed to illustrate how inclusiveness and competitiveness can be achieved in the corn sector. The blue coloured boxes at the top of this diagram are the effects of a competitiveness and inclusive corn sector. The green boxes, at the next level down, speak to the component elements of competiveness and the objectives of the strategy. The light brown boxes at the bottom are the critical means or conditions to achieving these objectives. What is not addressed in this causal model however are (a) priorities among these objectives and conditions; and, (b) the sequencing of measures to address the identified constraints.



A Causal Model for the Corn Sector

These objectives can be achieved through a number of mutually reinforcing conditions that, if effected, can drive change in the sector. These conditions include: increasing investment in corn production by farmers (through reducing risks), increasing the land area under cultivation, increasing productivity, reducing losses in post-harvest, improving quality of corn for industry (through better storage and post-harvest options), improving research and development and upgrading the efficiency and reliability of domestic transportation for commodities including corn.

Such a competitive sector would have a number of positive effects for the Indonesian society and economy. These include greater investments in the corn sector; less reliance on imports which supports greater food security; the possibility of increased exports of corn during seasons of high production; the increased domestic consumption of corn which could lead to better nutrition outcomes for communities in many areas of Indonesia; more sustainable

(and reliable) supply of corn to the feed industry which can drive a more competitive livestock sector (in particular poultry but also beef and fisheries) and, of course, increased incomes for millions of corn farmers.

5.2 Priority Intervention Areas

As previously mentioned CWG members feel that greater consistency is needed between the above mentioned constraints to competitiveness and the interventions designed and implemented by the CWG. Based on the above causal model priority should be given to two broad areas:

- IA2: Improving the Production System. Measures for this are clustered around: improving productivity through production technologies (better seeds and appropriate use of fertilizers/ pesticides, and mechanisation) and co-creating enabling policies with government that support these measures for example, adapting the current application of corn seed subsidies.
- IA1: Ensuring Continuity of Domestic Supply. Measures for this are clustered around: improving sourcing efficiency ensuring continuity/ reliability of supply to commercial buyers thereby reducing major price fluctuations; and improving continuity/ reliability of supply through increased private sector investments in improved drying and storage facilities.



Strategic Areas of Focus for Interventions

5.3 Suggested Interventions

Some suggested interventions that could contribute to the intervention areas could include:

• Replacing the seed subsidy with a voucher system. The seed subsidy programme is currently providing seed directly to farmers in order to increase both productivity and the number of hectares under cultivation throughout the country (with a target of adding approximately 1 million additional ha to the total area under

cultivation). This policy could be adapted to make it more market driven and benefit commercial stakeholders in the system as well as protecting the interests of poorer domestic farmers. One way is to integrate the seed distribution programme into a marketing proposition where the government and commercial actors collaborate in taking farmers through a journey towards sustainable utilization of improved hybrid seeds. This journey broadly entails four elements: (1) creating awareness of hybrid seeds; (2) farmers understanding the benefits; (3) farmers adopting a trial use of the seeds; and, (4) leading to farmers demanding repeat use of the seeds from commercial outlets. In this journey the government could focus its instruments primarily on the first two areas through generic behaviour change communications (BCC) towards hybrid seeds (reducing the costs and loss-leader risks of individual companies taking on this responsibility in marginal areas), and providing vouchers for hybrid seeds in the trial stage. The government could also consider conditional cash transfers (CCT) to support poorer farmers in order to ensure inclusivity as the market develops. This could be offered as a viable option in place of the current subsidy programme and would support the continuation of the relatively large budget allocation of the MoA towards developing the market for hybrid seeds in currently marginal areas.

- Incentivising private investment in grain storage facilities. While efforts have been made by the public sector to develop storage facilities it is understood that many government-developed facilities are either underutilized or unused. This underutilization is caused by a lack of commercial orientation in the operation of these facilities. It may be possible to incentivise feed mills to develop sustainable and commercial storage and drying facilities in key strategic areas to improve supply efficiencies. One measure could involve a tax credit scheme for such investors. This scheme could be coordinated in areas where the government is focusing its policy instruments (for example the voucher programme articulated above) aimed at increasing domestic production.
- Coordinate private sector actors to reduce investment risks and demonstrate replicable models. The CWG can play a useful role to quickly coordinate private sector companies to invest in marginal corn producing areas. One such example involves a CWG member, PRISMA, in Madura Island in East Java (home to more than 450,000 corn farmers). The soil and climactic conditions for corn production is very good in this region and yet the average yield (<2 MT/ha.) is less than half of the stated national average. The low adoption of hybrid seeds (20% penetration) and the poor usage of new farm practices is seen as a central constraint. All major corn seed companies have tried to penetrate this market without much success. PRISMA, is facilitating an intervention together with five major corn seed companies (PT BISI, DuPont, Syngenta, PT Ahsti and Monsanto) to combine forces, for 3 consecutive seasons, to reach at least 40,000 new farmers with both improved seeds and the knowledge for how to optimise the uses of these seed. The aim is to double the average productivity of these 40,000 corn farmers to 4MT/ha. by the end of 2018. The seed companies will spread out their demonstration plots to optimise outreach, while PRISMA will stimulate demand by saturating the media with information on the benefits of improved seed utilization, in addition to this the Dinas Pertanian will reinforce these messages with their own farmer groups. If this model of collaboration of seed companies with the government works in Madura it can be replicated in other areas of the country where productivity rates are lagging behind national averages.

These are just a few examples of a new generation of interventions that may emerge from the CWG once a common vision is elaborated and greater dialogue between private and public sector players is enhanced. The following section of this paper is specifically addressed to the CWG so that it can effectively increase its progress towards its ambitious targets.

6 Recommendations for the CWG in the Implementation of this Strategy

6.1 Upgrade the CWG Structure

It is recommended that the CWG structure is modified to reflect the more strategic mandate of the group. As the mandate of the group is to support change in the sector by developing models for scale and elaborating a pragmatic policy agenda for dialogue with the Gol, changes to the CWG should focus on both the composition of members and on the operational modality of the working group itself. Specific recommendations include:

- Expand the CWG to be more representative of industry. It is clear that while a smaller group may have advantages in being able to reach consensus and formulate positions more expediently, a larger representation may provide a more powerful voice that will be harder to ignore in debates on this sector. Recognising this trade-off, it is recommended that the CWG is judicious in seeking to incorporate certain key constituencies and interest groups which can add value in making the group more representative of the sector. National companies may have different ideas to multi-nationals and possess the connections that can be leveraged to support collaborative initiatives. Consider in particular representatives of the poultry feed industry, and other large local buyers including in the renewable energy sector (with an eye on future opportunity in biofuels). Technology providers as well as representatives of agro-machinery companies, and relevant traders' associations, may also be included.
- Develop a Corn Steering Group (CSG) of lead representatives to guide all activities of the CWG. Due to the growth of activity in the CWG, currently meetings focus on reporting back progress on the collaborative ventures that the group is undertaking. While it is important to maintain this space, it is necessary for the group to have a forum in which to discuss strategic issues, form common positions, and make commitments towards collaboration between members. Therefore, it is recommended that a Corn Steering Group (CSG), comprising only of 'top tier' opinion-leaders and decision-makers from the membership, is developed. The CSG would act at a higher level to the CWG with a remit to provide oversight of activities in the collaborative projects, intellectual leadership, and take the lead on the group's engagements with government and the wider PISAgro. The current CWG should report to the CSG on the progress and operational aspects of the projects as part of a CSG.

CONSIDERATIONS FOR IMPLEMENTATION

- It is important to remember that PISAgro is a "network" rather than a command and control structure with an authoritative hierarchy. As with any network, it exists because its members see a value in participating. The initial currency of any network is ideas; it is up to network members to turn these ideas into investments. While the CWG may provide a platform for these ideas and investment opportunities it is critical to maintain a high standard of coordination, communication, and facilitation in the engagements within and outside the group. In a network this does not happen automatically, some leadership is essential.
- A good coordinator will support this (see Recommendation #2), as will a policy of extending invitations to
 influential opinion-leaders only these can be agreed in advance as per organisational preference but these
 people must have decision-making authority within their respective organisation. If they are not available then
 second tier representatives, or any kind of 'note-taker' should not attend in their absence.

The reformed structure of the CWG:



6.2 Appoint a Competent and Dedicated Coordinator to Support the Group

The recommended structural changes and repositioning of the CWG will require a higher degree of coordination and facilitation than what is in place today. The development of the CSG and the increased engagement with government will require additional human resources to ensure that high standards of coordination and an ability to quickly pursue opportunities are constant features of the group. Therefore, it is recommended that the CWG appoint a dedicated and highly competent coordinator to support the group. This role could act as a point of contact for members locally, and also liaise with the PISAgro secretariat, GrowAsia and other national and regional networks. The purpose of this position is not to replace the chairperson, but rather to act as a secretariat in coordinating and facilitating the various engagements of the group. The support of this position would be a clear statement of the change in focus of the group, and provide additional capacity in delivering a more challenging set of activities. Some PISAgro members have already suggested to the board that more of this type of personnel is needed to facilitate and coordinate and guide all of the larger and more relevant working groups. Such personnel could handle between 2-3 working groups if they were appointed on a full time basis. This need is urgent if the CWG is to fulfil its mandate. In particular, it is recommended that:

- The Coordinator should exhibit a high level of service orientation. The Coordinator needs to have the ability to engage with stakeholders in the public and private sector in order to demonstrate the intellectual sophistication and integrity of the group. This will include the ability to develop strong working relationships with members and external stakeholders via direct communication or communication through their executive assistants. Members and external stakeholders should be made to feel highly regarded and that they are receiving exceptional service from the PISAgro CWG.
- The Coordinator should support the Chairperson but not duplicate their role. The Coordinator and the Chairperson should have a synergetic relationship, with the Coordinator enabling the Chairperson to chair the group in the most effective and efficient way possible. It is essential that neither the Coordinator become too assertive, nor that the Chair is absolved of the responsibility to manage differences and forge consensus within the group. Therefore, the relationship between the Coordinator and Chair should be mutually supportive with the responsibilities of both positions clearly defined.

CONSIDERATIONS FOR IMPLEMENTATION

- Some key competencies that are recommended for the Coordinator role include: dynamism in their ability to setup, promote, establish, organise, and facilitate the CWG and CSG alongside the Chairperson; a high level of intellectual curiosity and ability to learn quickly; proactive in their mindset and approach, particularly in anticipating and taking responsibility for potential problems; ethical, confident, creative, and with a positive attitude; and, an ability to set high standards in face-to-face, phone and email interactions with members.
- In order to identify an individual with the ability to fulfil this role, it may be useful to recruit those with experience in the young professional (YP) programs of large corporations. This may be the right place to find candidates that are sufficiently enthusiastic, dynamic, and able to talk to senior stakeholders in a substantive way. This might be a good opportunity for an ambitious young person with excellent communications skills and some experience in commercial industry. PRISMA has offered the possibility of providing an internship position, as part of their induction, in order to get close-up experience in sector strategy formulation, intervention design, results measurement, and deal-making.

6.3 Scale up or Reformulate Existing Interventions and Initiate a Second Generation

One of the key strengths of the current PISAgro CWG is the willingness of its members to collaborate in formulating new ways to support corn farmers in the sector. Although the remit of this study does not include a detailed review of the current interventions it is clear from feedback from the CWG members themselves that these interventions have not yet seen significant scaling, and are far from being incorporated into the core-business propositions of the various commercial players that support them. Therefore, it is recommended that *the group refocuses its efforts on activities that can have impact with the potential to scale-up during and beyond PISAgro.* Specific recommendations include:

- Agree on the preconditions for scale in order to focus the current interventions on commercial viability and sector competitiveness. The pre-conditions for scale in the sector have two dimensions: the internal commercial logic of individual CWG members which seeks to calculate investment returns for the individual company; and, those of the wider CWG which seeks to support competitiveness in the sector more broadly. Such preconditions for scale should include that the intervention demonstrates that it:¹⁷
 - Is **consistent with the CWG's causal model** or theory of change (see Section 5) for the corn sector as a whole and will lead to an inclusive and competitive corn sector;
 - Is **relevant to PISAgro's mission** of increasing productivity, farmer incomes and the reduction of carbon emissions;
 - Is **commercially viable** for all actors, including after establishment/ replication costs have been considered;
 - Is **replicable and can work in multiple areas**, and is not dependent upon a unique set of particular local characteristics;
 - Is **not dependent upon a single private sector player**, or that the characteristics or key elements of the intervention can be replicated by other market actors in the corn sector.
 - Has its own causal model or theory of change based on robust evidence of impact;
- Review the existing and future intervention portfolio against the agreed preconditions. This can take the form of a review of the current intervention portfolio in order to either: (1) *doubled-down* or further invest in

¹⁷ Suggested criteria have been drawn from: *Scaling Up—From Vision to Large- Scale Change: A Management Framework for Practitioners*, available <u>here</u>; and the IDEO Human Centred Design (HCD) toolkit, available <u>here</u>.

the intervention if they met the above mentioned criteria and are judged to have the ability to scale; (2) *debugged* to identify weaknesses in promising models and invest further resources to make them work; or, (3) *drop* in the case of interventions which are **not** demonstrating the required potential for scalability. In the case of new interventions, these **should be 'designed for scale' from the beginning**, using the agreed criteria. While any decision regarding the interventions is at the discretion of the collaborating partners themselves, the suggested Corn Steering Group (CSG) must set the strategic priorities and guide the implementers in the CWG towards the fulfilment of its mandate. Of central importance is the need for interventions to have long term commercial returns for companies – this is an essential precondition for these companies to reach the outreach/ impact targets of PISAgro (see Recommendation #4); the drivers of interventions must shift from the CSR teams within companies to commercial teams seeking to achieve returns.

CONSIDERATIONS FOR IMPLEMENTATION

- Explore where support can be leveraged from development institutions or impact investors for new projects. The advantage of PISAgro is that there are a range of organisations involved in the shared endeavour of supporting increased competitiveness in the corn sector. Development organisations may play a coordinating/ facilitating role which can reduce risk/ establishment costs for commercial players. For example, these organisations often have seed capital to co-invest in interventions that promise sustainability, outreach/scale and impact on smallholder farmers.
- In the formulation of this new generation of interventions it will likely be necessary to coordinate with local government in the initial intervention locations, therefore enlisting the support of national government early on may pay benefits later during implementation.

6.4 Make the CWG More Relevant to the Government

It is clear that CWG members value the opportunity offered by PISAgro to engage with government, and this is a significant draw for retaining existing members and attracting new members to the group. Therefore, it is vital that the CWG have a strong line of communication to key government players, and ensure that value is being generated for both CWG members (through the CSG), and for the government actors involved. In this, it is recommended that a *regular space is developed to engage with an ex-officio group of government members* (by invitation) who participate regularly in policy co-creation with the CSG. The purpose of this group is to ensure that there is a space for the private sector agenda in the co-creation of government policy and strategy, and to support greater continuity in engagements with key government figures. **The CWG/CSG's relevance to government is predicated upon the** ability to bring positive, well-researched ideas that can contribute to the formulation of policy and be used to influence Ministerial decision-making. Therefore, it is recommended that the CWG:

- Develop an informal culture of collaboration with senior Government representatives. It is crucial that expectations are managed on the part of the government group that is not part of the CSG but rather invited to engage with it on specific issues. It will be necessary to communicate with the government group and this should be through the channels of the suggested Coordinator and the CWG chairperson. The culture of the group should be collaborative, confidential, and focused, rather than confrontational, and a space where the CSG and the government group come together to discuss issues and workable solutions; this atmosphere will have to be developed by the chair and the coordinator. There should be a strong emphasis on relationship building between all stakeholders.
- Build upon the good relationship between PISAgro and the DG Food Crops. There is a clear opportunity to build upon the relationship with the DG Food Crops at the Ministry of Agriculture who has a current relationship with the group and is supportive of the idea to engaging with the CSG. The DG's office may act as a useful conduit to reach out to other senior civil servants up to Director General (DG) level in key ministries

(Finance, Trade, and Coordinating Ministry for Economic Affairs) as cross-ministerial meetings may be required to address specific constraints and opportunities in the corn sector. The Deputy Minister for Food and Agriculture at the Coordinating Ministry for Economic Affairs has already expressed interest in such a forum.

CONSIDERATIONS FOR IMPLEMENTATION

- Consider more informal spaces for meetings with civil servants. These can be evening dinners or other semiformal occasions through which senior CSG members and government stakeholders can talk frankly about issues in the corn sector without fear of being quoted in public minutes. Use Chatham House rules when taking records of meetings (where the identity of those disclosing information is not explicitly or implicitly identified).
- Limit attendance to senior members of the CSG and relevant government representatives, invite key individuals
 and as with the CSG the priority is for seniority, so junior 'staff' from the ministries may not be accepted as
 substitutes of senior officials. Rearrange the meetings if necessary to ensure that key people are present.
 Prioritise the seniority of members over the number of attendees.

6.5 Reconsider How Outreach and Impact is Measured

The outreach for the current portfolio of interventions is relatively modest (generally in the 100's of growers). But the CWG has posted significant achievement numbers of over 350,000 farmers impacted and 260,000 ha reached by the activities. These achievement numbers are understood to be behind the projection of targets set for the CWG by year (cumulatively 1.5 million farmers outreach, and 375,000 ha of land impacted). As an organisation the attractiveness of the larger numbers is powerful, but if these numbers are indeed just an accumulation of the total outreach of a selection of PISAgro members, then one could easily ask what is the additionality of PISAgro of indeed the CWG?¹⁸ This is a question not only for the CWG but for all of the other working groups of PISAgro.

If the outreach numbers of the CWG were only based on the collaborative interventions of the CWG the results would look paltry and diminish the excellent work that has been initiated so far. Yet, accepting the estimated outreach of the members' existing business creates a credibility gap that could undermine the relevance of PISAgro and the CWG. Clearly, a solution lies somewhere in the middle. One solution could involve recording the current and projected numbers (outreach, farmer benefit, increased competitiveness) of the existing and new generation of CWG interventions and then adding to this a subset of numbers from member activities that have been inspired by their participation in the CWG. As previously mentioned these interventions may well be in the commercial interest of CWG members but they should also have an inclusiveness angle that is consistent with the CWG's vision of the corn sector. The criteria mentioned in Recommendation #3 should nevertheless be applied. For members' own outreach numbers to be counted a member would need to table the initiative to the CWG and if it was endorsed by the group its subsequent numbers could be included. If the public sector members of the group also wanted to follow this procedure their impact and outreach figures could also be counted. A decision of this significance requires consensus among CWG members and the board of PISAgro. Therefore, it is recommended that the suggested steering group of the CWG convenes a meeting specifically of this topic of *impact measurement* to improve the ability of the group to PISAgro with credible data that more accurately convey the groups' achievements. Specifically, this could involve:

 Improve the collection of data relevant to the PISAgro CWG targets. It is important that the CWG continue to present the results of their activities to both PISAgro and a broader set of stakeholders involved in the competitiveness of the sector. However, the group should focus on some basic criteria for inclusion under the PISAgro banner as currently the data is sourced from only two members of the group (Monsanto and

¹⁸ In the PISAgro CWG meeting in April 2016, the outreach figures were calculated using the combined outreach of CWG members Syngenta and Monsanto. Source: #7 PISAgro Corn Working Group Meeting [minutes], Aston TB Simatupang Hotel

Syngenta), meaning it is neither quality assured nor representative of the whole group.¹⁹ The group should solicit the support of a third party to define an attribution strategy for the impacts that are being generated. GrowAsia (see below) might present an opportunity for this as it offers a connection into the wider WEF groups in Asia. While the targets set **for the CWG are large, and there is a danger of 'reducing impact'** and potential relevance through more stringent criteria, there still needs to be a minimum level of credibility to the numbers.

• Develop a data collection methodology for the strategy going forward. It is recommended that the group agree on targets, indicators, and a means of verification for its new activities – this could be based upon extrapolating the sector changes outlined for the corn strategy above (see section 5.1). This would help guide the CWG's efforts to effect sector change which is beyond the individual capabilities of the member organisations and responds to the broader vision of the group's multi-stakeholder approach. Also, as it is important that the information collected is robust and fit for purpose for supporting/ influencing government, therefore it would be useful to include the government representatives in the development of the methodology.

CONSIDERATIONS FOR IMPLEMENTATION

The CWG could look to elicit the support of Grow Asia, in particular the M&E Framework tool. This tool can help the group develop output and short term outcome indicators in key areas including: farmer engagement and women's economic empowerment, healthy and safe farming practices, equitable land rights, efficient water use, greenhouse gas reduction, forest conservation, improved soil quality, and working group investment. The advantages of working with GrowAsia is that this offers the opportunity to align timeframes for data collection and submission around key international events and the opportunity for Grow Asia to commission and fund periodic impact assessments of selected activities.

¹⁹ Figures taken from the CWG meeting minutes April 4 2016.