Science & Technology to Accelerate Agribusiness Development

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S&T and Agribusiness Nexus

S&T

- Establishes conditions conducive to investments to complement domestic efforts & advanced agribusiness infrastructure
- Requires applied S&T for successful transformation
- Complements private initiatives
- Plays an adoption-accelerator strategic role

Agribusiness

- Includes activities from farm to fork; enterprise that derives revenues from sale of agricultural products
- Main generator of employment and income
- Role of value addition
- Requires policies and strategies to improve agribusiness competitiveness

Social Enterprise

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Technology Business Incubation
by DOST-PCIERD

TBI is a process of nurturing business start-ups in techno-enterprises

DOST-TBI Mission

- Diffusion of knowledge and technologies
- Generation of new knowledge & technologies
- Capacity development
- Provision of quality S&T services

DOST-TBI Objectives

- Create jobs
- Develop entrepreneurs
- Promote public-private partnership

Financial Commitment

Fund of PhP **10 M** (2 years)

1st Generation TBIs
as Common Service Facilities
(started 1990s)
6 types

2nd Generation TBIs
(started 1990s)
5 types

S&T to accelerate agribusiness

"Agribusiness to transform farmers to become entrepreneurs"

Social Enterprise as the approach

Social Enterprise (SE) – a promising approach that:

- Involves partnership between private and public sector
- Creates a new framework for social change
- Sustainable business model

Social Enterprise

- Addresses social and environmental needs and focus on reinvesting earnings into the business and/or community
- Applies commercial strategies to maximize improvements in human and environmental well-being ---this may include maximizing **social impact**.

A social enterprise with the poor as primary stakeholders (SEPPs)

- A social mission-driven wealth creating organization that has a double or triple bottom line (social, financial, and environmental)

- **Objective:** poverty reduction/ alleviation or improving the quality of life of specific segments of the poor, and has a distributive enterprise philosophy (Dacanay, 2013).

Micro, Small and Medium-sized enterprises (MSMEs)

1 million Micro, Small and Medium-sized enterprises

90% of this are micro enterprises

88% of under 5 million jobs created in 2012 are from MSMEs

30 % of the population live on an average of **USD 3.67** a day

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Niches of social enterprise activity:

Perceptions of Social Enterprise

Some facts on family farms (Javier 2015):

Farmer and family as:
- Cultivators of crops
- Livestock raiser
- Fish catcher
- Wood & other products gatherer

90% of farms worldwide operated by small farmers (and their families); account for **80%** of the **world's food production**

Performance of Philippine agriculture is **way below** neighboring countries (Thailand, Malaysia, Indonesia, and Vietnam).

Reasons:
- Failure to diversify
- Missing out opportunities of large scale tree farming & other high value commodities
- Neglect of value adding thru processing
- Obsession with rice & misplaced policies favoring protection and import substitution

Agriculture ≠ Production

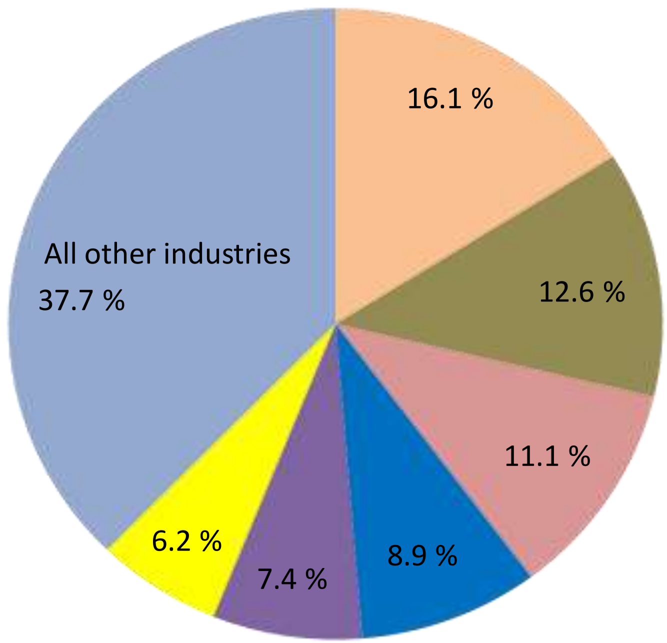
Big part: INDUSTRY

Agri-Food Exports of 5 ASEAN Countries (2008)

Philippines	$4.0 B
Indonesia	$31.4 B
Malaysia	$27.7 B
Thailand	$34.5 B
Vietnam	$11.0 B

Agribusiness as a key employment generator

2,461 **Total AFF establishments** (formal sector of the economy) **=** **1,247** (50.7%) **establishments** with total employment of **less than 20** **+** **1,214** (49.3%) **establishments** with total employment of **20 and over**



Industry	No. of Establishments
Hog farming	397
Growing of sugarcane	309
Chicken broiler production	273
Commercial ocean fishing	220
Contract animal growing services (fee basis)	183
Growing of cavendish banana	153

Percentage distribution of all agriculture, forestry and fishing (AFF) establishments

by industry sub-class (2012)

The Framework of a New Philippine Agriculture

Vision

A Modern and Industrialized Philippine Agriculture

Strategy: Inclusive Philippine Agri-Industrialization (IPAI)

4 Pillars	*4 Sustainable Development Goals**	*4 Major Objectives*
- Inclusive	- Food Sufficiency	- Productivity
- Science-based	- Economic Security	- Profitability
- Resilience	- Nutritional Sufficiency	- Competitiveness
- Market-oriented	- Environmental Security	- Sustainability

Enabling Strategies

Plans and Programs*

Legislative Agenda

*Note: * The attainment of the 4 sustainable development goals will ensure food security.*

Research and Development

To achieve long term economic growth due to several challenges, which require operative and strategic tasks like sufficient R&D

- **'Innovation is the name of the game'**
- Use of new science tools to harness agriculture
  i.e Biotechnology

Philippine R&D investment

2nd to the lowest

GERD (Gross Expenditure for R&D) as a percentage of GDP among Southeast Asian countries

(at the same level as Vietnam and Myanmar)

2002, GERD was 0.15 % of GDP
2003, GERD was 0.14 % of GDP
2005, GERD was 0.12 % of GDP

UNESCOs recommended GERD

1% of GDP

Infrastructures and other Logistics

To include establishment of processing centers, post-harvest facilities, farm-to-market roads, and mechanization; all together will hasten production and delivery of goods

With financial assistance from World Bank DA is currently constructing

213 Km of FMRs

(11% are half-way complete)

7 trading centers - operational
5 - under construction
9 - pre-construction phase

- **Farm to market roads**
  (for Northern and Southern Mindanao)
- **Irrigation and other facilities**
- **Nautical highways**
  (very beneficial to Mindoro)
- **Modern highways**
  (for Clark, Subic and Tarlac)
- **Markets -** proximity to lucrative market

Mechanization

Philippines

1.02 hp/ha

Weak Spots of Philippine Agribusiness

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1. **Growing model is weak.** Laws keep land holdings small and many of these farms fail. Expertise (e.g., finance, nutrition, marketing) is locked out.

2. **Business model is weak.** Cooperatives lack strong management and clear accountability; prone to abuse and exploitation.

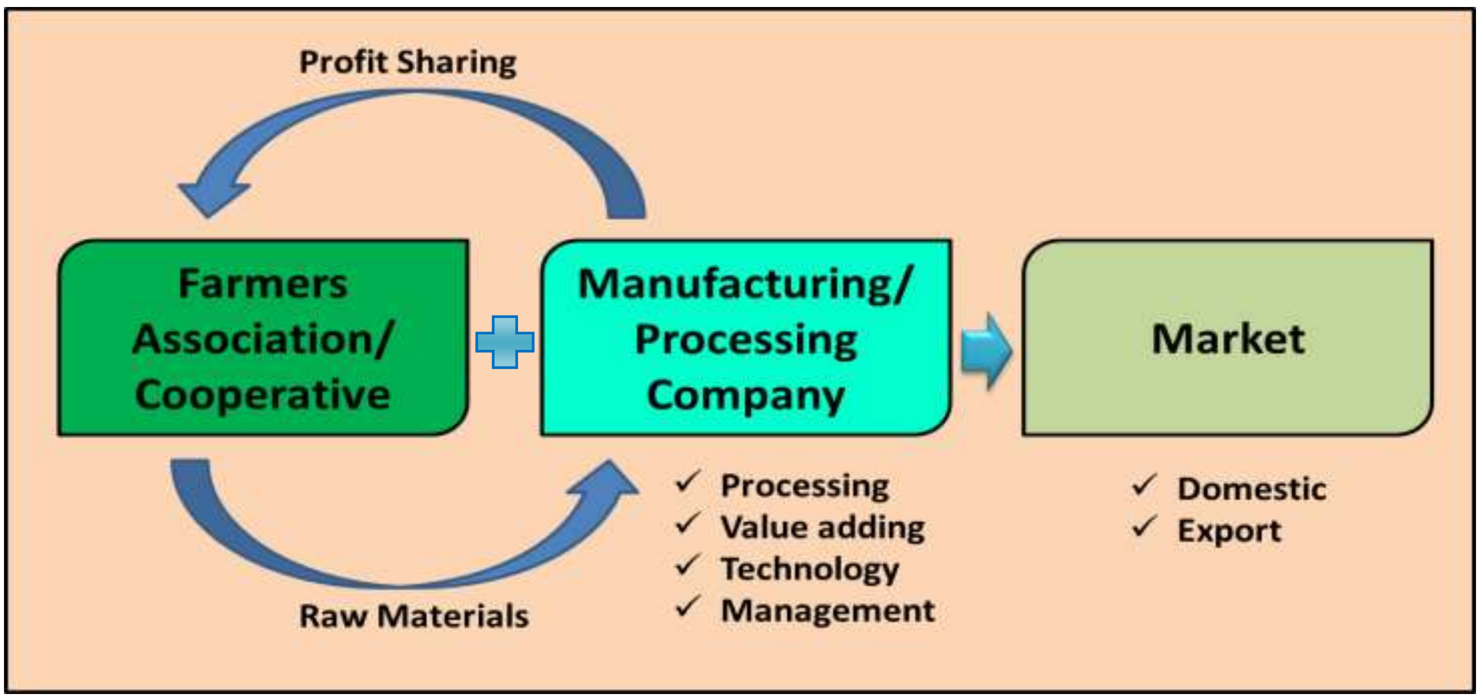
3. **Laid-back Philippine work ethic does not innovate or solve problems.** People work laboriously; But not always productively.

4. **System of entitlement keeps profit,** and the profit motivation, out of the farms to stay with the processors and packagers.

5. **Ruled by few dominant companies; run by few dominant families.** They have not bridged the gap between poor farm workers and rich businessmen.

Corporative

- A business model that involves three major players --- the **cooperative**, the **corporation**, and the **market**.
- Best suited for multi-agricultural ventures



Inclusive contract growing is needed.

Products	Company	Benefit System
Chicken broiler and layer	San Miguel Pure Foods	Provides: • building plans (design and specifications) • feeds and nutrition (medicines and vaccines) • technical support & info/recording materials • delivery and hauling services • competitive payment scheme
Banana, Pineapple, & Papaya	Dole, Del Monte, Sumifru	Provides: • technical assistance • free planting materials • Full participation of growers from production to harvest
Coffee	Nestlé Good Food, Good Life	• Supplies superior coffee clones at cost • Provides extension support • Buys back the coffee beans at prevailing world market price
Cacao	kennemer Foods International	• Assists credit for small growers with Land Bank of the Philippines • Supplies high yielding planting materials • Provides extension support • Guarantees secure market for the cacao beans
Tobacco	Philip Morris	Provides: • financial support in the form of cash advances • input and extension support
Hybrid rice	SL Agritech Corporation	• Provides extension support • Advances fertilizers and pesticides to farmers short of cash and also SL Agritech hybrid seeds • Buys back the palay at P2.00 - 3.00/kg higher than prevailing market prices
Hybrid corn	Prasad Seeds	• Reduces operational costs • Provides extension support • Guarantees a pre-determined price for produce

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Agribusiness/Markets

As enabling environments to spur development; emphasizes the role of public sector and international organizations in promoting business and even business-climate reforms including returns to investments

Phase I 2014-2017

- Focus on rubber, coconut, mangoes, coffee, cacao, banana, palm oil; other high value crops
- Attend to supply chain gaps

Phase II 2018-2021

- Strengthen agro-processing & its linkages to production ---R&D; strengthen supply chains, upgrade commodity clusters; provide access to technologies, finance; regulatory & certification system

Phase III 2022-2025

- Deepen participation in Global Value Chain (GVC)
- Philippines as an agribusiness regional hub

(Source: RM Aldaba, DTI)

‘Only agribusiness poses no conflict between agriculture and industry’

Importance of: **quality**, **diversification portfolio, and marketing channels**

(An **inclusive value chain approach**)

Thank you!

Government should nurture the hand that feeds the nation, so farmers and fishers can continue doing so, lest we all starve!

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