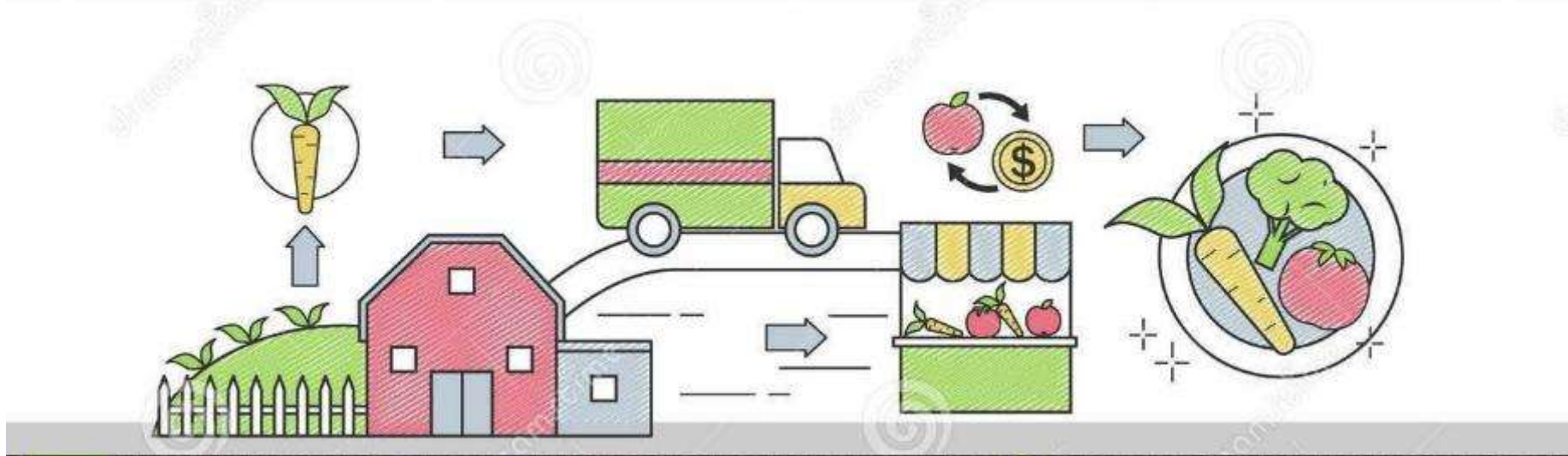


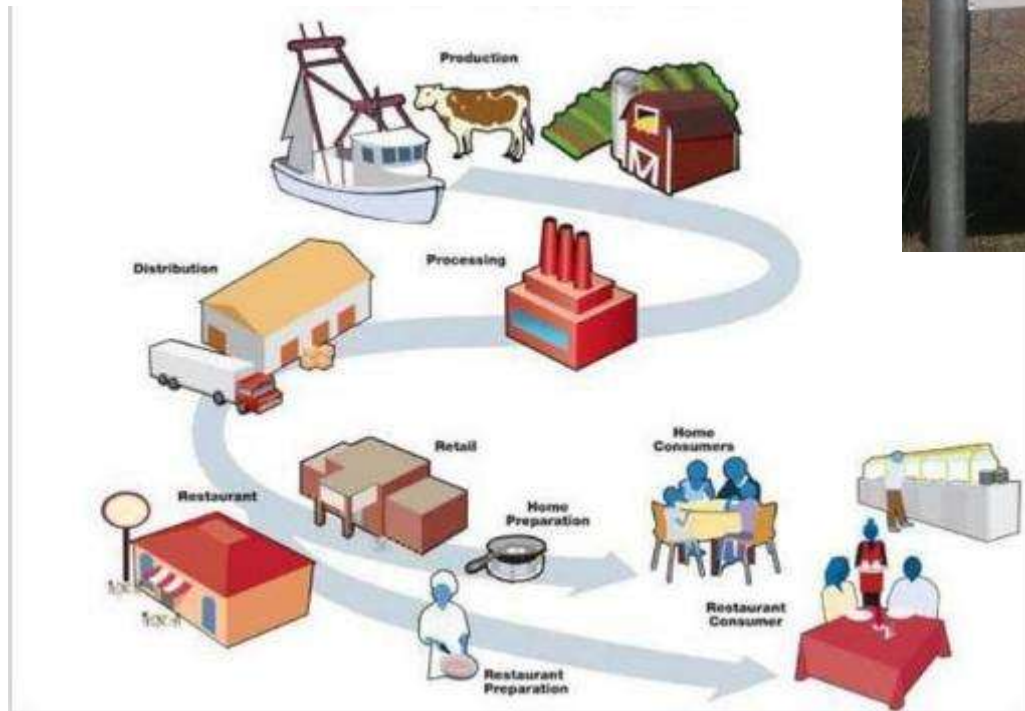
Role of Plant Science Technology in Supporting the Agricultural Economy: Safe & Secure Food.

FARM TO FORK



CropLife Asia: Our vision

A region where productive food and agricultural systems – enabled through innovative crop science and technologies – contribute to improving food security and the living standards of all in an economically, socially and environmentally sustainable manner.



KIWI NGÔ MAI TRANG

QUÁN QUÂN VUA ĐẦU BẾP
NGƯỜI NỔI TIẾNG 2017



-
- Sữa, trứng và thịt xông khói đến từ đâu?
Một trong ba thanh niên không biết
 - Khảo sát: Giới trẻ Anh (từ 16 đến 23 tuổi)
 - Where do milk, eggs and bacon come from? One in three youths don't know
 - Survey: UK Young Adults (6 to 23-year-old)



nghĩ trứng đến từ WHEAT



8%

nghĩ



thịt xông khói đến từ ngô



2%

nghĩ



thịt xông khói đến từ ngô



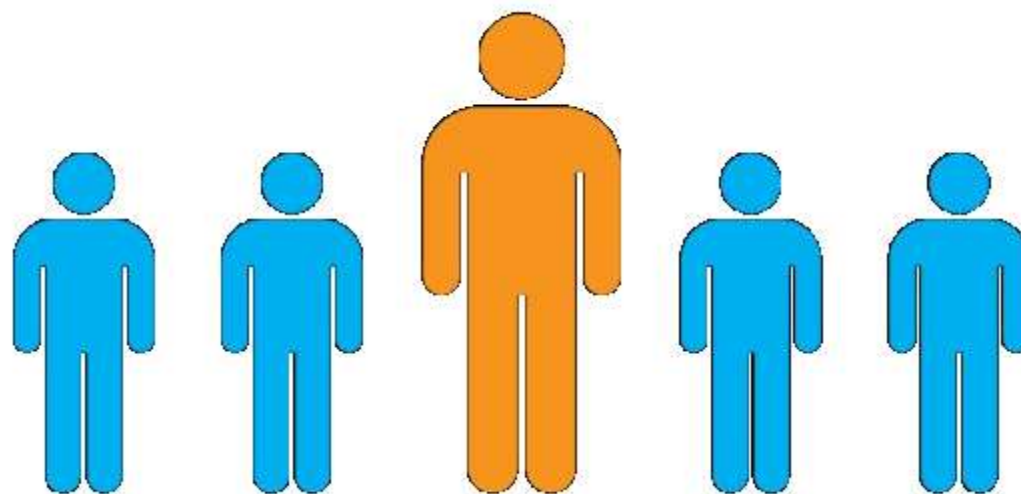
50%

Không biết bơ đến từ một con bò sữa



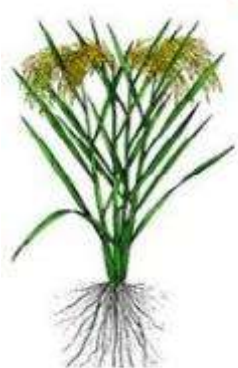


không biết trứng đến từ gà mái



nghĩ rằng mứt hoặc mứt cam đến từ cây ngũ cốc.

Cereals are the grains



Rice



Wheat



Maize



Barley



JAM



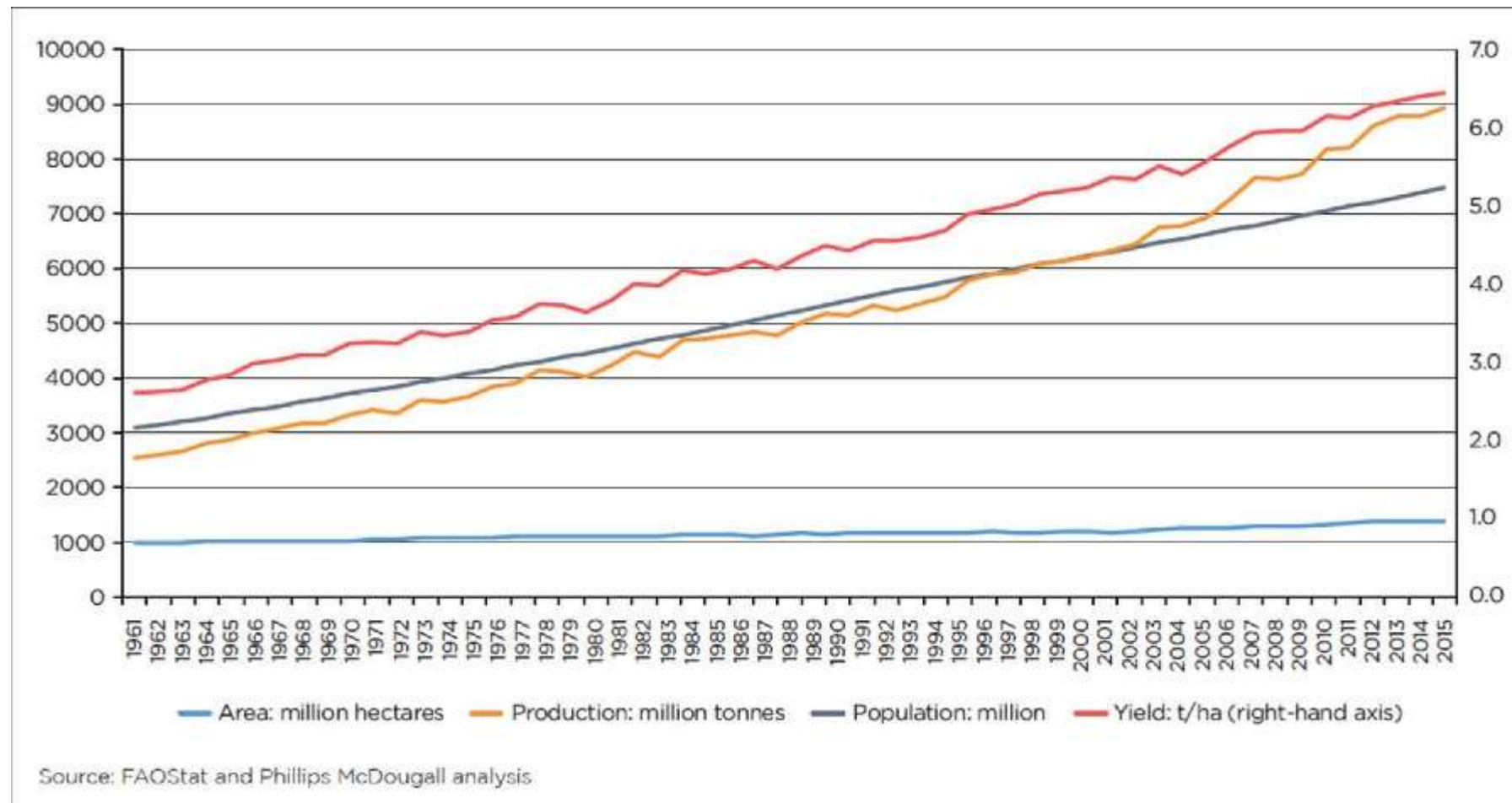
MARMALADE



10%

suy nghĩ mất ít hơn
một tháng để phát
triển.

Growth in population, Crop production, Crop areas and yields 1960-2016

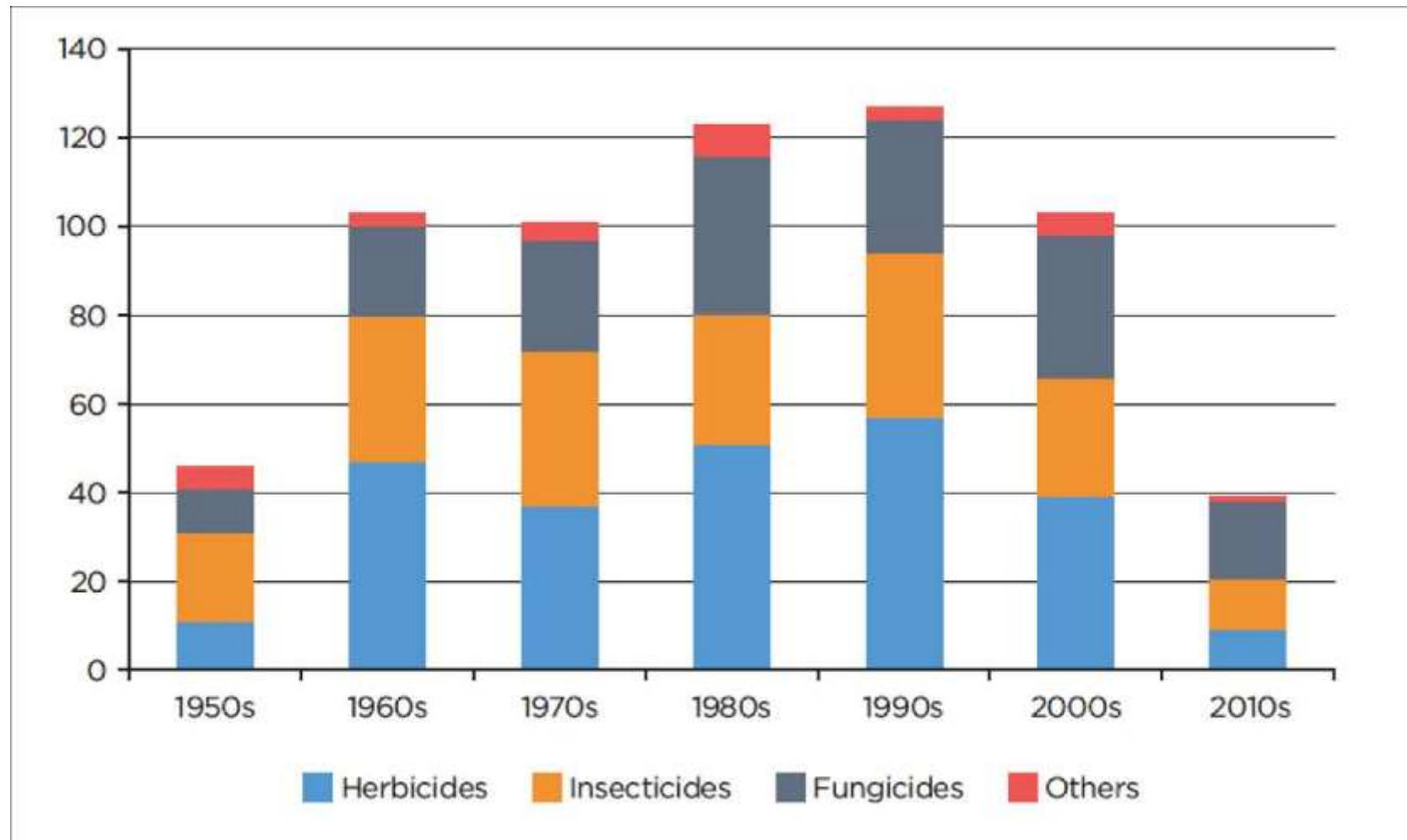


Weed are notorious yield reducers that are in many situations economically more harmful than insects, fungi and other pests

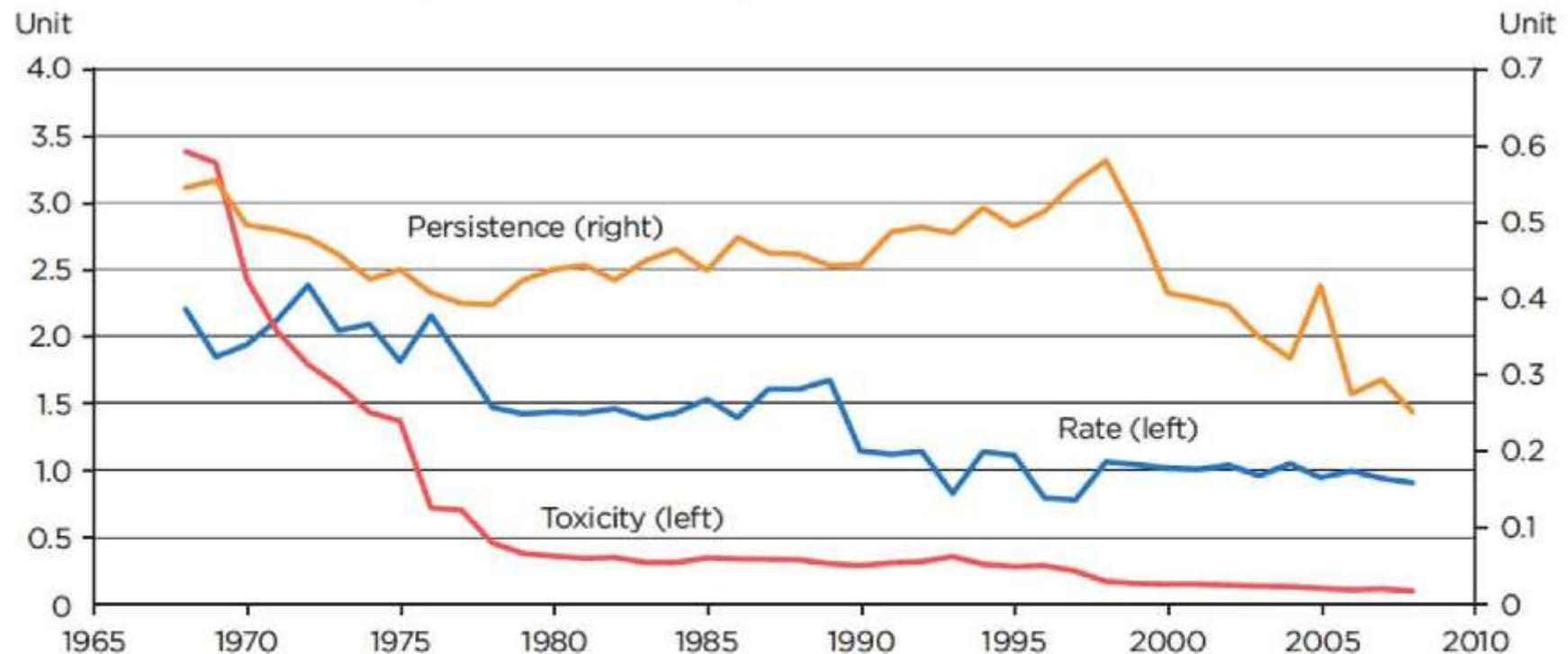


Data from 1581 field trials in 18 states in India

Number of new active ingredients introduced per decade: 1950s to present day



Average Quality Characteristics of Pesticides Applied To Four Major US Crops, 1968-2008



Source: Fernandez-Cornejo et al. (2014)

Notes: **Rate** is pounds of active ingredient applied per acre times the number of applications per year

The **toxicity** index is the inverse of the water quality threshold (which measures concentration in parts per billion) and serves as the environmental risk indicator for humans from drinking water

The **persistence** indicator is defined by the share of pesticides with a half-life less than 60 days

Time to Market Product Comparison

3 Years



Tomato
Ketchup

8 Years



Boeing 787

11-13 Years



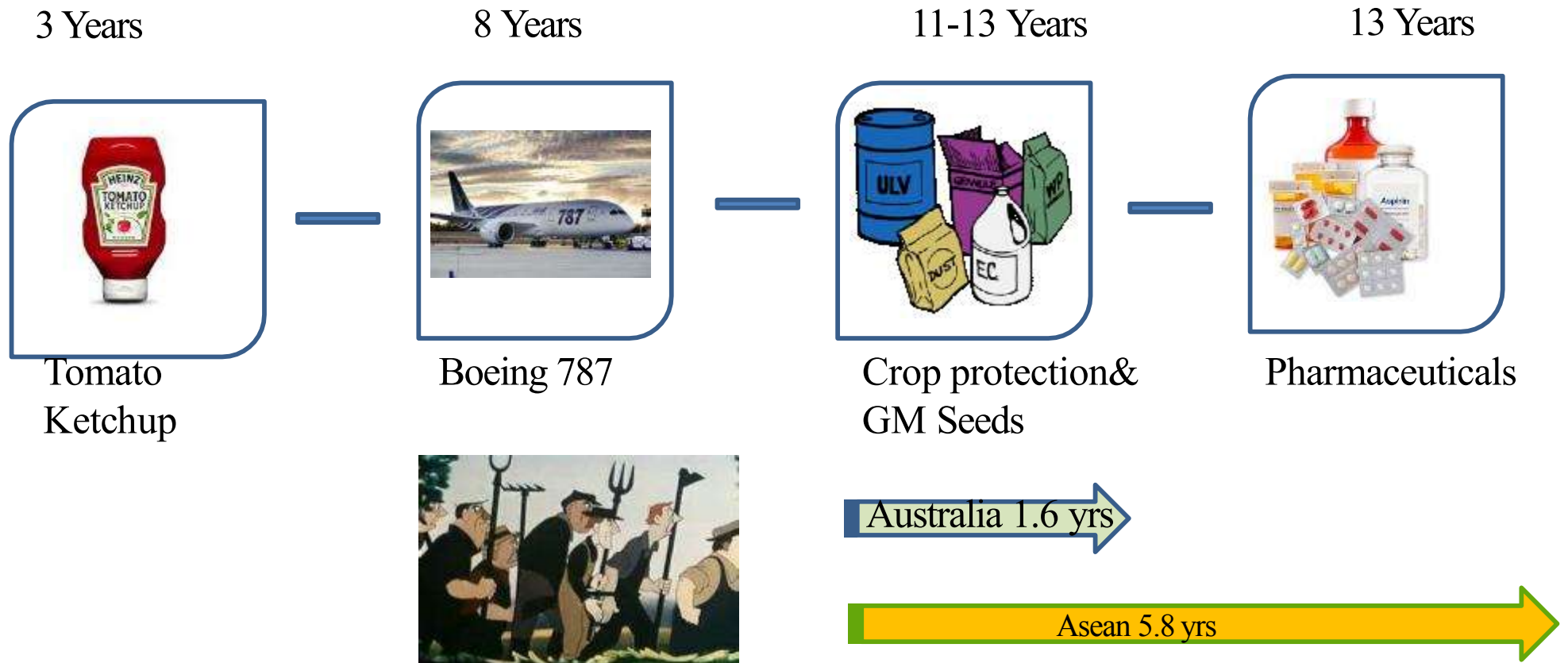
Crop protection &
GM Seeds

13 Years



Pharmaceuticals

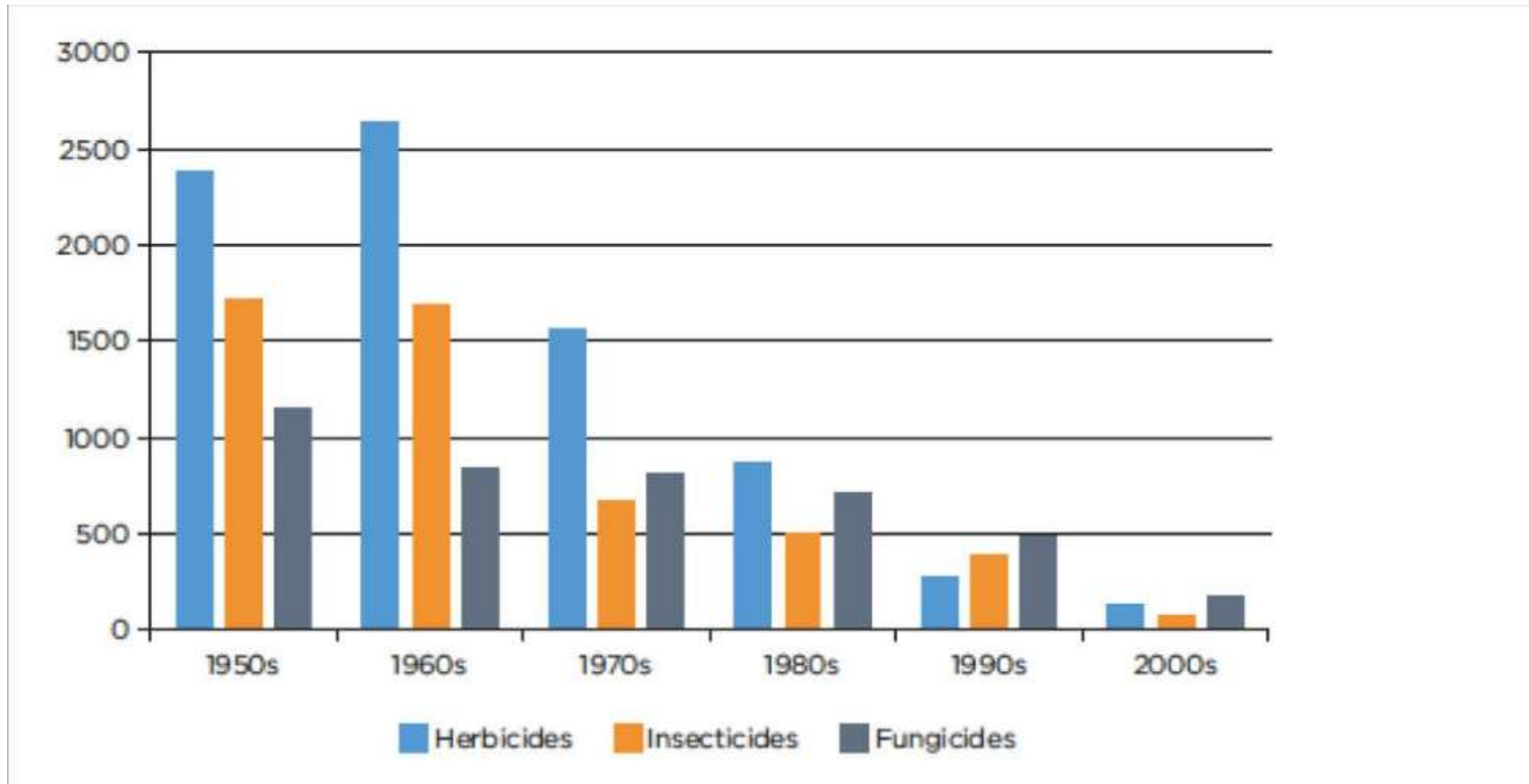
Time to Market Product Comparison



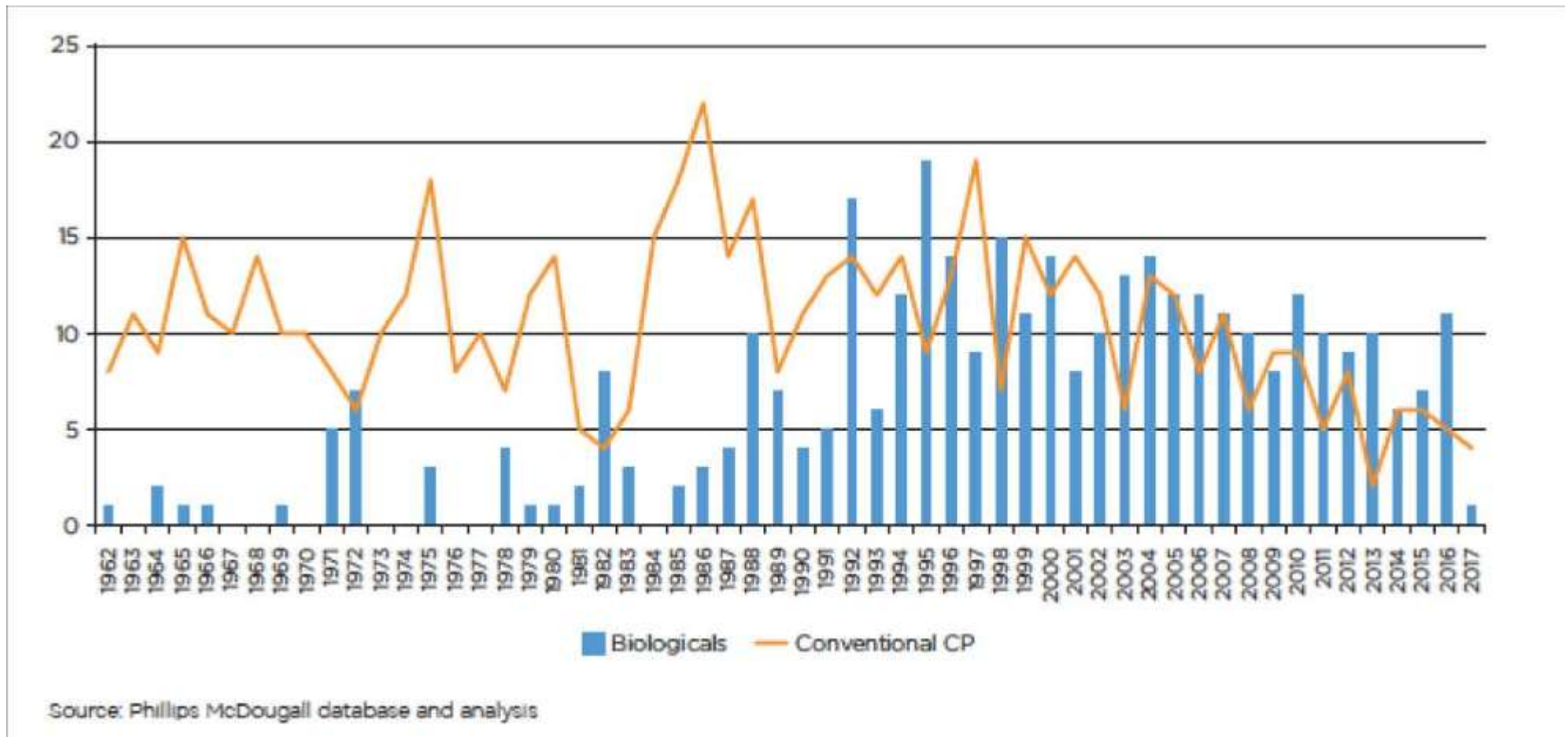
We need 16.8 years to deliver a new technology into the hands of Asean Farmers

- Limited access to technology
- Obstacles in exports
- Proliferation of counterfeit crop protection products

Average Active Ingredient (A.I.) Application Rates Over Time



Annual New Product Introductions for Biologicals and Conventional CP



Statistical Data on Vietnam Agriculture Products in 2016

Statistical data on Vietnam's agricultural products in 2016

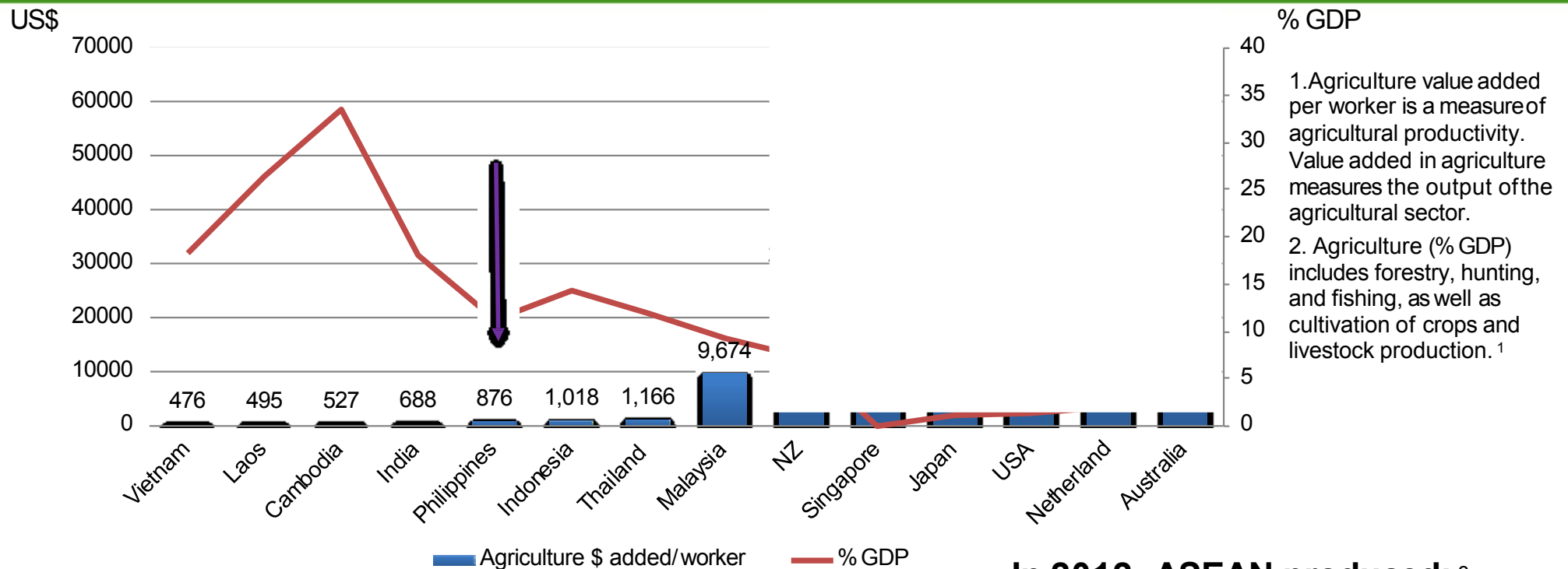
Commodities	Quantity		Value		Unit price	
	Thousand tons	Annual change (%)	Mil. USD	Annual change (%)	USD/ton	Annual change (%)
Fruits and vegetables			2,458	33.4		
Cashew nut	347	5.5	2,843	18.3	8,196	12.2
Coffee	1,782	32.8	3,336	24.7	1,872	-6.1
Tea	131	4.9	217	1.9	1,659	-2.9
Pepper	178	34.1	1,429	13.4	8,035	-15.5
Rice	4,836	-26.6	2,172	-22.5	449	5.5
Manioc and manioc products	3,693	-10.2	999	-24.1	270	-15.5
Rubber	1,254	10.2	1,672	9.1	1,333	-1.0

Source: Vietnam customs

Vietnam Export to EU

		Imports						
		Value Mio €					%	
		2013	2014	2015	2016	2017	Share in all Agri 2017	Change 2016-2017
1	Unroasted coffee, tea in bulk & mate	1 102	1 134	1 195	1 245	1 360	50.9	9.2
2	Tropical fruit, fresh or dried, nuts and spices	435	514	792	894	996	37.2	11.4
3	Pasta, pastry, biscuits and bread	34	40	62	65	69	2.6	6.2
4	Fruit, fresh or dried, excl. citrus & tropical fruit	16	20	29	33	36	1.3	9.1
5	Coffee and tea extracts	6	17	27	24	35	1.3	45.8
6	Fruit juices	7	12	17	24	26	1.0	8.3
7	Preparations of vegetables, fruit or nuts	10	11	14	17	15	0.6	-11.8
8	Vegetables, fresh, chilled and dried	11	11	12	13	13	0.5	0.0
9	Food preparations, not specified	10	15	18	10	11	0.4	10.0
10	Rice	28	18	18	16	10	0.4	-37.5
11	Non-edible animal products	4	5	7	7	9	0.3	28.6
12	Fatty acids and waxes	0		0	1	8	0.3	700.0
13	Chocolate, confectionery and ice cream	6	6	6	8	8	0.3	0.0
14	Other feed and feed ingredients	8	10	13	7	8	0.3	14.3
15	Miscellaneous seeds and hop cones	4	4	4	6	7	0.3	16.7
16	Citrus fruit	2	3	3	4	7	0.3	75.0
17	Live animals	3	5	5	6	6	0.2	0.0
18	Waters and soft drinks	2	3	3	3	5	0.2	66.7
19	Bulbs, roots and live plants	3	4	4	4	5	0.2	25.0
20	Offal, animal fats and other meats, fresh, chilled and frozen	3	3	5	5	5	0.2	0.0
	Remaining Agri-food products	44	51	34	32	36	1.3	12.5

ASEAN's Economic Engine - Agriculture



The Top 8 ASEAN agro-producing countries between 2003 and 2010, ASEAN's agro-account for around a 20% median average of national GDP, but the agricultural labor force stands at a staggering average of 46%⁴

In 2012, ASEAN produced:³

- 129 million tons of rice
- 40 million tons of corn
- 171 million tons of sugarcane
- 1.44 million tons of soybean
- 70.34 million tons of cassava

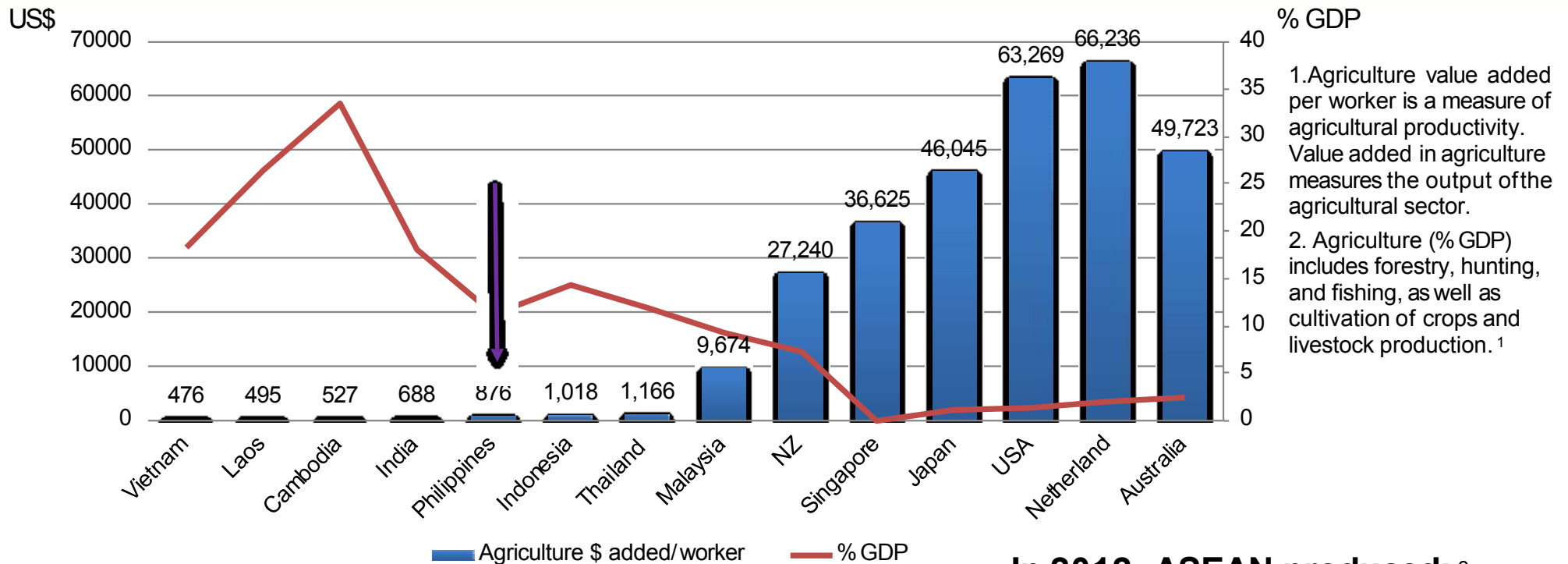
¹ The World Bank. Data. <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>. Accessed on 3 June, 2015.

² Invest in ASEAN. Accessed on 26 May, 2015.

³ Invest in ASEAN. Accessed on 26 May, 2015.

⁴ Central Intelligence Agency. The World Factbook. Accessed on 26 May, 2015.

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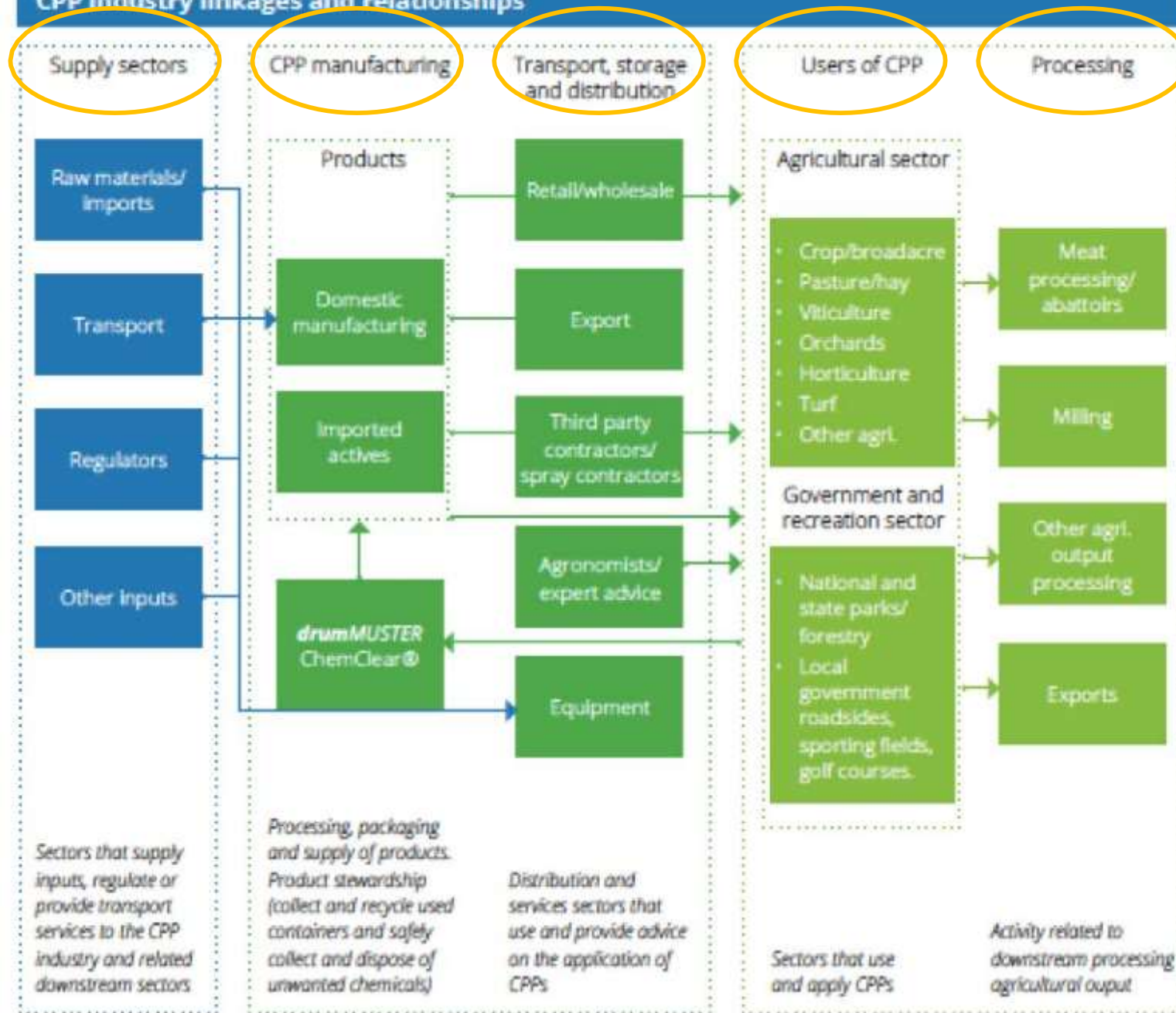
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CPP industry linkages and relationships



Agricultural production attributable to CPP

Challenges

- Food Safety - Human Health concerns
 - MRLs compliance

The Public Private Task Force on Sustainable Agricultural Growth in Vietnam was first formed in May 2010 before being re-named the Partnership for Sustainable Agriculture in Vietnam (PSAV) in 2015.

The partnership comprises of **over 60 partners** from global and local companies, provincial governments, the national research institute, international organizations and NGOs. The PSAV Task Forces (Working Groups) focus on six crops and the cross-cutting issue of agrochemicals.

PSAV - Program



55000



22817



68571



15971



27428



113%



14%





A Live IPM TV Program



<http://haugiangtivi.vn/clip/nhip-cau-khuyen-nong-18-6-2017/8271/>





Project Impacts – Gross margin (VND/ha)

Descriptions	Direct Farmers			Indirect Farmers		
	Before IPM	After IPM	Change	Before IPM	After IPM	Change
Yield (kg)	6.896	6.871	0%	6.919	6.874	-1%
Price	5.013	5.126	2%	5.031	5.141	2%
Revenue	34.569.428	35.225.708	2%	34.810.808	35.334.758	2%
Gross margin	18.001.500	21.089.160	17%	17.949.695	20.460.942	14%

Chilli IPM Project

- » Guntur, Andhra Pradesh
- » Training **1,400** farmers in **9** villages to grow export quality produce within MRL limits
- » **1,137**: chilli farmers now in program
- » Key impact: reduced spray rounds from **30** to **17 per season**
- » Better selling price: **14% increase** & increased profitability
- » Chilies: passed export quality
- » Debt-free
- » Better: household income & improved lives



Community Involvement



Conclusion

#HelpingFarmersGrow

Plant science provides modern
agricultural tools and technologies
which help farmers:



— Look After —

OUR PLANET



— Feed a Growing —

POPULATION



— Progress Rural —

COMMUNITIES



CropLife
INTERNATIONAL 