Value Chain Issues and Opportunities in Selected Horticulture Crops in Southern Mindanao, Philippines

Roxanne T. Aguinaldo*
Larry N. Digal
Nikko L. Laorden
Glory Dee A. Romo
Jon Marx P. Sarmiento
Carol Q. Balgos

7th ASAE Conference
13-15 October 2011

Outline of presentation

1. Framework of analysis
2. Changing agri-food system: some trends
3. Key findings
4. Summary and conclusions

- Challenges & Opportunities
- Development Options

Framework of Analysis

Performance Assessment of selected value chains: Understanding issues and opportunities to improve the chain

Areas of Assessment

- Cost structure
- Distribution of benefits among chain actors
- Efficiency of markets

Models/Methods:

- Price Spread
- Net Margins
- Value chain mapping
- Price Transmission
- Market integration

Implications of Findings

Recommendations

Findings are presented and summarized based on how they affect profit

SELECTED FRUITS AND VEGETABLE CHAINS

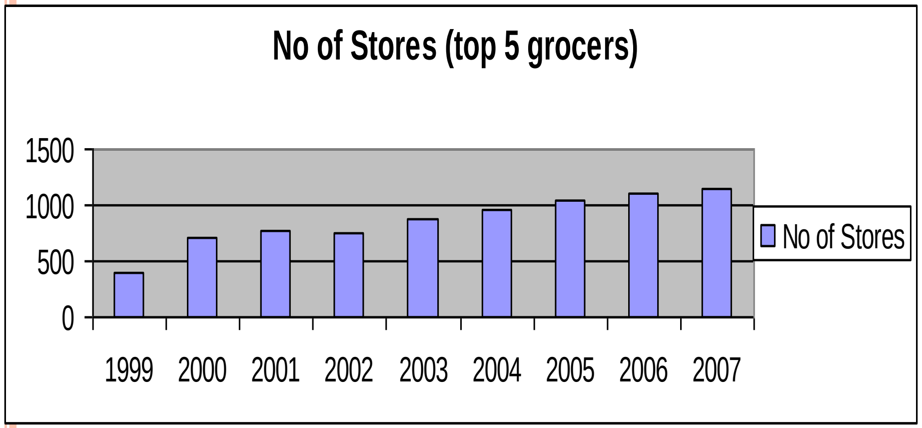
PROFIT FACTORS:
PRICE(P), PRODUCTIVITY (Q), COSTS (C)

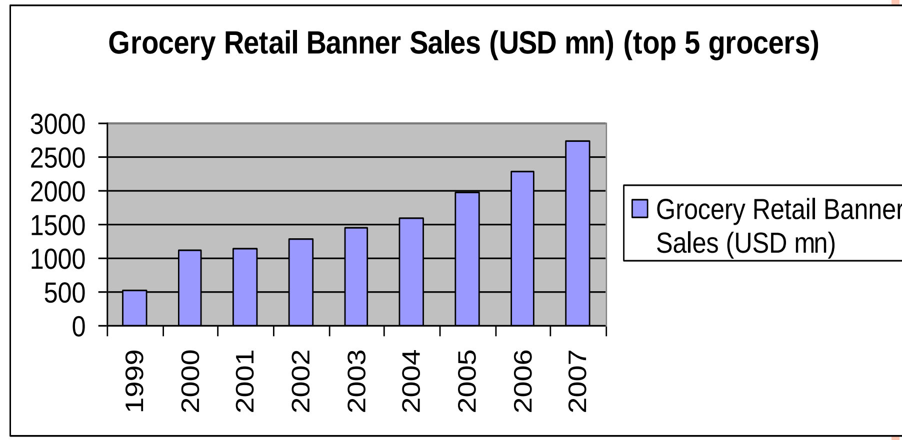
CHANGING AGRI-FOOD SYSTEM: SOME FACTORS

CHALLENGES AND OPPORTUNITIES

DEVELOPMENT OPTIONS

Trend 1:Expanding High value markets (export and modern retail and fastfood chains)



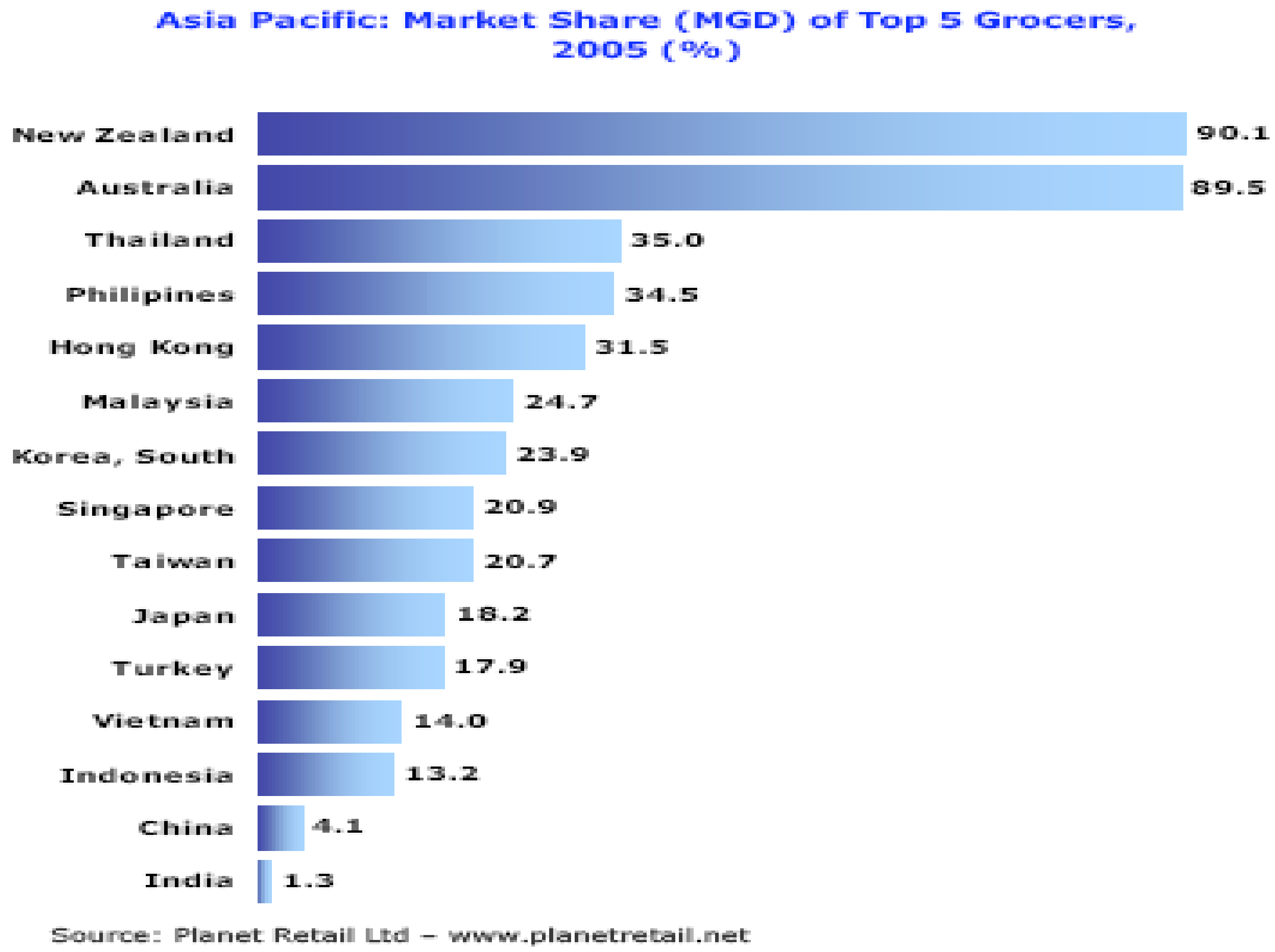


Average growth rate: 16% per yr

Average growth rate: 26% per yr

(Source: Planet retail 2008)

Trend 2. Modern retail sector is concentrated



(Source: Planet retail 2008)

TREND 3: FRESH PRODUCE SUPPLIERS FOR SUPERMARKETS ARE CONSOLIDATING AND GETTING CLOSER TO SOURCE OF PRODUCTION

1997

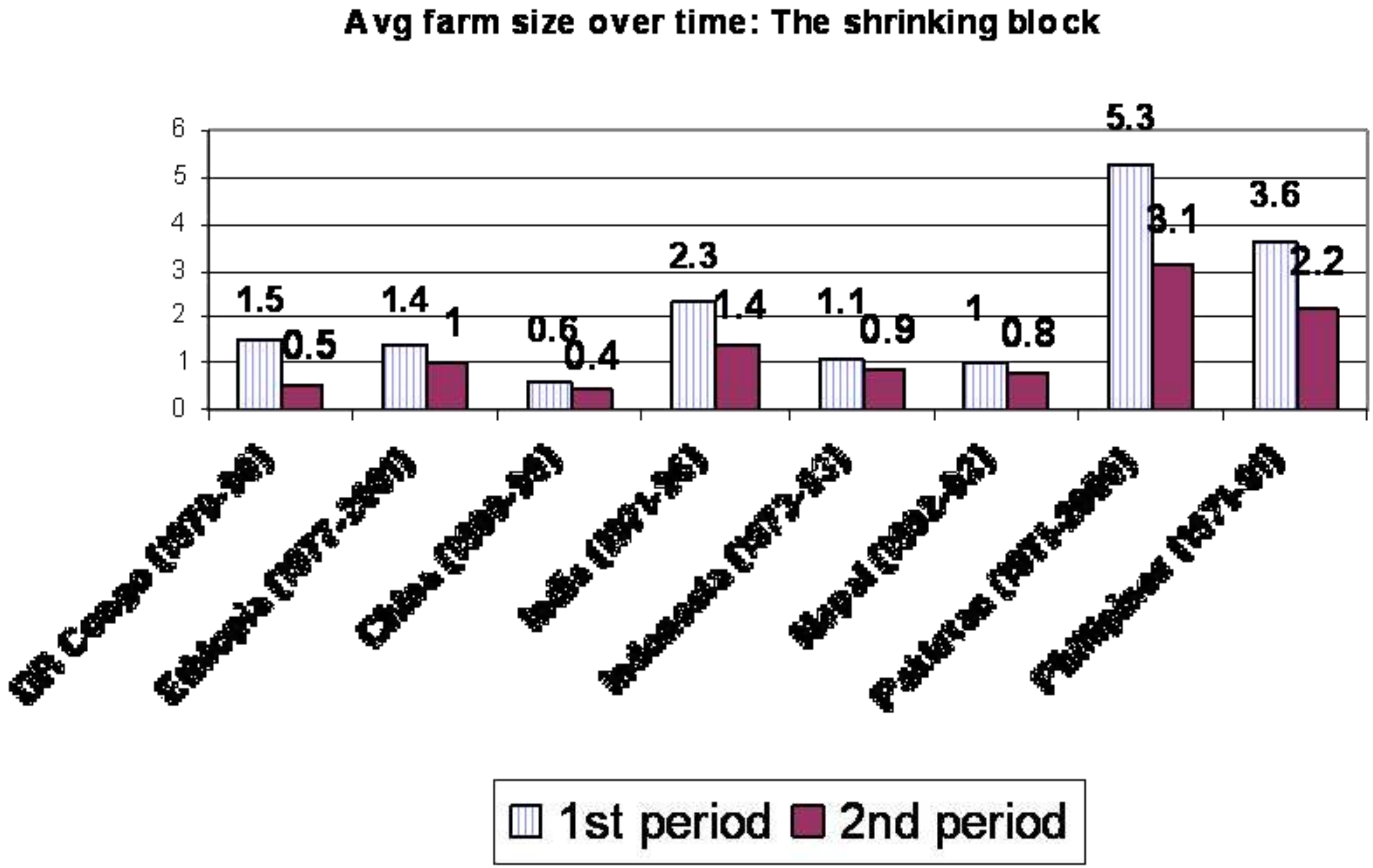
- Mostly sourcing from wholesale markets
- Few go near production areas

2007

- **Fewer consolidators – supermarkets have preferred suppliers and concessionaire system**
- **Have established buying agents/offices near production areas**
- **Some have their own farms and lead farmers**

Source: ADB-MSU-UPMin 2009

Trend 4: Fragmenting farms in less developed countries



(source: Roy, 2006)

Trend 5: Changing production systems

Lettuces for supermarkets and fastfood chains in the Philippines

1997

1. Small farms with traditional technology (limited variety, iceberg in Baguio, low inputs)
2. Small to medium farms (higher inputs)

2007

1. Small farms (iceberg in Baguio and some fancy lettuces; low inputs)
2. Small, Medium to large farms (more variety of fancy lettuces and gourmet vegetables and herbs, high inputs, vertically integrated into processing eg salads-branded – Tagaytay)
3. Large farms – high tech (protected cropping, more variety, branded (eg Bukidnon)

Source: ADB-MSU-UPMin 2009

Trend 6:Weak institutions/governance, infrastructure, labor productivity, innovation

	Brunei	Cambodia	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
GCI 2010-2011	**28**	**109**	**44**	**26**	**85**	**3**	**38**	**59**
Basic Requirements	**20**	**113**	**60**	**33**	**99**	**3**	**48**	**74**
1. Institution	36	94	61	42	125	1	64	74
2. Infrastructure	52	114	82	30	104	5	35	83
3. Macroeconomic environment	1	116	35	41	68	33	46	85
4. Health and primary education	32	110	62	34	90	3	80	64
Efficiency enhancers	**67**	**103**	**51**	**24**	**78**	**1**	**39**	**57**
5. Higher education and training	64	122	66	49	73	5	59	93
6. Goods market efficiency	78	81	49	27	97	1	41	60
7. Labor market efficiency	10	51	84	35	111	1	24	30
8. Financial market development	55	92	62	7	75	2	51	65
9. Technological readiness	49	115	91	40	95	11	68	65
10. Market size	118	96	15	29	37	41	23	35
Innovation and sophistication factors	**72**	**106**	**37**	**25**	**75**	**10**	**49**	**53**
11. Business sophistication	77	106	37	25	60	15	48	64
12. Innovation	69	108	36	24	111	9	52	49

Source: Global Competitiveness Report 2010-11

PERFORMANCE OF THE PHILIPPINES IN GLOBAL COMPETITIVENESS SURVEY 2010

Country/Economy	GCI 2010		GCI 2009	
	Rank	Score	Rank	Change 2009-2010
Switzerland	1	5.63	1	0
Singapore	3	5.48	3	0
Japan	6	5.37	8	2
Hong Kong SAR	11	5.30	11	0
Taiwan, China	13	5.21	12	-1
Korea, Rep.	22	4.93	19	-3
Malaysia	26	4.88	24	-2
China	27	4.84	29	2
Brunei Darussalam	28	4.75	32	4
Thailand	38	4.51	36	-2
Indonesia	44	4.43	54	10
India	51	4.33	49	-2
Vietnam	59	4.27	75	16
Philippines	**85**	**3.96**	**87**	**2**
Cambodia	109	3.63	110	1
Chad	139	2.73	131	-8

Finding 1: Declining farm price relative to wholesale and retail prices

Crops	Average Farm Price	*Growth Rate, 1990-2009 (%)*	Average Wholesale Price	*Growth Rate, 1990-2009 (%)*	Average Retail Price	*Growth Rate, 1990-2009 (%)*
Durian	30.59	*-42.80*	-	-	-	-
Mango	35.06	*-42.65*	54.64	*-42.53*	75.61	*-43*
Jackfruit	14.02	*-1.38*	21.24	*6.20*	-	-
Papaya	14.1	*-46.36*	38.6	*-70.84*	40.1	*-41.73*
Cabbage	15.36	*-50.24*	25.14	*-42.98*	45.18	*-41.08*
Eggplant	16.98	*-26.09*	22.02	*-16.75*	34.84	*-11.74*
Potato	21.79	*17.84*	34.10	*-7.91*	51.62	*-15.78*
Tomato	14.14	*-32.41*	23.78	*-4.54*	38.52	*-12.14*
Average growth rate for fruits and vegetables		**-28.01**		**-25.62**		**-27.58**

FINDING 2: THE SHARE OF FARM PRICE TO RETAIL PRICE IS GENERALLY DECREASING OVER TIME FOR MOST CROPS

Crops	**Average Farm share (%)**	Growth Rate, 1990-2009 (%)	**Average Wholesale share (%)**	Growth Rate, 1990-2009 (%)	**Average Retail share (%)**	Growth Rate, 1990-2009 (%)
Mango	46.49	0.60	25.92	1.39	27.59	-1.63
Papaya	27.64	1.49	49.53	2.60	22.83	9.56
Cabbage	33.38	-15.54	21.94	17.67	44.68	5.01
Eggplant	48.69	-16.26	14.46	39.76	36.85	12.16
Potato	42.20	39.92	23.79	-28.53	34.01	-16.07
Tomato	36.28	-23.08	25.40	93.37	38.32	-13.81
Average growth rate for fruits and vegetables		**-2.15**		**21.04**		**-0.80**

FINDING 3: CHANGES IN BUYING PRICES ARE GENERALLY REFLECTED IN THE SELLING PRICES, 70% ON THE AVERAGE

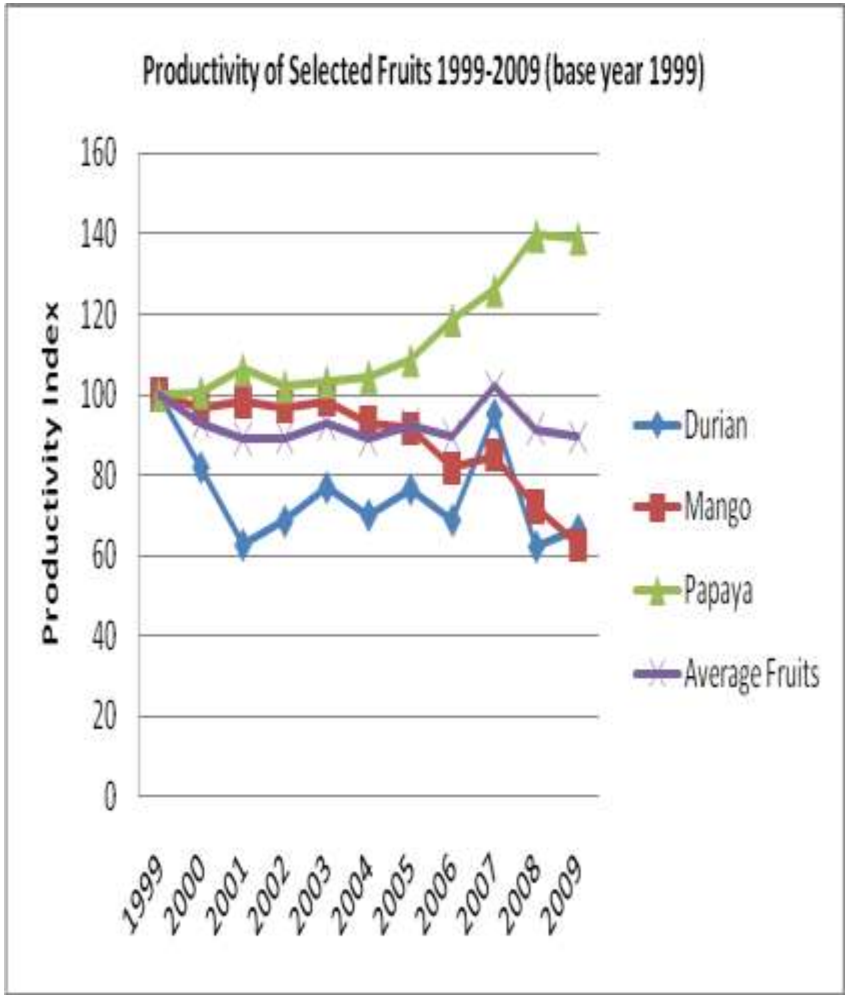
		Elasticities of Price Transmission				**Average**
	Coverage	**Potato**	**Tomato**	**Mango**	**Durian**	
Farm to Wholesale	Davao City				0.531**	**0.68**
	Region XI		0.44*	0.92*	0.8*	
	National	0.72*				
Wholesale to Retail						**0.86**
	Davao City				0.903*	
	Region XI		0.847*	0.65*	1.062*	
	National	0.84*				
						0.57
Farm to Retail	Davao City				0.476**	
	Davao del Sur					
	Farm Price to NCR Retail Price			0.58*	0.778*	

* Significant at 5% **Significant at 10%

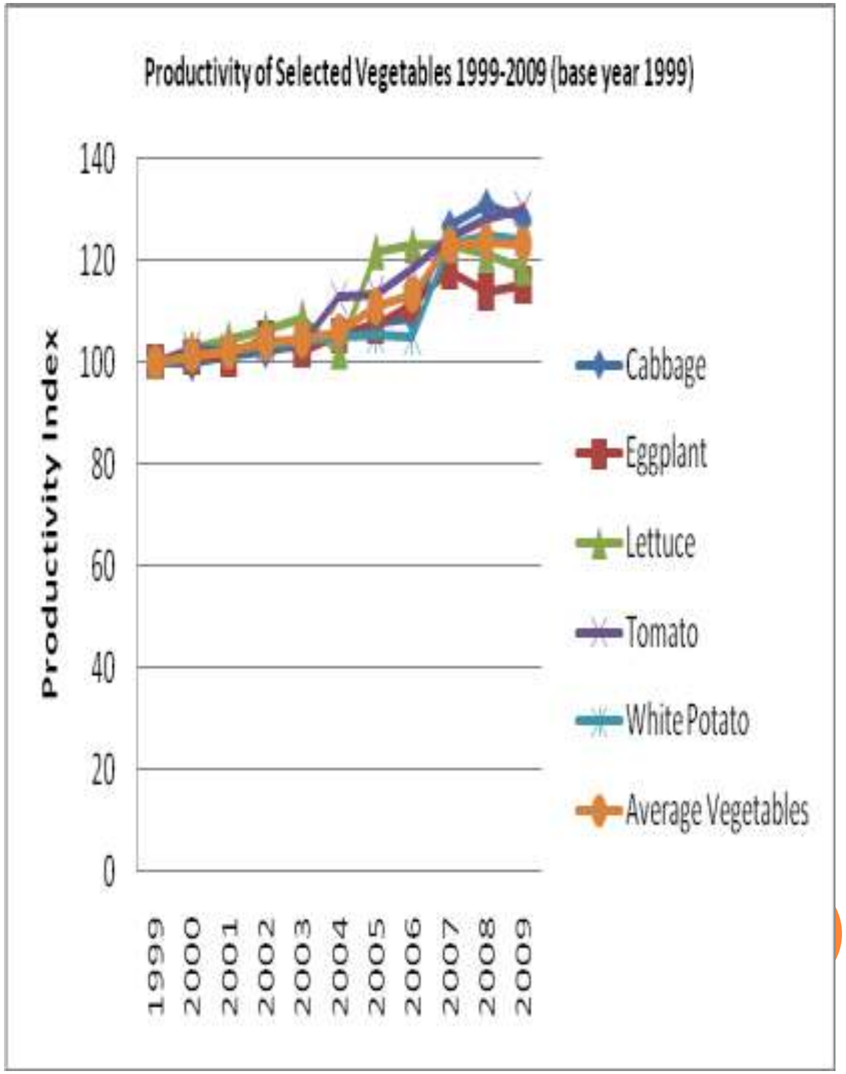
FINDING 4: IMPORTANCE OF GRADING

Crops	Prices (PhP)			% Difference Between Grades	
	Class A	Class B	Class C	A-B	B-C
Mango (per kilo)	33.00	30.00	27.00	9.09	10.00
Cabbage (per kilo)	45.00	19.83	13.50	340.67	31.92
Caven-dish Banana (per kilo)	-	-	-	Class A is 48% higher than class B	Class A is 255% higher than Class C

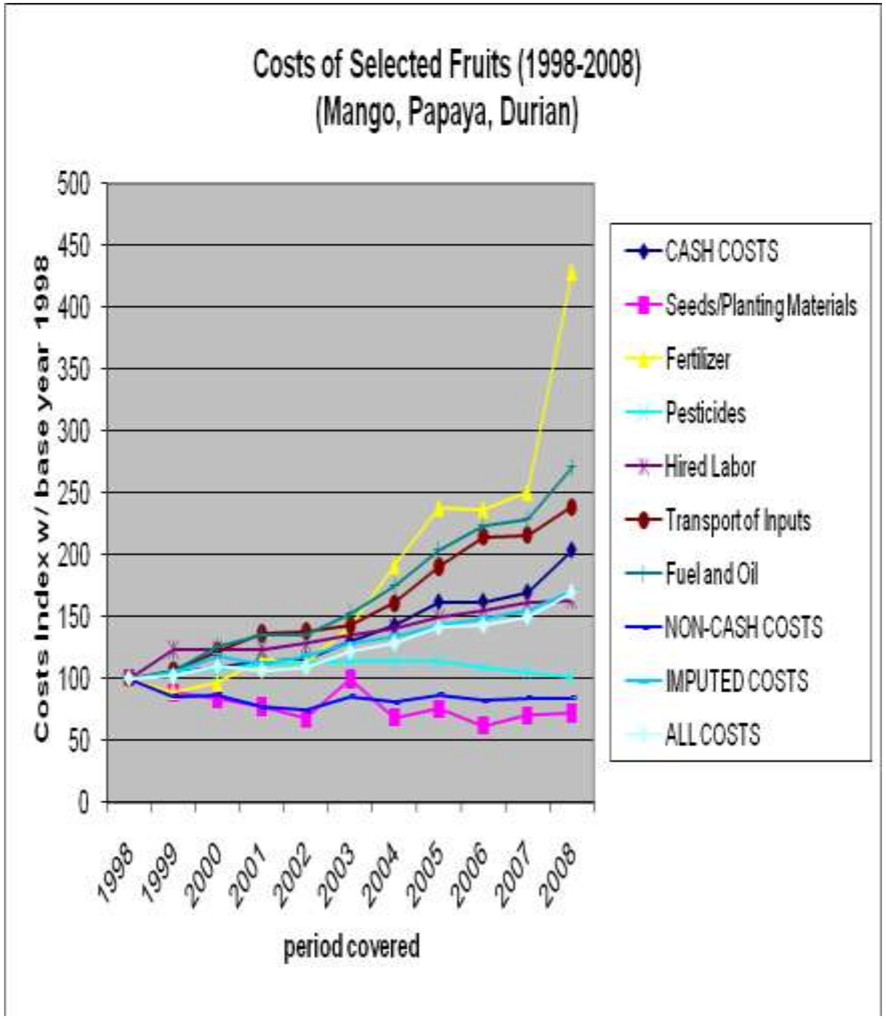
FINDING 5: INCREASING PRODUCTIVITY OF SELECTED FRUITS AND VEGETABLES: 5% FOR FRUITS, 10% FOR VEGETABLES

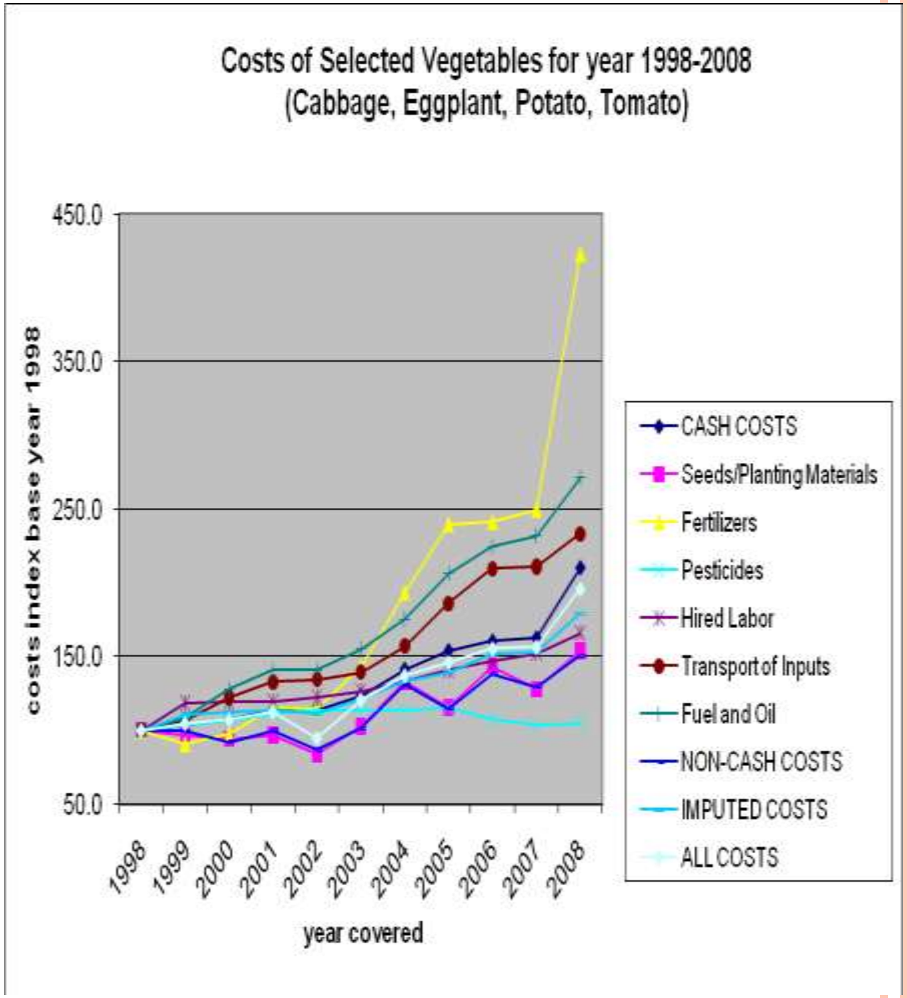


Source: BAS



Finding 6: Production and marketing costs are increasing:
126% for fruits, 130% for vegetables



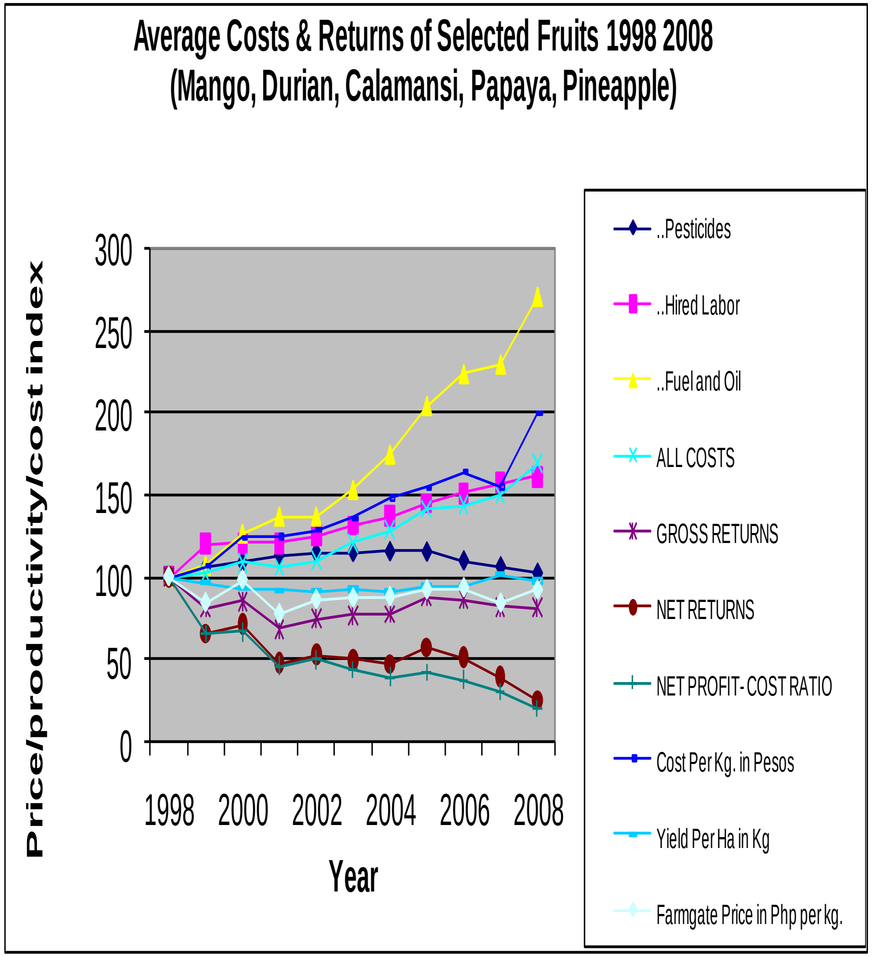


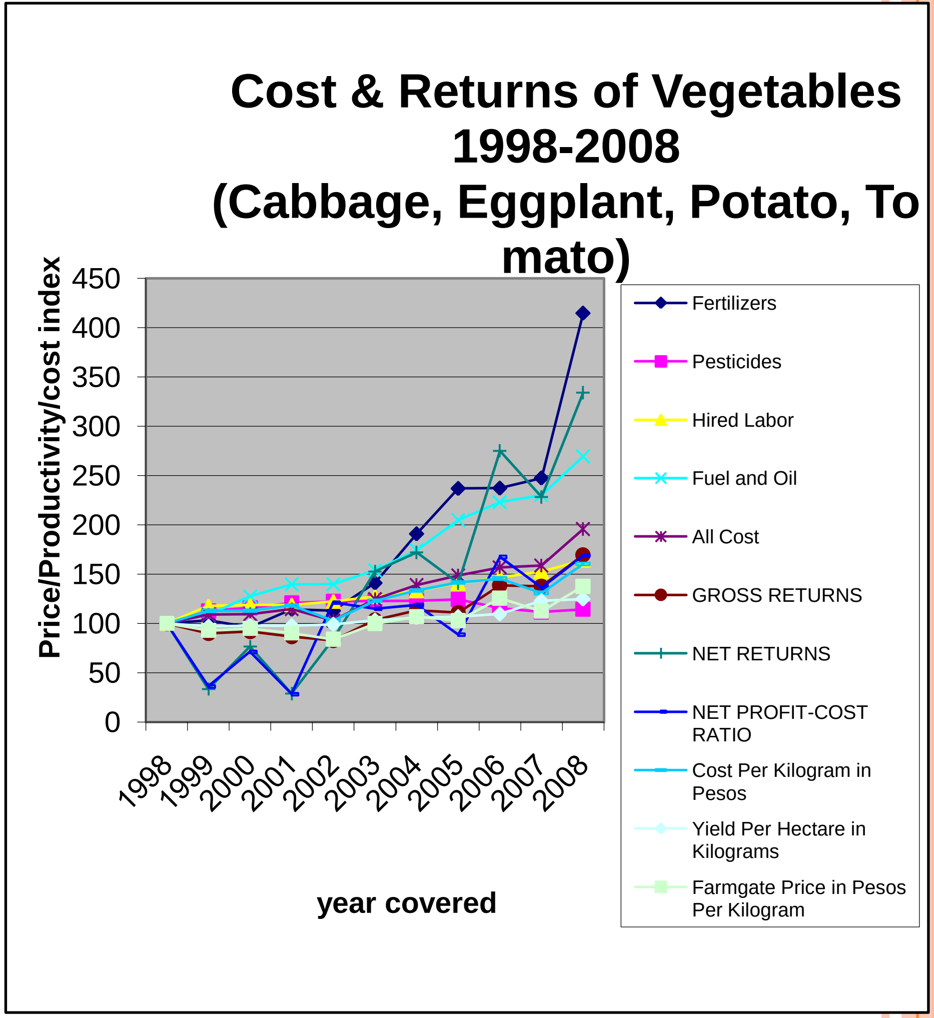
Source: BAS

FINDING 7: HIGH WASTAGE RATE AT THE RETAIL LEVEL

Fruits	% to total retail cost (Wet Market)
Durian	19.13%
Jackfruit	44.16%
Mango	35.62%

Finding 8: Declining profit: -10% for fruits, -15% for vegetables





Source: BAS

FINDING 9: CLUSTERING IMPROVES PRICES AND INCREASES FARMER'S PROFIT

- Catholic Relief Service Examples

The Case of Kalamansi	Clustered farmers	Non-clustered farmers
Average price per kg	10.58	8.18

Challenges and Opportunities

Challenges

- Production and marketing costs are increasing faster than price.
- Trade barriers- inadequate logistics and infrastructure facilities, market power
- Stringent market requirements
- Limited resources of small scale producers
- Decreasing profitability

Opportunities

- Increasing productivity
- Price premia through quality grading
- Higher price and income through clustering

Development Options

- Improve price, increase productivity, lower costs (or increase through product differentiation, improved technology but must have impact on price or productivity)
- Integrated package of services to develop horticulture product clusters to address multi-dimensional issues

-value chain interventions should be market oriented

-improvement of infrastructure facilities

-capacity building on quality improvement , disease, pest and soil management, post harvest

-consolidation and enhancing organizational capacity (eg clustering)

-value adding (eg quality improvement, processing)