Outlook for meat markets to 2020: Global and Southeast Asia regional perspectives*

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Abstract

Outlook for pork, poultry and beef markets are examined at global level and also for selected Southeast Asian countries. Data are derived from a number simulation forecasting models. The 2007-2008 price hikes for some commodities have significantly changed some of the earlier projections. It is projected that demand for meat will continue to grow especially in the emerging developing countries and prices will remain at a high level, though at a lower level than the recent hikes. Most increased consumption will come from increased domestic production but trade volume will also increase significantly. Export market will remain limited to a few countries but market share of some exporters will change, the most important change is the significantly increased export share of Brazil and a sizeable reduction of some of the traditional exporters like USA and EU. In case of import also there will be significant changes, the main feature is increase in the number importers due to small but steady increase in the import volume in a number emerging countries. In Southeast Asia, production in all the countries will increase in response to rapidly increasing demand but net trade will also increase in a number of countries. In Vietnam, the projected net trade from the global and regional simulation models are much smaller than the one projected by the government.

Several policy issues need to be addressed for development of the livestock sector in Vietnam. With respect to the export expansion strategy of the government, some of the main questions that need to be carefully analyzed and addressed are related to the equity (both inter-regional and inter-farm size), efficiency and environmental consequences of industrialization, geographic concentration and zoning of production, the mechanism for ensuring food quality, safety standards, and the implications of high feed prices on organization, efficiency of production for domestic as well as export market.

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Introduction

Long-term forecasting for commodity markets in an increasingly uncertain and dynamic world is a challenging job. Complex but easy-to-compute simulation models and easy access to information may allow periodic updating of forecast results yet many pitfalls remain in using such forecasts for choices to be made for long term investment especially in the developing countries. Major deviation from the forecasts affect poor nations more because even though they are insignificant players in the global market so may not be able to influence the market but being small and less powerful, they remain vulnerable to any volatility in the global market. However, small countries can use the global forecasts as a radar and a reference point to make its own forecast and continuously update it as new information come along. This way the long term planning and investment may remain on a realistic path.

Several organizations make forecasts on global commodity market outlooks – both short and medium to long term- for various agricultural commodities including livestock commodities. Four of these are as follows:

- OECD in collaboration with FAO projections (OECD-FAO, 2008)
  - Annual projections usually updated in June each year
  - Incorporate inputs from 58 countries and regions covering 20 commodities
  - Covers all livestock commodities in a fairly disaggregated manner and report production, consumption, trade and prices for the globe as well as major countries and regions

- Food and Agricultural Policy Research Institute (FAPRI), Iowa State University , USA projections (FAPRI, 2008)
  - Covers a good number commodities and some major countries and regions of interest to the USA, so looks mainly through the US eye
  - For livestock commodities, do not report global production, consumption and trade directly but can be derived, and do not include sheep meat
- USDA projections (USDA, 2008)
  - Main focus is on commodities and some major players of interest to the USA, and looks through the US eye
  - For livestock commodities, do not report global production, consumption and trade directly but can be derived, and do not include sheep meat
- International Food Policy Research Institute (IFPRI) projections (Rosegrant et al, 2008)
  - An agricultural sector model for policy analysis with a focus on food production, consumption, trade and nutrition giving special attention to developing countries and regions
  - 40 agricultural commodities including crop, livestock and fisheries and 36 countries and regions are identified in the model

- Model has been and can be run with specific focus on special commodity group such as cereals, livestock, fisheries, roots and tubers whereby other commodity groups are included but not treated in a detailed manner
- The model can also be run with a focus on a specific developing region

The general approach in each of the above has been to use simulation model integrating

- macroeconomic factors that influence commodity markets, e.g. population, urbanization, economic growth
- Exchange rates impacting on trade flows
- Energy outlook, especially energy prices and prospect of biofuels
- In addition to the above, recently, the IFPRI model has added a water module to assess impact of water scarcity, water productivity and prices on food production and trade. Water part is modeled at the basin level then aggregated to country and region levels.

The set of underlying assumptions used vary to some extent between the models but most of the major assumptions are fairly similar though not exactly the same. The major assumptions used include:

- Normal weather conditions
- Population growth slowing but faster in developing countries, urbanization continues
- Stable policy conditions and economic growth. Robust economic growth in developing countries (about 5.5%) especially in the emerging countries and lower growth rates (about 2%) in the advanced countries.
- World oil prices remain high and first generation ethanol and biodiesel markets expand in several countries
- After the sudden rise of food and other commodity prices in 2008, prices have come down to normal trend level but future prices will remain relatively high
- Low inflation, strengthened US dollar against some currencies in the USA
- Water scarcity and use efficiency vary across regions and sectors (IFPRI model).
- Implications of the above are slower world demand growth but demand growth for income sensitive products like livestock products remain fairly high.

Given that each model has specific characteristics, scope and coverage and underlying assumptions, results are not always directly comparable. However, the European Commission usually undertakes a comparative analysis of projections for agricultural commodity markets based on the OECD-FAO , FAPRI and USDA model results. In this paper, the global level perspectives will be derived from a comparison of the 2008-2017 projections of the above three models and the synthesis done by the European Commission (see OECD-FAO, 2008; FAPRI, 2008; USDA, 2008; European Commission, 2008). The IFPRI IMPACT model gives more detailed results for developing countries, so IFPRI results will be used to discuss perspectives for selected countries in the South East Asia region with a special focus on Vietnam. Also the paper will concentrate on meat, especially poultry, pork and beef- which are more relevant for Vietnam. Since dairy outlook will be discussed in a separate paper, that will be left out of this paper due to limitation of space.

Global Outlook for Meat

Production and consumption trends

Total global meat consumption increased from 230 million tonnes in 1999 to 268 million tones in 2006 or by 2.2% annually – 3.2% for poultry and lower rates for pork and beef while sheep meat consumption actually declined. Poultry meat consumption increased in both developed and developing world thereby increasing its share in total meat consumption from 29% in 1999 to 31% in 2006, while share of pork remained unchanged at 39% and share of beef declined from 26 to 25% and that of sheep- meat from 7 to 5%. Most consumption took place from local production as only about 10% of meat was traded internationally. Brazil has emerged as one of the major players in the meat market. World prices for pork remained almost unchanged, that of beef increased modestly but poultry price in the US market increased by about 20% due to rapid rise in feed costs and shorter production cycle.

All three projections have fairly similar results on production/consumption in spite of some differences in model structure, coverage and underlying assumptions (Table 1).

Table 1 Indices of total meat production/consumption 2008-2017 (1999-2006=100)

	Pork	Poultry	Beef	All meat
OECD-FAO	119	128	119	121
FAPRI	115	129	117	120
USDA	116	132	114	121
Annual growth rate %	2	2	1.7	1.9

Source: EC (2008)

Major highlights of the future outlook for the projection period are that generally demand for meat is expected to grow steadily at 1.9% annually – 2% for poultry and pork and 1.7% for beef . These are lower than the growth rates in the previous decade. [1] China alone is expected to experience annual consumption growth rate of 2.9% accounting for 42% of increased consumption between 2008 and 2017. Overall, consumption in the developed countries is expected increase by 11% compared to 31% in the developing countries in the projection period. Per capita meat consumption in the developed countries will increase from about 65kg/person/year in 2007 to about 69 kg in 2017, the

[1] The IFPRI IMPACT model results have been generated for projection to 2020 rather then 2017, so they are not directly comparable with other three projection results. However, a cursory look at the IFPRI projections, as shown below, indicate that the trends are not too far from the other three projections.

Global production projections to 2020 for beef, pork and poultry (000 mt)

	2000	2005	2010	2015	2020	% change 2005-2020
Beef	59226.5	61390.0	68341.8	75902.2	84192.3	37
Pork	89696.3	99537.3	106303.6	113262.7	120306.3	21
Poultry	67749.9	75469.1	83496.2	92964.5	102977.8	36

corresponding figures for the developing countries are about 22 and 28kg/person/year, which are also the averages for Asia. Thus the large gap in per capita consumption between the two worlds will reduce only slightly.

Despite recent rise in feed costs, which is expected to remain at high levels in the future, meat production will continue to grow. As a whole share of the developing countries in global meat production will increase from about 59% in 2007 to about 63% in 2017. Only marginal changes in global share of production by individual countries, especially in larger developed countries, are expected.

USA and EU share in world production of poultry is expected to decrease marginally and that of Brazil is expected to increase by 3% percent during the projection period. Consumption shares are expected to remain unchanged for most countries and change only marginally in a few cases as most consumption will continue to come from local production (Table 2).

Table 2 Changes in global share of production and consumption of poultry meat

Country	Production share (%)		Consumption share (%)	
	1999-2006	2008-2017	1999-2006	2008-2017
USA	28	**25**	23	21
China	18	18	18	19
EU	15	**12**	14	12
Brazil	14	**17**	11	12
Mexico	4	4	5	5
India	3	4	3	4
Japan	2	2	3	3
Thailand	2	2	1	1
Canada	2	2	2	2
Argentina	2	2	2	2
South Africa	1	1	<1	<1

Source: FAPRI (2008)

On the other hand, US share of pork production is expected to increase to some extent and that of EU is expected to decrease (Table 3) but consumption share of US is expected to increase marginally and that of EU is expected to decrease. Production and consumption shares of pork in other countries are likely to remain fairly unchanged.

In the case of beef, both production and consumption shares of USA and EU are expected to decrease and that Brazil increase, especially in production share (Table 4).

Trends in trade

In case of projections for world trade, FAPRI projections are generally on the higher side, especially for beef, perhaps because of partial country coverage and focus on major trading nations. Taken all three projections together, world trade in meat is expected to

increase by 2.5% annually- growth in pork and poultry trade are expected to be at a higher rate compared to beef (Table 5). Traded volume will account for 10% of output by 2017– 14% for beef and 6% for pork. Brazil is expected to account for 51% of the share of increased traded volume of meat and 30% by USA. Chinese meat market is expected to have little impact in the global market as increased Chinese consumption is expected to be met mostly from domestic production.

Table 3 Changes in global share of production and consumption of pork

Country	Production share (%)		Consumption share (%)	
	1999-2006	2008-2017	1999-2006	2008-2017
China	50	**52**	50	**52**
EU	24	**21**	23	**20**
USA	10	10	10	9
Brazil	3	3	2	2
Canada	2	2	1	1
Russia	2	2	3	3
Japan	1	1	3	2
Mexico	1	1	2	2
Philippines	1	1	1	1
South Korea	1	1	1	2
Taiwan	1	1	1	1
Thailand			1	1
Indonesia			1	1

Source: FAPRI (2008)

Table 4 Changes in global share of production and consumption of beef

Country	Production share (%)		Consumption share (%)	
	1999-2006	2008-2017	1999-2006	2008-2017
USA	23	**21**	24	**22**
EU	16	**13**	16	**14**
Brazil	15	**18**	12	13
China	12	15	12	16
Argentina	6	6	5	5
Australia	4	4	1	1
Mexico	4	4	5	5
India	4	5	3	3
Russia	3	2	5	4
Other CIS	3	3	3	3
Canada	3	2	2	2
Japan			3	2
South Korea			1	1

Source: FAPRI (2008)

Table 5 Indices of meat trade 2008-2017 (1999-2006=100)

	Pork	Poultry	Beef	All meat
OECD-FAO	150	135	131	135
FAPRI	157	154	154	154
USDA	139	140	128	135

Source: EC (2008)

Significant changes in market share of pork, poultry and beef trade are expected. In case of poultry, among the exporters, US share of global trade is expected to decrease by about 8 percentage points while that of Brazil is expected to increase by 12 percentage points by the end of the projection period. Argentina's share is expected to increase from near zero to about (Table 6).

Table 6 Changes in global share of poultry meat trade

	1999-2006 (%)	2008-2017 (9%)
Net exporters		
USA	48	**40**
Brazil	37	**49**
Thailand	7	7
EU	7	2
Argentina		2
Net importers		
Russia	23	**16**
Japan	15	**10**
Saudi Arabia	8	7
Mexico	6	**8**
Hong Kong	4	4
South Africa	3	3
China		**6**

Source: FAPRI (2008)

Among the importers, shares of Russia and Japan are expected to decrease by 7 and 5 percentage points respectively, and China's share will increase from under 1 percent to about 6% while the share of Mexico is expected to increase marginally.

In case of pork export, shares of EU, Canada and China are expected to decrease while Brazil's market share is expected to more than double during the projection period. The share of USA is expected to increase (Table 7). Vietnam is projected to change from a minor exporter to a net importer of pork by the end of the projection period. Among pork importers, share of Japan is expected to decrease significantly and of Russia marginally while share of South Korea, Philippines and a number smaller countries are expected to increase.

Table 7 Changes in global share of pork trade

	1999-2006 (%)	2008-2017 (%)
Net exporters		
EU	38	**26**
Canada	25	**22**
Brazil	16	**21**
USA	13	**28**
China	6	2
Vietnam		-1
Net importers		
Japan	36	**26**
Russia	21	**19**
Mexico	10	10
Hong Kong	8	7
South Korea	6	**11**
Philippines	1	**3**

Source: FAPRI (2008)

In case of beef trade, major changes in market shares are expected. Among the exporters, Australia's market share is expected to decrease from 30 to 22% and New Zealand, Argentina, Canada, China and Ukraine are all expected have lower market shares by the end of the projection period. China and Ukraine are expected to become net importers by the end of the projection period. On the other hand, Brazil's market share is expected to increase from 25% in the previous period to 47% by the end of the projection period (Table 8). Among the importers, shares of Japan, USA and South Korea are expected to decrease while that of EU is expected to increase significantly.

Trend in world prices of meat

According to the three projection model results, world meat market prices are projected to be 20-30% higher than the average prices for the period 1999-2006. For specific commodities, pork price is projected to increase by 22%, beef by 26% and poultry by 28%. However, the IFPRI model predicts a much smaller increase in the prices (Table 9).

Meat Market Outlook for Selected Countries in Southeast Asia

China is a large player in the global market and it has been adequately covered in the discussion on global market outlook. In this section, the primary objective is to discuss the market outlook for Vietnam in comparison with its neighbours and ASEAN partners, specifically Indonesia, Malaysia, Myanmar, Laos and Cambodia, and Philippines. In line with the discussion on global outlook, pork, poultry and beef market outlooks will be discussed on the basis of IFPRI IMPACT model , which, unlike other projection models discussed earlier, generates detailed results for smaller developing countries. The results for the selected countries have been updated very recently taking into account the

market and price situations in 2007 and 2008. Again because of the interest in the longer term trends, results are presented for projection to 2020 and a few selected years.

Table 8 Changes in global share of beef trade

	1999-2006 (%)	2008-2017 (%)
Net exporters		
Australia	30	**22**
Brazil	25	**47**
New Zealand	11	9
India	10	11
Argentina	10	8
Canada	7	3
China	3	-3
Ukraine	1	-1
Net importers		
Japan	18	**13**
Russia	16	16
USA	14	**7**
Mexico	8	9
South Korea	7	5
Egypt	4	5
Philippines	3	3
Taiwan	2	2
Hong Kong	2	2
EU	1	**8**

Source: FAPRI (2008)

Table 9. World price projection to 2020 for poultry, pork and beef (US $ / mt)

	2000	2005	2010	2015	2020	% change 2005-202
Beef	1918	2152	2198	2223	2252	4.6
Pork	906	932	1005	1052	1087	16.6
Poultry	1197	1201	1283	1335	1390	15.7

Source: IFPRI (personal communication)

It is useful to mention in the beginning that the relative importance of poultry, pork and beef vary widely among the selected countries primarily because of religious and cultural reasons, among others. In Vietnam and Philippines, pork dominates production and consumption followed by poultry and beef. In Indonesia, Malaysia, Myanmar and Thailand poultry is dominant followed by pork and beef while in Laos and Cambodia pork is followed by beef and poultry. Countries where ranking of these three products are the same, actual per capita production and consumption levels – for total as well as specific commodity - vary widely due to differences in the level of economic development. The prospect for future growth for each commodity should be considered within this context.

Production trends

Pork production is expected to increase by 48% between 2005 and 2020 in Vietnam compared to 85% in Thailand, and about 65% in Indonesia, and Laos and Cambodia (Table 10). On the other hand, poultry production in Vietnam is projected to double between the two years compared to an increase of 80% in Indonesia, and around 60% in Philippines, Thailand, and Laos and Cambodia. Beef, the least important commodity in the region as a whole is projected to increase by 56-85% in the selected countries. The projected rates of increase for all three commodities are much higher than the overall global rates of increases for these commodities discussed earlier.

Table 10 Production projections to 2020 for poultry, pork and beef for selected South East Asian countries (000 mt)

Commodity and country	2000	2005	2010	2015	2020	% change 2005-2020
Pork						
Vietnam	1385.02	1715.94	1964.79	2253.30	2541.69	48
Indonesia	476.64	550.18	673.21	794.14	910.12	65
Malaysia	162.86	204.82	234.92	261.99	288.84	41
Myanmar	113.72	170.07	194.30	223.68	252.97	49
Philippines	1017.85	1384.67	1567.28	1730.32	1915.26	38
Laos and Cambodia	138.61	150.75	177.31	210.07	246.85	64
Thailand	474.01	624.82	780.60	966.00	1157.86	85
Poultry						
Vietnam	348.44	384.11	491.40	617.11	765.75	99
Indonesia	742.38	880.14	1099.97	1350.22	1587.54	80
Malaysia	761.20	908.48	1001.87	1102.91	1197.85	32
Myanmar	196.83	352.34	407.97	464.49	523.99	49
Philippines	553.29	622.40	757.07	882.19	993.20	60
Laos and Cambodia	37.07	35.13	41.90	49.45	57.91	65
Thailand	1239.40	1015.82	1204.73	1404.66	1609.47	58
Beef						
Vietnam	184.27	252.93	303.17	364.90	436.01	72
Indonesia	375.26	430.52	529.85	634.28	741.84	72
Malaysia	21.36	29.12	33.93	39.38	46.15	58
Myanmar	122.21	123.63	152.07	187.93	230.21	86
Philippines	256.41	247.26	299.23	358.74	431.29	74
Laos and Cambodia	102.21	99.56	118.23	141.13	167.25	68
Thailand	231.94	211.58	245.85	285.29	329.68	56

Source: IFPRI IMPACT model results 2009 (unpublished data)

It may be useful in this context to refer to a projection done by the Vietnam Government in 2006. In that exercise, pork, it was predicted that pork, chicken and beef production in the country would increase respectively by 100, 291 and 179% between 2006 and 2020 (MARD, 2007). The IFPRI projections, which accommodated the 2007-2008 market situations, are quite different from the MARD projections perhaps because the approach, scope, structure and coverage of the two models are quite different. As a result of the vulnerability of the poultry industry to Avian Influenza outbreaks, policy debate has been going on about the relative importance to be given to pork and poultry production in the future. Any firm long term decision on this may change the future scenario, whichever model is used for projection.

Consumption trends

The IFPRI model projected the lowest rate of increase in per capita consumption of pork in Vietnam compared to the other countries under consideration. Thailand and Myanmar are projected to have the highest rate of increase in per capita pork consumption (Table 11). In case of poultry, Indonesia and Vietnam are projected to have the highest rate of increase. In case beef, other then Laos and Cambodia, per capita consumption is projected to increase at very high rates in all the countries. However, in interpreting these rates, difference sin base levels of consumption should be taken into account as a large increase over a small base level consumption may not mean the same in terms of actual quantity compared to a moderate rate of increase over a larger base level.

The MARD 2007 projection anticipated that total per capita meat consumption in Vietnam would double between 2006 and 2020 increasing from about 28.8 kg/person/year to about 55.5 kg/person/year (MARD, 2007). The IFPRI projections for 2020 for pork, chicken and beef add up to 35.8kg/person/per year, which is far short of the MARD projection. Again the reasons for this difference could be the same as those mentioned earlier.

An interesting aspect of consumption of livestock products is its contribution to nutritional quality. This is often measured by the extent of calorie supplied by livestock products. In the countries under discussion meat and fish are the most important source of protein with varying degrees of importance and dairy products are least important generally. Therefore, changes in the extent of calories derived from meat may be a good indicator of the changes in the quality of diet.

Among the countries under discussion, Vietnam, Malaysia and Philippines derive the highest proportion of calories from meat and shares of calories in these countries are projected to increase moderately consistent with production and consumption growth of meat (Table 12). Higher rates of increase are projected for countries with low share of calories from meat in the base year such as Myanmar and Indonesia.

Table 11 Per capita consumption projection to 2020 for poultry, pork and beef for selected South East Asian countries (kg)

Commodity and country	2000	2005	2010	2015	2020	% change 2005-2020
Pork						
Vietnam	16.64	18.17	19.34	20.72	22.05	21
Indonesia	2.27	2.47	2.72	3.12	3.53	43
Malaysia	7.31	7.76	8.37	9.34	10.40	34
Myanmar	2.37	2.39	2.67	3.27	3.90	63
Philippines	13.69	14.17	14.90	16.17	17.36	23
Laos and Cambodia	7.64	8.79	9.87	11.10	12.31	40
Thailand	7.60	8.80	10.30	12.38	14.70	67
Poultry						
Vietnam	4.54	5.62	6.79	8.15	9.49	69
Indonesia	3.67	4.24	5.03	6.26	7.54	78
Malaysia	34.04	35.72	37.77	40.85	43.79	23
Myanmar	4.21	4.22	4.74	5.79	6.72	59
Philippines	7.80	8.21	8.88	9.93	10.82	32
Laos and Cambodia	2.11	2.56	3.00	3.50	3.96	55
Thailand	14.21	15.98	18.28	21.19	23.95	50
Beef						
Vietnam	2.39	2.70	3.18	3.74	4.32	60
Indonesia	1.96	2.13	2.56	3.16	3.74	76
Malaysia	5.56	5.78	6.76	8.18	9.70	68
Myanmar	2.60	2.54	2.95	3.80	4.73	86
Philippines	4.77	4.90	5.73	6.90	7.91	61
Laos and Cambodia	5.76	6.24	7.00	7.73	8.30	33
Thailand	3.81	4.23	5.14	6.32	7.55	78

Source: IFPRI IMPACT model results 2009 (unpublished data)

Table 12 Changes in share of per capita calorie intake from livestock products (%)

Country	2000	2005	2010	2015	2020	% change 2005-2020
Vietnam	7.89	9.05	10.05	11.04	11.93	32
Indonesia	1.63	1.89	2.21	2.65	3.07	62
Malaysia	7.48	7.99	8.56	9.32	10.07	26
Myanmar	1.89	2.02	2.36	2.97	3.58	77
Philippines	7.40	7.88	8.38	9.05	9.66	23
Laos and Cambodia	4.92	5.84	6.76	7.69	8.57	47
Thailand	5.92	6.80	7.87	9.18	10.54	55

Source: IFPRI IMPACT model results 2009 (unpublished data)

Trade prospects

Vietnam was a net exporter of pork and beef and net importer of poultry in 2005. It is projected that pork export will increase by 83%, that of beef will decrease by 85% and net import of poultry will double by 2020 (Table 13, Fig 1a). These projections differ from MARD 2007 projections of net trade. It was predicted that pork export would decline from 140, 000 tonnes in 2006 to 80, 000 tonnes in 2020, or by 43% and in case of poultry and beef, the status will change form a net importer of 18, 000 and 10,000 tonnes respectively in 2006 to a net exporter of about 80,000 tonnes each or about 8 times (MARD, 2007). These projections obviously would change if the market situations in 2007 and 2008 were taken into account.

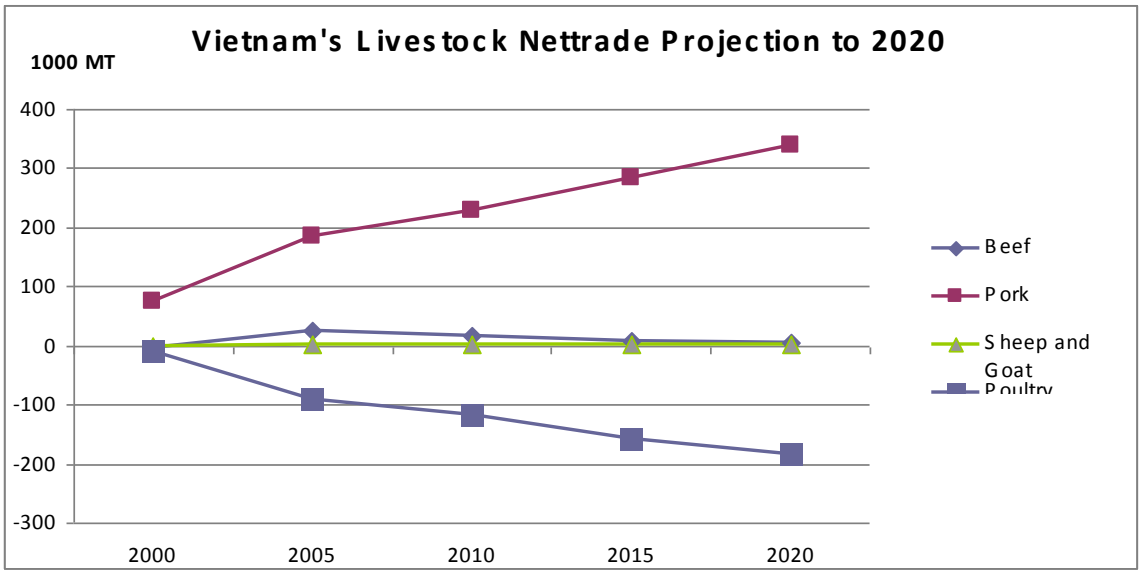
Table 13 Net trade projections for poultry, pork and beef for selected South East Asian countries (000 mt)

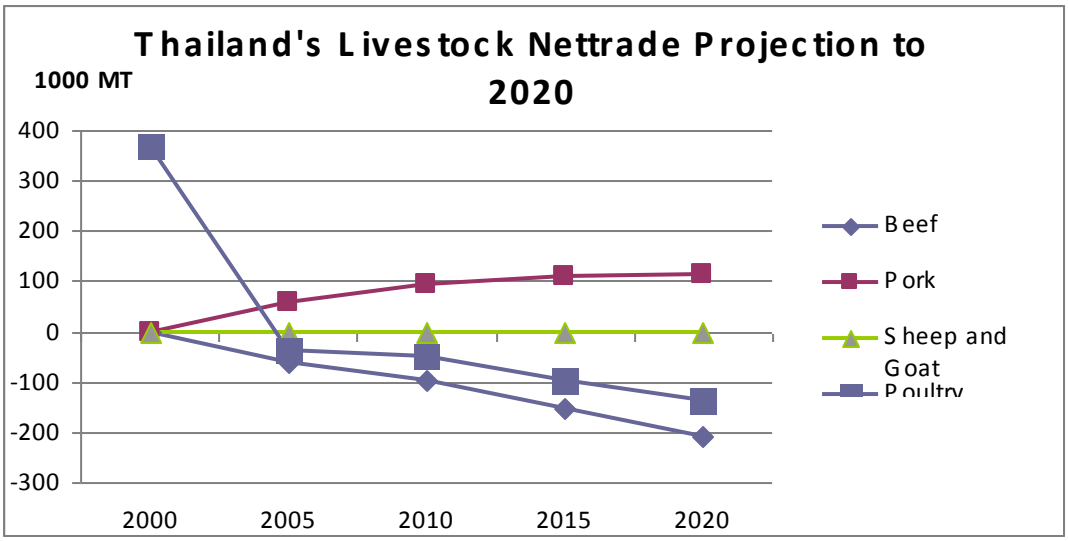
Country and commodity	2000	2005	2010	2015	2020	% change 2005-202
Vietnam						
Beef	-3.61	25.72	17.92	9.30	3.95	-85
Pork	76.02	185.61	229.51	284.46	338.74	83
Poultry	-8.48	-89.72	-117.52	-157.71	-182.62	104
Indonesia						
Beef	-34.73	-42.99	-72.69	-145.34	-214.68	399
Pork	1.78	0.96	32.46	25.10	6.34	560
Poultry	-25.28	-63.75	-86.27	-194.98	-340.85	435
Malaysia						
Beef	-102.46	-117.50	-152.17	-202.25	-259.13	121
Pork	-5.35	8.06	4.38	-14.27	-38.66	-380
Poultry	-39.16	-20.57	-65.29	-136.18	-216.67	950
Myanmar						
Beef	-2.06	-4.82	-3.77	-20.94	-39.83	726
Pork	0.74	49.10	53.31	43.82	30.68	-38
Poultry	-4.29	139.26	157.84	146.02	140.71	1
Philippines						
Beef	-101.55	-159.31	-217.16	-309.89	-385.85	142
Pork	-19.60	207.70	225.52	164.80	122.06	-41
Poultry	-35.98	-59.68	-42.89	-79.52	-124.16	108
Laos and Cambodia						
Beef	-1.69	-25.16	-36.65	-47.29	-53.58	113
Pork	0.96	-24.99	-41.12	-60.45	-80.58	222
Poultry	-0.98	-15.98	-24.52	-35.90	-47.49	197
Thailand						
Beef	-1.78	-60.05	-97.40	-151.31	-206.74	244
Pork	-0.90	59.63	92.95	110.95	113.35	90
Poultry	366.25	-37.75	-48.82	-98.01	-137.71	264

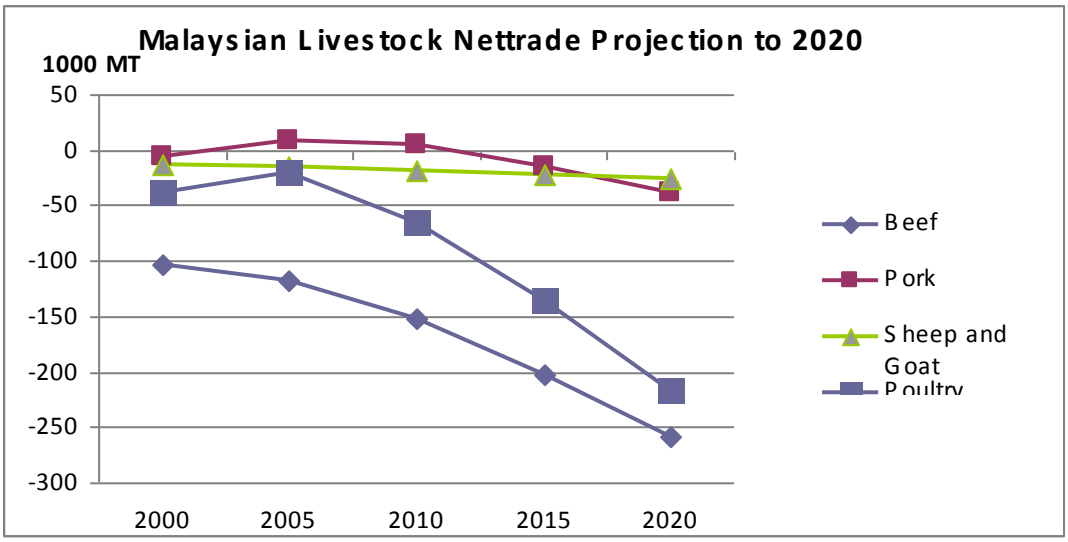
Source: IFPRI IMPACT model results 2009 (unpublished data)

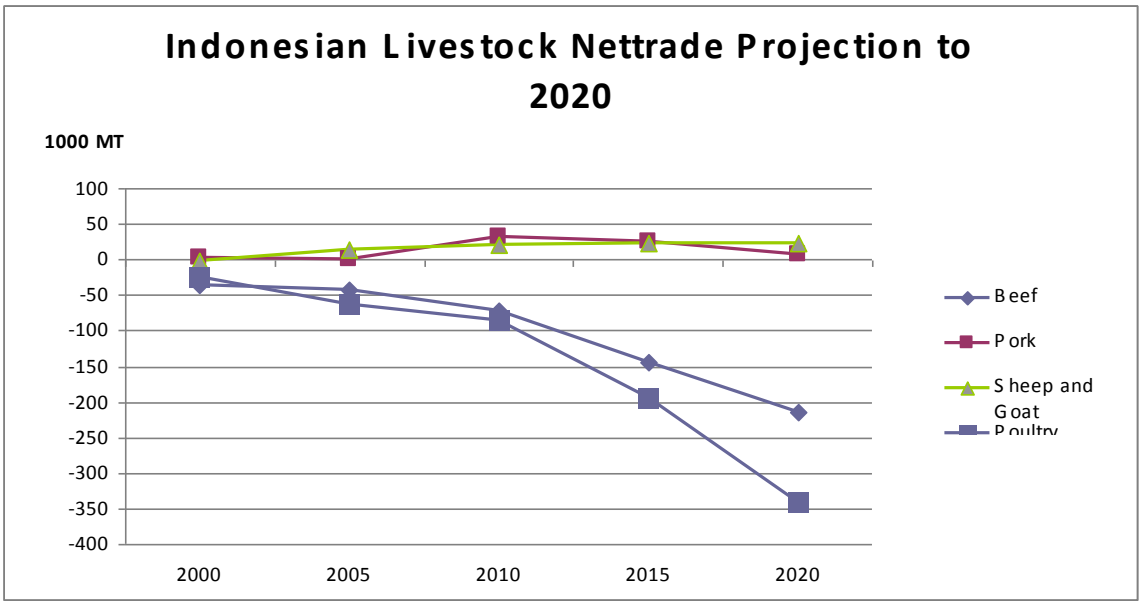
Indonesia's net import of beef and poultry is projected to increase four times while net export of beef is projected to increase nearly six times from a very low base. Malaysia's net import of beef will increase 1.2 times and that of poultry by over 9 times and it will change from a modest net exporter of pork of pork to a significant net importer. Myanmar's net import of beef will increase several times, net export of pork will decline and net export of poultry will remain fairly stable. In the Philippines, net import of beef and poultry will more than double while net export of pork will decrease over time. In Cambodia and Laos, net import of all three commodities will increase. In Thailand, net import of beef and poultry will increase about 2.5 times while net export of pork will nearly double.

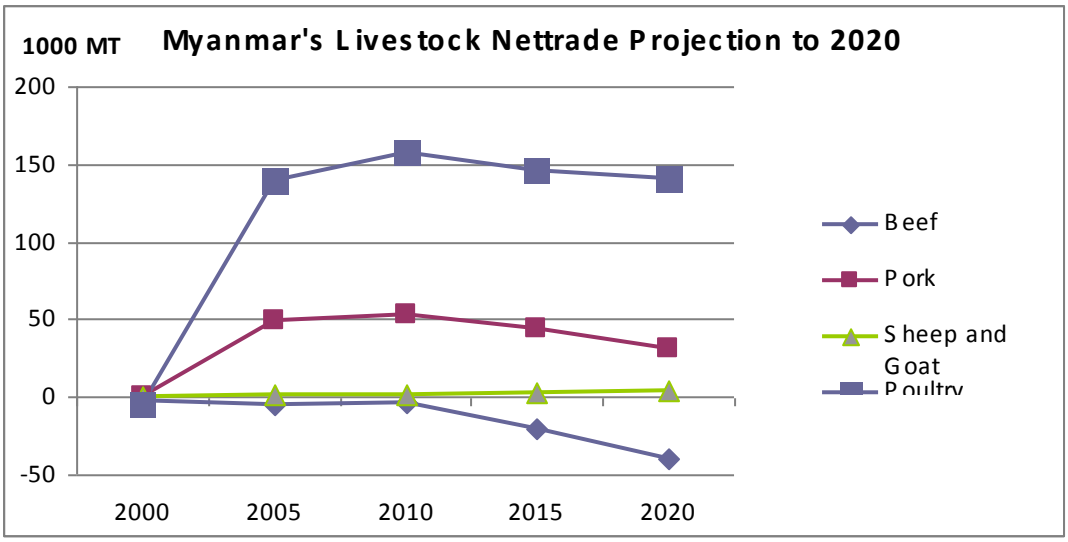
Figure 1 Net trade in pork, poultry and beef in selected Southeast Asian countries

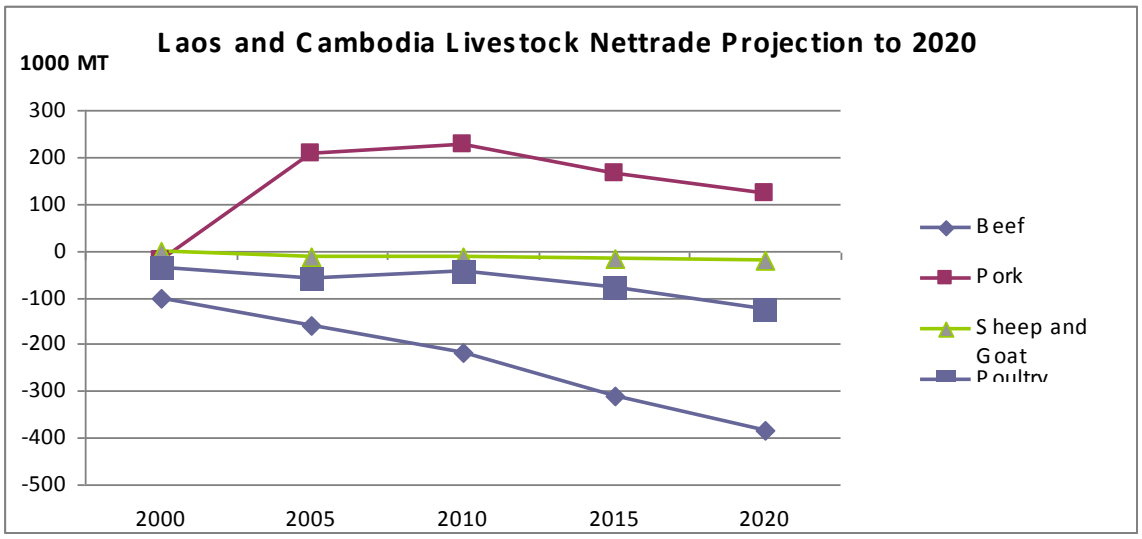





Malaysian Livestock Nettrade Projection to 2020
1000 MT
50
0
-50
-100
-150
-200
-250
-300
2000
2005
2010
2015
2020
Beef
Pork
Sheep and Goat
Poultry


Indonesian Livestock Nettrade Projection to 2020
1000 MT
100
50
0
-50
-100
-150
-200
-250
-300
-350
-400
2000
2005
2010
2015
2020
Beef
Pork
Sheep and Goat
Poultry





Policy Issues for Vietnam

Rather than all the various technical issues related to the sector that are generally discussed in any paper on the sector, only a few major issues having longterm implications are discussed here .

Export expansion strategy

Income, population and urban growth have been key drivers of rapidly increasing demand for livestock products in Vietnam. The production sector responded to the market demand. During the past few years, a strong urge has been observed to diversify export and promote livestock export as a potential foreign exchange earner even though a detailed modeling study on the impact of trade liberalization on the livestock sector in 2004 predicted that Vietnam had no comparative advantage in pork or poultry export and

that meat export might increase by only 3% annually over a low base. In fact it was predicted that some small quantities of pork export to some neighbouring countries might be possible but net import of poultry might increase while beef would remain a product for satisfying increasing domestic demand (Anonymous, 2004). However, the government decision on export expansion strategy was predicated on the assumption of an expanding global market for livestock products and a strong upturn in the global prices after a prolonged period of price decreases. The export strategy also recognized the need for improving the quality and safety standards of Vietnamese livestock products and the environmental consequences of a rapidly expanding livestock sector (World Bank, 2006). The projections made ion 2006 by MARD (2007) on production, consumption and trade were based on some of these considerations. However, the price hikes in 2007-2008 changed the scenarios quite a bit. Although prices have come down, it is now assumed that strong demand for livestock products especially in the middle income or emerging countries will keep prices high and relatively stable though at a lower level than the recent hikes. But other uncertainties such as petroleum prices, prospect of biofuel and related policies, development in agricultural and trade policies and introduction of new land in livestock production in some major livestock producing countries plus weather conditions may moderate outcomes derived from purely structural factors such as income, population, urban growth etc. Under these conditions, the balance between production to meet domestic demand and the export market needs to be carefully examined and regularly reviewed .

Industrialization and geographic concentration of production

There has been increasing geographic concentration of large scale industrial production of pigs and poultry and related processing and retailing facilities around main cities primarily due to proximity of the market and also due to policy support for such enterprises or a lack of policy to decentralize such enterprises. There is increasing public interest in further promoting and consolidating the larger scale production systems and in creating production zones for such enterprises (MARD, 2007). Three issues need to be carefully weighed while pursuing such a strategy.

First, in a competitive market and policy neutral environment several factors such as economies of scale in production, waste management, disease control and biosecurity, and consumer demand for higher quality, safe and uniform products may lead to increasing size of production units. But in the process smallholders, who are still very important in the rural economy, may be crowded out of the system and the market. Contract farming has been introduced as an institutional mechanism to allow smallholders to participate in high value pig and poultry production chains connecting urban consumers and even export markets. But empirical evidence shows that real smallholders got few opportunities to participate in contract farming arrangements, rather the contract units of integrated pig enterprises are generally quite large by the standard of traditional smallholders **(**ILRI 2007). Evidence on scale of poultry contract farming in Vietnam is not readily available but empirical evidence available from India suggest that there has been rapid scaling up of contract units there limiting opportunities for smallholders to participate in this institutional arrangement (Tiongco et al., 2006)

Second, geographic concentration of large scale production units with genetically uniform livestock populations developed around densely populated regions make them highly vulnerable to outbreaks of serious animal and human diseases such as Highly Pathogenic Avian Influenza (HPAI), Severe Acute Respiratory Syndrom (SARS). The control measures for these diseases sometimes involve stumping out entire populations of both large and small scale production units in the affected areas. Vietnam has gone through these experiences several times.

Third, there are significant differences in size distribution of poultry and pig production units, their productivity and production efficiency between different provinces or ecozones of the country. The reasons are many but differences in agroecological production environment as well as breeds produced, scale and degree and specialization in production, market distance and type of market outlet, access to public sector extension and credit appear to be key factors (Anonymous, 2004; Jabbar and Akter, 2006; 2008; Tisdell, 2008). It has been found that institutions – rules, norms, practices, information support, property rights, contract making, enforcement and dispute settlement procedures in the bureaucratic system- differ significantly between the provinces (Tran et al., 2008). Removing such constraints will enhance productivity, efficiency and overall competitiveness of the different zones or regions and there is much to be gained from exploitation of the regional differences.

Thus, any policy bias towards geographically concentrated larger scale production, as appears to be the case at present, will hasten the process of crowing out smallholders and also hasten inequality between geographic regions without adequate regard to their comparative advantage with negative consequences for rural income, employment and livelihood. Therefore, a policy agenda for rapid industrialization of the production sector with a view to promote export need to be judges against these odds as it may run into serious problems unless precautionary measures are taken adequately ahead of time.

Quality and safety standards

The question of quality and safety standards for livestock products need to be given more serious attention irrespective of the balance between domestic and export orientation of production. This needs to be done not just to improve export potential but also because increasingly domestic consumers are demanding safer and better quality products due to higher income and affordability as well as greater awareness about health risks from commercially produced and processed livestock products (Giovannucci and Purcell, 2008)..

Feed prices

Competitiveness of Vietnamese products in the export market depend a great deal on feed prices in the global market as imported feeds account for a large proportion of the feeds used in the industry (Akter et al. 2004; Anonymous, 2004). Given the recent price hikes, and possible high prices of feeds in the coming years, competitiveness of Vietnamese

production for domestic vs export market need to be assessed regularly in light of the market for products and inputs.

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