RECOMMENDATIONS TO ENSURE THE VIETNAM PANGASIUS SUSTAINABLE EXPORT IN THE WORLD MARKET

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Abstract

Pangasius culture in recent years has proved its ability to contribute to national wealth and prosperity. As far as domestic consumption is concerned, pangasius represents an important source of nutrient intake for a large portion of the population. Multiple effects have been generated through large-scale exports, which is associated with foreign currency earnings, job creation and income enhancement. However, farmers, producers and exporters have come under increasing challenges given volatile prices and prohibitive technical barriers that prevail in the international pangasius trade. Negative implications from these external factors are widely observed at national-, business- and individual levels. Suggestions to unravel the bottlenecks are therefore necessary to boost the overall performance of the whole sector. Complementary to these efforts, the article will focus on enhancing the pangasius exporting industry by applying the expert method and the Five Forces Model introduced by Michael E. Porter. It is hoped that thorough analyses followed by recommendations from the paper serve as one important source of inputs for informed policy making among industry think-tankers.

Key words: Vietnam pangasius exporting industry, expert method, M. Porter's Five Forces Model

MAIN FACTORS INFLUENCING THE COMPETITIVENESS OF VIETNAM PANGASIUS IN THE INTERNATIONAL MARKET

Natural Conditions

Pangasius culture activities have a high concentration in Mekong Delta due to favorable natural conditions. These are made possible by a number of factors.

In terms of climate, there are two main seasons: rainy and dry. However, despite observable variations in temperature, humidity and tidal currents, hydro-meteorological conditions of the region consistently qualify as environmental enablers for tropical species including pangasius. The intricate system of canals and rivers allows the development of user friendly and cost-efficient farming irrigation. Diverse sources of water and spread out wetland areas have conditioned ecological diversity in the region: fresh, brackish, and salt waters are abundant in terms of both volume and area. This is considered critical in aquaculture development. Pangasius culture is not an exception to that rule.

Seeds

Number of Hatcheries and Seed Production Capacity in Mekong Delta Provinces

The number of pangasius hatcheries has witnessed a 68-fold increase in the period of 2001-2008, from 82 (2001) to 5633 factories (2008). (Table 1)

Table 1: Number of Pangasius Hatcheries in Mekong Delta During the 2001 – 2008 Period

*(*Unit: factory)

Province/Year	2001	2002	2003	2004	2005	2006	2007	2008
An Giang	3	19	24	25	545	616	1,031	1,041
Dong Thap	52	52	52	850	1,052	1,250	3,842	4,300
Can Tho	19	10	4	4	4	10	140	100
Vinh Long	8	8	10	10	8	40	71	94
Tien Giang	0	0	2	2	2	43	43	43
Ben Tre	0	0	0	0	0	3	3	3
Hau Giang	0	0	0	0	6	10	161	21
Tra Vinh	0	0	0	0	0	4	25	31
Total	82	89	92	891	1,617	1,976	5,171	5,633

From Reports of Departments of Fishery, Departments of Agriculture and Rural Development, 2001 – 2008

As can be shown from Table 2, since 2005, the annual average seed production capacity exceeded one billion. A typical hatchery covers an area from 3.000 m^2 to 5.000m^2**.** The seed survival rate was low in the early development stage but thanks to the application of advanced techniques and science, this figure has improved, from 6.91% (year 2000) to 35.29% (year 2005) – hitting the record.

Table 2: The Annual Average Seed Production Capacity in Mekong Delta

(Unit: million units)

Province/Year	2001	2002	2003	2004	2005	2006	2007	2008
An Giang	2	17	24	28	103	79	270	330
Đong Thap	36	47	52	935	1,744	957	1,149	720
Can Tho	19	9	4	3	50	100	350	79
Vinh Long	6	7	10	8	6	29	54	
Tien Giang			2	2	1	24	25	20
Ben Tre						5	20	40
Hau Giang						40	50	64
Tra Vinh						5	8	10
Total	63	80	92	975	1,904	1,239	1,926	1,263

From Reports of Departments of Fishery, Departments of Agriculture and Rural Development, 2001 – 2008

Seed Quality

Most of pangasius seed suppliers come from Hong Ngu – Dong Thap or An Giang province, which are considered the best incubators for high quality seeds. The average growth rate of seed production is stable (1kg commercial product after six months), with high survival rate from seeds to commercial products (80 – 95%), relatively identical size, and low disease rate, which accommodates pangasius culture activities in the Mekong area.

Labour Force

Labor intensity varies by facilities, especially between users of commercial vs. non-commercial fish food, with more job opportunities created by the latter category. On one average hectare, 3-5 regular labors are needed to work on raft. In 2008 alone, there were 105,535 employments generated from this sector, typically in producing food and chemicals, reclaiming ponds, or harvesting crops.

Hired labors have low average age, from 20 to 35 years old while farm or production facility owners are often from 40 to 55 years old. Male labors make up 80% of the total labor force. Most of them have participated in training courses organized by fisheries departments, or fisheries extension centers.

Young labors typically have higher education levels than their senior peers. An approximate 80% of labor force completes the senior secondary education, 10% junior secondary education. The illiteracy rate is almost zero. Skilled workers enjoy an average monthly salary from VND 1.5 to 1.8 millions (exclusive of bonus at the end of each crop). Meanwhile, unskilled labors receive from VND 0.8 to 1.2 millions.

Table 3: The Number of Laborers in Pangasius Culture, Period 2000 – 2007

No	Province/year	2000	2001	2002	2003	2004	2005	2006	2007
1	Long An	-	-	-	-	400	600	0	0
2	Tien Giang	2,952	3,446	3,454	3,529	3,664	3,700	28,000	33,000
3	Ben Tre	-	-	-	-	217	232	234	1,025
4	Tra Vinh	-	-	-		604	306	190	254
5	Soc Trang	-	-	-	64	156	336	135	450
6	Bac Lieu	-	-	-	-	22	24	0	0
7	Ca Mau	-	-	-	-	-	12	0	0
8	Kien Giang	-	-	-	-	-	80	0	0
9	An Giang	6,300	7,204	10,440	11,182	9,604	6,130	396	17,508
10	Đong Thap	3,380	3,656	3,335	2,918	3,351	7,865	34,000	37,000
11	Vinh Long	-	60	485	656	748	604	678	877
12	Hau Giang	-	-	-	80	108	160	325	500
13	Can Tho	1,646	2,062	1,852	2,688	3,004	3,292	7,200	10,700

From Reports of Provincial Fisheries Departments and Surveys from the Fisheries Planning Division for the South

Social – Economic Conditions

Area, Population and Labors

The Mekong Delta area in 2007 is 40,604.7 km^2, accounting for 12.3% of the total national area. The population size is over 12 million, with an average population density about 429 people/km^2. Workers working in agricultural - forestry - fishing industry accounted for 70% of the total workforce.

Land-Use Structure and Status

In 2007, the total land area under cultivation in the Mekong Delta region is about 40,604km^2 whereby agricultural activities are responsible for the largest percentage, 63.4% (25.758km^2). The water area for aquaculture in the Mekong Delta Region reached approximately 699.2 hectares. This number has constantly increased at high growth rates (7.81% per year).

GDP and GDP Structure

In 2007, the economic growth rate of Mekong Delta (GDP) increased above 13%. Income per capita reached VND 11 million, equivalent to US$ 680 per capita. The economic structure has shifted in a positive direction. The proportion of agriculture declined from 44.43 % down to 40.7% in the year 2006 – 2007 while industry and service experienced an upward trend (industry from 23.41% to 25%, service from 32.25% to 34.3% in 2006 – 2007).

Infrastructure

Inland waterway plays a significant role in the regional transport, making up 90% of the total amount of goods transported. Two main lines are from Ho Chi Minh City (HCMC) to Ca Mau and HCMC to Kien Luong, accounting for 70 % - 80% total amount of goods shipped.

The electric generating capacity has been added to accommodate constant growth in economic activities. Electrics, postal services, and basic information technology infrastructure have been made accessible to all districts. For instance, at the end of 2007, two million landline and 55,000 internet subscriptions were recorded. This creates the necessary logistics foundation for regional economic development in the future.

Pangasius Processing Industry

More than 80 pangasius processing factories are located in the region, with the total capacity of 965,800 tons in the year 2008. These production facilities have been equipped with state-of-the-art assembly lines, which help them compete in the similar technological platform against regional peers (in the South East Asia) and make headways towards global standards. A large pool of available low-cost labors represents the critical factor that has hitherto driven the rigorous development of the whole sector. As a result, pangasius – related products from Vietnam have extended its reach over 128 countries and territories worldwide.

Table 4: Top 10 Pangasius Exporters from Vietnam – 2007

TT	Company	Volume (tons)	Value (USD)
1	Navico	82,805	181,081,619
2	Hung Vuong Co	34,898	81,523,337
3	Vinh Hoan Corp	23,643	73,577,753
4	Agifish Co	20,600	55,478,992
5	Cl-fish Corp	12,660	31,803,593
6	Anvifish	10,919	29,327,911
7	Thuan Hung Corp	8,851	26,143,043
8	Caseamex	9,210	26,020,731
9	Thimaco	9,507	22,812,266
10	Q.V.D food Co	6,696	19,487,483

From VASEP

The productivity of pangasius culture has enjoyed a continuous increase. Pond culture leads the trend, soaring from 19.9 tons/ha in 2001 all the way up to 157 tons/ha in 2008, equivalent to the annual average growth rate of 36%.

Table 5: The Average Productivity of Pangasius Culture from 2001 to 2008

Year	In ponds (tons/ha)	In floating cages (kg/m^3)
2001	19.9	130
2002	37.8	109
2003	47.7	107
2004	63.3	87
2005	75.6	140
2006	111.0	40
2007	125.5	32
2008	157.0	71

From Reports of Fisheries Departments, and Departments of Agriculture and Rural Development 2001-2008

Table 6: Comparative Prices Between White Pangasius from Vietnam and White Meat Fish in the World Market- 2004 – 2008

(Unit: USD/kg)

Price/year	2004	2005	2006	2007	2008
Vietnam	0.84	0.75	0.83	0.86	0.9
World	1.15	1.18	1.38	1.50	1.66

From VASEP

As can be seen from Table 6, pangasius from Vietnam achieves price competitiveness over white meat fish in the world market.

Domestic Demand of Pangasius

Pangasius has increasingly established its presence in the domestic market and become a consumer friendly product, as can be shown in the following table.

Table 7: Pangasius as Raw Inputs for Export-Oriented Processing vs. Domestic Consumption 2003 – 2007

Indicators	2003	2004	2005	2006	2007
Pangasius production (tons)	199,100	272,412	416,908	825,000	1,150,000
For export processing (tons)	93,246	232,628	309,701	751,224	1,011,516
Ratio (%)	47	85	94	91	88
For domestic consumption (tons)	105,864	40,748	26,207	73,776	138,484
Ratio (%)	53	15	6	9	12

From VASEP

Table 7 showed that the domestic consumption of pangasius has increased markedly from 2006, but still modest as compared to the huge increase in volume for exports. This necessarily suggests that export is by far the main trigger for growth of the whole sector.

Government Policies

The Ministry of Agriculture and Rural Development has approved the overall production plan and market strategies for the Mekong Delta region to 2010 and sector orientations to 2020. BMP (Best Management Practices) and GAP (Good Aquaculture Practices) standards are encouraged to apply widely in pond culture. The traceability system is emphasized as the important component for sustainable development of pangasius production and exports.

On May 18th 2008, during an official visit to An Giang, Prime Minister Nguyen Tan Dung said that pangasius from Vietnam has become a regional specialty product with a strong foothold in the world market. However, the potential development of pangasius production, processing and sales has not been fully tapped given the lack of science-based planning and strategic supports to facilitate sector-wide coordination. Therefore, it is imperative that the Ministry of Agriculture and Rural Development in consultation with relevant ministries design a synchronized plan covering all stages from production to consumption. The emphasis is on large - scale production to take advantage of the economies of scale while enabling the broad applications of advanced technologies, management practices to ensure food safety and environmental protection in a cost effective manner. National brand building and sustaining is also a crucial part of long-term competitive strategy. For that reason, appropriate policies guiding the sustainable development of the whole sector need to be put in place.

As suggested in these commitments, the regulatory environment influencing the pangasius sector will be improved. This conveys a positive signal to boost confidence of all stakeholders including farmers, producers, processing firms and exporters. Therefore, there are good reasons to believe that Vietnam pangasius will continue to garner momentum for future growth and continuously enhance its position in the global market.

THE EXPORT OF PANGASIUS: FACTS AND FIGURES

Export Volume and Value

The export volume and value of pangasius from Vietnam has registered a remarkable increase during the 2004 – 2008 period. In 2004, the export volume stood at 82.96 thousand tons, equivalent to US$ 229.02 millions in value. At the end of year 2008, these figures have headed to 640.83 thousand tons and US$ 1,453.09 millions respectively. It reflects an increase of 7.7 in terms of volume and approximately 6.3 in terms of value.

According to Table 8, we can infer the annual average export prices. From 2004 to 2008, pangasius price fluctuated markedly. Price peaked in 2004, at US$ 2.76 per kg. In 2005, price went down as low-cost strategies have been primarily used to penetrate new markets. From 2005 to 2007, price did not move in a consistent direction. In 2006, it headed up to US$ 2.57 thanks to the market share obtained from 2005 and price competitiveness relative to other export countries. However, in 2007, price again fell down to US$ 2.53 in the face of fiercer competition. In 2008, it plunged to US$ 2.26 as a response to declining demands in the context of the global economic crisis.

Pangasius Supply Capacity of Vietnam in Comparison to Major Competitors

According to Mr. Truong Dinh Hoe - General Secretary of Viet Nam Association of Seafood Exporters and Producers, Viet Nam pangasius has obtained the dominating market share in EU market (90%). Pangasius has established its presence in retail distribution systems, including supermarkets and other types of food and grocery stores in EU. Almost all Pangasius products originate from Vietnam. This market dominance can be explained via supply-demand fundamentals, with low growth rate in production and therefore low supplies from other export countries.

Table 8: Pangasius Export Volume and Value

Unit: volume-T (thousand tons,), value-$ (millions USD)

Year/ Country	2004				2005				2006				2007				2008			
	T	$	%T	%$	T	$	%T	%$	T	$	%T	%$	T	$	%T	%$	T	$	%T	%$
EU	22.49	67.11	27.11	29.30	55.17	139.39	39.21	42.48	123.21	343.48	42.99	46.61	172.87	469.54	44.68	47.96	224.31	581.50	35.00	40.02
Russia	0.66	0.80	0.80	0.35	3.07	5.64	2.18	1.72	42.78	83.20	14.93	11.29	48.73	90.19	12.60	9.21	35.52	59.20	5.54	4.07
USA	14.22	43.16	17.14	18.85	14.76	35.26	10.49	10.75	24.28	72.85	8.47	9.89	21.20	67.61	5.48	6.91	8.98	28.48	1.40	1.96
Others	45.59	117.95	54.95	51.50	67.70	147.86	48.12	45.06	96.35	237.37	33.62	32.21	144.07	351.70	37.24	35.92	372.02	783.91	58.05	53.95
Total	82.96	229.02	100	100	140.70	328.15	100	100	286.62	736.90	100	100	386.87	979.04	100	100	640.83	1,453.09	100	100

From VASEP

Table 9: Pangasius Production Levels of Some Selected Export Countries 2004 – 2008
(Unit: tons)

Country	2004	2005	2006	2007	2008
Vietnam	272,412	416,908	825,000	1,150,000	1,893,256
Thailand	119,940	130,784	139,934	152,528	164,731
Cambodia	3,000	5,000	7,250	10,368	15,240
Indonesia	23,962	32,575	34,530	37,638	40,648

From VASEP

COMPETITIVE ADVANTAGE ANALYSIS FOR VIET NAM PANGASIUS IN THE WORLD MARKET BASED ON M.PORTER 5 FORCES MODEL

Firm – Level Strategies

Strengths

The majority of pangasius processing firms has registered as members of Viet Nam Association of Seafood Exporters and Producers (VASEP) in order to protect their interests via collective actions.

They have targeted customers and designed a portfolio of strategic customers, reasonably using low cost strategies, actively expanding existing markets and penetrating into new ones.

Weaknesses

Firms have not effectively built up their supply chains, and therefore failed to create synergy effects across the chains. Benefit sharing mechanism has not been properly designed. In particular, small suppliers, given their limited access to the capital market, are most vulnerable to price and market volatility. However, when these small players participate in the national value chain, they are presented with enormous challenges as how to adhere to technical and quality standards. On the top of that are the inadequate efforts on the front of brand development.

While the majority of firms are small and medium sized, they have not adequately focused their efforts on cluster development. Using go-it-alone strategy and lacking in their alignment with importers and distributors have put them in the passive position and responded reactively to changing customer demands.

Less visible but more detrimental in the long-term is that many firms have resorted to aggressive low-cost strategy at the expense of the ability to move upward to capture the higher share of market value through enhanced product quality.

Production Factors

Strengths

The favorable geographic location of Mekong Delta has facilitated pangasius production and transport. The number of pangasius culture and production facilities has increased at more than 80% per year. Seed quality has been improved.

The labor force has consistently increased in terms of number and quality while the average age has decreased. The high availability of labors at low costs has primarily contributed to the competitive advantage of Vietnam pangasius suppliers.

Weaknesses

Farmers, producers and exporters are not fully conscious that applying environmental standards is part of risk management strategy and also an important component of competitiveness in the long run. In pursuing immediate benefits from aggressive low-cost strategies, a few firms have violated environmental stipulations.

Satellite Industries – Processing Industry

Strengths

The majority of pangasius firms play a twin role: processing and exporting, which makes quality-related issues more controllable. State-of-the-art assembly lines also contribute to keep product quality up to international standards.

Weaknesses

Most of processing activities are still low value-added such as freezing and filleting. As a result, exporters receive a low value from their export products, leaving little room for upward mobility investment.

Demands

Robust domestic demands and a strong base of local partners have not been developed. Most firms select to tap on existing overseas demands and serve these markets rather than to devise demanding strategies to establish the distribution system serving local markets.

Government roles

Strengths

The government has paid more attention to planning and investing into pangasius culture development while also playing as "lender of last resort" for farmers and producers via support of local authorities. Additionally, the value chain of production– processing – export is under way to be constructed, which creates synthetic efforts to develop the whole sector.

The government has set up the steering committee to provide guidance for pangasius production and market development with an aim to build up the pangasius export industry as one of the "breadwinners" of the national economy. Pilot projects have been kick-started and market-based policies gradually injected to create the right mixture between market efficiency and government regulations.

The legal framework and the overall plan for the industry development have been systematically mapped out whereby BMP/GAP standards and the traceability system are prioritized the "must-do" checklist.

Infrastructure and public goods at farming areas have been invested to facilitate production, product preservation, transactions and transport.

Weaknesses

The progress of a lot of public work is still slow. There is lack of cross-sector cooperation in implementing national plans effectively.

The government has not been proactive in initiating linkages among actors, especially through the establishment of associations specifically dedicated to the pangasius sector. Also, there is an absence of an agency responsible for providing market and price forecasts on a regular basis. Supports for trade promotion and investment at sites have not received proper budget. Policies regarding loans at concessionary interest rates for farmers and firms are not buttressed with a solid implementing mechanism and therefore have not yielded results as expected.

SOLUTIONS TO ENHANCE THE VIETNAM PANGASIUS EXPORTING IN THE WORLD MARKET

Firm Strategies

To improve competitive advantage of Viet Nam pangasius, pangasius firms need to remain consistent quality, reliability while strictly respecting food safety standards. It is a necessary requirement to secure market share and to expand their reach to new markets. Hence, to start with, firms need to formulate and carry out quality-related strategies, specifically:

+ Effectively managing raw material purchases as part of quality and food safety management.

+ Performing good manufacturing practices and adhering to food safety requirements.

+ Stepping up inspection and control through all processing stages, with special regards to work-in-process products; ensuring sanitary and hygienic conditions of factories; checking machine wear and tear to have appropriate maintenance plans (buying new ones if necessary).

+ Choosing suitable packaging that satisfies world standard.

+ Improving tracking product origin and establishing a solid enforcement mechanism to detect and penalize food safety violations, which aims to protect the quality image of pangasius from Vietnam.

In addition to quality improvement efforts, firms need to devise wise investment strategies to accommodate the long-term growth and development goal, that is, to export ready-to-eat food. They also have to be active in finding new markets, handling export and distributing processes, as well as having a thorough knowledge of their target markets. They also need to associate with the others to support each other in complementary efforts.

Inputs-Related Solutions, Especially Raw Materials

In recent years, the supply of pangasius has continuously witnessed imbalances. In many instances, the instability has negatively affected price and production. In the meantime, it is increasingly difficult to purchase “clean pangasius” because of disease, antibiotic redundancy, impurities in materials and so on. Therefore, to stabilize material source we have to:

+ Establishing supplier network to source clean material and positive coordination policy.

+ Fostering positive relationships with suppliers through supporting policy when disease occurs; providing training course about scientific culturing processes to ensure product quality right from seeds.

+ Importing modern machines and seed producing processes from countries having similar ecospheres to ensure clean production.

+ Universities and institutes nationwide need to do more research both in modern culturing techniques as well as technology transfer in seed production, culturing, and processing to improve pangasius quality.

+ Conducting research on disease prevention and treatment measures; improvements in breed quality limiting risk in production to satisfy food safety requirements.

+ Investing in upgrading or replacing obsolete equipment, which enables the use of chemicals that are environment friendly; processing and recycling liquid and solid wastes before they are disposed of to the surrounding environment.

+ Partial mechanization and mechanization process need more workers, hard – working stage, internal transporting phase...

Solutions for the Pangasius Processing Industry

The major issue facing the industry is the increase in export volume is growing faster than its value. Solutions for this problem should come from both ends: cost reduction and value enhancement. It means that firms need to develop high-value added items in their product portfolios at the reasonable prices. To this end, operational costs should also be considered as a strategic issue to manage. To affect this solution, we need to invest in production lines for high value products.

Solutions for Exploiting Local Demands

According to Mrs. Huynh Thi Thanh Giang, Vice Director of local markets for Agifish Joint-Stock Company, given huge latent demands, domestic market represents an attractive window opportunity for pangasius businesses. However, to tap into this pool, pangasius firms can use traditional distribution channels and big supermarkets to first have a leg in. Customized products for different market segments should be taken into account.

Focusing on domestic markets, setting up entrepôts to big city like HCMC or northern provinces.

Government Policies

All economic sectors should be encouraged to participate in commercial culture, seed production, processing, technology transfer, labor training. The government in consultation with local authorities need to appropriate sufficient budget to provide logistic infrastructure upon which all economic activities are built on, including roads, electricity, and irrigation.

In the short and medium terms, large-scale producers need to receive more support with respect to investment capital. Non-collateral loans can be considered on a case by case basis and if qualified, producers should get up to 60% of their capital needs.

Official decisions and support programs introduced by the Government to boost the sector performance should be actively translated into specific actions. Similarly, top priority will be on providing some additional window opportunities for farmers to access capital for further investment.

Legal and enforcement framework should be introduced to govern economic transactions such as contract binding between farmers and processing firms before stocking.

A fish market on a standardized auction platform at some key focal points in the region should be officially organized, using professional practices to develop this market, creating more opportunities for farmers and producers to get more reasonable prices from their products.

The government needs to provide the catalyst through industry-level trade promotions, comprehensive research and surveys on domestic and international markets, while at the same time provide businesses and consumers with product and market information to ensure optimal social benefits created.

The government should provide the supportive legislative and regulatory framework to facilitate pangasius companies in applying quality management system, registering brand names, participating in trade fair as well as in national or international seafood conferences and so on.

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