

PROJECT BRIEF



ESTABLISHING A SUSTAINABLE PANGASIOUS SUPPLY CHAIN IN VIETNAM - SUPA



Mainstreaming sustainable practices along Vietnam pangasius supply chain and strengthening green market link in EU



The Challenge

Vietnam has supplied over 90% of the world export for pangasius on account of the significant growth of the pangasius sector over time. In 2011, one third of Vietnamese aquaculture export came directly from the pangasius supply chain. The total workforce in aquaculture saw a double expansion within 5 years (2003 – 2008). Such rapid growth, however, prompted concern amongst stakeholders and the Vietnamese Government about the environmental and social impacts of pangasius farms and processing facilities, and about how to secure the long-term sustainability of the sector. There is also a general lack of knowledge and motivation towards sustainable production, resulting in poor or unstable quality products, competition on price rather than quality or added value, thereby putting the economic sustainability of the sector at risk.

Objective

The overall objective is a pangasius production, processing and exporting sector in Vietnam with long term environmental, economic and social sustainability.

The specific objectives are that by the end of the action:

- To mainstream RECP in pangasius supply chain, including producing and processing SMEs, feed producers, hatcheries and small independent production SMEs
- To enable SMEs to reach ASC standard to EU and other markets
- To do sustainable product innovation, including new products, by-products or technologies
- To improve legislative framework for the fostering of sustainable practices in pangasius production and processing
- To improve the image and position of Vietnam pangasius in the EU market

TARGET GROUPS

- Hatcheries and pangasius production SMEs;
- Pangasius processing SMEs;
- Feed producers;
- Ministries of Agriculture and Rural Development, Environment, Finance, Industry & Trade, seafood associations and environmental agencies

Activities



Push and Pull strategies for sustainable pangasius supply chain

The SUPA project sought to mainstream sustainable practices along all the points of the pangasius supply chain by applying a variety of approaches and strengthening collaboration amongst stakeholders.

The pull component focused in establishing market links, enhancing communication and awareness raising and improving the image of Vietnamese pangasius products in the eye of European consumers. This component engaged EU retailers, importers and Vietnam authorities, municipal fisheries departments.

The push component helped enhance capacity and provided technical supports to involved stakeholders in the production stage to mainstream resource efficient and cleaner production and reach EU product standards. Target groups of this component consisted of hatcheries and pangasius production SMEs, processing SMEs, national experts, consumers in both Europe and Vietnam.



Policy gap analysis and consultancy

Under the guidance of EU experts, the project conducted a study summarizing the current status of the Vietnamese legislations having an impact on the development of the pangasius sector in the country and on its transformation into sustainable practices and supply chain integration. The study was reviewed and revised by national experts, policy makers, authorities through a consultancy workshop.

Training and dissemination workshops on EU policies were organised, targeting at policy makers in Vietnam.



Networking and promotion events

A variety of networking events, dissemination workshops, technical workshops within SWITCH Facilitation Network that engaged the stakeholders were organized both in Europe and Vietnam.

Other means of dissemination included brochures, press releases, television reports and articles. A cross-cutting tool – e-platform – was used to facilitate information and experience sharing within the supply chain.



Photo: Instructing technical staffs to assess performance of condenser-compressor unit at A Chau factory.

Results - Pull Component



Stronger market links and better mutual understanding between market and production sides

The image of Vietnam pangasius products in mindset of EU retailers and importers has been improved, especially in the current status of pangasius production through field visits to pangasius farming areas in Vietnam and participation in buying missions and promotion fairs.

In parallel, Vietnamese enterprises gained a better understanding of EU market as well as how Vietnam pangasius products are positioned at EU points of sale since they were sent to attend the International Seafood Fairs in Brussels and visit supermarket in Brussels. With the support of the project, representatives of 12 processing SMEs involved in this activity. Capturing the opportunity, one of the enterprises nailed a negotiation and became a direct supplier of pangasius products for a Belgian supermarket.

Dialogue between the EU retailers, importers and the Vietnamese authorities and pangasius SMEs was strongly facilitated for recommendations and sustainable pathway for the Vietnam pangasius sector. There were 2 dialogue forums in Vietnam with 300 participants and 2 roundtables in Europe with 100 participants.

The stronger market linkage and better mutual understanding between the EU side and Vietnam side has been strengthened, securing a long-term cooperation in the future.



Policy recommendations

A summary study of the current status of the Vietnamese legislations regarding the development of the pangasius sector in the country and a gap analysis of the Vietnamese legislation compared to EU and other Asian exporting countries were published. These publications were revised by a consultancy workshop for recommendations for sustaining the pangasius sector in particular and the aquaculture industry in general, then sent to Vietnam authorities.



Photo: SUPA booth at Vietfish fair.



ASC certified pangasius farms

After the project, 33 pangasius production SMEs achieved ASC certification, which would contribute to ensure the position of pangasius products in the market and have potentials for deeper penetration into the Europe market and entering into other potential markets. This will be a leverage to encourage other companies, private farms in the region continue to get ASC certification.

Advanced training activities on ASC standard and building action plan were organized to help facilitate business link between sustainability certified hatcheries and pangasius producers, feed producers, materials suppliers towards a sustainable pangasius supply chain in Vietnam.



Pangasius Model Farm combined with Training Center

Model farm was constructed in 2.4 ha area, included 10 experimental 200-metre square ponds, 02 brood stock 1000-metre square ponds, 02 feeding 1000-metre square ponds, 01 settling pond and 01 treatment pond. The model farm is located in Cai Rang district - Can Tho city, contiguous to Hau River with rich freshwater source and quality water, which is ideal condition to conduct research and apply research results into pangasius hatchery and production.

In the model farm, advanced techniques and sustainable practices were applied and demonstrated in on-site trainings targeting at hatchery farmers and pangasius producers, to encourage them to apply these sustainable practices into their farms and production.

The achievement of the model farm has helped farmers and producers improve hatchery and pangasius quality, reduce feeding time, tackle pangasius diseases, minimize feeding cost as well as optimize feed, maximize profits and contribute to reduce environmental impacts.

The local authorities, fisheries department technical staffs and research institutes were invited to visit the model farm and kept informed of advanced techniques and sustainable practices to disseminate and instruct other farmers and producers in the surrounding areas.

In addition, after operating the model farm, with the approval of the EC, SUPA project donated whole money from selling pangasius to 108 poor families in Tan Phu ward in which the farm is located. The donation event was held before 2017 Lunar New Year, which were meaningful supports to the benefited families since Tet was close.

Results - Push Component



Pangasius processing SMEs to mainstream RECP

The project conducted RECP assessment and suggested RECP options for 72 pangasius processing factories in An Giang, Dong Thap, Vinh Long, Hau Giang, Tien Giang, Ben Tre and Can Tho. There were 54 of these factories involving in full RECP assessment and 300 technical staffs being trained on RECP.

Throughout the project's cycle, on average, each SME had already implemented 15 RECP options, in which housekeeping options that were simply and able to implement immediately account for 50%, better process control options account for 30% and new equipment options account for 20%. On average, each company saved 18-20% of electricity, 26-30% of water, reduced production costs from 2 to 5 billion VND per year.

After participating in this component, these SMEs now have capacity to deploy and maintain RECP, improve production efficiency and reduce environmental impacts. Some enterprises through experts' consultancy have developed large investment opportunity that can enable them to approach banks for technology investment.

Results of RECP implementation at 54 SMEs:

INDICATOR	CHANGE
Resource use	Save
Energy	33,676,245kWh/year
Water	937,420m ³ /year
Emission	Reduce
CO ₂	21,168 tons/year

Besides, RECP approach was introduced to pangasius farmers from 120 farms in the Mekong Delta through quick RECP assessment activity.



Advanced RECP techniques development for hatcheries and pangasius production

Through research and pilots in collaboration with several hatcheries and production enterprises, 20 advanced RECP techniques were developed, tested and applied widely for hatchery farmers in project area. Below are some outstanding results:

- Increase fertilization rate from 81% to 97%, hatchery survival rate from 85% to 94%.
- Increase survival rate and feed conversion rate (FCR) for hatchery.
- Increase DO by aeration system
- Increase growth rate and reduce total phosphor emission into the environment by adding phytase enzyme into fish feed.
- Cut-off pangasius production cost



Photo: Pangasius model farm in Can Tho.



Sustainable Product Innovation (SPI)

SPI has helped develop value-added product, constrain waste and by-product, decrease environmental impacts in pangasius processing.

The project organized co-creation workshops with 02 consumer groups in Europe and 20 consumer groups in Viet Nam. Results of these co-creation were input for sustainable product innovation. In detail, 20 more sustainable products were developed and transferred to 7 companies, including 10 new-design products and 10 re-design products. In particular, most of the parts of pangasius are being utilized for added-value products that can serve domestic market.



Workshops, Trainings, Networking on pangasius hatchery and production for farmers, technical staffs, local fisheries department staffs

There were 24 one-day study tours with 665 participants. On-site trainings were held at several leading farms, such as Hung Vuong, Caseamex, Vemedim etc, and the model farm. Range of subjects varied from market demand, traceability, water management in pangasius production, ASC certificate to issues on chemical and disaster. The participants had the opportunity to access to information and practical technologies to conduct at their company and simultaneously commit to apply sustainability standards and certification.

The project held 17 half-day training sessions with 903 participants, 16 technical workshops with 800 participants. After participating in these activities, the farmers gained information, technical solutions, improvement solutions, accessed to advanced hatchery techniques. Local authorities were engaged for awareness raising and information update for better management in pangasius sector.

Impact in Numbers

Economic impact



- Create new business opportunities, enhance competitive capacity
- Facilitate business link along the supply chain
- Strengthen local economy by linking feed suppliers and pangasius producers
- Save 66,829 million VND for 54 enterprises
- Save 18-20% of electricity, 26-30% of water, 2-5 million per year per SME
- Cut off 8-10% (~1,700 VND) of production cost per 1 kg

Environmental impact



- Save 33,676,245 kWh/year of electricity
- Save 937,420 m³/year of water
- Cut off 21,168 tons/year of CO₂
- Reduce total phosphor up to 19%

Social impact



- Improve the living environment by reducing wastewater, solid waste, GHG emission
- Enhance the public awareness on sustainability
- Increased the producers' income

Target groups engagement



- 72 processing SMEs were engaged in RECP
- 120 farms engaged in quick RECP assessment
- 33 hatcheries and pangasius production SMEs achieved ASC certification
- 2368 participants of hatcheries and pangasius production SMEs and local fisheries departments engaged in 24 one-day study tours, 17 half-day trainings and 16 technical workshops
- 500 stakeholders, including SMEs, EU retailers, Vietnam authorities engaged in 2 roundtables and 2 dialogue forums
- 22 consumer groups in Europe and Vietnam engaged in SPI

Sustainability

Establishing a sustainable pangasius supply chain in Vietnam is a long-term commitment of all project partners.

- **Sustainable practices being mainstreamed along the supply chain**

Fundamental knowledge on sustainability certification (ASC, Global GAP...) was disseminated to hatcheries and pangasius production SMEs and farmers; RECP and SPI were implemented at processing SMEs.

These practices helped improve productivity, competitive capacity and minimize environmental impacts. This would be drive for other SMEs move forward to green production.

- **Facilitate business link and cooperation opportunity**

Facilitate business link between certified hatcheries, feed suppliers, veterinarians, etc.

Enhance mutual understanding between Vietnam production side and EU demand side

- **National network of RECP and SPI experts**

This network will be available to support SMEs and suppliers in need of RECP and SPI.

- **Pangasius model farm and training center**

The model farm and the center will be handed over to College of Aquaculture under Can Tho University for research and techniques demonstration for the pangasius sector and aquaculture industry; and then step-by-step operating as science-technology service provider with autonomy mechanism.

- **Training materials on RECP and DIY toolkit for SPI**

Develop training materials on RECP with customization for aquaculture industry; DIY toolkit for implementing co-creation and SPI.

- **Publications and promotion materials**

Video clips about the project, advanced techniques, model farm...

E-platform for sharing information and networking will be administrated by VASEP.

Case study RECP application in pangasius processing

The Europe Joint Stock Company – Hung Vuong is one of the largest processing factories of fillet pangasius for export in Vietnam, which runs a closed system of producing breed, aquaculture, processing, and exporting.

The company has 1200 skilled employees, with a production capacity of 500 tons of material per day. The company's products strictly commit to quality standards such as: HACCP, HALAL, ISO 17025, ISO 22000, BRC, IFS, GLOBAL G.A.P; and are mainly exported to the United State, European countries, Australia, South American countries, Middle East, Ukraine, and Russia..

After assessment, RECP options were proposed including::

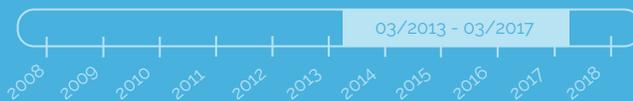
- (1) Good housekeeping (checking and maintaining the electric system, repairing electrical leakage);
- (2) Equipment modification (Installing capacitor to prevent overloading electric wires);
- (3) Process control (Optimizing water use for domestic and production activities);
- (4) Technological change (Replacing the water heating system from resistor system to heat-pump combined solar system).

Group of RECP options	Potential Technical benefits (Reduced resource use/year)	Potential Economic benefit (VND/year)	Potential Environmental benefit (Reduced emission/year)
Electrical maintainance	216,000 kWh	324,000,000	112,480 tons CO ₂
Installing capacitors	33,066 kWh	49,600,000	19,500 tons CO ₂
Optimizing water use	35,000 m ³	105,000,000	35,000 m ³ wastewater
Install heat pump and solar system	229,520 kWh	449,200,000	132,272 tons CO ₂

OBJECTIVE

The project aimed at mainstreaming sustainable practices along the supply chain towards a sustainable pangasius production in Vietnam, in pallarel strengthening green market links to secure a long-term economic, social and environmental development of the pangasius sector and aquaculture industry of Vietnam.

DURATION



PROJECT TOTAL BUDGET

1.7 million EURO
(EU contribution: 80%)

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