

Original Research Articles

Research on ecological-economic value equilibrium path of aquatic products from trust perspective

Yunyun Dai¹, Zhixiao Wang¹, Qiyao Liu¹, Yuting Pan¹, Hong Yang^{2a}¹ School of Management, Wuxi Institute of Technology, Wuxi, China, ² Freshwater Fisheries Research Center of Chinese Academy of Fishery Sciences, Wuxi, China

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Eco-aquatic products have two important attributes: food safety and eco-friendliness. However, in China, the market price of most eco-aquatic products is not significantly different from that of ordinary aquatic products, which fails to fully realize their ecological value and high quality. This paper analyzed the path of realizing the ecological value and economic value of aquatic products from the perspective of trust. Through the analysis of three cases of Suzhou Haimei Family Farm, Suzhou Pinwei Aquatic Products Company, and Jiangsu Yunian Agriculture and Forestry Ecological Development Company, this paper showed how to improve consumer trust through community participation, social network and government endorsement, aimed at maximizing the value of ecological aquatic products. The case analysis demonstrates that adhering to the concept of ecological priority and sustainable development, building regional or product brand, maintaining brand image, and innovating diversified business strategies can effectively promote the development of aquaculture industry to a healthier and more environmentally friendly direction, and achieve a win-win situation of economic and ecological benefits.

INTRODUCTION

With the escalating global focus on environmental protection and the increasing health consciousness among consumers, the demand for high-quality and sustainable aquatic products has witnessed a significant upsurge worldwide. In this context, ecological aquatic products have become an ideal choice to meet this new demand due to their higher safety and environmental protection characteristics. The Chinese government has made a lot of efforts to realize the value of ecological services in order to better cope with current environmental and welfare issues. For example, the No. 1 document of the CPC Central Committee in 2023 and 2024 proposed to develop ecological fisheries in vast rivers and strengthen the construction of ecological civilization in rural areas. Instead of trying to dominate nature, the Chinese government has proposed an ecological strategy that coexists in harmony with natural systems to mitigate ecological degradation and maintain ecosystem services.¹

Due to the empirical nature of aquatic products, it is difficult to distinguish the quality of aquatic products by the naked eyes alone, so there is a widespread phenomenon of 'bad money driving out good ones'.² Consumers' doubts

about the quality of aquatic products are mainly due to the asymmetry of supply information in producing, processing, circulation, sales and other links, resulting in doubts about food safety. Ecological aquatic products refer to those products that follow ecological principles and adopt environment-friendly methods in the process of production, such as the use of natural bait, circulating water system, low-density farming, and reducing the use of chemicals, so as to reduce the impact on the ecosystem. These products are often regarded as premium or specialty products in the market and deserve a higher price.

However, in China, the market price of most ecological aquatic products is not significantly different from that of ordinary aquatic products, which fails to fully realize the ecological value and high quality of them.³ From the perspective of trust, the main reason for this phenomenon is that ecological aquatic products do not form a higher credibility in the minds of consumers, that is, lack of trust.⁴ Therefore, transforming consumer attitudes through external strategies to enhance their willingness to pay for ecological aquatic products is crucial for driving up product pricing and ensuring that the true value of high-quality

a Correspondence: Hong Yang, Freshwater Fisheries Research Center of Chinese Academy of Fishery Sciences, Wuxi 214081, China. Email: yanghong@ffrc.cn

aquatic products is recognized, thereby contributing significantly to the sustainable development of these resources.

Based on the field investigation of Suzhou City and Changzhou City, this paper analyzed the production mode and supply channels of local ecological aquatic products, and discussed the possible path of realizing the value of ecological aquatic products in the Chinese market. The research objects include Suzhou Haimei Family Farm, Suzhou Pinwei Aquatic Products Co., LTD., and Jiangsu Yunian Agriculture and Forestry Ecological Development Co., LTD.. The reason for choosing these areas is that the local areas actively promote the restoration and sustainable development of the ecological environment, and the aquatic products produced through ecological aquaculture and stock enhancement have high recognition and high market prices. Therefore, it is of great practical significance to the healthy development of the culture industry to study the ecological value realization path of products in these areas, analyze how they stand out in the market, and maximize the value of ecological aquatic products. These case studies also offer implications for international markets.

Compared with the existing research, the main contributions of this paper are as follows: firstly, it examines the realization of ecological aquatic product value from the perspective of trust, an aspect that has been relatively underexplored in prior studies; Secondly, the field investigation results of Suzhou City and Changzhou City are taken as the analysis objects, which can make the research conclusions more realistic.

THEORETICAL ANALYSIS

Due to the characteristics of information asymmetry of edible agricultural products, the market of agricultural products has long been in a state of imbalance between supply and demand of honest trading for a long time, with occasional production speculation and dishonest behavior. Ecological products have a distinct public goods and externalities nature,^{5,6} which means that external intervention is needed to realize the true value of ecological aquatic products.⁷ Product attributes are generally divided into search, experience, and trust attributes.⁸ Food safety and eco-friendliness are two important trust attributes of eco-products,⁹ which can directly or indirectly affect consumers' attitude, intention¹⁰ and willingness to pay premium.¹¹

The health benefits and nutritional content of ecological products are classified as food safety attributes, meeting the health needs of consumers.¹² Ecological aquatic products advocate the ecological farming of 'human stocking and natural feeding', which can promote the quality of products,¹³⁻¹⁵ fulfill the residents' requirements for food quality and safety,¹⁶ provide a safer and more functional living environment,¹⁷⁻¹⁹ address the needs driven by environmental protection,²⁰ foster the connection between individuals and nature, and enhance the proximity between people and nature.²¹

As a reflection of consumers' personal traits, values play an important role in guiding consumer behavior and purchase decisions. The Egoistic value, Altruistic value and

Biospheric value proposed by Wei, et al.²² have been widely used in the field of ecological product consumption. Consumers with Egoistic values pay more attention to their personal interests, and their actions are more aimed at achieving their own interests; Consumers with Biospheric values are more concerned about others or social welfare, and are more inclined to consider the social impact of personal behavior. Therefore, consumers with different values may also pay different attention to food safety and eco-friendly attributes when consuming, resulting in differences in their willingness to pay for ecological products. Consumers perceive food safety attributes through objective clues,²³ forming a perception that ecological products are safer and healthier. The perception can be transformed into a motivation for trust through rational thinking and judgment, subsequently influencing their willingness to pay a premium for ecological products, so as to fully realize the value of such products.

Social trust, a core component of informal institutions, is the average expectation of social members in a country or region on the trustworthiness of other individuals.²⁴ Rousseau, et al.²⁵ argue that trust exists in the consumer decision-making process and is a positive expectation held by consumers. In the field of ecological product consumption, consumer trust mainly depends on the products' ecological characteristics, certification, packaging, retailers and so on. Therefore, this paper defines ecological product trust as a psychological state in which consumers maintain positive expectations for ecological products. Consumer trust can be divided into cognitive trust and emotional trust,²⁶ and both of them can positively affect consumers' purchase intention. Applied to the field of ecological product consumption, cognitive trust refers to consumers' perception of the function and stability of goods. Doney, et al.²⁷ proposed that the trustworthy attributes of the target object of cognitive trust generally include ability and integrity. Emotional trust refers to the trust generated by consumers who have a certain understanding of ecological products and establish emotional connections. The research of Kaiser, et al.,²⁸ Cheng & Huang,²⁹ Kuo & Feng,³⁰ and Leal, et al.³¹ believe that consumers' purchase willingness will be affected by mass media, interpersonal relationships and community interactions, which can generate social trust among consumers, and this trust relationship can improve consumers' purchase intentions to a certain extent.^{32,33} In addition, the research of Hajli,³⁴ Kim & Park,³⁵ and Grayson³⁶ suggest that acquaintance recommendations can generate trust among consumers, which in turn positively affect consumers' purchase intentions.

CASE STUDY

The maximization of the value of ecology of aquatic products can be achieved by enhancing social trust, strengthening consumers' trust in ecological aquatic products, and improving the market positioning of products, such as community participation, social network and government endorsement.

1. TRUST BASED ON COMMUNITY PARTICIPATION - SUZHOU HAIMEI FAMILY FARM

(1) INDUSTRIAL AND POLICY BACKGROUND

Suzhou Haimei Family Farm is located in Changdang Lake area, Jiangsu Province. Changdang Lake is the third largest lake in the Taihu Lake Basin, with important resources and ecological value. In the 1980s, Changdang Lake became one of the first large lakes in China to engage in large-scale enclosure aquaculture, and this development model became the mainstream of China's lake aquaculture industry at that time and achieved significant economic benefits. However, with the continuous expansion of aquaculture scale, ecological and environmental problems gradually emerged. Overfarming has led to deterioration of water quality, a decline in biodiversity, and severe damage to lake ecosystems.

In the face of the deterioration of ecological environment, the aquaculture policy of Changdang Lake began to be adjusted. In 2004, the government began to implement an enclosure rectification project, implementing a series of comprehensive ecological environment improvement measures, including reclaiming lakes from paddy fields, dredging lake bottoms, and improving the river channels entering and leaving the lake. In 2017, all enclosures were successfully removed, and the ecological environment of Changdang Lake was effectively restored. Since then, Changdang Lake has been designated as a national aquatic germplasm resources protection area, implementing the policy of lake closure and fishing ban to protect fishery resources and water environment. On the basis of ecological environment recovery, Changdang Lake began developing ecological aquaculture. The government encourages and supports the large-water aquaculture of 'human stocking and natural feeding' to promote the transformation of Changdang Lake from being productive to be ecological. Through the investigation of fishery resources and the evaluation of the effect of stocking, the scientific stocking activities are carried out, and the crackdown on illegal fishing is strengthened to maintain the order of aquaculture production in the lake area.

(2) ENTERPRISE ECOLOGICAL AQUACULTURE MODE

Suzhou Haimei Family Farm was founded in March 2019, with a pond culture area of 300 mu¹, and is responsible for the management of 1040 mu in surface area of Changdang Lake. The farm currently has 15 shareholders who jointly bear the risks of culture. Many of the shareholders have invested in the farm by providing technical expertise, and dividends will be distributed at the end of the year based on the farm's profits. Suzhou Haimei Farm specializes in

the culture of high-quality aquatic products such as silver carp (*Hypophthalmichthys molitrix*), bighead carp (*Hypophthalmichthys nobilis*), and grass carp (*Ctenopharyngodon idellus*). The farm reduces feed and labor inputs by introducing various mechanical equipment such as nano aeration technology to improve the traditional pond aquaculture model. In the Changdang Lake area, the production mode of 'human stocking and natural feeding' has been adopted, and the output, quality and taste of aquatic products have been greatly improved. At the same time, ecological culture models are promoted actively to benefit more aquaculture farmers in the surrounding areas.

The culture methods of Suzhou Haimei family farm are as follows: (1) Bighead carp: From April to May, it is cultured in self-owned pond, and grow-out in Changdang Lake from June to July, and it is captured and sold in the second year; (2) White Amur bream (*Parabramis pekinensis*) and Freshwater shrimp (*Paratya australiensis*): Polycultured in the pond. In February, the Freshwater shrimp are stocked at 10kg/mu with the size of 1,500-2,000 fish/kg, and the Bighead carp are stocked at 100 fish/mu with the size of 250 g or 500 fish/mu with the size of 100 g. The Freshwater shrimp is captured by ground cages in early April and triangular nets in May. There is a hiatus from June to August, and continue to capture in September until the end of November, then harvest by drying the ponds. The capture of White Amur bream starts in June with the ones reaching size of 1.5 kg, and the rest are captured and sold in winter with the size ranging from 1.5 to 2 kg/fish or 2.5 to 4 kg/fish.

The marketing strategy of Suzhou Haimei Family Farm is mainly transparent production processes and community-involved business model. In order to win the widespread trust of consumers, the farm has taken the initiative to disclose the whole process of culturing, so that consumers can clearly understand how the products they buy are produced, so as to enhance their confidence in the quality and safety of products. The community participatory management methods adopted by it mainly include:

(1) Open day activities: Open day activities are held regularly to give community members the opportunity to experience the culturing process and enhance community members' trust in the farm.

(2) Education Workshops: Cooperate with schools to carry out agricultural education activities, raise public awareness of healthy eating, and provide more opportunities for students and the public to get in touch with nature.

(3) Community Supported Agriculture (CSA) project²: allows community members to order aquatic products in advance to ensure that the farm has a stable market demand, so that community members can enjoy fresh and healthy agricultural products.

¹ 1 mu=667 m²

² Community Supported Agriculture (CSA) is Community Supported Agriculture (CSA) is a model where consumers purchase farm shares upfront. Members pay a set amount at the start of the growing season. This direct link between consumers and farmers provides fresh, high-quality produce and supports small, organic farms.³⁸

(4) Farm fairs and festivals: Regularly hold fairs or harvest celebrations at the farm to attract community members to participate, and at the same time, farm products can be sold to enhance community cohesion.

(5) Fishing activities: utilize the land around the pond to conduct crayfish fishing activities, and offer free child tickets at the entrance of primary schools and kindergartens (adult tickets must be purchased separately), thus achieving maximum profitability.

(6) Social media interaction: Use social media platforms to share farm stories, daily dynamics, and agricultural product information, and maintain online interaction with community members. Respond to comments and inquiries in a timely manner to enhance the activity of the online community.

Through these methods, Suzhou Haimei Family Farm, with its unique cooperation model and commitment to ecological sustainability, has gradually established a foundation of social trust, built a trustworthy brand image in the minds of consumers, enhanced its competitiveness in the market, and ensured the sustainable development of the farm. This trust-based business model allows farms to sell their products at prices above the average market level, thereby achieving a win-win situation of ecological and economic benefits.

(3) ENTERPRISE REVENUE FROM ECOLOGICAL AQUACULTURE MODEL

The price of aquatic products produced in the farm is significantly higher than that of the same specification products sold in the market, taking silver and bighead carp as an example, the price is 40 CNY³/kg sold by Suzhou Haimei Family Farm, while it is 30 CNY/kg in the ordinary market. From the culture cost and income of Suzhou Haimei Family Farm in Table 1, it can be seen that the net income of silver and bighead carp can reach 38,340 CNY/ton, and the annual output of silver and bighead carp in the farm is basically about 10 tons. In addition, in the own ponds, the polyculture of Freshwater shrimp and White Amur bream can also achieve an income of 57,500 CNY per mu, and the economic benefits are significant.

With its unique cooperation model and commitment to ecological sustainability, Suzhou Haimei Family Farm has gradually built a foundation of social trust, established a trustworthy brand image in the minds of consumers, improved its competitiveness in the market, and ensured the sustainable development of the farm. This trust-based business model enables the farm's products to be sold at prices higher than the market average, achieving in a win-win situation for both ecological and economic benefits.

2. TRUST BASED ON SOCIAL NETWORK - SUZHOU PINWEI AQUATIC PRODUCTS COMPANY

(1) INDUSTRIAL AND POLICY BACKGROUND

Suzhou Pinwei Aquatic Products Company is located in Wujiang District, Suzhou City, Jiangsu Province, adjacent to Taihu Lake. This area has abundant water resources and suitable natural environment, with a large water area of 20,000 hectares, which is very suitable for the Chinese mitten crab (*Eriocheir sinensis*) culture, and the Chinese mitten crab produced in Taihu Lake are known for their superior quality. The Chinese mitten crab culture in this area used to be mainly carried out by cages in natural waters of Taihu Lake, which brought serious impact on the ecological environment of the lake. In 2018, the enclosure culture was completely banned in Taihu Lake. Fishermen can get subsidies of 150,000 CNY when submitting their fishing license and 300,000 CNY when the enclosure with the surface area size larger than 15 acres is removed.

Since then, the government of Wujiang district adopted 'ecological priority' as the overall idea, promoting ecological aquaculture models, driving the gathering of high-quality varieties, and creating the 'Wujiang Taihu Crab' regional public brand. Many products of related enterprises were selected for the Agricultural Brand Directory of Jiangsu Province. In 2023, over 3,900 tons of Chinese mitten crabs were produced in Wujiang district, with an output value of more than 400 million CNY, and annual online sales exceeding 50 million yuan, injecting new impetus into rural revitalization. The Pujiangyuan Taihu Crab Ecological Cultivation Demonstration Park was built up, being awarded the honors of National Rural Entrepreneurship Park, Provincial Model Agricultural Park, Digital Agriculture and Rural Economy Base. 'Pujiangyuan' (Taihu Lake crab) was rated as one of the top ten smart agriculture brands in Suzhou City and selected into the Suzhou Agricultural Brand Directory.

(2) ENTERPRISE ECOLOGICAL AQUACULTURE MODE

In 2019, Suzhou Pinwei Aquatic Products Company was established with the subsidies for the removal of enclosure, which is located in the Pujiangyuan Taihu Crab Ecological Cultivation Demonstration Park, focusing on the culturing of high-end products such as Chinese mitten crab and Freshwater shrimp. The company adopts the ecological aquaculture model of 'human stocking and natural feeding', and a set of unique and suitable for the Taihu Lake crab and shrimp interculture has been formed through the optimization of breeding species and the innovation of culture mode, so as to achieve the purpose of improving quality and cultivating brands.

The company's culture area is 100 mu, of which, 50 mu is for crab fries and the other is for adult crabs culture. Adult crabs culture mainly adopts modes of interculture. In Jan-

3 CNY=Chinese Yuan.

Table 1. Aquaculture cost and benefit of Suzhou Haimei family Farm.

Categories		Silver and bighead carp (Take the production of 1 ton as an example)	Freshwater shrimp	White Amur bream
Area farmed		Lake stocking	100 mu (polyculture)	100 mu (polyculture)
Cost	Seedlings	1,000 CNY	3,600 CNY/mu	1,000 CNY/mu
	Feed	200 CNY	6,000 CNY/mu	2,000 CNY/mu
	Manual	100 CNY	1000 CNY/mu	600 CNY/mu
	Pond to rent	200 CNY	3000 CNY/mu	polyculture
	Electricity and other	160 CNY	1500 CNY/mu	800 CNY/mu
	Total cost	1,660 CNY	15,100 CNY/mu	4,400 CNY/mu
Income	The price	40 CNY/kg	70 CNY/kg	70 CNY/kg
	Yield	1 ton	1,000 kg/mu	100 kg/mu
	Total revenue	40,000 CNY	70,000 CNY/mu	7,000 CNY/mu
Net income		38,340 CNY	54,900 CNY/mu	2,600 CNY/mu

*1 mu=667 m², CNY=Chinese Yuan.

uary, the shrimp fries are stocked in the pond at 15-25 kg/mu, and in June, the spawning shrimp are harvested in the pond and sold to nearby farmers for further breeding. After that, the crab fries (1 kg per mu) and Freshwater shrimp (800-1,000 tail per mu) are stocked in the pond. The annual output can reach 100 kg/mu of crabs, 50 kg/mu of shrimps. During the producing process, the water of Taihu Lake is directly channeled into the pond, and the adult crabs can be more delicious and richer in flavor.

In addition, the company absorbed more than 30 fishermen for employment, improving the income of fishermen and also providing a new path for the spread of high-quality seedlings.

(3) ENTERPRISE REVENUE FROM ECOLOGICAL AQUACULTURE MODEL

The company has created a 'share' Taihu crab brand, focusing on the mid-to-high-end market. At present, it mainly carries out product promotion and sales through personal social networks, adopts the customer expansion strategy of 'Regular customers draw in new customers', and makes full use of the existing customers' word-of-mouth effect to attract new customers. The crabs are mainly packaged in gift boxes. The premium crabs raised in an ecological environment can be sold for over 200 yuan per crab, with an annual revenue of 9 million yuan (Table 2). The company had previously attempted to utilize online live streaming for product promotion; however, the transaction volume fell short of expectations, resulting in the suspension of live streaming activities. The company also attempted to collaborate with community group buying platforms such as JD Group Buying and Dingdong Buying. However, due to the premium product positioning, the prices exceeded the acceptable range for the target user group, resulting in low sales volume. Consequently, the decision was made to discontinue the community group buying business. It can

be seen that the sales methods of live streaming online and community group buying are not suitable for high-end products with higher prices.

3. TRUST BASED ON GOVERNMENT ENDORSEMENT- JIANGSU YUNIAN AGRICULTURE AND FORESTRY ECOLOGICAL DEVELOPMENT CO., LTD.

(1) INDUSTRIAL AND POLICY BACKGROUND

Jiangsu Yunian Agriculture and Forestry Ecological Development Company is located in the Ge Lake area, Jiangsu Province. Ge Lake is the second largest lake in southern Jiangsu after Taihu Lake, and has important value in flood control, water storage, and water supply. The lake used to be a famous commercial fish production base, and the main aquaculture species were Culter alburnus (*Erythroculter ilishaeformis*), snakehead (*Channa argus*), yellow catfish (*Pelteobagrus fulvidraco*), silver carp, bighead carp, etc., which provided support for the economic development of Changzhou City and Wuxi City.

The fishermen's production mode shifted from a sole focus on fishing to integrating aquaculture, leading to the emergence of enclosure aquaculture in 1984. With the intensification of enclosure aquaculture, the enclosure surface area of the lake reached 25 km² in 2005, accounting for about 13% of the lake's surface area. As production rose, water quality began to change dramatically: a large amount of feed was diffused into the lake area through enclosure input, and the bait dissolved and became organic residue, which exacerbated the total decline of biological resources and eutrophication pollution. Since 2014, the governments of Changzhou City and Wuxi City carried out the removal of enclosure step by step, and the lake entered a 10-year water quality control period. In 2019, the enclosure in the lake area have largely disappeared, and production mode has returned to the traditional model of 'human stocking and

Table 2. Aquaculture cost and benefit of Suzhou Pinwei Aquatic Products Company.

	Category	Amount
Cost	Labor (permanent workers)	70,000 CNY/year *5 people = 350,000 CNY
	Labor force (temporary workers)	100 CNY/day*100 days *10 people = 100,000 CNY
	Fries	100,000 CNY
	Feed	400,000 CNY
	Water and electricity and other costs	300,000 CNY
	Total cost	1,250,000 CNY
income	Crabs	300 CNY/kg * 50 kg/mu * 100 mu = 1,500,000 CNY
	Freshwater shrimp	140 CNY/kg * 50 kg/mu * 50 mu = 350,000 CNY
	Other income such as crab fries	300,000 CNY
	Total revenue	2,150,000 CNY
	Net gains	900,000 CNY

*1 mu=667 m², CNY=Chinese Yuan.

natural feeding', with all fishermen moving out the lake and stopping fishing. In 2020, the Yangtze River basin began to implement the major strategy of '10-year fishing ban', and the Ge Lake began to try the culture method of eco-aquaculture as an important tributary.

(2) ENTERPRISE ECOLOGICAL AQUACULTURE MODE

From August in 2020, the Agriculture and Rural Bureau of Wujin District, Changzhou City, decided to implement the construction of the ecological restoration project of managing algal growth through aquaculture practices in Ge Lake, which was implemented by Jiangsu Yunian Agriculture and Forestry Ecological Development Company. The company, invested by state-owned capital in Wujin District, is the first new fishery subject in Jiangsu Province focusing on lake species enhancement as the primary business direction. It fully undertakes the construction of the pilot area for ecological restoration through culture practices to manage algal growth and is responsible for ecological restoration projects in Ge Lake. The company implements the 'human stocking and natural feeding', establishes an ecological products supply chain of producing, processing, marketing and tourism, and employs the fishermen who used to live on the lake fishing and provides assistance to the poor.

Species cultured in the 50,000 mu pilot area of Ge Lake are mainly silver and bighead carp, which are fed solely on algae without bait. Monitoring data show that silver and bighead carp can consume 40-50 kg of algae with 1 kg of weight grown, and nitrogen and phosphorus in the water can be directly or indirectly fixed during the growth process. Therefore, the company has utilized the characteristic that silver and bighead carp feed on small plankton and grow rapidly, effectively controlling the biomass of blue-green algae in the lake, and realize the protection of water by aquaculture practices by transferring nitrogen and phosphorus.

The company's own culture area is about 395 mu, of which 100 mu for the culture of silver and bighead carp

fries. The company buys 1 million silver and bighead carp fries with body length of 2 cm every year, and stock them in the company's base pond. After 2 months of breeding, the silver and bighead carp fries reach a size of approximately 14 cm, and are released into the pilot area in the lake through the transfer of live water wheel and live water boat. The survival rate of fish fry in the cultivation process can reach 60%. As of June 2024, the company has released more than 10 million fish fries into the lake, with approximately 5,000 tons of silver and bighead carps available for capturing in the pilot area. The ecological environment of the lake has been greatly restored.

In the past few years, the company has also actively carried out the 'state-owned enterprise joint fishery village' co-construction activities with four fishery village committees, formed an ecological fishery development community of Ge Lake, and jointly expanded the leisure and sightseeing fishery. The main ways include: (1) Combine fishery resources with tourism resources to develop a series of fishery-themed tourism projects, such as organizing visitors to participate in catching; (2) Make use of the rich natural resources and cultural background of the lake to create cultural tourism projects with local characteristics, such as holding a fishery culture festival; (3) Establish cooperative relations with the local government, community and other enterprises to introduce a distinctive line of signature dishes with the brand of 'Ge Lake Fresh' as the main product to attract more diners.

(3) ENTERPRISE REVENUE FROM ECOLOGICAL AQUACULTURE MODEL

The ecologically-cultured fish from the Ge Lake are widely recognized by the market for their large size, plumpness, and delicious taste. Yunian Company has established the 'Ge Lake Fresh' brand to enhance consumer trust and loyalty. In late 2022, Yunian Company conducted its first capture for silver and bighead carp that were previously released into Ge Lake, with a total amount of around 1.5 million kg. In 2023, the amount was about 0.5 million kg.

Table 3. Aquaculture cost and benefit of Jiangsu Yunian Agriculture and Forestry Ecological Development Company (Take a 1000 kg of silver and bighead carp produced as an example)

		Ecological aquaculture model	Traditional aquaculture model
Cost	Fry	1,000 CNY	1,000 CNY
	Feed	400 CNY	2,000 CNY
	Pond rent, utilities, etc	200 CNY	1,000 CNY
	Total cost	1,600 CNY	4,000 CNY
Income	Unit price	36-44 CNY/kg	26-30 CNY/kg
	Total income	36,000-44,000 CNY	26,000-30,000 CNY
Net income		34,400-42,400 CNY	22,000-26,000 CNY

* CNY=Chinese Yuan.

The price of 'Ge Lake Fresh' products is significantly higher than the price of traditional cultured bighead carp on the market, with traditional cultured bighead carp priced at 26-30 CNY/kg and ecologically cultured ones reaching prices of 36-44 CNY/kg. Take a 1000 kg of silver and bighead carp produced as an example, the cost of fries is about 1,000 CNY, the cost of feed is about 400 CNY, the cost of pond rent, water and electricity bills, and other costs is about 200 CNY, and the total cost is about 1,600 CNY. At a market price of 36-44 CNY/kg, the total sales would be 36,000-44,000 CNY. Meanwhile, the total sales from traditional culture mode are only around 26,000-30,000 CNY. The net income of ecological culture can reach 34,400-42,400 CNY, while the income of traditional culture is 22,000-26,000 CNY (Table 3).

Since Jiangsu Yunian Agriculture and Forestry Ecological Development Company is a state-owned company, it is necessary to use public bidding to select the seller of the product one month before the sale of the products. During the actual sale, the product price will be in accordance with the price stipulated in the previous contract. This type of sales is relatively passive when applied to the aquatic product market with large price fluctuations.

DISCUSSION

Globally, consumer perception of ecological aquatic products is inadequate, leading to market prices that do not reflect their true value. Drawing lessons from China's successful practices, other regions could adapt these strategies to local contexts. Through the case study of Suzhou Haimei Family Farm, Suzhou Pinwei Aquatic Products Company, and Jiangsu Yunian Agriculture and Forestry Ecological Development Company, their characteristics in the production and market development of ecological aquatic products can be summarized, to achieve the balance between ecological and economic benefits.

(1) Trust based on community participation. One of the key factors contributing to its success is Suzhou Haimei Family Farm's ability to enhance community engagement and trust through various initiatives such as open days, educational workshops, CSA projects, etc.. In addition, the farm maintains a close connection with consumers through social media, further enhancing the brand's visibility and

reputation. This transparent business model not only enhances the added value of products, but also helps the farm stand out in the highly competitive market environment. It is worth noting that although Suzhou Haimei Family Farm has been a relatively successful ecological farm, it still expresses concerns about its 'negotiation power' in the process of cooperation with large platforms such as Hema Fresh, which is also a common problem in the B-to-B model in the aquatic industry.

(2) Trust based on social networks. Suzhou Pinwei Aquatic Products Company has used the subsidies after the removal of the enclosure, rationally innovates the crab and shrimp interculture mode, adopts strict quality control, shapes the brand image of ecological culture with the mode of 'Taihu Lake water culture', continuously strengthens the brand building, successfully establishes the high-end market positioning, and shapes the high-end brand of 'Sharing' Taihu Lake crab. The establishment of product positioning and the popularity of the brand make it easy to sell products, and the company's sales and promotion channels are personal social networks and the customer expansion strategy of 'Regular customers draw in new customers'. The company's experience also proves that methods such as live sales and community group buying are not suitable for the company's brand positioning marketing strategy. For high-end brands, choosing the right sales channel is crucial.

(3) Trust based on government endorsement. As a state-owned company, Jiangsu Yunian Agriculture and Forestry Ecological Development Company has a 'government background'. On the basis of the ecological restoration of the lake, the company has developed the regional brand 'Gehu Fresh'. Through the implementation of the ecological aquaculture mode of 'human stocking and natural feeding', the problem of cyanobacteria in the lake has been effectively controlled, bringing new ecological added value to the aquatic products. The price of aquatic products captured in this lake is significantly higher than that of traditional aquaculture products in the market. At the same time, it also provides employment opportunities for local residents and promotes community development. However, due to the restrictions of its state-owned company status, the products can only be sold through public bidding one month in advance, which undoubtedly increases the cost of sales of the products, and the price of the products cannot

fluctuate with the real-time price. If the price of the product rises within one month after the successful bidding, the company can only sell the product at the contract price, which may bring losses to the enterprise.

CONCLUSIONS

From the perspective of trust, this paper analyzed the path to realize the ecological value and economic value of aquatic products. Through in-depth case analysis of Suzhou Haimei Family Farm, Suzhou Pinwei Special Aquatic Products Company, and Jiangsu Yunian Agriculture and Forestry Ecological Development Company, it showed how to maximize the value of ecological aquatic products through community participation, social networks and government endorsement under the premise of ecological priority. Through the analysis of the full text, the following conclusions can be drawn:

(1) Adhere to the concept of ecological priority development. These cases in this paper embody the principle of 'ecological priority'. By adopting ecological aquaculture models, they have achieved the maximum economic benefits while protecting the ecological environment. Suzhou Haimei Family Farm and Jiangsu Yunian Agricultural and Forestry Ecological Development Company have adopted the 'human stocking and natural feeding' model for Changdang Lake and Gehu Lake, using the control effect of silver and bighead carp on blue-green algae to improve the water quality of the lakes and endow the products with ecological value. Suzhou Pinwei Aquatic Products Company uses Taihu Lake water to carry out ecological culture of shrimp and crab, which maximizes economic benefits and lays a solid foundation for the long-term development of the enterprise.

(2) Build a regional or product brand. Chinese consumers are paying more and more attention to the quality and safety of products, and the display of the origin of the product and its production process will effectively increase consumers' willingness to pay for the product.³⁷ Suzhou Pinwei Aquatic Products Company has established a high-quality image through the construction of the high-end brand 'sharing' Taihu Lake crab. The establishment of the 'Gehu Fresh' silver and bighead carp brand of Jiangsu Yunian Company provides an effective guarantee for product quality. These two cases show that in the face of increasingly competitive markets, building a strong brand image is essential to enhance the value of products.

(3) Innovate diversified business strategies. The diversified business strategies have brought new growth points to the development of enterprises. Suzhou Haimei Family Farm enhances its interaction with consumers through open day activities, educational workshops, CSA projects, etc.; Suzhou Pinwei Aquatic Products Company uses personal social networks to promote products and explore sales channels suitable for its own characteristics; Jiangsu Yunian Agriculture and Forestry Ecological Development Company has cooperated with the fishing village committee to expand the leisure and sightseeing fishery. These diversified business strategies provide a new ap-

proach to sustainable business development while also promoting the development of local communities.

In summary, in the context of increasing environmental awareness, the maximization of the value of ecological aquatic products can be achieved by enhancing consumers' trust, such as the display of ecological aquaculture models, the construction of product brands, innovative business strategies, and the endorsement of government departments. The embodiment of the ecological value of ecological aquatic products in the market value can effectively promote the development of the aquatic industry in a healthier and more environmentally friendly direction, and achieve a win-win situation of economic and ecological benefits. This study not only provides theoretical foundations and practical guidelines for the development of China's ecological aquatic product market but also provide theoretical and practical guidelines for global ecological aquatic product markets. In a globalized world where international exchanges and cooperation are increasingly frequent, jointly exploring solutions suitable for respective national conditions will facilitate the progress and development of the entire industry.

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AUTHOR CONTRIBUTIONS

Conceptualization: Yunyun Dai (Equal), Hong Yang (Equal). Writing – original draft: Yunyun Dai (Equal). Writing – review & editing: Yunyun Dai (Equal), Zhixiao Wang (Equal), Hong Yang (Equal). Supervision: Yunyun Dai (Equal). Funding acquisition: Yunyun Dai (Equal), Hong Yang (Equal). Methodology: Zhixiao Wang (Lead). Software: Qiyao Liu (Equal), Yuting Pan (Equal). Data curation: Qiyao Liu (Equal), Yuting Pan (Equal). Visualization: Qiyao Liu (Equal).

CONFLICTS OF INTEREST

The authors have no relevant financial or non-financial interests to disclose.

DATA AVAILABILITY STATEMENT

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to personal privacy and non-open access to the research program.

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