

Sustainable Shrimp Industry Road Map

The objectives to be achieved from each theme in the roadmap are as follows:

Ecosystem Protection

1. Communal water bodies and their ecosystems are conserved and protected through community-based water quality management, carrying capacity measurement and monitoring, and limiting the discharge of shrimp pond wastewater to a level that allows for maintaining the balance of the ecosystem.
2. Individual shrimp farms manage the nutrient load that enables the health of the surrounding ecosystem to be maintained through measurement, monitoring and treatment of the quality of inlet water, production ponds and wastewater according to appropriate levels; and,
3. Mangrove forests are maintained in good health with the support of shrimp industry players.

Standard of Living for Farmers

1. Farmers are able to meet a decent standard of living for themselves and their families through a decent and stable income level and without debt.
2. Farmers can maintain their farming operations in a prosperous state in the long term through access to high quality feed and seeds, capacity building assistance for tambak production and financial management, and business legality support; and,
3. Farmers can upgrade their operations to a more profitable and reliable state in the long term through access to appropriate financing, application of innovative technology and best-in-class management practices.

Community Collaboration and Capacity Building

1. All relevant stakeholders collaborate and coordinate to improve communication and educational capacity to implement an area-based approach to aquaculture, based on the Food and Agriculture Organization's Ecosystem Approach for Aquaculture of the United Nations, and as directed by the Conclusions in this document.
2. All farmers collaborate and coordinate to control the spread of disease, improve communication and education among farmers, and seek collective bargaining positions to increase product competitiveness.
3. Stakeholders along the supply chain collaborate and integrate vertically to control the spread of disease and increase price transparency in the supply chain, product traceability and opportunities for risk sharing; and,
4. Public and private sector stakeholders collaborate and coordinate to encourage investment into the sector through regulatory amendments; support and enhance internationally recognized certification programs and accompanying verification processes; and developing an infrastructure that provides a platform for multi-stakeholder dialogue.

No.	Topic	Definition	Target	Quantity	Action plan	Timeline										Executor / Person in Charge	Related Regulations
						2023		2024		2025		2026		2027			
						S1	S2	S1	S2	S1	S2	S1	S2	S1	S2		
Theme 1: Environmental Improvement																	
1	Integration of Tourism and Conservation Efforts	The integration of shrimp ponds with the tourism concept has become the vision and mission of Banyuwangi Regency for the last 8 years. This vision and mission have been built into a source of regional income. The concept of tourism integration that is currently being offered is planting mangroves, collaborating with local community monitoring group (Pokmaswas) and forming an educational corner in the ponds for the surrounding community. To get business legality, it is hoped that the ponds will integrate with tourism	The location of tourism integration that is formed as a real example of a pond and a conservation location can work together	100% (2025)	1.1 Planting and preserving mangroves and pine trees (greenbelt) - in order to create integrated tourism and conservation with farmers to support the surrounding environment	√	√	√	√	√	√	√	√	√	√	Provincial department of marine and fisheries, Banyuwangi fisheries dept, environmental dept, farmers, community controller group and universities	Law No.27/2007 about coastal area Regional Regulation No. 8/2012, Regional Regulation No.1/2018, Ministerial Decree No.28/2004
					1.2 Establishment of tourism integration demo plot		√	√	√							Environmental dept, regional planning agency, fisheries dept, tourism dept	
2	Business legality	Permit for shrimp ponds as a legalization of space utilization consisting of recommendations from the Banyuwangi Fisheries department to obtain SIUP and Advice Planning	Permit for shrimp ponds as legalization of spatial use which consists of a recommendation from the Fisheries Service to obtain SIUP and Advice Planning	100% (2025)	2.1 business legality management	√	√	√	√	√	√	√	√	√	√	Fisheries dept, Dept of public works – human settlement and spatial planning, dept of investment and one stop public services, environmental dept, agriculture and food dept	Regional Regulation No. 8/2012, Regional Regulation No.6/2015, Presidential Decree No.16 about building permit, Presidential Decree No.21 about Spatial Planning

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3	WWTP	Wastewater Treatment Plants, namely the allocation of areas in ponds that are used to treat cultivated water so as not to cause a reduction in the quality of wide waters. According to the last discussion, there is no IPAL design / mandatory use of IPAL from the fisheries office and DLH, but there are wastewater quality standards that must be followed. On the other hand, farmers already have very good initiatives to maintain water quality and wastewater discharge.	Farm regulates waste by standards with regular lab reports. CBIB, BAP / ASC certified farms	100% (2025)	3.1 Farm education for sustainability and waste treatment.		√	√	√							Fisheries dept, environmental dept, fisheries training and extension center	CBIB (IndoGAP – Indonesian Good Aquaculture Practices)
					3.2 Working group for regulation of waste treatment (IPAL) or limits of waste standards (Monitoring will be carried out referring to topic 5)		√	√	√	√	√	√	√	√	√	Environmental dept	
4	Non-Pond Pollutants	Other sources of pollutants that come from outside the ponds that affect aquaculture operations include domestic waste and factory waste	Reduced non-pond pollutants	15% (2023)	4.1 Educate the public for managing domestic waste and factory waste		√	√	√	√	√					Environmental dept, agriculture and food dept	Develop additional regional regulation on the domestic waste management which also based on Regulation of Agricultural Minister
5	Water monitoring	Monitoring the quality of Banyuwangi waters extensively in the form of periodic monitoring of water quality along the coastline (from outside) and periodic monitoring inside the pond (from inside)	IndoGAP certified ponds), BAP / ASC	80% (2025)	5.1 Establishment of a monitoring system for the area and amount of production inputs.		√		√	√	√	√	√	√	√	Fisheries dept, environmental dept, fisheries training and extension center	Based on Environmental Management Effort – Environmental Monitoring Effort (UKL/UPL)

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6	Establishment of pond areas	For the formation of a pond area, it is necessary to limit the area according to the RTRW zoning	The establishment of a clear pond area is in accordance with regional regulations	100% (2025)	6.1 education and supervision of pond areas		√		√	√	√	√	√	√	√	Fisheries Service, Planning Agencies, Public Works Office, CKPP, PSDKP	PERATURAN MENTRI PERIKANAN DAN PP
Theme 2: The welfare of farmers and the surrounding community																	
7	CSR	Mechanism and amount of CSR that must be given to the community around the pond Refer to the regional social responsibility regulations	Farm owner applies CSR to the community around the pond with regional CSR regulations	100% (2021)	7.1 Implementation and application of social responsibility (CSR) for intensive farmers	√										Fisheries dept, regional planning agency, village and rural empowerment dept, regional revenue agency	Regional Regulation No.3/2014 about Corporate Social Responsibility for companies
8	Farm Contribution	Ponds are expected to provide direct contributions to district government (PAD)	Farm owner provides a direct contribution to PAD	100% (2025)	8.1 Monitoring and evaluation related to the implementation of PAD by farmers			√								Fisheries dept, regional revenue agency, investment and public one stop service dept	Regional Regulation No.6/2016 about land use allocation permit
9	Access to Production Inputs	Aquaculture production input is the input used to produce shrimp, which includes feed, seeds and saprotan. Until now, not all farmers have had access to the best feed and seeds to produce superior shrimp. The government must support equal distribution of input quality to	Farmers get the best fries and feed and are free from disease. Use of superior seeds certified by SPF and SPR	100% (2021)	9.1 Strengthening agreements with farmers, private sector and government for disease-free shrimp seeds.	√										Fisheries dept, directorate general of marine and fisheries resources surveillance	CBIB (IndoGAP – Indonesian Good Aquaculture Practices

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		produce superior quality shrimp throughout Banyuwangi			9.2 Standardization of shrimp PL	√										Fisheries dept, fish quarantine and inspection agency, Situbondo Brackishwater culture center, farmers group, fisheries training and extension center, Situbondo, Farmer group, BPPP	
					9.3 Facilitate better supply access for traditional - semi-intensive ponds	√									Fisheries dept, Indonesian feedmill association, farmers group, fisheries training and extension center		
10	Access to Finance	Farmers, especially traditional farmers, are still limited in accessing finance due to their weak bankability (the ability to access finance from financial institutions). This is due to a weak credit track record, poor quality of cultivation and limited capital.	The level of bankability of farmers has increased. Verification and recommendation system for financial access	50% (2021), 100% (2022)	10.1 Educate farmers on entrepreneurial thinking and credit management.	√										Fisheries dept	
					10.2 System of verification and recommendation		√								Fisheries dept		

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11	Market Access and Increased domestic consumption , promotion and product diversificatio n	Farmers still have limited market access to second- or final-tier buyers. So far, the majority of farmers are connected with shrimp suppliers / middlemen without any direct information from the cold storage regarding prices or direct offtake agreements. On the other hand, farmers want to expand their market apart from the export market, namely the local market.	The opening of new market sources and links / connections formed from cold storage / buyers to farmers	1 local market formed (2022)	11.1 Establishment of a traceability system											Fisheries dept	
		The shrimp market is too dependent on the US and frozen products. The price of Indonesian shrimp is a price taker, so it fluctuates. It is necessary to increase the domestic market and product diversification to maintain the stability of the selling price of shrimp.	Increase in shrimp product awareness for local communities, increase the number of ready-to-cook / eat products	Increasing types of shrimp products, increasing domestic consumption of shrimp	11.2 Establishment of a local shrimp market information center 11.3 Increasing the types and domestic consumption of shrimp products; 11.4 Diversification of businesses made from shrimp												Shrimp Club Indonesia, fisheries dept, cooperative, micro enterprise and trade dept, Indonesian fishery producers, processing and marketing association (AP5i)

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12	Accompaniment	Cultivation technical assistance in the form of regular training or mentoring so that the capacity of farmers can increase and be more responsive to technical risks of cultivation	The establishment of a sustainable farmer training / mentoring program	70% (2021)	12.1 Collaboration of training and mentoring	√											Fisheries Agency BPPP, dan academies	
13	Farmer Organization	An organization that covers traditional - semi-intensive farmers to facilitate organizing, capacity building, data collection and especially for regulating the provision of financial access. Alternative forms are pokdakan (fish cultivator groups), cooperatives or other forms	Establishment of farmer organizations (poktan, cooperatives, etc.)	100% (2021)	13.1 Formation of farmer organizations (poktan, cooperatives, etc.)	√											Fisheries Agency	
Theme 3: Collaboration and Capacity																		

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14	Traceability for quality improvements	Traceability for harvest quality that is connected from cold storage to the farmer level with complete data at harvest time so that if there is a decrease in the quality of the Banyuwangi harvest that is reported as cold storage, steps to improve the SOP (Standard Operating Procedure) can be traced to the farmer / location concerned	The establishment of a traceability system that includes records of cultivation data (production data, water quality data, etc.); available data records for at least the last 3 years	1 agreed traceability system is formed (2021)	14.1 Determination of the platform used as a traceability system (options: 1. Banyuwangi regional system 2. partnership with similar service providers, for example: nets, aquascapes, etc.)	√	√									MMAF	
					14.2 Socialization of the urgency of traceability and recording systems according to class to farmers (for example: traditional, traditional +, intensive farmers, etc.)		√	√	√	√	√	√	√	√	√	Fisheries Agency and UPT PMP2KP	

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					14.3 Trial, adjustment, and implementation of agreed traceability systems		√	√	√	√	√	√	√	√	√	Fisheries Agency and UPT PMP2KP	
15	Incentives for certification	Farmers need aquaculture certification to be able to market shrimp and / or open new market sources. These certifications include CBIB (Good Shrimp Cultivation Method, issued by LS Pro of the Ministry of Marine Affairs and Fisheries), BAP (Best Aquaculture Practices, issued by an independent certification system, for the American market), and ASC (Aquaculture Stewardship Council, issued by a certification system. independent, for the European market).	Establishment of an incentive system agreed upon by the stakeholders (options: 1. CBIB: repair of pond facilities; 2. BAP and ASC: Normalization of channels, repair of public facilities for pond areas such as bridges, provision of reservoirs)	1 incentive system established (2021)	15.1 Development of an incentive system that supports the certification process (for farmers who already have CBIB have access to the agreed incentive priority)	√	√									MMAF facilitated by Banyuwangi Agencies	
					15.2 Identify the types of incentives to be provided at the target location, or farmers who will be the target for certification		√	√	√	√	√	√	√	√	√	MMAF facilitated by Fisheries Agencies	
					15.3 Implementation of the agreed incentive system		√	√	√	√	√	√	√	√	√	MMAF facilitated by Fisheries Agencies	

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16	Openness of pond data access	Transparency of specific data on aquaculture covering location, area, workers, production and income for the Banyuwangi Regional Government to facilitate monitoring and support for farmers	CBIB as an information system for open access to pond data	100% CBIB certified farmers (2025)	16.1 Establishment of a joint agreement with CBIB / IndoGAP as a platform for providing pond data information	√	√									Provincial Marine and Fisheries Service, MMAF Facilitate by Fisheries Service	
					16.2 Baseline CBIB and non CBIB data		√	√								Provincial Marine and Fisheries Service, MMAF Facilitate by Fisheries Service	
					16.3 Dissemination of baseline data and urgency of CBIB certification to farmers		√	√	√	√	√	√	√	√	√	Provincial Marine and Fisheries Service, MMAF Facilitate by Fisheries Service	
					16.4 Facilitate the application for CBIB certification to the Director General of Aquaculture		√	√	√	√	√	√	√	√	√	Provincial Marine and Fisheries Service, MMAF Facilitate by Fisheries Service	
17	Price transparency	Real time transparency of the selling price of shrimp, which is obtained directly from open cold storage. So far, farmers do not get comprehensive information	The establishment of a system that helps farmers to find out price	Pricing information systems available (2022)	17.1 Increased intensive communication between individuals and	√	√	√	√	√	√	√	√	√	√	Provincial Marine and Fisheries Service, MMAF Facilitate by	

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		and are not directly connected to cold storage, so the bargaining position of farmers is very low	information from various suppliers		the farming community											Fisheries Service		
					17.2 Proactive efforts of individual and farmer communities to obtain price information	√	√	√	√	√	√	√	√	√	√			√
18	Disease control coordination	The creation of cross-stakeholder coordination for disease control	The establishment of a Banyuwangi regional disease control coordination system (central government, local governments, related UPTs and related Supply Chain actors: farmers, hatcheries, cold storage etc.); a coordinated FGD is formed in traditional, semi-intensive and intensive farmer groups (each group); integration of communication between groups	The establishment of a disease control coordination system document that can be referenced	18.1 Increasing intensive communication, both formal and informal, among stakeholders	√	√	√	√	√	√	√	√	√	√	BPBAP Situbondo, Disease Task Force MMAF, SCI, GPMT, APPU, Farmer Group, BKIPM, Fisheries Service, Aquatech (JALA), BPPP, Provincial Fisheries Service		
					18.2 Establishment of an integrated disease control coordination pathway				√	√								
					18.3 Establishment of early disease detection systems													