



Aquaculture Governance Indicators (AGIs) assessment synthesis report

Country: India

Species:

Whiteleg shrimp (*L. vannamei*)

Information presented based on assessment conducted December 2021 - Report drafted: October 2022.

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Country overview

India is the third-largest producer of farmed whiteleg shrimp (*L. vannamei*) both in quantity (51% in 2019-2020) and value (73% of total USD earnings in 2019-2020). Over this time period, the largest share of exports (51%) was to the United States, followed by China (22%). Most production takes place in semi-intensive ponds across most coastal states with Andhra Pradesh being the most dominant site of production (by volume).

L. vannamei production can best be characterized as occurring 'unofficially' since most farms are not registered with the Coastal Aquaculture Authority (CAA), as required by regulations (only 2,634 farms are registered)¹. There are also explicitly illegal shrimp farms that are operating across the country, which pose a greater ecological risk when they are sited near high ecological-value habitat (e.g. mangroves, mudflats, creeks).

¹ This does not mean that farmers have not applied to register. From interviews, it was clear that the low registration number is due to a mix of factors, including lengthy bureaucratic delays, inefficiencies, and lack of capacity of CAA.

² Main national standard and certification scheme focused on good agricultural practices which includes aquaculture (see pg. 5, 15, 31, and 95 of standard doc)

The major challenge the shrimp farming industry faces is the widespread use of (illegal) antibiotics. The outcome of this is visible in many shrimp exports being rejected in markets such as the United States and Europe.

Based on the most recent (2021) assessment of whiteleg shrimp farming in India by Seafood Watch, the species has been given a red (avoid) score due to low performance in key issue areas of habitat, chemicals, feed, source of stock, and disease.

Legislation

Aquaculture legislation is fairly comprehensive in scope, supported by key institutions (e.g. Coastal Aquaculture Authority) and aquaculture-specific legislation. However, coverage of key issue areas is inadequate and/or not explicit within legislation (e.g. chemical use; diseases), although efforts are underway to address this. For example, there are guidelines being prepared for the application of the precautionary principle and polluter pays principle in shrimp farming.

Adoption of certain guidelines (e.g. Best Management Practices, BMPs) is voluntary but are usually followed, especially those that improve success of the crop. However, less common are actions that involve significant costs. Therefore, there is room for improvement in increasing adoption rates of BMPs by farmers and removing existing barriers. There is a fairly high level of coordination with global regulation/policy but this is quite weak at the regional level and could be improved. Lastly, the government is being somewhat proactive in addressing trade-related issues through targeted regulations/policy.

Voluntary codes and standards

There are four standards at play in India shrimp farming: 1) ASC; 2) GAA BAP; 3) IndGAP²; and 4) Shaphari³. Altogether, they cover a very small fraction of farms. For example, as of October 2022,

³ Developed by the Marine Products Exports Development Authority (MPEDA), the Shaphari scheme is based on the United Nations' Food and Agriculture Organization's technical guidelines on aquaculture certification and will have two components — certifying hatcheries for the quality of their seeds and, separately, approving shrimp farms that adopt the requisite good practices.



there are 55 ASC certified farms and 65 GAA BAP certified farms.

While there is a high degree of transparency, inclusion of certain actors (e.g. local communities) could be greatly improved in the design of standards both within process of deliberation and removing financial/technical barriers, particularly for small-scale producers.

Small-scale producers understand the benefits and relevance of becoming compliant with private standards but are reluctant to engage given the costs involved.

Precautionary principle can be more explicitly included within the public standard (IndGAP) along with attention to cumulative impacts for both private (ASC) and public standards (IndGAP). There is a strong opportunity with the ongoing development of the Shaphari national standard to improve coordination with private standards, state regulation, and global frameworks.

Collaborative arrangements

There were four collaborative arrangements selected for assessment: 1) public-private governance: MPEDA and Seafood Exporters Association of India (SEAI); 2) interactive governance – National Center for Sustainable Aquaculture (NaCSA); Prawn Farmers Federation of India; and Devi Seafoods Ltd.; 3) non-state self-governance – MPEDA and Society of Aquaculture Professionals (SAP); and 4) Partnership Assurance Model (PAM).

The above arrangements broadly represent the key actors in shrimp aquaculture. However, there is a lack of cohesion/organization either within or between the arrangements. For example, those in civil society (e.g. farmer societies) don't necessarily work together to create changes in policy or regulation. Their actions are usually reactive based on government developing policies and regulations.

Legitimacy varies according to the level of the actors (e.g. government vs. civil society). Many, but not all, of the arrangements struggle with having up-to-date information publicly available. Meanwhile, there are promising signs of

coordination between arrangements, e.g. MPEDA and SAP; PAM and SAP, but they largely remain uncoordinated.

There is inadequate support from the government or other actors to create institutional mechanisms to support collaboration. Most actors within the arrangements deal bi-laterally with the government which hampers improved orchestration. There is also some degree of certain organizations (e.g. the CAA and MPEDA) "competing" instead of coordinating because they are housed in different Ministries and thus, have different mandates, etc.

Capabilities

Six actors were selected to assess this dimension: 1) MPEDA; 2) CAA; 3) Devi Foods Ltd.; 4) Avanti Feeds Ltd.; 5) SEAI; and 6) PAM.

There is an overall modest ability of the capabilities of most actors involved in shrimp aquaculture. Both government and industry stand out as having strong reflexivity, sensitivity to scale, and multi-level organization.

There is a 'lag' or delay in taking actions in some cases, such as the development of the national standard (Shaphari), especially given that some issues identified by assessments of the shrimp industry (e.g. antibiotic use) have been known for a while. The level of diversity of expertise and interests could also be improved at the state level since it mostly consists of interaction with other state-related actors.

The main gap is the lack of information and clarity on what actions the industry actors are engaging in that support/enhance agility. Specifically, when it comes to training of staff and resource allocation—none of the industry actors selected have annual reports published online.

Most of the initiative, examples of leadership, and resource allocation occurs within the government or industry level and less at the lower end of the supply chain (i.e. farmers). Innovative approaches to addressing the persistent of various diseases remain lacking. Lastly, there are certain organizations such as CAA and SEAI that could devote more resources to R&D and leading by example.



The sensitivity to scale could be improved among the national (government) actors if efforts are made to harmonize policies/regulations across the various jurisdictions/mandates between the organizations. There is a limited scope in reallocating of tasks due to the bias towards arrangements focused between government and industry and less with/between other actors (e.g. civil society). Therefore, forming more inclusive collaborative arrangements will help both government and industry actors in reallocating tasks and duties more better suited for local-level actors.

Actionable insights

Legislation: there is a need to address key issues such as chemical use and diseases within existing legislation and an opportunity to include more aquaculture-specific legislation to address issues related to waste and wastewater. Moreover, there is a need to harmonize and coordinate responsibilities for implementing aquaculture-related regulations across government agencies.

Voluntary codes and standards: inclusion on consultative processes could be improved by broadening from targeted invitation to a more open invitation process so full range of actors are represented. There is an opportunity for the government to play a leading role in encouraging and providing financial support to support farmers in attaining certification. The development of the national Shaphari standard provides an opportunity to meaningfully incorporate key elements such as monitoring and evaluation and precautionary principles.

Collaborative arrangements: there is a need for actors within civil society (e.g. farmer societies) to improve their coordination and work together to push for changes in policy/regulation. Action by these actors is mostly reactive based on the government developing policies/regulations. Although the quality of information available (online) is reasonably good, the main issue is that much of the information is out-of-date. There needs to be more resources devoted to information management and increased diligence by all actors to make this information publicly accessible online. To improve coordination between collaborative arrangements, the government needs to create

institutional mechanisms to promote collaboration and improved orchestration (of programs, activities, etc.). Within the government itself, there is a strong need to better harmonize tasks and responsibilities to prevent confusion from overlapping jurisdictional tensions from occurring.

Capabilities: there is an opportunity for actors like the government (e.g. CAA, MPEDA) to be more swift in taking action and being proactive such as in the development of the national standard (Shaphari) by explicitly incorporating reflectivity within the organization. There is also a need for more thorough sharing of information on what actions actors such as those in industry are taking to support or enhance agility. For example, it is unclear what resources are devoted to the training of staff and resources allocated for various activities. Another area where efforts to enhance capabilities is supporting innovation by dedicating resources to support small-scale producers in addition to what occurs already for government and industry actors. Generally, there is a need for innovative thinking and approaches to address the persistence of various diseases affecting shrimp aquaculture production. Here, for example, certain actors such as the CAA and SEAI could devote more resources to R&D and, in doing so, lead by example.

Efforts should also focus on improving sensitivity to scales (i.e. between where the problems occur and where solutions are applied) by broadening out from the current focus between government and industry and include other actors within civil society, for example. Here, there is an opportunity to form more inclusive collaborative arrangements that will help actors improve coordination and their capabilities by enhancing the ability to reallocate tasks and duties (e.g. those better suited for local-level actors).

Lastly, proactive communication can be improved by moving beyond one-way communication (e.g. actors solicited by media for their opinions or providing updates) and towards proactive engagement through actors' own communication channels. On this point, among some actors such as market and government, there is a need for increased resources devoted to communication activities (as evidence by lack of up-to-date information).