East Java Indonesia Shrimp Aquaculture Improvement Project
Last Update: March 2015

Species: Penaeus spp. including:
Pacific white shrimp (Litopenaeus vannamei)
black tiger shrimp (Penaeus monodon)

AIP Region:
Indonesia is one of the world’s largest archipelagos and shrimp farming is present almost everywhere in the country. Sustainable Fisheries Partnership (SFP) is working on selected “aquaculture zones” where shrimp farming has known sustainability issues and producers are actively collaborating. In East Java, Indonesia, SFP conducted aquaculture improvement project (AIP) scoping activities, and explored piloting zonal management in Muncar, Banyuwangi. Most farms in this area are using extensive to semi-intensive systems and have not yet reached international certification standard. See below for map of location of pilot project – Muncar, Banyuwangi, East Java, Indonesia.

Source: http://id.wikipedia.org/wiki/Muncar,_Banyuwangi

Sustainability Information:

Monterey Bay Aquarium’s Seafood Watch ranks imported (farmed) shrimp as red (avoid), considering that farmed shrimp in most countries, including Indonesia, applies to open systems. World Wildlife Fund (WWF) in Switzerland rates farmed shrimp as red (Don’t Buy). Environmental Defense Fund rates imported shrimp on their Seafood Eco-ratings as red (Eco-worst). However, the UK Marine Conservation Society’s Fishonline ratings considered the shrimp (P. monodon) coming from SE Asia (Vietnam and
Indonesia), including Bangladesh, as “pale green” or a good choice, particularly those farmed in very extensive systems.

For various reasons (market point of view, operational cost, etc.), the number of certified farms in Indonesia has fluctuated over time. At present, in East Java, six farms are BAP/GAA certified, and three of them are located in Banyuwangi. However, the Indonesian Ministry of Marine Affairs and Fisheries continues to promote its own national standard certification program and has more than 690 certified farms in the province.

**Date Publicly Announced:** March 2013

**Background:**

Indonesia has an extensive coastline and a large number of islands, and therefore has great potential for farmed shrimp production. The Government of Indonesia has estimated the potential area for shrimp farming at 2,963,717 ha (Fisheries Statistic, 2009), with a utilization rate of around 657,346 ha (Aquaculture Statistic, 2013). The shrimp industry in Indonesia started during 1987–1990, and was limited to some areas like Banyuwangi and Situbondo in East Java, and Tangerang and Serang in West Java and Lampung. The main commodity for the industry during this period was black tiger shrimp. It wasn’t until late 1996 through 1997 that Pacific white shrimp were introduced in the region, after widespread disease problems among the black tiger shrimp. The industry shifted to the new species as an effort to revive the struggling industry. Pacific white shrimp productions tend to increase during 2009–2013 (Figure 1), but, surprisingly, Indonesian shrimp exports remain stable over time.

Figure 1. The trend in Indonesian shrimp production and export volume during 2009–2013 (MMAF, 2014)
Farm effluents and cross contamination
Effluent from shrimp farms directly affects the quality of the water in the natural environment (coastal). Only limited farms have a sedimentation pond for discharge water and producers seldom monitor its quality. The primary concern of the producers in this region is the quality of water inside their production pond. Due to the lack of screening of water, the effluents have also contaminated surrounding farms, thus leading to water quality deterioration and disease outbreaks in the region. The Ministry of Environment has released a Decree that obliges all effluent discharges to have prior permission from the Minister or the Governor. However, due to terms and conditions needed for discharge to natural water bodies, almost all extensive and semi-intensive farms, including those in Muncar, do not require such permits.

Feed sourcing and feed efficiency
Transparency on the sources of feed ingredients and the composition of the feeds is a major concern. Most producers are not aware of the composition of feeds and producers are mainly relying on the limited information (approximate crude protein (CP) content only) provided on the feed labels. Feeding records and feeding adjustments are usually lacking or dependent on feed company instructions, hence the basis of feeding decisions is questionable. There is no current push from government or industry to identify fishmeal and oil coming from sustainable sources.

Disease surveillance and environmental monitoring
Despite recent improvement, regular monitoring for the occurrence of diseases on a regional scale, and even within individual farms, is still lacking. Diagnoses are performed rarely and only when signs/symptoms of diseases and parasites are observed. There is lack of precautionary measures to mitigate the occurrence of diseases. The lack of coordination among shrimp producers in the region makes shrimp farming more vulnerable to region-wide disease outbreaks. However, the Ministry of Marine Affairs and Fisheries, although its efforts are still considered insufficient, has started to conduct disease surveillance in some shrimp areas in Banyuwangi. The Ministry has even allocated one PCR (polymerase chain reaction) machine to be used by shrimp farmers in Banyuwangi.

Critical habitat
Though “legally” permitted to operate by local/regional consensus, some farms are situated in areas that are considered critical habitats, according to international conservation organizations. The potential for destruction of important species’ habitats is very high and, in order to sustain the natural habitat, this risk needs to be addressed.

Traceability
Sources of all inputs in the farm, as well as the destination of the product, are essential to ensure traceability and credibility of the product. Managing this information is not difficult for large commercial-scale farms. However, this requirement is a major challenge for medium- to small-scale operators whose products are not sold/transported directly to processing plants, but are sent to middlemen/traders. In most cases, a
traceability system is not set up, particularly in the traditional and semi-intensive farms. Producers’ record keeping is often minimal; in fact, they are frequently unaware even of the importance of keeping records.

AIP Development:
The East Java Shrimp AIP also serves as a forum in which producers share experiences and lessons learned, and develop code of conduct and better management practices. In addition, the AIP serves as a platform for collaboration regarding seeking improvements in other sectors that impact aquaculture operations, such as non-point source pollution from upstream agriculture and other industry.

At present, many organizations (e.g., RSCIP Consortium, IDH, WFC, and other research and development organizations including foundations) are working in several regions in Indonesia with the aim of improving farm management practices toward the certification required by international markets. This has created an impression among most of the producers in the region, who are aware of the international requirements, that organizations such as SFP will also help them to become certified. The East Java Shrimp AIP is not part of a standard or certification process and does not certify producers in the region, but will work with farmers within a designated zone to improve operations to a certifiable level in terms of management practices in farming shrimp as well as managing the receiving natural habitat. By doing this, the AIP will be able to create a robust management approach for a particular zone, where best practices are being followed and sustainability issues are being addressed. As a result, such a zone will distinguish itself from the rest of the industry and serve as a model to other shrimp-producing regions. The AIP approach will promote coordination among producers and other stakeholders in the aquaculture zones.

Specific activities within the East Java Shrimp AIP include:

1. Recruiting producers and other stakeholders (suppliers and processing plants) within the identified AIP zones who can be the frontrunners and managers of the AIP zonal approach.

2. Revising and finalizing the action plan for zonal management, including monitoring of disease outbreaks. Members of the AIP will implement this action plan and, hopefully, other producers in the region will follow later on.

3. SFP, in collaboration with the frontrunners of the zonal management approach, will continue building the awareness of the producers and other concerned stakeholders on sustainability issues associated with shrimp farming and provide recommendations.

4. Conducting a carrying capacity assessment of the environment’s ability to assimilate aquaculture activities in a given region.

5. Networking with responsible producers in the region and creating platforms for them
to connect with international buyers and suppliers.

6. Continuously monitoring the industry through site visits. This means that, rather than visiting and monitoring all farms in a given region, the program would visit a few selected farms that would represent the whole region in order to gain assurance that the activities in the AIP program are being conducted.

7. Capacity-building for important players in the industry, such as producers, retailers, buyers, and input suppliers through trainings and other information dissemination activities.

8. Collecting and disseminating better management practices (BMPs) that are applicable in the region through site visits, public reports, meetings, and workshops.

**Progress Update:**

2009

Activities included awareness-raising at both the production and market levels, networking with the industry, as well as understanding the current situation in terms of its regional impact on the environment.

2010

Conducted an assessment of the shrimp standards in selected farms in Banyuwangi. This assessment helped SFP identify potential sites for the improvement project, as well as to understand the different sustainability issues that surround shrimp farming in the region. In addition, producers in Banyuwangi were oriented with the three main shrimp aquaculture standards and were able to identify gaps between their current management activities and the requirements of the existing standards.

2011

SFP launched the East Java Shrimp Aquaculture Improvement Project. Like other SFP AIPs, the goals of the shrimp AIP are to reduce or mitigate the potential cumulative and combined impacts of shrimp farming practices on a regional scale. These potential impacts can arise from poor water usage practices, inappropriate zoning/siting, inefficient feed management, insufficient coordination of disease incidences and treatments, poor farm management, and lack of a traceability system.

2012

SFP reviewed and analyzed the data collected to date, as well as global aquaculture production systems, and identified best practices regarding cumulative and combined
effects, recognized that farm-level certification was only a partial solution, and developed a platform/structure for zonal aquaculture improvement projects (AIPs). Additional in-country capacity was added with the appointment of a local coordinator.

2013

The East Java Shrimp AIP was publicly announced in March 2013.

Two roundtable meetings with shrimp industry stakeholders were held in Surabaya and Banyuwangi to introduce the shrimp AIP in East Java. The meetings involved major stakeholders in the East Java shrimp industry including government agencies, processor association (AP5I), shrimp processors, the producer association (the Shrimp Club Indonesia, SCI), farmers, supplier companies, and other NGOs working in the same region. The meetings were held to discuss major sustainability issues in the shrimp industry. A follow-up roundtable meeting was held in July 2013 with the regional government of Banyuwangi to encourage the incorporation of zonal planning in their spatial planning policies.

At the national, provincial, and district levels, SFP has been working closely with the Directorate General of Aquaculture, Ministry of Marine Affairs and Fisheries (MMAF), Department of Fisheries (DKP), and Development Planning Agency (Bappeda), advising policy makers to improve their regulations and standards with strong emphasis on zonal planning for aquaculture through scientific studies and assessments, as well as collaborating with the Shrimp Club (SCI) to promote the implementation of zonal management and good aquaculture practices, particularly for smallholder farmers.

2014

Early Mortality Syndrom (EMS) outbreaks that hit major shrimp-producing countries in Asia (including China, Malaysia, Vietnam, and Thailand) have caused some serious consequences. On the one hand, shrimp prices increased drastically due to low global supplies; but on the other hand, advantages derived from high prices have led to potentially drastic intensification of shrimp farming without the support of regulations and better management. The situation could (again) endanger sustainable development of the shrimp industry by risking capacity of the environment to sustain shrimp production and allowing more disease outbreaks.

SFP continued to work closely with key players to strengthen zonal planning and management approaches. SFP also provided advice to the national (MMAF) and local (Bappeda) government to improve policies through aquaculture policy roundtables (APRs) and environmental carrying capacity studies. In addition, SFP supported SCI in developing/strengthening farmer groups and organizing capacity-building training for smallholders to improve their skills and knowledge on zonal management, and adopt better management practices (CBIB). A website (www.sci-banyuwangi.org) has been developed to allow the public to learn about the program and see progress on the zonal management project.
Aquaculture policy roundtables (APR) in East Java will continue to expand in scale. The APR initially scoped the regional pilot area (East Java) and expanded to South Sulawesi and Lampung early in 2014. A national-level APR will be conducted in Jakarta to discuss broader national issues of zonal management and the health of farm-raised species.

Continuing the government’s support, the Directorate General of Aquaculture (MMAF) will pilot the Aquacard program in Banyuwangi. Aquacard is a program to register all farmers, traders, hatcheries, etc., in an effort to improve traceability. MMAF will also continue to support the implementation of disease surveillance and provide testing services to improve shrimp health management in Banyuwangi.

In early 2014, SFP acquired additional funding to promote zonal aquaculture management to address and prevent issues relating to diseases. The project is now able to hold aquaculture policy roundtables and train farmers in the aquaculture zone. In addition, initial activities for the aquaculture carrying capacity assessment have begun, including a study for the Banyuwangi area in collaboration with University of Brawijaya. This study is co-funded by the USAID MARKET project and Bappeda, and is expected to improve Banyuwangi’s aquaculture planning.

The first stage of the aquaculture carrying capacity assessment in Banyuwangi was completed. Bappeda is planning to expand the studies to increase support to the long-term district development plan (integrated coastal and marine zone planning and development).

SFP is in the process of securing a grant to improve skills and knowledge of producers through training of smallholder farmers in 10 provinces across Indonesia. The grant is also an important milestone to promote zonal management in those provinces through active participation of local partners.

SFP continues to assist the development of this AIP, now led by industry members National Fish and Seafood and a leading national processor, Bumi Menara Internusa (BMI). The model is expected to be implemented in two major shrimp production centers in Lampung and East Java, moving small- and medium-scale shrimp farmers toward BAP group certification.

2015

January – February

SFP has successfully secured a grant to improve skills and knowledge of smallholder producers and women beneficiaries. Basic goals of this training are to improve smallholder families’ livelihoods as well as to promote zonal management nationwide. The program will also strengthen links with local processors and suppliers like National Fish and Seafood, thus improving quality and traceability. The program will partner with
seven local organizations for practical training of 10,000 smallholder farmers and women beneficiaries. The program will involve baseline and impact studies to evaluate the benefit of the program and to obtain lessons learned for future development programs. The trainings will start in March 2015.

The roundtable has been focusing on supporting MMAF by establishing a road map for aquaculture development in Indonesia. The road map is expected to guide the government to achieve its goal to establish a self-sufficient, efficient, sustainable, and competitive aquaculture industry. Zonal management is incorporated in the road map as one of the bases to support sustainable aquaculture development.

The regional government of Banyuwangi has allocated some funds for completion of carrying capacity assessments initiated by SFP under the USAID MARKET Project. The government will partner with the University of Brawijaya to conduct more comprehensive studies to support aquaculture development planning and integrated coastal zone management.

Both National Fish and Seafood and local processor BMI continue to communicate with SCI Banyuwangi during the transition process on AIP and BAP group certification. SFP assisted during this transition process to ensure a smooth handover to active industry partners.