



Appendix 7: Illustrative Details from the Project Business Plan

Background on Aquaculture in Indonesia

Aquaculture Production in Indonesia

Indonesia is among the world's largest aquaculture producers. The industry, in large part, is dominated by smallholder producers that grow a variety of species in multiple farming systems in freshwater, brackish, and marine environments.

Aquaculture Production

- Indonesian smallholder farmers make up 70-80% of total aquaculture producers.
- They each produce on less than 2ha in freshwater systems and less than 5ha in marine systems.
- They grow freshwater fish in ponds and inland reservoirs, and grow shrimp and milkfish in brackish ponds in coastal regions.
- These rural producers are disproportionately likely to live in poverty.

Government Support for Aquaculture

- The Government of Indonesia (GoI) is increasingly supporting aquaculture production as capture fishery production has slowed and environmental concerns about capture fishery production have increased.
- GoI is introducing an improved IndoGAP certification standard to enhance quality and is supporting farmers through 'do it yourself' feed formulation training.

Target Systems, Solutions, and Geographies

Fresh/brackish water systems are the dominant forms of aquaculture in target geographies.

- Freshwater and brackish monodon production are dominated by SHFs.
- Freshwater production is consumed domestically.

Incentivized solutions are intended to be applicable across species.

- Incentivized solutions are applicable across freshwater and brackish water systems.
- Cross species applicability will enable scale and allow competitors that serve multiple farmer types and systems to participate.

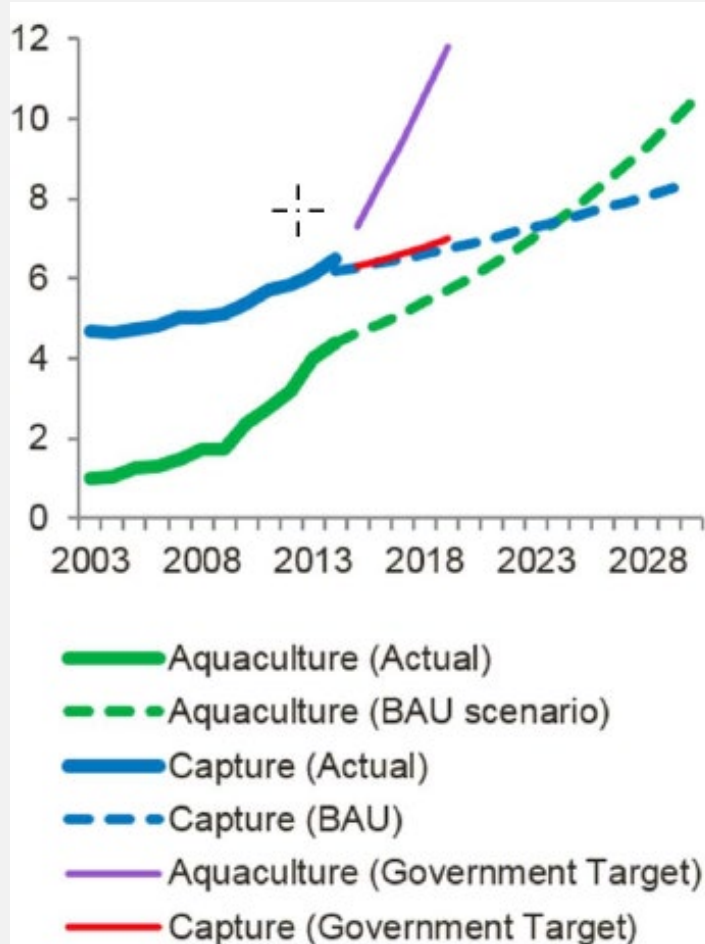
Targeted Farmers by Production System and Target Province

Province	Freshwater	Marine	Brackish	Total Farmers*
West Java	218,335	3,607	41,198	336,697
East Java	91,147	8,013	22,129	153,046
Central Java	172,443	8,871	28,681	217,141
West Nusa Tenggara	15,597	9,806	6,064	35,489
East Nusa Tenggara	4,738	30,130	2,172	37,469
South Sulawesi	10,928	36,618	48,862	106,950

Expected Growth of Aquaculture in Indonesia (1 of 2)

Below are growth projections in aquaculture and fish prices in Indonesia over the next decade. The evidence suggests that demand for fish is rapidly rising, prices are expected to remain steady, and aquaculture production will soon exceed that of capture fisheries.

Capture Fisheries and Aquaculture Production Projections



7%

Expected annual growth rate of Aquaculture (2012-2030)

2026

Aquaculture production expected to exceed capture fishery production

Aquaculture production has grown as a share of overall fish production in Indonesia from 10.6% in 1960 to 40.2% in 2014. This growth has occurred as capture fishery landings have gradually leveled off and farmers have transitioned into aquaculture. Indonesia will increasingly lean on aquaculture production to produce fish for domestic consumption and export.

The Government of Indonesia is currently encouraging rapid expansion in aquaculture production as capture fishery production is expected to significantly stagnate.

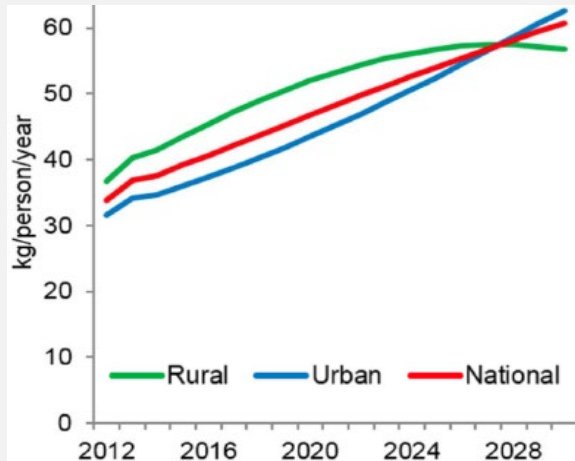
*All projections are based on "Indonesian aquaculture futures: An analysis of fish supply and demand in Indonesia to 2030 and role of aquaculture using the AsiaFish model."

Expected Growth of Aquaculture in Indonesia (2 of 2)

Below are growth projections in aquaculture and fish prices in Indonesia over the next decade. The evidence suggests that demand for fish is rapidly rising, prices are expected to remain steady, and aquaculture production will soon exceed that of capture fisheries.

Fish Consumption and Fish Price Projections

Fish Consumption Projections

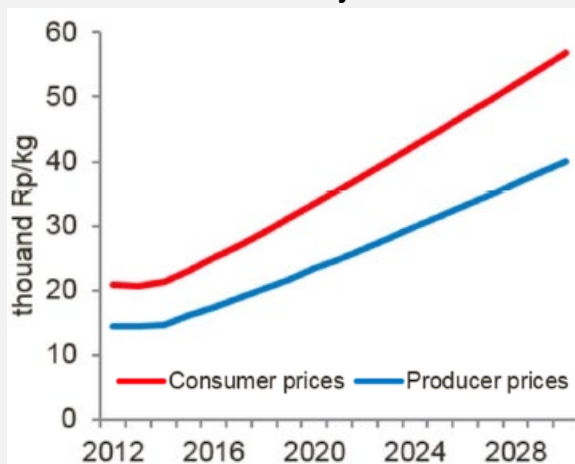


60.7kg

Annual consumption of fish by Indonesians

- Per capita fish consumption is expected to rise rapidly from 33.9 kg of annual consumption in 2012 to 60.7 kg of consumption in 2030.
- This increased fish consumption will likely be enabled by growth of the aquaculture sector.
- According to projections, rural consumption tapers late in the decade due to reduced capture fishery production.

Fish Price Projections



56,800 Rp/kg

Expected consumer price of fish in 2030 (includes shrimp)

- Despite rising supply, prices of fish are expected to rise steadily over the next decade.
- Consumer price increases are expected to exceed increases in production costs, making aquaculture more profitable for farmers in coming years.
- Projections indicate that a focus on freshwater finfish should help reduce costs of freshwater production without pricing rural and low-income consumers out of the market.

*All projections are based on "Indonesian aquaculture futures: An analysis of fish supply and demand in Indonesia to 2030 and role of aquaculture using the AsiaFish model."

Why Aquaculture and Why Now?

Sustainable aquaculture expansion is necessary to meet rising demand for fish. On-farm technical innovation can significantly increase SHF productivity, profitability, and the overall sustainability of their farming operations.

High SHF Participation and Poverty Rates

- Between 70-80% of aquaculture production in Indonesia comes from SHFs.
- These rural aquaculture producers are disproportionately likely to live in poverty relative to urban counterparts.

Increasing Fish Demand and Farmer Participation

- Domestic fish consumption in Indonesia is projected to increase from 33.9kg/year of consumption in 2012 to 60.7kg of consumption by 2030.
- Expansion of aquaculture is already taking place but will continue to supplant capture fisheries for fish supply to meet demand.

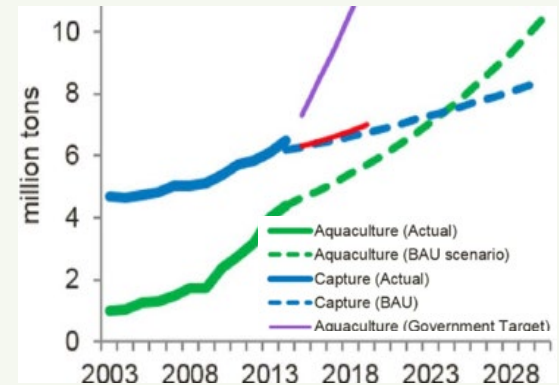
Govt. Support for Aquaculture and Sustainable Expansion

- The Government of Indonesia has established aggressive aquaculture expansion goals for 2030.
- Under business as usual production, production targets would be difficult to meet and require significant additional land usage.

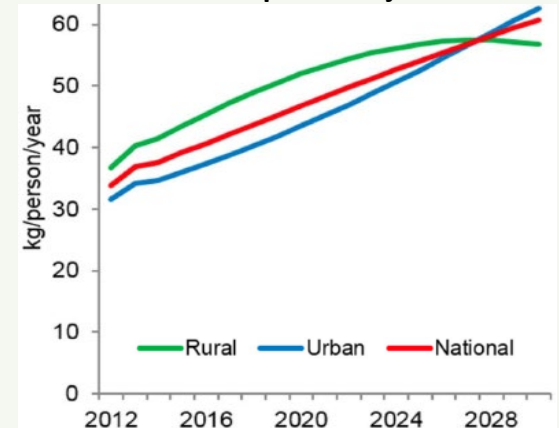
Limited Adoption of Productivity and Sustainability Enhancing Technologies

- **Adoption of improved on-farm technology** has the potential to significantly **increase farmer productivity and incomes** and improve the overall long-term sustainability of SHF aquaculture.

Fish Production Projections



Fish Consumption Projections



Aquaculture Systems in Target Geographies

Freshwater aquaculture is the dominant aquaculture system in the primary geographies of interest, though we recommend working across systems for scale.

of Farmers in Aquaculture Systems by Province

Province	Freshwater	Marine	Brackish	Total Farmers*
West Java	218,335	3,607	41,198	336,697
East Java	91,147	8,013	22,129	153,046
Central Java	172,443	8,871	28,681	217,141
West Nusa Tenggara	15,597	9,806	6,064	35,489
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South Sulawesi	10,928	36,618	48,862	106,950

*Totals include farmers from additional minor aquaculture farming systems.

Key Takeaways

1

Freshwater and brackish systems are the dominant forms of aquaculture.

- In freshwater systems, farmers grow tilapia, carp, catfish and others. Most freshwater species are sold to domestic markets.
- Brackish water systems more commonly feature shrimp, which are sold into international markets.

2

Working with freshwater systems might encourage improved nutritional outcomes

- While AgResults may work across systems, freshwater aquaculture is the largest system practiced by farmers in target areas.
- Freshwater aquaculture is primarily consumed in local markets.
- Given the large number of freshwater farmers, increases in productivity and sustainability of freshwater operations could encourage improved household and community nutritional outcomes.

3

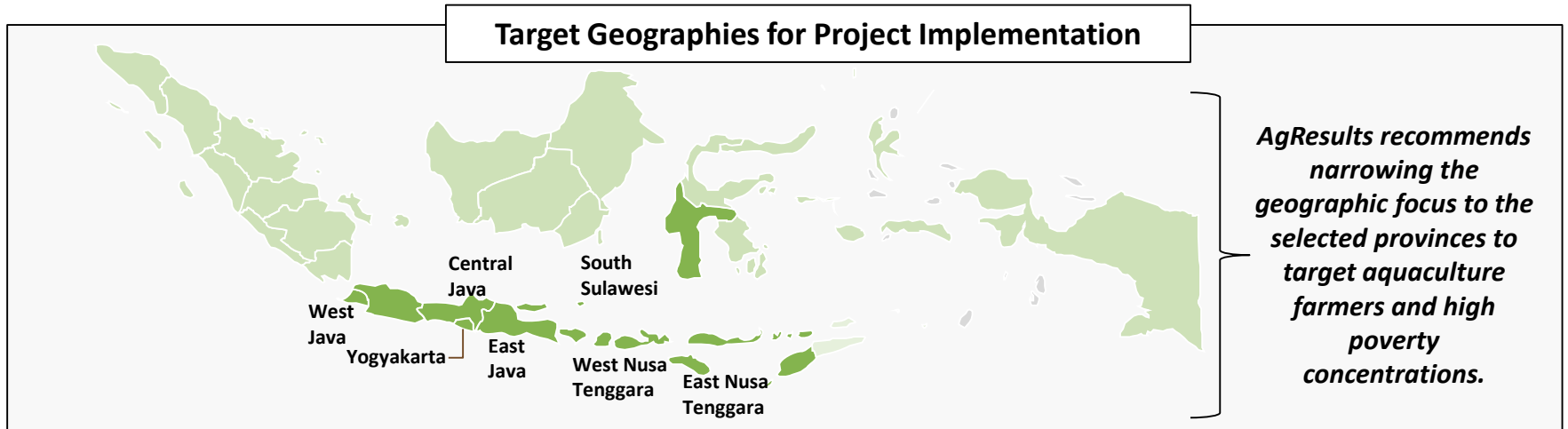
Working across systems is necessary for scale.

- While freshwater and brackish water systems are most common, there are significant numbers of farmers engaged in marine farming systems and including solutions applicable to these systems may help improve project scale.
- Finding solutions/technologies that can be applied across systems is likely necessary.

*Farmer data from “Statistical Yearbook of Indonesia 2018”

Demographic/Poverty Challenge in Target Geographies

In addition to looking at East/West Nusa Tenggara and East/Central/West Java, AgResults recommends expanding the current geographic focus to include South Sulawesi.



Poverty Rates in Target Provinces

Province	Poverty Rate	Urban Poverty Rate	Rural Poverty Rate
West Java	7.83%	6.76%	10.77%
East Java	11.20%	7.13%	15.58%
Central Java	12.36%	10.55%	13.92%
West Nusa Tenggara	15.05%	16.23%	14.06%
East Nusa Tenggara	21.38%	10.11%	24.59%
South Sulawesi	9.48%	4.76%	12.65%

- In general, provincial poverty rates are higher than the national average, which is now below 10%.
- Rural poverty rates, particularly in East and Central Java and East and West Nusa Tenggara, are markedly higher than national averages.

Key Fingerling/Seed Challenges

Farmers have difficulty accessing high-quality seed/fingerlings in the market, contributing to higher on-farm mortality rates for fish/shrimp and reduced productivity for farmers.

Seed/Fingerling Challenge

Brood Stock Quality

- The brood stock used for most freshwater species and black tiger shrimp is not domesticated but wild-caught.
- Domestication, which can improve the genetic profile of offspring and overall disease resistance, takes time and precision. Low quality brood stock leads to lower quality during growout phases.

Quality Standards Enforcement and Quality Detection

- Per interviewees, there are existing standards for hatcheries. However, there is no legal requirement to comply with those standards, and efforts to certify hatcheries with the existing government standard are lagging.
- Farmers rely on visual cues and self-reported hatchery metrics, like average daily growth rate and survival rate, to determine quality of hatchery products.

Lack of Premium for Higher Quality Seed/Fingerling

- The domestic market does not require that farmers use improved or certified fingerlings and seed. That lack of domestic demand coupled with a lack of high-quality standards enforcement contributes to an unwillingness among farmers to pay for high-quality or certified seed/fingerlings.

Seed and Fingerling Scarcity

- Interviewed farmers indicated that they generally did not have difficulty accessing seed/fingerlings. However, they did note that there were instances of scarcity, and they were forced to purchase seed/fingerlings regardless of quality.

Productivity and Profitability Levers in Aquaculture

While multiple factors contribute to the overall productivity and profitability of an aquaculture operation, there are three key elements that AgResults is likely to be able to impact to improve farmer outcomes.

Key Elements of Aquaculture Productivity and Profitability

While there are marked differences in growout practices, market prices, number of annual growth cycles, and input costs, improving farming performance across any of the below indicators should drive increased productivity and profitability in all aquaculture systems.

Feed Conversion Ratio

- Improvements in feed conversion ratios allow farmers to more efficiently utilize feed, reducing the amount and cost of feed needed to produce a given quantity of fish.
- More efficient feeding and fish digestion also allow farmers to shorten growout periods and harvest more quickly.

Survival Rate

- Improvements in the rate of survival of fish through the growout stage allow farmers to bring larger quantities of fish to market.
- Increased survival rates reduce overall production risks allowing farmers to more adequately forecast production and plan investments in feed, pond preparation, and fingerling purchases.



Stocking Density

- Stocking density is the rate at which a pond or cage is stocked.
- Stocking densities vary significantly by species and by farming system.
- Maintaining higher water quality and feeding efficiently allows farmers to increase their stocking densities and bring more fish to market.

Key Aquaculture Challenges and AgResults Solutions

Small aquaculture farmers face multiple challenges that constrain productivity and profitability. AgResults will incentivize delivery of multiple technologies and inputs to address constraints related to feed cost and efficiency, water quality, and the quality of fish stocks.

Key Farmer Challenges and Impacts on Profitability

1. Feed Costs and Efficiency

Feed is a primary cost in aquaculture production. Feed is often inefficient and accounts for 60-90% of production costs.

Profitability Levers Impacted

- **Feed Conversion Ratio:** Inefficient feeding methods increase the overall amount of feed necessary to produce a given quantity of fish/shrimp.
- **Survival Rate:** Better/more uniform feeding ensures more uniform fish growth and survival.

2. Water Quality and Mgmt.

Low water quality and poor water management limit fish growth and increase rates of fish death and disease.

Profitability Levers Impacted

- **Feed Conversion Ratio:** Fish laboring in dirty water digest feed less efficiently.
- **Survival Rate:** Low quality water increases fish mortality rates.
- **Stocking Density:** Reduced disease risk allows farmers to stock at higher density.

3. Disease Mgmt. and Prevention

Improved genetics and high-quality seed and fingerlings are crucial to preventing disease in fish stocks.

Profitability Levers Impacted

- **Survival Rate:** Improved genetics and disease resistance leads to higher survival rates.
- **Stocking Density:** Lower disease reduces risk of higher density.
- **Feed Conversion Ratio:** Healthy fish digest feed more efficiently.

AgResults Recommended Solutions

Automatic Feeders

Automatic feeders increase feed efficiency, improve the uniformity of growth, and shorten growout times.

Aerators

Aerators increase dissolved oxygen content in water, which improves fish digestion and survival – increasing production efficiency and possible stocking densities.

Improved Seed/Fingerlings

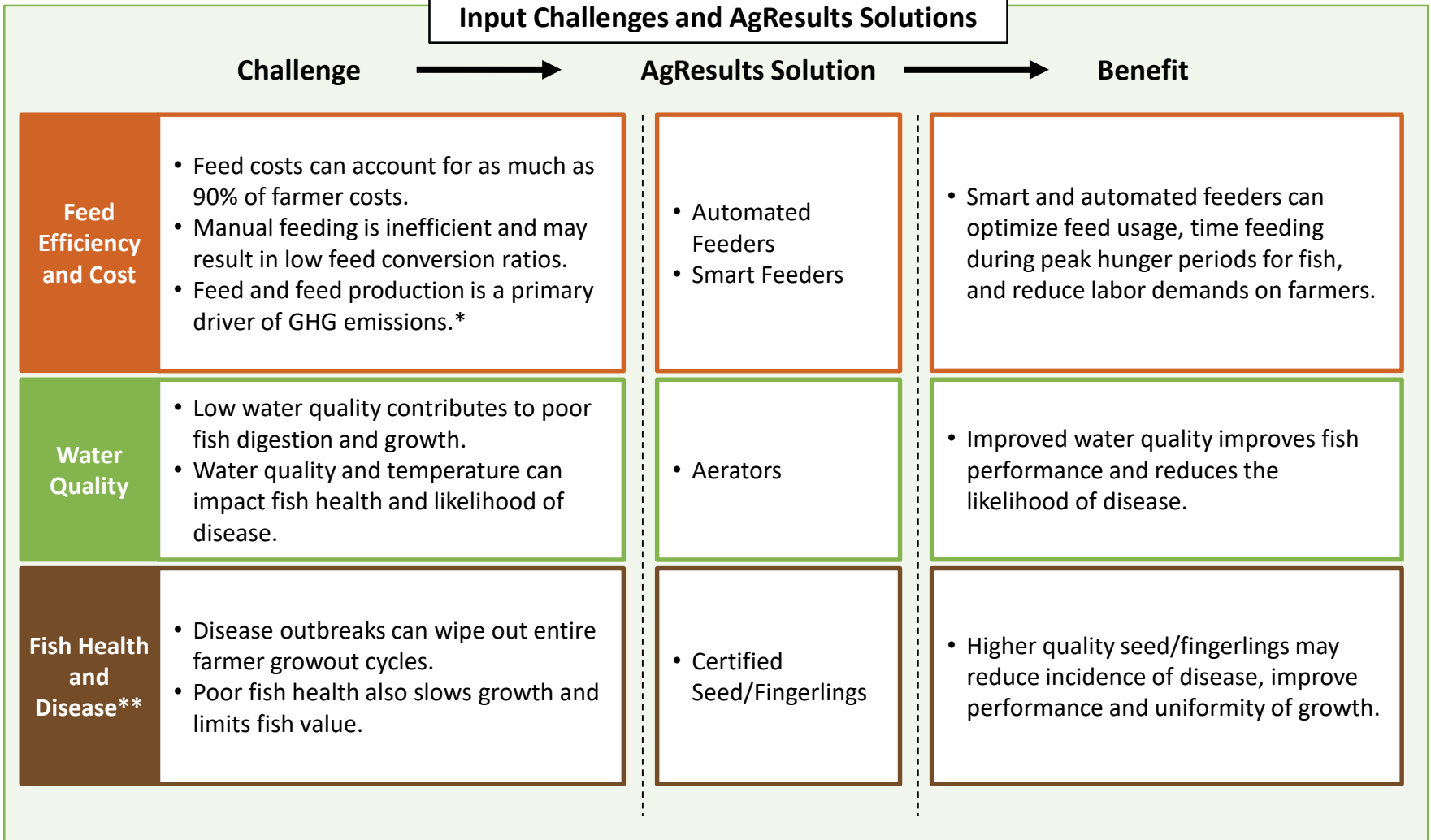
Certified seed/fingerlings are less likely to be disease carriers and more likely to be of higher genetic quality – reducing farmer production risks.

Automatic feeders and aerators exist in the market but are expensive for farmers. Prizes for selling and renting those technologies are intended to reduce farmer barriers to access. Additionally, financial incentives to hatcheries will help lower the burden of certification for hatcheries under IndoGAP's new third-party certification system and increase farmer access to certified seed and fingerlings.

Key Aquaculture Challenges and Input Solutions

Below are key input challenges and the types of inputs that AgResults might provide to address those issues.

Input Challenges and AgResults Solutions



*"Improving Feed Conversion Ratio and Its Impact on Greenhouse Gas Emissions in Aquaculture," FAO, 2017

**Difficult to address through on-farm inputs and tools. Recommend focusing on hatchery production as a parallel prize to prize focused on technical inputs.

Project Overview

Aquaculture Productivity: Project Objectives

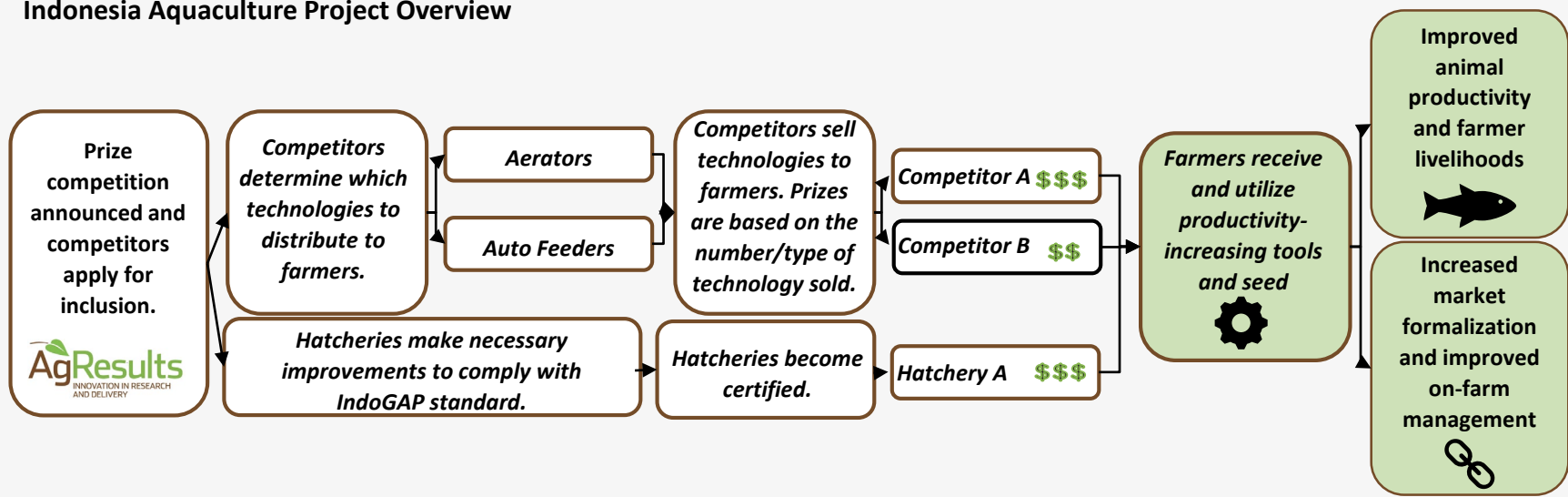
The project aims to achieve several key objectives:

1. Increased delivery and use of key productivity enhancing technologies to smallholder aquaculture farmers.
2. Increased income from shrimp and finfish production among participating smallholder farmers.
3. Strengthened value chain relationships with aquaculture input providers and offtakers enabling sustained adoption of incentivized technologies.

To achieve these objectives, we propose the development of the following prize mechanism:

- ✓ A prize for the sale or rental of each **incentivized technology** delivered to smallholder aquaculture farmers.
- ✓ A 'Grand Prize' for the **three competitors** that sell/rent the highest number of technologies.
- ✓ A prize for **IndoGAP certification** for finfish and shrimp hatcheries.

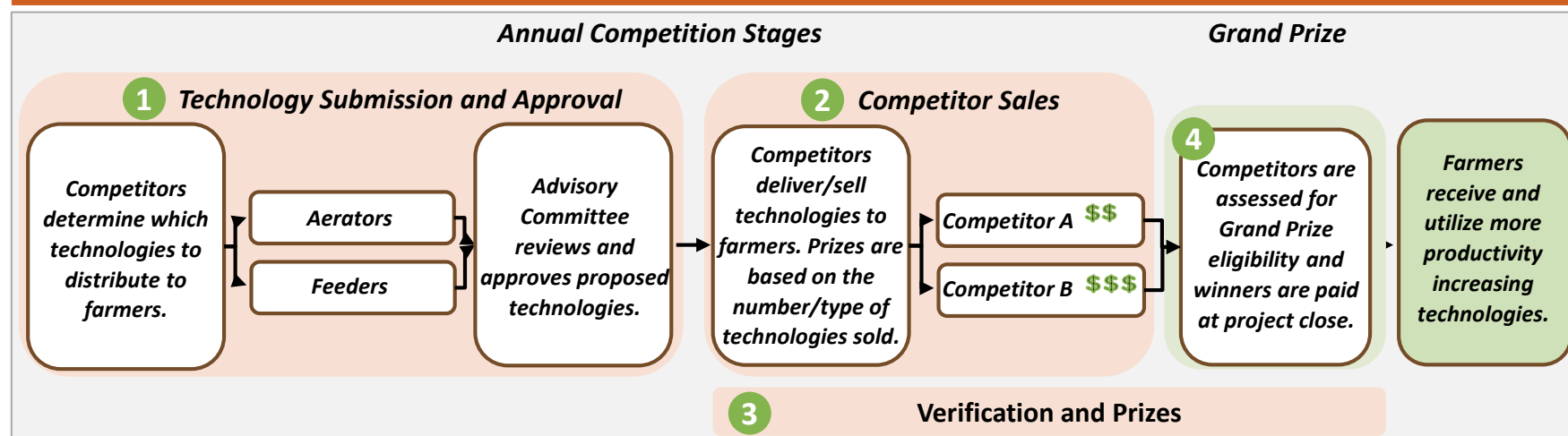
Indonesia Aquaculture Project Overview



Competition Overview – Technology Sales and Grand Prize

AgResults will provide prizes for the provision of productivity-increasing technologies to smallholder aquaculture producers.

Indonesia Aquaculture Competition Stages



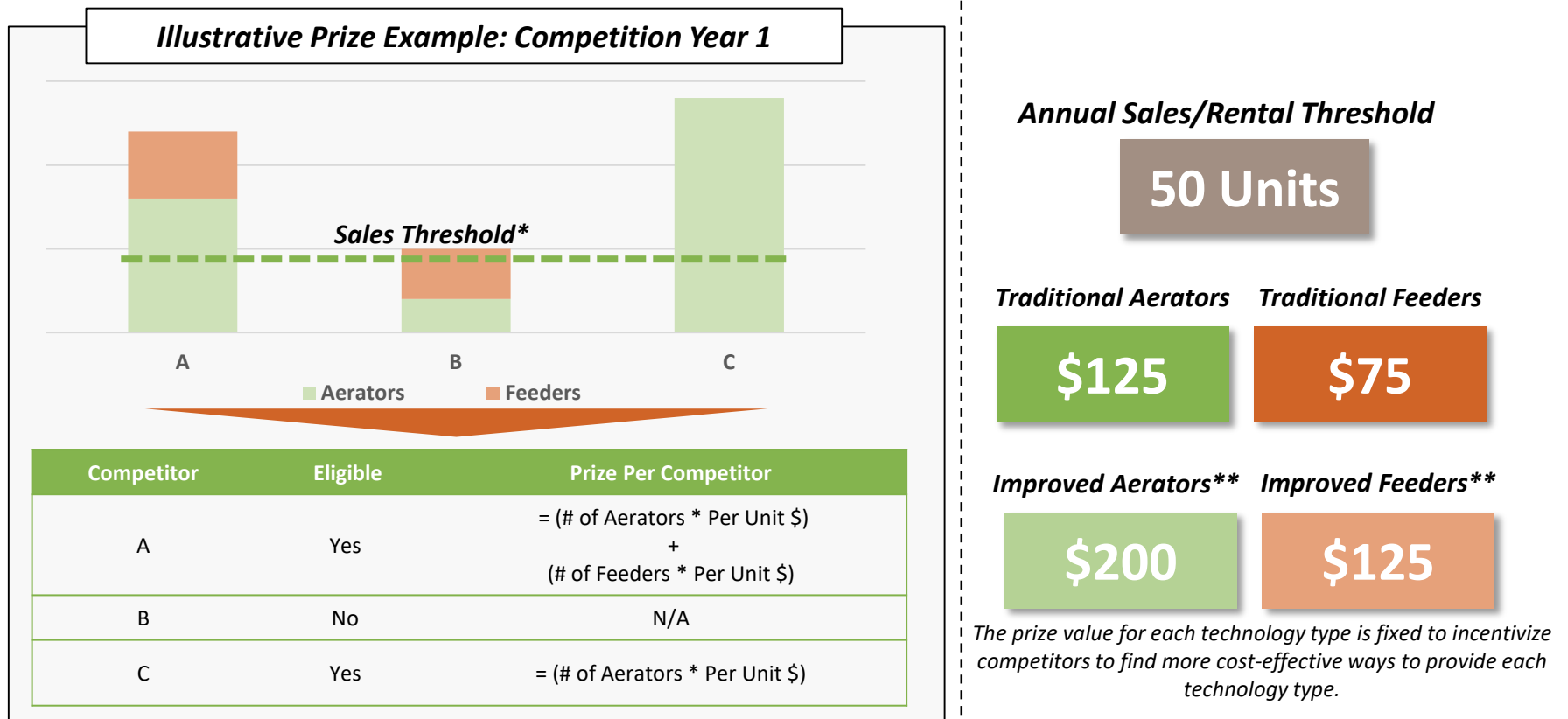
Competition Stage	Activities
1 Technology Submission and Approval <i>(Pre-Competition Year)</i>	<ul style="list-style-type: none"> Each competition year, competitors will submit a list of technologies that they will provide to farmers. The Advisory Committee will determine if: <ol style="list-style-type: none"> Selected technologies are of sufficient quality to be sold to smallholder farmers. Competitors will be required to provide a 1-year warranty on all sold products. The proposed technologies are sized appropriately for smallholder use (i.e., tools geared for intensive and super-intensive aquaculture are not approved). The submitted products are legally authorized for sale/rental in Indonesia. Determine which prize tier is appropriate for the technology.
2 Competitor Sales <i>(Annual)</i>	<ul style="list-style-type: none"> Competitors will sell or rent approved technologies to farmers. Competitors are free to offer more than one technology type based on farmer need, species, geography, etc. Prize eligibility is based on meeting a minimum sales threshold and prize amounts based on the number of units sold/rented.
3 Verification and Prizes <i>(Ongoing)</i>	<ul style="list-style-type: none"> On a rolling basis, the Verifier will track competitor technology sales. Based on verified results, competitors will be paid prizes.
4 Grand Prize	<ul style="list-style-type: none"> Competitors are assessed for their progress towards the Grand Prize eligibility and paid at the close of the competition if they are among the Grand Prize winners. Grand Prize payments are made at the end of Year 4.

Competition Prize Structure – Technology Sales

The prize a competitor receives is a function of 1) meeting the competition’s annual sales threshold 2) and a per-unit prize for each piece of technology sold or rented.

Annual Competition Prize Structure and Illustrative Prize Example

Competitors will become prize-eligible if they meet the competition's annual sales/rental threshold. If a competitor reaches the sales/rental threshold, they will receive a per-unit prize for each aerator or feeder sold. Per-unit prize sizes will vary between aerators and feeders. Higher per-unit prizes will be available for innovative technologies.



*The sales threshold will remain the same in Competition Years 1-3. It may be raised in Year 4 to discourage competition entry from small competitors.

**Improved feeders and aerators will likely be solar powered or IoT technologies. The Advisory Committee will have discretion to determine which technologies qualify. To date there do not seem to be solar or smart aerator technologies in the marketplace that would be SHF accessible, and we do not forecast improved aerator sales in current projections.

***Rented technologies will receive a pro-rated prize based on the length of the rental contract and the lifespan of the technology.

****Prizes are expected to remain the same through Y4. Contest rules should be structured to allow for a tapering if the SC desires.

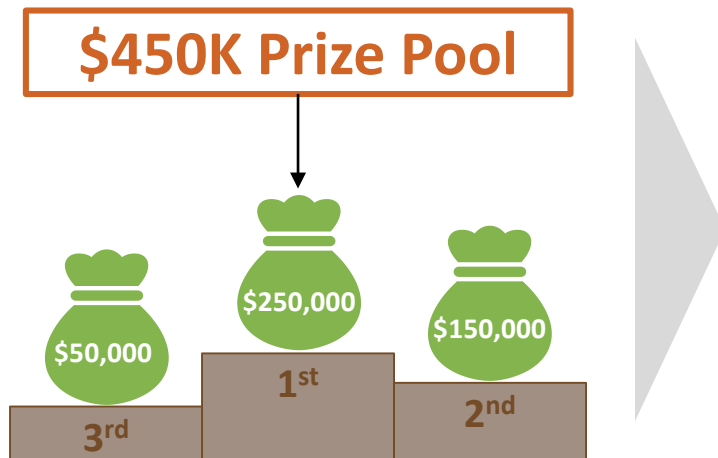
The prize value for each technology type is fixed to incentivize competitors to find more cost-effective ways to provide each technology type.

Grand Prize For Technology Sales

To further incentivize scale, competitors will be eligible for one of three grand prizes based on their technology sales. The three most successful competitors will each receive a prize.

Grand Prize Structure and Eligibility

AgResults will make a \$450K Grand Prize pool available to competitors. The top three competitors will share the prize pool, with larger awards going to the most successful competitors.



- Competitors are eligible for the Grand Prize if they sell over **5,000 technologies.***
- Competitors can **combine sales of aerators/feeders** to reach that eligibility threshold. Providers of improved aerators and feeders have the same threshold of Grand Prize eligibility.
- The Grand Prize is paid out at the **end of Year 4.**

Grand Prize Rationale and Benefits

- A competitive grand prize provides further incentive for competitors to scale beyond the incentives created by a per-unit prize.
- The inherent competition serves as a further motivator to try and scale to capture prize awards.
- The threshold for eligibility should be attainable by multiple competitors, ensuring that the prize funding is spent and encouraging competitors to stretch for fear that others might also achieve that sales threshold.
- Payment at the end of Year 4 may encourage competitors that initially struggle to remain in the competition and to search for new, innovative ways to expand.

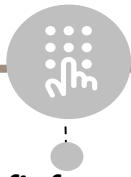
*Rented or leased technologies will count as 1/3rd sale. Companies that rent/lease would theoretically have to rent or lease 15,000 units, each for one full year.

Competitor Incentives to Participate

Project competitors will benefit from participation in a number of ways, including through expected revenue and profit increases.

Competitor Profit Opportunities in the Project

Competitors will have an opportunity to benefit from 1) profits from traditional sales of the technologies and from 2) a per-unit prize for each type of technology sold. Depending on the competitor type, they may also benefit from creating a larger market for their products (e.g., feed producers) or from additional sourcing opportunities (e.g., processors).



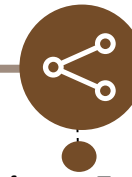
Profit from Sales

- Competitors are expected to directly profit from the sale or rental of incentivized technologies.



Technology Delivery Prizes

- Provided that competitors reach the annual project sales threshold, competitors will receive a per-unit prize for each aerator or feeder sold/rented.
- Prize size will depend on the number and types of technologies sold.



Business Expansion

- AgResults has identified likely competitor types (feed producers, processors, technology companies) that have significant incentives to help SHFs.
- Feed producers benefit by creating a larger market for fish feed. Processors benefit from having additional sourcing opportunities. Technology companies benefit from market expansion.

Maximizing Prize Awards

- 1** *Competitors will need to affordably sell technologies to any existing customer base.*
- 2** *Competitors will need to recruit new customers.*
- 3** *Competitors will need to develop deep, repeat relationships with farmers and sell multiple aerators/ feeders to drive significant productivity increases and enable competitor scale over the long term.*

Potential Financing Sources for Competitors/SHFs

Most farmers will continue to access finance informally, but some may access formal credit systems to purchase technologies and improve farm operations. Competitors may also access formal credit sources to purchase machinery for sale/rent to farmers.

Farmer Financing Options*

Credit Type	Comments
Government Financing (KUR)	<ul style="list-style-type: none"> Registered farmers and farmer groups can access the government's KUR loan scheme to finance equipment purchases. The KUR scheme allows farmers to access loans up to RPH 50M and the Director of MMAF has made increasing farmer access to loans a priority.
Informal Feed Agent/Processor	<ul style="list-style-type: none"> Farmers will likely continue to work with feed agents and processors to access informal credit. Machinery costs or rental costs will be deducted against the sale value of fish/shrimp that a farmer produces.
Crowdfunding	<ul style="list-style-type: none"> Multiple start-up 'crowdfunding' companies have emerged, allowing investors to invest in specific farming operations. In general, these crowdfunding platforms invest in sophisticated farming operations that utilize advanced farming technology and have strong data collection systems that allow financiers to assess farm risk. As AgResults helps farmers intensify and better track on-farm production, crowdfunding platforms may be more interested in investing in smaller farms.

Kredit Usaha Rakyat (KUR)
<ul style="list-style-type: none"> The KUR program allows small farmers and businesses to access loans of up to 50M RPH. Individual companies/farmers may access these loans, but they are more commonly provided to farmers by intermediaries like input supply companies, who assess farmer loan eligibility. One potential competitor, eFishery, is already providing KUR loans to farmers. They help disburse loans to farmers and ensure that farmers are paying back the loans.

Competitors will be asked to indicate how they intend to help farmers finance equipment purchases/rentals (if at all) and the terms of those finance agreements. The Advisory Committee will review the proposed terms of those financial agreements to guard against predatory lending.

Competitor Financing Options**

Credit Type	Comments
Machine/Agri-Finance Companies	<ul style="list-style-type: none"> Agri-finance and machinery companies are utilized to help large farmers and companies finance machinery costs. Competitors might utilize these organizations to help finance the purchase of equipment for sale to farmers.

*Informal financing through feed and buying agents will likely continue to be the dominant form of financing for SHFs. The Advisory Committee will request that competitors provide information on their potential farmer financing schemes to prevent any predatory lending practices.

**Traditional bank loans will also be available for competitors. Additionally, competitors may partner with technology companies and develop their own credit relationships to provide incentivized technologies.

Technology Eligibility and Quality Verification

To avoid reputational risk and ensure that farmers realize promised productivity gains, AgResults will not allow competitors to deliver technologies that are deemed to be of low quality by the project's Advisory Committee.

Technology Eligibility and Quality

Given the variety of aerators and feeders that might be provided to farmers during the competition, it would be impossible for AgResults to test the efficacy of each technology. Instead, AgResults will rely on a combination of farmer preference and Advisory Committee discretion to guard against the provision of low-quality technologies.



Advisory Committee Discretion

- The competition's Advisory Committee will review the products that competitors plan to offer during a given competition year.
- The Advisory Committee may determine that certain products are low-quality or unreliable and prevent their inclusion in the competition.



Product Warranty

- AgResults will require that competitors provide a 1-year warranty on all technologies sold/rented to farmers.
- The warranty requirement will encourage competitors to provide quality products and provide service and product use support.
- Spot checks, part of the anticipated verification process, will help enforce the warranty.



Farmer Preference

- Per interviews, farmers are discerning about product quality and unlikely to adopt poor quality technology.
- If technologies do not yield expected results, farmers will abandon product use.
- Competitors, therefore, are further incented to provide high-quality technology that provide tangible benefit to enable future sales and an ongoing relationship.

Channeling Sales to SHFs

As part of the competition rules, AgResults will limit the potential for competitors to capture prizes for sales to commercial and intensive farmers. Products will have to be geared towards SHFs, and spot checks will help ensure that technologies are used on traditional versus intensive farms.

All technologies will be vetted to ensure that they are smallholder specific and usable on traditional/extensive farms. AgResults should expect that SHFs may purchase multiple technologies to outfit their farming operation.

Competition Rules to Limit Sales to SHFs



Sales Limited to SHFs

- The government of Indonesia (GOI) defines SHFs as operating on less than 2HA of freshwater or less than 5HA of brackish waters*.
- Competitors will be asked to work with farmers that meet that GOI definition of a SHF.

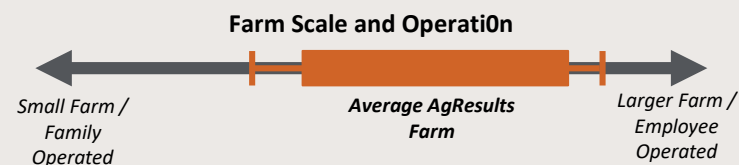


SHF Specific Technologies

- Approved technologies will have to be deemed appropriate for SHF use and less likely to be utilized in highly commercial and intensive systems.
 - For example, multi-paddle wheel aerators are unlikely to be approved as they require significant amounts of power **AND** are designed for large or deep ponds.
 - Commercial grade technologies that are adapted and scaled for SHFs should be approved for use.

Size of Farming Operations for Participating Smallholder

- The relative size of traditional farmer operations may vary significantly.
- Some farms will be family owned and operated using small numbers of ponds/cages. Other farms will utilize traditional farming methods, but the farm owner will employ individuals to run the day-to-day farm operations and may use as many as 20-30 ponds or multiple cage systems.



- Given the cost of investing in feeders/aerators, we expect that participating farmers will likely skew towards the larger end of traditional farmers.

*Definition of smallholder derived from <https://www.idhsustainabletrade.com/uploaded/2018/12/Aquaculture-Summary-4.6-WEB.pdf>

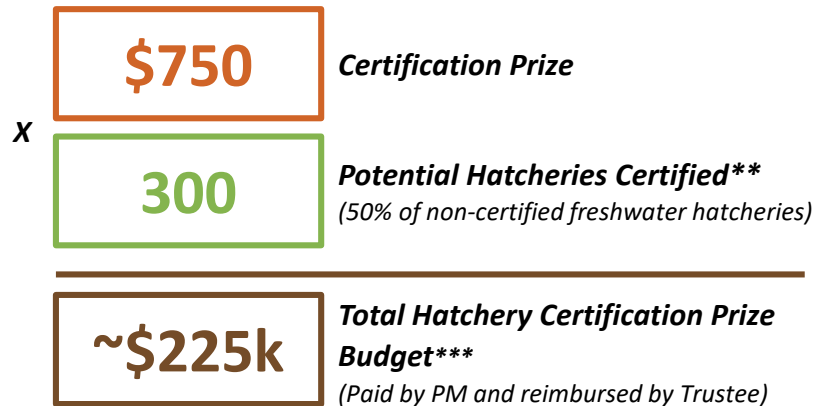
**Spot checks in verification will complement this approach and help prevent competitors for selling to commercial farms

Hatchery Certification Prize Design

AgResults recommends the below prize structure and competition rules for a hatchery certification prize. Given that launch of IndoGAP 3rd party certification is roughly slated for 2021, all award sizes and contest rules should be vetted by the PM and Advisory Committee.

Prize Structure and Size*

AgResults recommends providing a prize to each hatchery that becomes certified under IndoGAP's 3rd party certification. Hatcheries would be eligible for the prize once during the competition.



Determining the Prize Award

AgResults estimates that certification costs for each hatchery range from 10M-25M Rupiah or roughly \$700-\$2,100 (plus a projected additional cost of \$200-\$400 for the audit). With a prize of \$750, AgResults would match the low-end investment for hatcheries that are becoming certified without covering the additional cost of the actual audit.

Verification

AgResults does not anticipate incurring additional verification costs to determine hatchery certification status. Hatcheries would have to provide proof of their certification status to become prize eligible. Some coordination with the MMAF might be required to verify the authenticity of certification.

Key Certification Rules

Key eligibility rules would likely include (subject to final review from the Advisory Committee):

- Only the highest level of certification are prize-eligible.
- Species are limited to monodon and freshwater finfish species.
- Hatcheries are only eligible for the prize once during the project.

Ongoing IndoGAP and Prize Sizing Validation

- The currently proposed prize is contingent on the launch of a 3rd party IndoGAP hatchery audit process. Only hatcheries that receive certification under a 3rd party audit would be prize-eligible.
- Given the current timeline for 3rd party certification launch, the PM and Advisory Committee will be asked to continue validate the prize size and better define contest rules around hatchery eligibility.

*During Yellow Light, there was some discussion of basing prizes off of the volume of seed/fingerlings sold following certification. Interviewed hatchery officials and MMAF representatives noted a high potential for gaming as hatcheries might purchase PLs and fingerlings from neighboring hatcheries for resale.

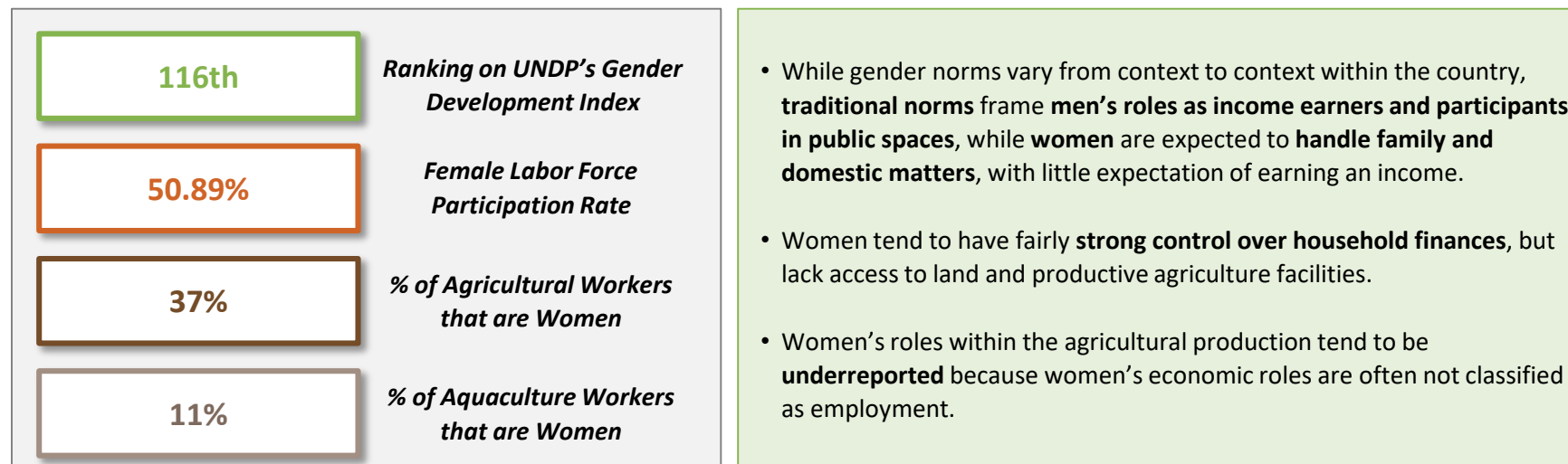
**The MMAF estimated that nearly 1,400 hatcheries are non-certified, and half of those non-certified hatcheries are freshwater. We estimate that as many as half of those hatcheries might be certified during the AgResults program as pressure for certification increases.

***Given the small size of the disbursement per competitor, AgResults proposes having the PM pre-pay these prizes and then be reimbursed by the Trustee on a quarterly basis.

Women in Agriculture in Indonesia

There are persistent gaps in gender outcomes in Indonesia. Despite government policies aimed at improving gender equality, imbalances in gender roles in agriculture persist.

Gender Context and Workforce Participation in Indonesia



GOI Gender Initiatives in Aquaculture

- Since 2011, the Ministry of Maritime Affairs and Fisheries to incorporate gender mainstreaming activities in all of its fishery and aquaculture programs.
- Specific initiatives have included efforts to provide training on fish processing and establishing fish processing businesses and catfish farming training in East Java.
- The MMAF, with additional funding from the Asian Development Bank, launched the Sustainable Aquaculture Development for Food Security and Poverty Reduction (SAFVER) Project which provided assistance to women's groups in establishing fish processing clusters.
- Despite some efforts to improve women's participation and outcomes in aquaculture, men still play a dominant role in aquaculture production activities.

*"Women's Empowerment in Agriculture Assessment in Indonesia" USAID 2013, "Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia,"

Aquaculture Indonesia Gender Initiatives

Below are planned gender inclusiveness measures that will be incorporated into the project..

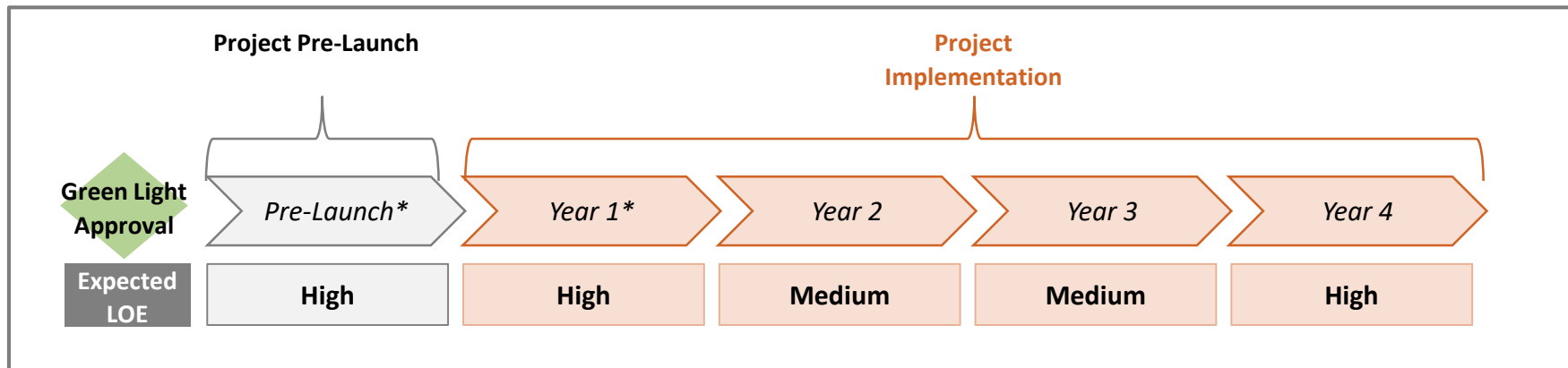
Planned Gender Initiatives

Description	Led By
Recruit Women Competitors / Businesses <ul style="list-style-type: none"> Identify and recruit potential women-led competitors Identify complementary women-owned businesses like processors to connect them with competitors/farmers 	Project Manager
Provide Gender Sensitization Training <ul style="list-style-type: none"> Provide gender sensitization training to competitors as part of the competitor onboarding process 	Project Manager
Establish Gender Outreach Plan <ul style="list-style-type: none"> Require competitors to submit gender outreach plans, highlighting how they intend to engage women farmers and farmer groups Require competitors to indicate how they will engage with spouses 	Project Manager Competitors
Provide Financial Management Training <ul style="list-style-type: none"> Develop and disseminate simple financial management training that competitors can provide to women farmers and spouses on male-operated farms 	Project Manager Competitors
Coordinate with Government <ul style="list-style-type: none"> Work with provincial governments to identify opportunities to link competitor activities with government initiatives focused on building women's processing or farming capabilities. 	Project Manager Competitors

Role of Project Manager

Project Management Overview

A Project Manager will be engaged as soon as Green Light approval is received. The Project Manager will coordinate all activities leading up to the launch of the competition and oversee project implementation over the project's four years.

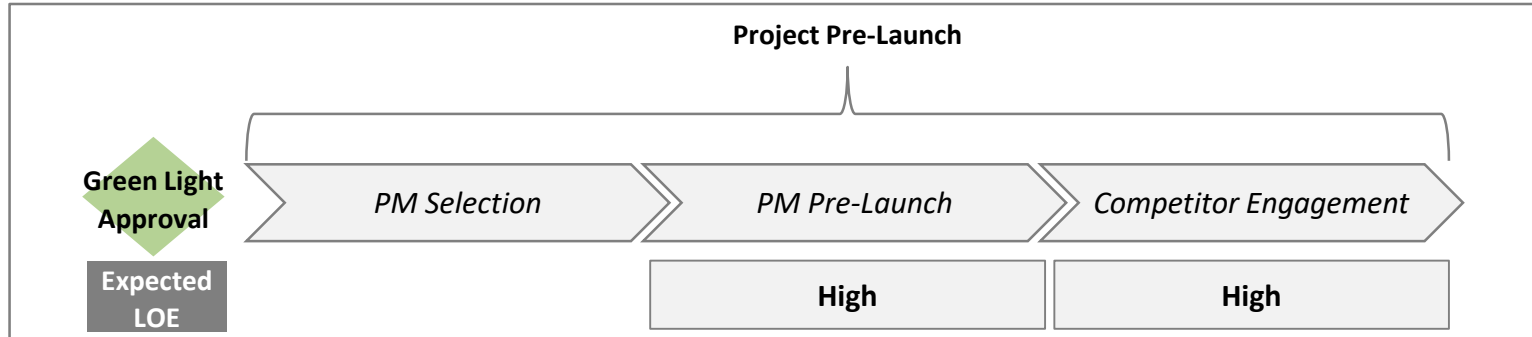


Project Management Overview

- AgResults will contract a Project Manager as soon as Green Light approval is received. The Project Manager will be expected to manage a distinct pre-launch phase and the 4-year duration of the competition.
- The **Project Manager will be registered to operate in Indonesia** and will be expected to travel throughout the competition region periodically to coordinate activities with local government authorities and competitors.
- The **Project Manager will be responsible for administrative and coordination related tasks**, including project advocacy, outreach to competitors to encourage participation, coordination of application reviews, support of awareness building efforts, and reporting on program progress to the Secretariat.
- **The Project Manager will be supported by a Technical Advisory Committee** (composed equally of male and female industry, regional, and academic experts), who will provide technical advisory support during competitor application reviews, assessment of competitor technologies, and resolution of prize disputes.
- The **Project Manager will monitor the regulatory and supporting business environment** to identify key issues or changes in context that impact the project. The Project Manager will pay particular attention to the development of the IndoGAP standards and coordinate closely with the Secretariat to determine if the competition's hatchery certification element should be launched.

Project Management Activities During Pre-Launch

During the pre-launch period, the Project Manager will convene an Advisory Committee, finalize competition rules, seek formal government approval for project implementation, and engage industry stakeholders to drive interest in the competition.

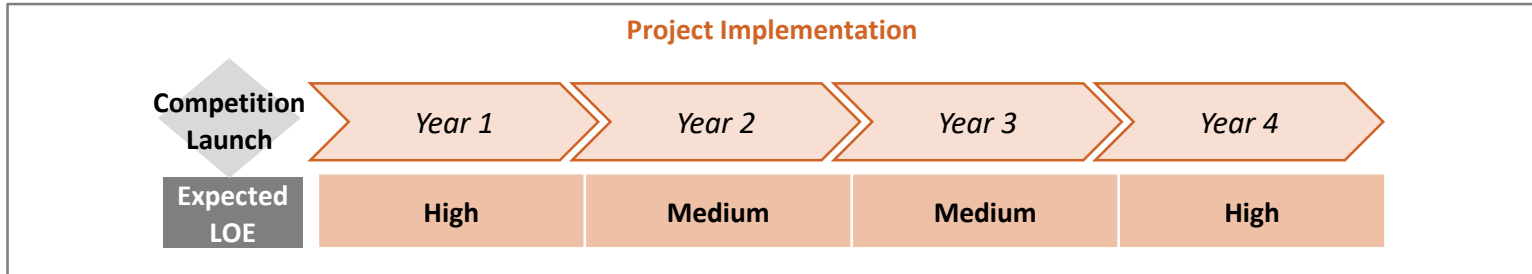


Project Manager Key Activities During Pre-Launch

Timeline	Activities
PM Selection	<ul style="list-style-type: none"> Engage in a competitive bidding process to identify the appropriate PM to manage the project throughout its duration
PM Pre-Launch	<ul style="list-style-type: none"> Convene an Advisory Committee of relevant Indonesian aquaculture experts to assist in rules finalization. Coordinate with Advisory Committee, Verifier, and the Secretariat to complete definition of contest rules, including project closeout procedures and defined criteria for closing the project early in the event of a depleted prize pool Coordinate in-country project approval process with relevant government ministries Reach out to prospective competitors and industry stakeholders to generate awareness and interest in project Propose a dispute resolution mechanism when disputes arise or competitor misconduct is suspected
Competitor Engagement	<ul style="list-style-type: none"> Stage informational events informing possible competitors of prize competition and contest rules. During these events, the Project Manager should help facilitate the development of competitor partnerships In coordination with the Advisory Committee, develop competitor selection criteria Continue to update criteria for technology inclusion, based on introduction of new products or regulation Issue request for applications from competitors to apply to participate in the project Throughout competitor engagement, the PM will take steps to engage with women led farmer groups or competitors
Secretariat Engagement	<ul style="list-style-type: none"> Support the Secretariat in selection of a Verifier Provide ongoing updates to the Secretariat via quarterly reports and weekly telephone meetings

Project Management Activities During Project Implementation

After the pre-launch period, the Project Manager will actively oversee project implementation including competitor recruitment, competitor assistance, dispute resolution, and issue mitigation.



Project Manager Key Activities During Project Implementation

Timeline	Activities
Year 1	<ul style="list-style-type: none"> • Coordinate with the Advisory Committee to review competitor applications and technologies to select competitors • Enter into legal agreements, which include competition rules, with all participating competitors • Provide high-level administrative support and assistance to competitors as they begin working with farmers, including connecting competitors with would-be partners and answering competitor questions • Help coordinate between competitors and the Verifier to ensure that ongoing verification activities are proceeding • Encourage and help competitors reach out to and provide technical assistance to women-operated farms • Coordinate results reporting by competitors and the Verifier and share with the Secretariat • Coordinate with the Secretariat and Advisory Committee in the event of verification disputes • Report any implementation roadblocks or challenges to the Secretariat and work to mitigate those challenges • Identify and recruit potential competitors, particularly women-led or owned, that might participate in future project years
Year 2	<ul style="list-style-type: none"> • Ongoing activities, including competitor recruitment, technology eligibility reviews, dispute resolution, etc.
Year 3	<ul style="list-style-type: none"> • Monitor changes in the regulatory and political environment, paying particular attention to changes in government policy related to technology distribution, changes in import/export policies for targeted species, and expansion or elimination of government-sponsored financing programs for small farmers
Year 4	<ul style="list-style-type: none"> • In addition final implementation activities, the Project Manager will lead the coordination of project's closeout