



## AQUACULTURE FACT SHEET

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# Decision-Making Factors for Investment in Aquaculture

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The following checklist identifies factors that should be considered in preparing or evaluating an aquaculture business plan. Aquaculturists or fish farmers must evaluate their: 1) production management capabilities; 2) marketing management capabilities; 3) financial management capabilities; 4) available resources (i.e., land, water, capital, labor); 5) financial position of the business (i.e., profitability, solvency and liquidity); and 6) commitment to a new, high risk enterprise.

### Management Factors

- 🍏 What are your goals and objectives for the aquaculture business?
- 🍏 Which type(s) of aquaculture interest you? Species\_\_\_\_ Production method\_\_\_\_
- 🍏 Will your operation be a separate hatchery, nursery or grow-out operation or a combination of the individual operations?
- 🍏 What level of management intensity (extensive, semi-intensive, intensive) and/or degree of integration with other products will the enterprise have?
- 🍏 Is there a market potential, management, or cost efficiency reason for a particular size business?
- 🍏 What experience do you have to manage the operation?
- 🍏 Are you willing to provide the time and effort required to learn how to and/or to grow the product?
- 🍏 Do you think that you will like the work and skills needed to produce the product?
- 🍏 What skills and abilities will be needed to make the business successful?
- 🍏 How will the business be organized?  
Sole proprietorship\_\_ partnership\_\_ corporation\_\_ other\_\_\_\_
- 🍏 How much money can you survive on?
- 🍏 How much money can you afford to invest?
- 🍏 How will the business affect your family?
- 🍏 How will the new business affect your present job?
- 🍏 Will the aquaculture operation require hired labor? Full-time\_\_ part-time\_\_
- 🍏 How long do you expect for the business to become operational?
- 🍏 How long do you expect for the business to become profitable?
- 🍏 Are you in an area where the production facility can be leased or sold if you decide to cease operation?

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- 🍏 Do you have the necessary legal permits to produce the product?
- 🍏 Do you know where to obtain information and technical assistance on the aquaculture of your selected species?

### **Financial Factors**

- 🍏 What are the necessary financial requirements for facility construction and crop production?
- 🍏 What equipment, land, facilities, etc. do you possess?
- 🍏 Is the profit potential for the selected product higher than that for other alternative products or other investments?
- 🍏 What equipment needs are there for the operation?
- 🍏 What are the costs of production – operating, fixed, total, per pound (kg), per piece?
- 🍏 What are the initial construction costs?
- 🍏 What are the equipment replacement costs for the business?
- 🍏 What is the timing of cash inflows and outflows from the business (cash flow)?
- 🍏 What is the project's annual income from the business?
- 🍏 When will the money invested in the business be paid back from income produced by the business?
- 🍏 How will price, cost and yield variability affect the financial analysis?
- 🍏 Will current interest rates and interest costs on investment and operating capital permit a reasonable profit?
- 🍏 Will the expected profit provide an adequate return for your labor, management and risk?
- 🍏 Are you using expected production and mortality values that are realistic for your situation?
- 🍏 Can you afford to delay income from the time the operation is started (i.e. pond construction) until you sell your first harvest?
- 🍏 Have you decided upon a record-keeping system for management and future borrowing purposes?
- 🍏 Will a lender arrange financing that fits your income stream?
- 🍏 Do you have a business plan?

### **Physical Factors**

- 🍏 What are the land, water column or water bottom size requirements for the operation?
- 🍏 How is the access to the area?
- 🍏 Will you need a shore-based facility for coastal aquaculture operations?
- 🍏 Will the soils hold water economically?
- 🍏 Have the soils been tested for pesticide residue?
- 🍏 Is there water available to fill ponds within a reasonable time and replace natural losses of water from seepage and evaporation?
- 🍏 Is the water quality suitable for your product?  
Temperature\_\_ alkalinity\_\_ dissolved oxygen\_\_ hardness\_\_ salinity\_\_ ammonia\_\_ pH\_\_  
turbidity\_\_ water current\_\_
- 🍏 Is the area protected from or susceptible to storms?
- 🍏 Can you reach the area regardless of the weather?
- 🍏 Will someone live close to the area to permit frequent observation and necessary management actions?
- 🍏 Is there area available for expansion in the future if desired?
- 🍏 Is your area classified as a wetland?
- 🍏 Are there any other Federal or State regulations restricting use of the site?

## Production Factors

- 🍌 Are quality fingerlings or seeds available at competitive prices?
- 🍌 Will you produce or purchase fingerlings or seeds?
- 🍌 Are quality feeds available?
- 🍌 Can you purchase and store feed in bulk?
- 🍌 Can you purchase needed production equipment locally?
- 🍌 Can you make needed production equipment?
- 🍌 Can you get specialized production equipment serviced locally?
- 🍌 Is trained and reliable labor available?
- 🍌 What diseases and predators affect the species?
- 🍌 Are dependable disease diagnostic services available?
- 🍌 What electric sources are available?
- 🍌 How many favorable growing season days are there in a year?
- 🍌 What is the length of the expected production cycle?
- 🍌 Will you produce single batches of product or will you multiple harvest with replacement stocking?
- 🍌 Is your production goal reasonable for your location and available environmental resources?
- 🍌 What could cause losses in the operation?

## Marketing Factors

- 🍌 Do you have a marketing plan?
- 🍌 Do you know of an established market for your product?
- 🍌 Can you compete at the production, cost and marketing levels with other farmers in the state, out-of-state or foreign?
- 🍌 How far (distance) are suitable markets and how long does it take to reach them?
- 🍌 Within the market area, who is buying or potentially might buy your product?  
wholesalers\_\_ restaurants\_\_ seafood stores\_\_ supermarkets\_\_ individuals\_\_ cooperative\_\_  
sport fishermen\_\_ pet stores\_\_ bait dealers\_\_ other\_\_
- 🍌 What are the payment practices?
- 🍌 Is the prospective buyer dependable for payment and are the terms of payment reasonable?
- 🍌 Are there enough buyers in the area for the amount of product you expect to produce?
- 🍌 What are the market requirements of your product?  
Volume\_\_ size\_\_ quality\_\_ form\_\_ packaging\_\_
- 🍌 Which is the product form?  
live\_\_ iced\_\_ frozen\_\_ whole\_\_ headed and gutted\_\_ fillets/steaks\_\_
- 🍌 What is the preferred quantity of each product per unit time?
- 🍌 What are the seasonal prices for each product form?
- 🍌 What are the seasonal demands for each product form?
- 🍌 How will the price and production of substitute products affect your market and production plans?
- 🍌 What are your market options for excess production and undersized product?
- 🍌 Can you provide consistent supply and quality?
- 🍌 Do you understand how quality problems can affect the marketability of your product?
- 🍌 Will you need to dehydrate the product?
- 🍌 How profitable is it for you to produce the sizes and amounts of product desired by your buyer?
- 🍌 Is there are market for you when you want to sell your product?
- 🍌 Is your production location able to accommodate a truck to pick up the product?

- 🍏 How will you harvest the product and transport it to the market location?
- 🍏 Will you be able to harvest year-round?
- 🍏 Do you have an alternative marketing strategy in case it is needed?
- 🍏 Will you have a staff member to handle marketing or will you?
- 🍏 How much will marketing costs add to your production costs?  
Processing\_\_ packaging\_\_ ice/cooling\_\_ transportation\_\_ advertising/promotion\_\_ billing\_\_
- 🍏 If you are planning to retail or process your product, do you meet State and local health and sanitation requirements?
- 🍏 Do you have the required legal permits to market the fish?
- 🍏 Do you know where to obtain marketing assistance?

### **Risk Factors**

- 🍏 What are your production risks?
- 🍏 What are your marketing risks?
- 🍏 How can these risks be reduced?
- 🍏 Are you prepared to handle these possible problems?
- 🍏 Poor water quality
- 🍏 Fish diseases and parasites
- 🍏 Pesticide contamination
- 🍏 Off-flavor
- 🍏 Predation
- 🍏 Aquatic weeds
- 🍏 Poachers and vandals
- 🍏 Low prices and high production costs
- 🍏 Equipment failure and breakdown
- 🍏 Personal stress
- 🍏 Working long hours during the day and night
- 🍏 Shifts in market demand
- 🍏 Crop loss due to storms

### **References**

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