

Pond Aquaculture: Production Economics and Enterprise Budgeting

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***HAVE YOU MADE AN ESTIMATE OF
INVESTMENT COSTS, OPERATING
COSTS AND RETURNS?***

***WILL THE EXPECTED PROFIT
PROVIDE AN ADEQUATE RETURN
FOR YOUR LABOR,
MANAGEMENT AND RISK?***

COSTS TO CONSIDER

- Investment or capital costs
- Variable costs
- Fixed costs

INVESTMENT REQUIREMENTS

Capital and construction costs
that must be committed before
the first fish is stocked

INVESTMENT REQUIREMENTS

- Land
- Pond construction
- Drain pipe & fittings
- Wells / water supply
- Water pumps and pipes
- Electric power lines
- Aerators
- Boat and motor
- Hauling tanks & agitators
- Truck
- Feed storage bins
- Tractor
- Mower
- Oxygen meter
- Water testing equipment
- Seines
- Dip nets
- Feed wagon/blower
- Waders and boots
- Baskets and buckets
- Storage buildings
- Miscellaneous equipment

VARIABLE COSTS

Costs which vary with the level of
production

VARIABLE COSTS

- Fingerlings
- Feed
- Interest on operating capital
- Labor
- Repair & maintenance of equipment
- Electricity
- Fuel
- Chemicals
- Sales / harvest costs
- Office equipment

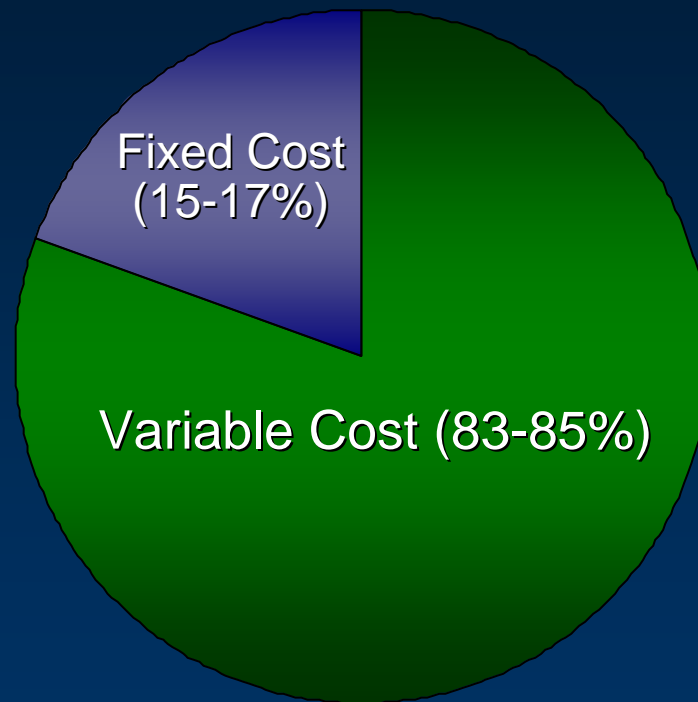
FIXED COSTS

Costs which once the enterprise is underway, are incurred regardless of the level of production

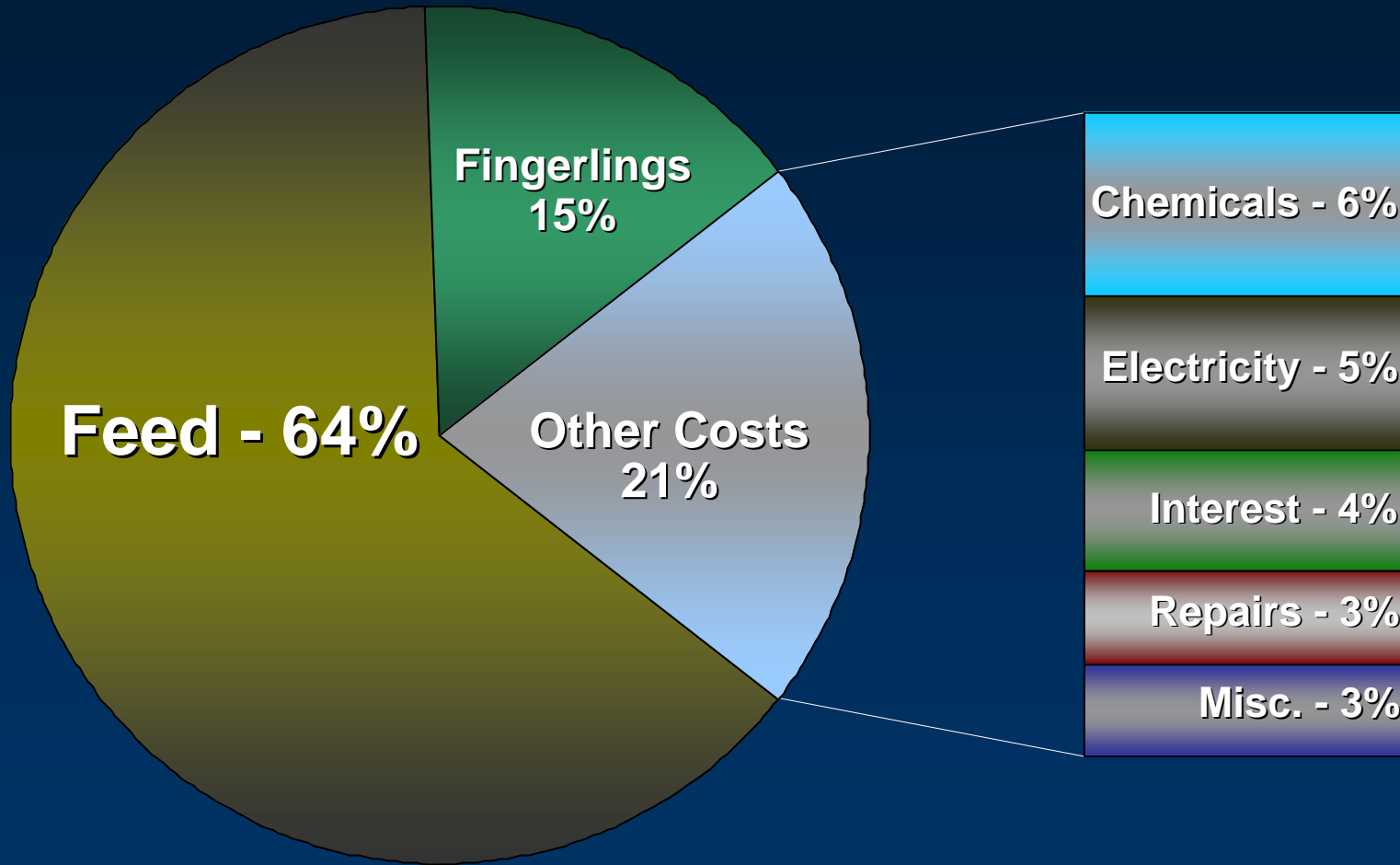
FIXED COSTS

- Interest on investment
- Depreciation
- Permits
- Licenses
- Property taxes
- Insurance

VARIABLE-FIXED COST RATIO



BREAKDOWN OF VARIABLE COSTS FOR A CATFISH OPERATION



MAJOR INVESTMENT AND OPERATING COSTS

- Land
- Pond construction
- Water
- Equipment
- Fingerling costs
- Feed costs
- Electricity and fuel
- Labor

LAND

- Is the land a current asset?
- What is the cost of suitable land for fish farming?

LAND

- 80-85% of the total land area will be used for ponds
- 15-20% will be in levees, drains, storage areas, etc.

POND CONSTRUCTION

- Dirt moving
- Drainage structures
- Gravel
- Vegetative cover

WATER SUPPLY

- Dependable supply of water free of fish and pollutants

WATER IS NEEDED TO:

- Fill the ponds
- Compensate for evaporation and seepage
- Improve pond water quality

WATER

- HSB culture requires more water than catfish production
- Flow rate of 35 gallons per minute per water acre

WELL SIZE

- A flow rate of 35 gallons per minute per water acre

EQUIPMENT

- Greater than 80% of the equipment used on a fish farm is specialized aquaculture equipment such as aerators, feeders, harvesting equipment, and water quality testing equipment

EQUIPMENT

- One electrical aerator and one-third use of an emergency aerator per pond

HSB FINGERLINGS

- The price of one gram fingerlings over the past five years has been around \$0.20 each

FEED COSTS

- Bulk feed costs average \$560/ton
- Protein content derived from fish and soybean meal
- Average feed conversion is 2 to 2.5

ELECTRICITY AND FUEL

Primarily used for:

- Aeration
- Water movement
- Feeding
- Mowing

ELECTRICITY AND FUEL

- Increased aeration demands drive up fuel costs

LABOR

- Day-to-day operations
- Transferring & harvesting
- Management

LABOR

- Increased labor required to receive and transfer fingerlings, feed, monitor water quality, harvest and arrange sales and transport

RULE OF THUMB

- You can expect to spend at least \$5,000 per acre before you sell your first fish
- It will probably take at least 18 months from the time you begin pond construction before any fish are large enough to harvest

Source: Catfish Farmer's Handbook, Cooperative Extension Service, Mississippi State University

CONCLUSION

- Gain knowledge
- Plan
- Start small
- Grow with success