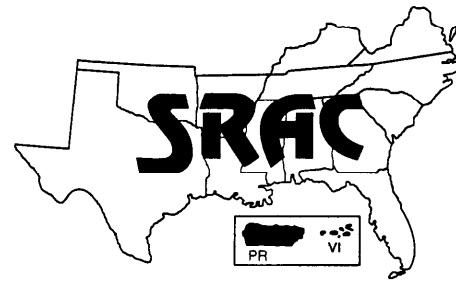


Southern Regional Aquaculture Center



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Developing Business Proposals for Aquaculture Loans

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Many prospective and existing fish farmers indicate that they have experienced difficulties in obtaining financing for aquaculture businesses. In many cases, lenders are not familiar with aquaculture practices and market potential. In other instances, lenders are concerned with the uncertainty and risk associated with aquaculture ventures. However, even if a lender understands aquaculture and its potential, an inadequately prepared business loan proposal will result in a rejection by the lender.

There are two major components of a business loan proposal: the marketing plan and the financial analysis. Taken together, a well-conceived marketing plan and a carefully documented financial analysis will result in more favorable consideration by a lender.

The marketing plan

The marketing plan is often the most overlooked component of a business proposal. Many growers focus on the technical aspects of fish production and do not spend

time considering market opportunities. Yet the most successful aquaculture businesses often are those that are market-oriented, have diverse markets, and are committed to their customers.

Aquaculture operations proposed for areas without a history of aquaculture may work with lenders who are unlikely to have knowledge of aquaculture practices and potential. In this situation, it is useful to present information on the size of the industry, current trends, and overall growth potential.

The marketing plan should be developed before the financial analysis. Decisions regarding species, harvest size, or volume should be based on a comprehensive and specific market analysis for that particular business. Small-scale producers especially should carefully analyze market opportunities before beginning to produce fish.

A potential producer should begin by talking with all local retail operations that handle fish. Even if the grower intends to sell strictly to a processing plant, it is important to understand the product qualities and characteristics expected by the retail operators

and end consumers. Visits should be made to grocery stores and restaurants that sell fish. The potential grower should pay close attention to price, product form (fillets, steaks, whole-dressed, in-the-round, fresh, frozen, etc.), product quality requirements, species availability, quantities sold, etc. Conversations with the restaurant manager or seafood buyer for the store can shed light on sources of supply, preference for processors, and quality issues. All potential and established fish producers should understand the retail environment of their product.

Large-scale growers clearly need to identify a high-volume market outlet such as a processing plant. It is essential that a potential grower invest the time to meet with the processing plant buyers before construction of the facilities. Key considerations and information from the plant include such factors as:

1. Historical prices paid for fish from this plant as compared to other plants.
2. Dockage rates (poundage or percentage deducted from the total delivery amount) for trash fish, out-of-size fish, turtles, or other reasons.

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3. Requirements related to purchasing stock in the company and the potential for billback. (Billback has been used by cooperatives to break even financially by billing any losses for the year back to the stockholders in the proportion of fish supplied to the plant.)
4. Transportation charges.
5. Payment frequency to growers and typical length of time between the time of delivery of fish and receipt of payment.
6. Seasonality issues.
7. Delivery volume requirements.
8. Requirements and limits to fish size. For example, some plants will not pay for fish that are smaller or larger than a specified size range while other plants may dock a percentage off the entire load if the proportion of out-of-size fish is higher than the plant's standard.
9. Quality standards, procedures, and requirements including flavor scores, sizing, and meat quality.
10. Delivery quotas and scheduling patterns for delivering fish.
11. Whether or not contracts are required.
12. State bonding requirements and whether or not the plant is in compliance.

Any documentation from the plants on these issues or a letter stating that they will purchase fish from the individual will strengthen the business loan proposal.

Small-scale producers will need to identify alternative marketing outlets to maintain a profitable operation (see SRAC Publication No. 350, *Small-Scale Marketing of Aquaculture Products*, for additional information). Several alternatives include:

1. Live sales with custom processing. In areas with populations exhibiting regular fish consumption, sales of live fish can be a means of achieving higher prices. The capability to process fish according to preferences of the customer may attract a broader clientele. (State and local health codes, permits, and Hazard Analysis Critical Control Points (HACCP) must be considered before developing this type of marketing plan.)

2. Fee-fishing operations (pay lakes). Fee-fishing operations essentially sell a recreational opportunity to their customers, but if located within 30 to 50 miles of a major population center, fee-fishing may offer a viable market outlet for farm-raised fish.

3. Sales to local grocery stores and restaurants. This requires on-site processing unless restaurant personnel clean the fish. Typically only managers of very exclusive seafood restaurants will purchase whole fish to be cleaned by their personnel. State and local health codes, permits, and Hazard Analysis Critical Control Points (HACCP) must be considered before developing this type of marketing plan.

4. Sales to or through live haulers. These firms or individuals truck live fish to pay lakes or live sale markets. For catfish, a larger (2 to 3 pound) fish typically is required.

For all the above, careful estimates of volumes, size preferences, costs associated with the sales, and state and local regulations must be evaluated carefully.

The financial analysis

There are many excellent books on the preparation of a business loan proposal, on farm management, and on the financial analy-

sis of agricultural businesses. It is beyond the scope of a fact sheet to present detailed definitions of the terms and concepts used in development of the financial statements discussed below. A list of reference materials is included at the end for additional background and detail.

The business proposal must begin with a description of the site where the aquaculture operation is to be established. Suitability of the site in terms of soil characteristics, environmental conditions, and water supply must be presented. The proximity of the proposed farm to processing facilities, feed mills, aquaculture supply firms, equipment repair services, disease and diagnostics laboratories, and the Extension office for technical assistance should be made clear. This demonstrates to the lender both the distance the farm will be from these services and that the individual knows where to find these services. Background information on specific permits that will be required, procedures, and probable time frame to obtain required permits should be presented.

Description of Production System.

The business proposal should include a thorough discussion of the proposed production system. Stocking rates, fingerling sources, anticipated feed rates, and aeration strategy need to be presented clearly and consistently. For example, the feed rate should be appropriate for the stocking rate; low stocking rates do not require intensive aeration.

Harvesting methods should be included. Capital investment requirements differ for farmers who plan to harvest their own ponds and for those hiring custom harvesters. If the business plan calls for custom harvesting, then a listing of those serving the area where the farm will be located should be included. Information on fees charged, volume requirements, and scheduling constraints should be presented.

Possible production problems such as off-flavor should be mentioned. This demonstrates to the lender awareness of the problem and also warns the lender of potential cash flow or debt repayment problems.

Estimated Cost and Returns. A table of annual cost and returns should be estimated for the proposed production system. As in Table 1, returns are estimated by multiplying the total expected harvest weight times the expected price per pound.

Under variable costs, all production costs are itemized. These include feed, fingerlings, chemicals, fuel, labor, etc. Ask your county agent for Cooperative Extension Service budgets to use as a guide.

Fixed costs include depreciation, taxes, and general overhead. Published budgets should be used as a guide to estimate these costs. Fixed costs are important in determining if the business will be viable over a long period of time.

Finally, variable and fixed costs are added together and subtracted from the returns to calculate net returns. Net returns is the estimate of annual profit for the farm.

Estimate of Required Financing. The business proposal must clearly summarize financing requirements for the fish farm. Required financing should be divided into the following loan categories: operating, equipment, and real estate.

The amount of capital for an operating loan is based on the amount of variable cost required. Equipment loans cover the purchase of any new or additional equipment necessary, while a real estate loan covers the cost of constructing ponds, buildings, or other relatively permanent structures. Repayment schedules should be specified to demonstrate how revenues will cover debt payments.

The owner may wish to schedule payments in such a way as to either defer payment or only pay interest the first year; construction

of ponds or other facilities and weather delays may cause revenues to be delayed the first year. The borrower will need to present a sound plan to demonstrate how interest will be paid during the construction phase and through the first year's production season.

In many cases, it may be 18 to 24 months before income is realized. For operating lines of credit, a lien on the fish crop and a first mortgage collateral position will be required by most lenders as a minimum standard.

Current Appraisal of Farm. A lender will require a current appraisal that reflects the value before and after ponds and facilities are constructed. This will be used to calculate a loan to appraisal value ratio. Most lenders will want a loan to value ratio of 50 percent to 125 percent, depending upon the borrower's financial strength. Some lenders may require a Farm Service Agency (FSA: formerly FmHA) or other type of guarantee for those with loan to appraisal values above 50 percent.

Pro Forma Balance Sheet. The balance sheet lists what the assets and liabilities (debt) would be for the entire business including the new aquaculture operation. From the balance sheet, net worth can be calculated as well as the following financial ratios: equity/asset ratio (owner equity), debt/asset ratio, debt/equity ratio, and current ratio.

Table 2 illustrates the organization of a balance sheet. The lender uses the balance sheet to indicate solvency and liquidity or the financial strength and position of the business. Many lenders prefer an owner equity of 60 to 65 percent for aquaculture loans. Any lower level would require very strong earnings and some form of guarantee (e.g., FSA). An owner equity of 50 percent is probably the lowest that would be considered.

Table 1. Example of annual costs and returns for 160-acre catfish farm (seven 20-acre ponds)^a.

Category	Unit	Unit Price	Quantity	Total
1. RETURNS				
Catfish	lb	\$0.75	700,000	\$525,000
2. VARIABLE COSTS				
Fingerlings	each	0.06	700,000	42,000
Feed	ton	273.00	770	210,210
Fuel	total	18,698	1	18,698
Chemicals	total	500	1	500
Labor	total	36,600	1	36,600
Harvesting and Hauling	total	28,000	1	28,000
Other	total	24,000	1	24,000
Interest on Operating Capital	dol.	0.11	270,006	29,701
3. FIXED COSTS				
Depreciation	dol.			52,561
Interest	dol.			40,740
Taxes and Insurance	total			2,000
4. TOTAL COSTS (2+3)	dol.			\$485,010
5. NET RETURNS (1-4)	dol.			\$39,990

^aSOURCE: Engle, C.R. and H.S. Killian. 1997. Cost of Producing Catfish on Commercial Farms in Levee Ponds in Arkansas. Arkansas Cooperative Extension Service, Little Rock, Arkansas.

Table 2. Example of a pro forma balance sheet (end of first year after ponds constructed) for 160-acre catfish farm.

1. Current Assets		3. Current Liabilities	
A. Fish Inventory	\$367,500	A. Accounts Payable	\$2,400
B. Cash	3,000	B. Operating Loan	290,000
C. Supplies	22,800		
D. Accounts Receivable	8,300		
Total	\$401,600	Total	\$292,400
2. Noncurrent Assets		4. Noncurrent Liabilities	
A. Equipment	\$228,630	A. Equipment Loan	\$50,000
B. Broodstock	5,000	B. Real Estate Loan	100,000
C. Wells	50,000		
D. Ponds	136,084		
E. Land	163,000		
F. Buildings	28,400		
Total	\$611,114	Total	\$150,000
5. Total Assets	\$1,012,714	6. Total Liabilities	\$442,400
(1+2)		(3+4)	
7. Net Worth (5-6)	\$570,314		
8. Equity/Asset Ratio (7/5)	56%		
9. Debt/Asset Ratio (6/5)	0.44		
10. Debt/Equity Ratio (6/7)	0.78		
11. Current Ratio (1/3)	1.37		
12. Working Capital (1-3)	\$109,200		
13. Debt Structure (3/6)			66%
14. Working Capital:Value of Farm Production (12/1A)			0.30

Minimum standards used by lenders to evaluate the current ratio (also referred to as working capital on current position asset/liabilities) range from 1.3 to 1.5 with the higher level being preferred. The actual dollar amount of working capital is also compared with the value of farm production.

Pro Forma Income Statement.

The income statement itemizes anticipated farm income and expenses after the second full year of operation (Table 3). Net farm income, return to capital, return to labor and management, and return to equity are calculated from the income statement. Its primary purpose is to compute profit for a given time period.

Pro Forma Cash Flow Budget. A cash flow budget shows cash receipts and cash expenses by month (Table 4). It includes only cash expenses and provides an indication of when cash will be available for loan repayment. Cash flow budgets need to be prepared for each year of the life of equipment that is financed. Family living expenses should be included in the cash flow budget to ensure that the need for income for family support does not conflict with business cash needs.

Personal Financial Statement. An applicant needs to provide three years of tax records as well as three years (including a current statement) of financial statements.

Brief Resume of Borrower.

Operating capacity and management skills will be critical to the success of a fish farming business. If the owner does not have these skills, the business proposal must include funds to hire a manager or demonstrate that the owner has either taken or will be taking courses in fish production. The resume should note these courses along with experience raising fish that includes acreage managed, yields, stocking and feeding rates, and hatchery experience.

Evaluation of a Loan Proposal.

In evaluating a business proposal and loan application, lenders will take into consideration several factors. The overall character and honesty of the individual is considered based on his or her history of paying other bills and character references. Owner equity, the current ratio (from the balance sheet), the loan to appraisal value, and the value of farm production are key indicators for many lenders. Earnings will be examined in great detail along with repayment capacity. These will be viewed in terms of sustaining production over a three-year price cycle. Collateral and capital of the individual operator will also affect the level of the lender's decision. The lender will look at the financial condition of the processor to make certain that the producer will receive payment within two to three weeks of fish delivery.

Your county Extension agent can assist with the development of the business proposal. A comprehensive and thorough proposal will greatly facilitate the loan application process.

Table 3. Example of a pro forma income statement for 160-acre catfish farm.

1. Cash Farm Income	
Catfish Sold	\$525,000
2. Cash Farm Expenses	
A. Variable Cash Expenses	
Feed	210,210
Fingerlings	42,000
Fuel	18,698
Chemicals	500
Labor	36,600
Harvesting and Hauling	28,000
Other Variable Costs	24,000
Interest on Operating Capital	29,701
B. Fixed Cash Expenses	
i. Interest	40,740
ii. Taxes and Insurance	2,000
C. Total Cash Expenses	\$432,449
3. Net Cash Farm Income (1-2C)	\$92,551
4. Family Living Expenses	\$20,000
5. Non-Cash Adjustments to Income^a	\$52,561
6. Net Farm Income from Operations (3-4-5)	\$19,990
7. Return to Capital (6+4+2Bi-op. cost of labor^b-op. cost of mgmnt^c)	\$47,730
8. Return to Labor and Management (6+4+2Bi-op. cost of capital^d)	\$48,230
9. Return to Equity (6+4-op. cost of labor-op. cost of management)	\$6,990
^a Includes depreciation, unpaid family labor and the value of farm produce consumed by the family.	
^b Value of labor used in some other activity. Assumed to be \$18,000.	
^c Value of management used to produce something else. Assumed to be \$15,000.	
^d Total capital x interest rate (12%) = \$32,500.	

Suggested references

Farm Management

Kay, R.D. and W.M. Edwards. 1994. Farm Management. Third Edition. McGraw-Hill, Inc. New York.

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Furlong, C.B. 1993. Marketing for Keeps: Building Your Business by Retaining Your Customers. John Wiley & Sons, Inc., New York.

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Table 4. Example of a pro forma cash flow budget (quarterly) for 160-acre catfish farm. ^a										
Item	AIV	BI	BII	BIII	BIV	CI	CII	CIII	CIV	
Beginning Cash	50,000	1,691	209	1,149	5,445	6,245	79,163	65,753	46,699	
Receipts	0	0	0	15,000	378,750	131,250	131,250	131,250	131,250	
Cash Inflow	50,000	1,691	209	16,149	384,195	137,495	210,413	197,003	177,949	
Operating Expenses										
Fingerlings	21,000	0	42,000	0	0	0	42,000	0	0	
Feed	9,342	9,342	69,799	77,536	53,533	9,342	69,799	107,536	23,533	
Fuel	2,059	823	7,111	8,705	2,059	823	7,111	8,705	2,059	
Chemicals	500	0	0	0	500	0	0	0	500	
Labor	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	
Harvesting	0	0	0	0	11,200	5,600	5,600	5,600	5,600	
Repairs and Maintenance	0	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	
Other	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	
Total	45,051	25,315	134,060	101,391	82,442	30,915	139,660	136,991	46,842	
Living Expenses	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	
Other Expenses	700	2,167	0	0	700	2,167	0	0	700	
Scheduled Debt Payments										
Real Estate Principal	1,558	0	0	0	1,729	0	0	0	1,920	
Interest	11,000	0	0	0	10,829	0	0	0	10,638	
Equipment Principal	0	0	0	3,063	0	0	0	3,385	0	
Interest	0	0	0	5,250	0	0	0	4,928	0	
Operating Principal	0	0	0	0	270,000	20,000	0	0	0	
Interest	0	0	0	0	7,250	250	0	0	0	
Total Cash Outflow	63,309	32,482	139,060	114,704	377,950	58,332	144,660	150,304	65,100	
Cash Available	-13,309	-30,791	-138,851	-98,555	6,245	79,163	65,753	46,699	112,849	
New Borrowing	15,000	31,000	140,000	104,000	0	0	0	0	0	
Cash Balance	1,691	209	1,149	5,445	6,245	79,163	65,753	46,699	112,849	
Debt Outstanding										
Real Estate	98,442	98,442	98,442	98,442	96,713	96,713	96,713	96,713	94,793	
Equipment	50,000	50,000	50,000	46,937	46,937	46,937	46,937	43,552	43,552	
Operating	15,000	46,000	186,000	290,000	20,000	0	0	0	0	

^aLetters refer to years, Roman numerals to quarters, e.g., AIV is the fourth quarter of Year 1. This cash flow budget assumes that it takes approximately 9 months to obtain financing, construct ponds, water supply and drainage systems, and to purchase equipment. Some fish are stocked in the last quarter of this first year. While most established farms stock fingerlings in the spring, this may not be possible for new producers. Summer is the best time to construct ponds. Once ponds are constructed, they should be filled with water to prevent levee erosion. Filled ponds that are not stocked and fed frequently develop serious weed problems. The scenario presented in this cash flow budget is one that occurs frequently due to the practical realities of starting up an aquaculture business.