

Case Study #1: Change to Operations - Cow/Calf

Thinking of making changes to your farm operations? See how the BC Farm Business Advisory Services Program can help.

This is a fictitious Case Study prepared to illustrate the process and benefits of completing a financial review through the BC Farm Business Advisory Services Program. The situation presented is one that is common in northern British Columbia. This Case Study illustrates how a Tier 1 Farm Financial Assessment is conducted and, in this example, is followed by a Tier 2 Business Strategy analysis. The Case Study shows the type of analysis that results, and how the work done can assist you in making decisions about your business. The purpose of this example is not to recommend a particular course of action, rather to illustrate the process, and the kind of information that can come out of it. Individual results may vary.

The Kaff Ranch, Bob and Alice Kaff

Bob and Alice Kaff live and ranch in the Harper Valley area, just west of Prince George in northern British Columbia. Operations focus on the production of beef calves from their herd of 175 cows. Calves are normally sold directly off the cows when they are weaned in late September. Land owned includes four parcels containing 1,280 acres in total, with 1,140 acres cultivated. In addition, they rent 140 acres with 100 acres cultivated. They have all the buildings and equipment necessary for their operation. Facilities and machinery are adequate, but their round baler is getting old, and they would like to replace it before the next haying season.

Bob and Alice and their two teenage children provide most of the labour required to operate the ranch, but do occasionally hire some help during haying season. In addition, Bob and Alice both work off the farm to supplement income. Bob works as a truck driver in the winter months. Alice works part time as a teacher's aide at the nearby Harper Valley School. Their son Jordan is 16, and their daughter Rachel is 14. Both live at home, and attend school full time. Both really enjoy the ranch, but have not yet decided if they want to be involved in it when they finish their schooling.

Financially, the Kaffs fit the profile of many cow-calf producers in their area. They have significant equity in their operation. While cash flow has seemed somewhat tight, they have always been able to pay their bills, and enjoy a reasonable standard of living. Since the first outbreak of BSE in 2003, however,

the situation seems to have worsened. Prices for their product have weakened, and costs have continued their never ending upward spiral. Prior to 2003, they had sufficient income to expand their herd a bit every year, and purchase equipment. They never needed an operating loan until 2006, and since then the amount required has increased every year. This past fall, when they sold their calves, the amount they received was just barely enough to pay the operating loan off. They expect they will need an even larger one in 2011.

Bob and Alice have given a lot of thought to their financial situation over the last couple of years. After the calves sold last fall, they decided to go to their local B.C. Ministry of Agriculture office and talk to their regional agrologist about some options they were considering. The agrologist told them about the Farm Business Advisory Services program jointly funded by the federal and provincial governments through Growing Forward, and explained that a Farm Financial Assessment would provide a review of their present situation and would cost them only \$100. If they then want to continue with the Specialized Business Planning part of the program, they could review options and do projections on one or more of them with the program again paying the majority of the cost. Bob and Alice knew they needed to make some changes to their operation, and decided that if changes were going to be made, they would need to be made with the best information possible. They applied to the program, and arranged a meeting with an approved Advisor from their area.

Goals

Prior to his first meeting with them, their Advisor, Joe Analyst, asked them to provide him with information about their operation: their goals, financial challenges and other basic financial information including their assets and debts. In his first meeting with them on the ranch, he collected additional information necessary to complete the financial review. A significant amount of time was spent discussing what they wanted to achieve for themselves personally, and for their farm business.

Reviewing their personal goals, Bob and Alice came up with the following:

Personal Goals

The Kaffs like their ranch life, and feel it has been a great place to raise their family. Now that their children are in their middle teens, however, they are starting to plan for the time when the children will be away from home, or possibly joining them in the operation. They would like to make changes to the business now to allow them to focus more on things they want to accomplish personally:

- Bob enjoys driving truck in the winter, but finds as he becomes older it is getting harder to work off the ranch and to run the business at its present scale. He is fine continuing the work for a few more years, but within five years would like to end the non farm employment, or scale back his ranch operations. He really enjoys the ranch life, and plans to continue with it until about age 65, and then slow down. He would be pleased if one of their children would take over the ranch some day. Alice likes her job and intends to continue working out indefinitely into the future.

- The children are still young, so don't yet know what they want to do when they are finished school. Bob and Alice would like to be able to give them the opportunity to come back to the ranch to work with them, if they choose to do that. Alternatively, if they decide to pursue a career outside the ranch, they want to be able to help with schooling costs.
- To be able take annual holidays, and buy some personal things such as a newer holiday trailer and boat they could enjoy as a family.
- To be able to spend more time together, and less time working, which is all they seem to have been doing lately.

Business Goals

The Kaffs want to have a business that will provide them with an income sufficient to meet their financial requirements, provide for future growth so it can remain competitive in the industry, and be profitable enough for one or both of their children to handle the debt required to buy it from their parents. Specific business goals within the next 10 years are:

- within the next year - to resolve the financial issues they are currently facing and to purchase a new baler.
- within the next five years - to improve profitability to provide surplus funds for expansion, and sufficient income from the ranch for Bob to end his non farm employment.
- within the next 10 years - if feasible, possibly expand operations further, and start putting away funds in another investment for retirement purposes.



Farm Financial Assessment (Tier 1)

Working from the information the Kaffs provided, Joe Analyst completed a Status Quo assessment of their operation. The purpose of this part of the review is to gain information about where the operation is currently, and what they can expect financially if no changes are made. The results are summarized below.

Before Change Statement of Assets and Debts

KAFF RANCH ASSET/DEBT SUMMARY			
Assets (Jan 1, 2011)		Liabilities (Jan 1, 2011)	
Current Assets		Current Liabilities	
Cash in bank	5,300	Operating loan	0
Cash saved	10,000	Feeder loans	0
Crops for sale	0	Acc. payable	0
Feed & sup.	58,700	Acc. interest	2,009
Market livestock	0	Cur. port. term debt	33,977
Total	74,000	Total	35,986
Intermediate Assets		Intermediate Debt	
Mach & equip	225,800	Tractor loan	32,936
Breeding l/s	213,000	Cow loan	40,000
Total	438,800	Total	72,936
Long Term Assets		Long Term Debt	
Land	890,000	Land loan	242,257
Buildings	200,000		
Total	1,090,000	Total	242,257
Total Assets	1,602,800	Total Debt	351,179
		Net Worth	1,251,621

Definitions

Current Portion Term Debt - is the portion of the Intermediate and Long Term Debt that is due within the next 12 months. This amount is in addition to the Intermediate and Long Term Debt shown. In this case, it includes 15,064 of the tractor loan, 10,000 of the cow loan, 8,913 of the land loan. In addition to this principal of 2,813 will be paid on the new baler loan in 2011.

Current Liabilities - is debt that is normally due within the upcoming 12 months.

Intermediate Debt - is the portion of the debt that is due beyond 12 months and within 10 years

Long Term Debt - is the portion of the debt that is due beyond 10 years.

Kaff Ranch Ratios						
Ratio	Definition	At start of Year	Projected at end of year	Industry Standards		
				Good	Caution	Weak
Current Ratio	Current Assets/Current Debt	2.06	1.38	>1.50	1:00-1.50	<1.00
Leverage Ratio	Total Debt/Net Worth	0.28	0.28	<0.42	0.42-0.818	>0.818
Net Worth Ratio	Net Worth/Total Assets	0.78	0.78	>0.70	0.55-0.70	<0.55

Joe explained that the ratios and financial indicators for the present Asset/Debt Summary all appear to be within acceptable limits. The Current Ratio of 2.06 suggests that there should be sufficient resources to meet financial obligations within the next 12 months. He noted, however, that the projections done indicate that if no changes are made, the Current Ratio will deteriorate by the end of the upcoming year. The Kaffs do have significant equity (\$1,251,621 and a 78% Equity Ratio), however, there still is a large debt load for the number of cows they run, given present beef prices.

Before Change Income and Expense Summary

KAFF RANCH INCOME/EXPENSE SUMMARY			
Income (Jan 1 - Dec 31, 2011)		Expense (Jan 1 - Dec 31, 2011)	
Income		Expense	
Livestock Sales		Livestock expense	28,250
Calves 140 x 625	87,500	Cropping expense	27,675
Cull cows 18 x 500	9,000	Overhead expense	7,859
Repl. hfrs 5 x 900	4,500	Operating interest	736
Bulls 3 x 1000	3,000	Term interest	22,411
Total	104,000	Total Cash Expense	86,931
Crop Sales		Non Cash Expense	
None	0	Depreciation	24,064
Total	0	Expense accrual adjustments	-49
Other Income		Total Non Cash Expense	24,015
Gov't programs	0	Total Accrued Expense	110,946
Custom work	5,000	Net Accrued Farm Income	54
Other	2,000	Non farm income	40,000
Total	7,000	Living costs	35,000
Total Cash Income	111,000	Income tax	2,000
Income accrual adjustments	0	Debt Service Capacity	49,529
Total Accrued Income	111,000	(Net acc. farm inc. + depreciation + term interest + non farm income - living costs - income tax)	

Debt Service Ratio:	
= $\frac{\text{Debt Service Capacity}}{\text{Payments}}$	0.83
Max. Operating loan required	41,039

Payments	
Principal	36,790
Interest	23,099
Total	59,889

The completed Income/Expense Summary provided further insight about what Bob and Alice could expect financially if they continue without making changes:

- with the production, livestock prices and operating expenses as projected for the upcoming year, net income considering depreciation, is expected to be only slightly positive.
- even with the non farm income being earned, with the debt carried, at the terms presently in place, there would likely be insufficient repayment ability in the long term.
- using their operating loan, they should be able to make all their payments in the upcoming year, but in doing so, they may further deplete their cash resources, and would likely be left with a small operating loan, and no cash on hand at the start of 2012. Operating loan requirements are expected to peak at about \$41,000 in the upcoming year.
- net worth is expected to increase only slightly over the course of the upcoming year. The Current Ratio would likely weaken.

Development of a Strategic Plan

(Business Strategy, Tier 2 Specialized Business Planning)

Joe Analyst took some time with Bob and Alice to explore changes that could be made to address the above noted issues. The main change options they considered were:

1. reducing the herd to 50 cows, growing hay for sale on the land not needed for the livestock operation, and increasing non farm employment.
 2. reducing the herd to 100 cows, keeping the calves to long yearlings, growing some hay for sale on land not needed for the livestock, and increasing non farm employment.
 3. retaining the present herd, backgrounding the calves to increase revenue and purchasing the additional feed required. Bob would discontinue his non farm employment in this option.
 4. selling the cows and much of the equipment and running owned grass cattle during the summer. In this option, Bob would increase his employment to full time.
- Bob increasing hours of winter non farm employment. With the reduced number of cows, he feels his winter workload should be sufficiently reduced to allow for additional time away at work, at least in the short term. Bob hopes to be able to increase his net employment income to about \$30,000 per year.
 - Alice believes she can increase her hours at the Harper Valley School, and intends to do that. With the smaller herd of cows, Bob will need her help less on the ranch so she feels increasing her non farm employment should work for them. Alice hopes to be able to increase her net employment income to about \$30,000 per year as well.

While reviewing alternatives, Bob and Alice continually checked the options against their personal and business goals to ensure the alternative chosen would take them in the direction they want to go.

They decided to pursue Option #2 as follows:

- reducing the herd to 100 cows and switching from selling fall calves to producing and selling long yearlings at 800 – 1,000 pounds.
- using surplus land not needed in the new operation to produce square bales for sale. It is expected that about 60 to 70 acres could now be allocated to this use.
- using some of the proceeds from the reduction of cow numbers to reduce debt, and payments.

Operations were projected for two years based on this change. The results follow:

After Change Projection (Year 1)

KAFF RANCH INCOME/EXPENSE SUMMARY			
Income (Jan 1 - Dec 31, 2011)		Expense (Jan 1 - Dec 31, 2011)	
Income		Expense	
Livestock Sales		Livestock expense	21,250
Calves 60 x 625	37,500	Cropping expense	27,675
Cull cows 18 x 500	9,000	Overhead expense	7,859
Repl. hfrs 15 x 900	13,500	Operating interest	577
Bulls 4 x 1000	4,000	Term interest	22,411
Cow red'n 75 x 900	67,500	Total Cash Expense	79,772
Total	131,500		
Crop Sales		Non Cash Expense	
Sq. bales 4000 x 3.00	12,000	Depreciation	24,064
Total	12,000	Expense accrual adjustments	8,877
		Total Non Cash Expense	32,941
Other Income		Total Accrued Expense	112,713
Gov't programs	0	Net Accrued Farm Income	4,787
Custom work	5,000	Non farm income	40,000
Other	2,000	Living costs	35,000
Total	7,000	Income tax	2,000
Total Cash Income	150,500	Debt Service Capacity	54,262
Income accrual adjustments	-33,000	(Net acc. farm inc. + depreciation + term interest	
Total Accrued Income	117,500	+ non farm income - living costs - income tax)	

Payments	
Principal	36,790
Interest	22,865
Total	59,655

After Change Projection (Year 2)

KAFF RANCH INCOME/EXPENSE SUMMARY			
Income (Jan 1 - Dec 31, 2012)		Expense (Jan 1 - Dec 31, 2012)	
Income		Expense	
Livestock Sales		Livestock expense	18,825
Calves 80 x 950	76,000	Cropping expense	27,675
Cull cows 11 x 500	5,500	Overhead expense	7,859
Repl. hfrs 3 x 900	2,700	Operating interest	156
Bulls 2 x 1000	2,000	Term interest	19,680
Total	86,200	Total Cash Expense	74,195
Crop Sales		Non Cash Expense	
Sq. bales 5200 x 3.00	15,600	Depreciation	25,239
Total	15,600	Expense accrual adjustments	-243
		Total Non Cash Expense	24,996
Other Income		Total Accrued Expense	99,191
Gov't programs	0	Net Accrued Farm Income	9,609
Custom work	5,000	Non farm income	60,000
Other	2,000	Living costs	35,000
Total	7,000	Income tax	2,000
Total Cash Income	108,800	Debt Service Capacity	77,528
Income accrual adjustments	0	(Net acc. farm inc. + depreciation + term interest	
Total Accrued Income	108,800	+ non farm income - living costs - income tax)	

Payments	
Principal	36,353
Interest	19,593
Total	55,946

Some comments about these results are as follows:

1. year one is the transition year of the Plan (2011). Projections include reduction of the cow herd to 100 head in the fall, along with replacement heifers and bulls, and keeping over 80 calves as will be done each year going forward. Funds from the sale of breeding animals will go toward funding operations in the upcoming year, as income from the sale of calves will be less, and to reduce the cow loan. As the change would not take place until the fall of the year, non farm income is expected to remain unchanged in year one.
2. year two shows what is expected to be a typical year after transition, and reflects the expected livestock, hay, and non farm income they will have after the change is complete.
3. the projections done indicate that net farm income will increase to \$9,609 in the second year of the Plan. In addition to the improve-

ment in net farm income, net non farm income is expected to increase by \$20,000/year in the second year. As a result, Debt Service Capacity is projected to improve from \$49,529 at present to \$77,528 in the second year. With the application of some of the proceeds from the reduction in cow numbers to the cow loan, payments are projected to go down to \$55,946 in year two.

4. with the improvement in net income and non farm income, funds should be available to rebuild cash reserves, and/or invest into their retirement fund. The projections done indicate that in year one of the Plan, net worth will increase by \$7,787, and in year two, by \$32,609. The improvement in projected Net Worth is partly due to the increase in net income, and partly due to the increase in non farm income that is expected with the change in operations.

The following table illustrates the key financial ratios and indicators for this operation before the proposed changes, and what they are expected to be after the change are made.

Kaff Ranch Ratios:		Before Changes	After Changes		Industry Standards		
			Projected at End of Year 1	Projected at End of Year 2	Good	Caution	Weak
Current Ratio:	Current Assets/Current Debt	2.06	3.10	3.89	>1.50	1.00 - 1.50	<1.00
Leverage Ratio:	Total Debt/Net Worth	0.28	0.26	0.22	<0.42	0.42 - 0.818	>0.818
Net Worth Ratio:	Net Worth/Total Assets	0.78	0.79	0.82	>0.70	0.55 - 0.70	<0.55
Net Worth:	Total Assets - Total Debt	1,251,621	1,259,408	1,292,062			
Definition		Projected for Status Quo	Projected for Year 1	Projected for Year 2	Good	Caution	Weak
Debt Servicing Ratio:	Debt Service Capacity/Payments	0.83	0.91	1.39	>1.50	1.10 - 1.50	<1.10
Return on Assets:	(Net Farm Inc. + Int. - Living costs)/Total Assets	-0.74%	-0.46%	-0.50%	>5%	1% - 5%	<1%
Return on Equity:	(Net Farm Inc. - Living Costs)/Net Worth	-2.79%	-2.40%	-1.97%	>7%	4% - 7%	<4%
Turnover Ratio:	Gross Income/Total Assets	0.06	0.07	0.07	>0.40	0.30 - 0.40	<0.30
Efficiency Ratio:	(Exp.- Deprec.- Term Int.)/Gross Farm Inc.	0.57	0.56	0.50	<0.65	0.65 - 0.80	>0.80
ABA Rating:	Combined weighted rating of Current Ratio, Leverage Ratio and Debt Servicing Ratio	15.5	13	9	<11.5	11.5 - 17.0	>17.00
Maximum Operating Loan Required		41,039	33,251	12,900			
Total Accrued Farm Income		111,000	117,500	108,800			
Net Accrued Farm Income		53	4,787	9,609			

Summary

Bob and Alice decided to implement these changes. Some additional things they will work into their plan are:

- √ annual reviews. This assessment and analysis helped them see where they are at present, what to expect if they don't make changes, and develop a plan that they feel should work for them. They will now work with their Advisor to do an assessment at the end of every year to see where they are at financially at that time, review results for the prior year, and do new projections for the upcoming year. This will allow them to reassess and modify their plan as they move forward, and track their progress in moving toward their goals.
- √ if, after the first year, the plan appears to be working as expected, Bob and Alice will use part of the surplus funds each year to build a non-farm retirement fund for themselves.

- √ they will update their Wills, and look into using life insurance policies in the short to intermediate term to ensure that the family and farm operation is financially protected in the event of the death of either one, or both of them.

Because of their involvement in the BC Farm Business Advisory Services Program, Bob and Alice were able to assemble the information necessary to assess where they are at financially and operationally, and make informed decisions about changes they need to implement in order to meet their goals and remain viable.

To arrange for a Farm Business Assessment, contact:

B.C. Farm Business Advisory Services Program

B.C. Ministry of Agriculture

Phone: 250-260-3000

Toll Free: 1-877-702-5585

Fax: 250-549-5488

Website: http://www.al.gov.bc.ca/busmgmt/FB_Advisory_Services.html

Email: BCFBAS@gov.bc.ca

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