

Table L-16-1 Annual Agricultural Benefits

Table L-10-1 Annual Agricultural Benefits									
M/P Area	Crops	Case	Financial			Economic			
			Net Income (1000Rls./ha)	Cropped Area (ha)	Income (1000Rls.)	Net Income (1000Rls./ha)	Cropped Area (ha)	Income (1000Rls.)	
Vastegan	Alfalfa (Irrigated)	Without	7,750	282.8	2,191,700	6,690	282.8	1,891,932	
		With	7,750	295.5	2,290,125	6,690	295.5	1,976,895	
		Benefit			98,425			84,963	
Chaman Goli-Bazoft	Wheat (Rainfed)	Without	440	1,141.8	502,392	260	1,141.8	296,868	
		With	440	1,095.0	481,800	260	1,095.0	284,700	
		Benefit			-20,592			-12,168	
	Alfalfa (Irrigated)	Without	7,750	55.6	430,900	6,690	55.6	371,964	
		With	7,750	102.4	793,600	6,690	102.4	685,056	
		Benefit			362,700			313,092	
	Total Benefit				342,108			300,924	
	Sarbaz	Wheat (Rainfed)	Without	440	208.0	91,520	260	208.0	54,080
			With	440	196.7	86,548	260	196.7	51,142
Benefit					-4,972			-2,938	
Alfalfa (Irrigated)		Without	7,750	420.7	3,260,425	6,690	420.7	2,814,483	
		With	7,750	494.5	3,832,375	6,690	494.5	3,308,205	
		Benefit			571,950			493,722	
Apple		Without	30,550	2,029.5	62,001,225	27,330	2,029.5	55,466,235	
		With	30,550	2,097.3	64,072,515	27,330	2,097.3	57,319,209	
		Benefit			2,071,290			1,852,974	
Rangeland		Without	178	5,392.0	959,776	167	5,392.0	900,464	
		With	178	5,335.5	949,719	167	5,335.5	891,029	
		Benefit			-10,057			-9,436	
Total Benefit				2,628,211			2,334,323		
Tang Sorkh	Wheat (Rainfed)	Without	440	173.4	76,296	260	173.4	45,084	
		With	440	90.7	39,908	260	90.7	23,582	
		Benefit			-36,388			-21,502	
	Alfalfa (Irrigated)	Without	7,750	83.1	644,025	6,690	83.1	555,939	
		With	7,750	159.4	1,235,350	6,690	159.4	1,066,386	
		Benefit			591,325			510,447	
	Vegetable	Without	11,180		0	9,300	0.0	0	
		With	11,180		0	9,300	0.0	0	
		Benefit			0			0	
	Rangeland	Without	178		0	167	0.0	0	
		With	178		0	167	0.0	0	
		Benefit			0			0	
	Total Benefit				554,937			488,945	
Zeras									

Table L-16-2 Estimated Net Income Per Hectare (Wheat)

Item	Unit	Irrigated Wheat					Rainfed Wheat				
		Amount	Financial		Economic		Amount	Financial		Economic	
		Amount/ha	Unit Price	Rls/ ha	Unit Price	Rls/ ha	Amount/ha	Unit Price	Rls/ ha	Unit Price	Rls/ ha
Value of Output											
(1) Main-products	kg	2,474.00	1,050	2,597,700	1,190	2,944,060	695.00	1,050	729,750	1,190	827,050
(2) By-products	kg										
Total (Revenue)				2,597,700		2,944,060			729,750		827,050
Inputs Costs											
(1) Seed	kg	200	1,000	200,000	940	188,000	170	1,000	170,000	940	159,800
(2) Fertilizer											
Manure	kg	800	23	18,400	20	16,000	670	23	15,400	20	13,400
Urea	kg	120	530	63,600	1,000	120,000	100	530	53,000	1,000	100,000
Ammonium phosphate	kg	120	460	55,200	810	97,200	100	460	46,000	810	81,000
Ammonium nitrate	kg	10	450	4,500	790	7,900	10	450	4,500	790	7,900
(3) Agro-chemicals	kg	0.60	8,470	5,100	7,962	4,800	0.40	8,470	3,400	7,962	3,200
Sub Total (Before Labor Costs)				346,800		433,900			292,300		365,300
(6) Labor											
Family Labor	man day	91			11,750	1,069,250	17			11,750	199,750
Hired Labor	man day		25,000	0	11,750	0		25,000	0	11,750	0
Sub Total (Before Labor Costs)				0		1,069,250			0		199,750
Total Costs				346,800		1,503,150			292,300		565,050
Income Before Labor Costs				2,250,900		2,510,160			437,450		461,750
Net Income				2,250,900		1,440,910			437,450		262,000

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-3 Estimated Net Income Per Hectare (Barley)

Item	Unit	Irrigated Barley					Rainfed Barley				
		Amount	Financial		Economic		Amount	Financial		Economic	
		Amount/ha	Unit Price	Rls/ ha	Unit Price	Rls/ ha	Amount/ha	Unit Price	Rls/ ha	Unit Price	Rls/ ha
Value of Output											
(1) Main-products	kg	2,263.00	800	1,810,400	1,050	2,376,150	807.00	800	645,600	1,050	847,350
(2) By-products	kg										
Total (Revenue)				1,810,400		2,376,150			645,600		847,350
Inputs Costs											
(1) Seed	kg	200	1,000	200,000	940	188,000	170	1,000	170,000	940	159,800
(2) Fertilizer											
Manure	kg	1,400	23	32,200	20	28,000	1,170	23	26,900	20	23,400
Urea	kg	130	530	68,900	1,000	130,000	110	530	58,300	1,000	110,000
Ammonium phosphate	kg	100	460	46,000	810	81,000	80	460	36,800	810	64,800
Ammonium nitrate	kg	0	450	0	790	0	0	450	0	790	0
(3) Agro-chemicals	kg	0.50	8,470	4,200	7,962	4,000	0.40	8,470	3,400	7,962	3,200
Sub Total (Before Labor Costs)				351,300		431,000			295,400		361,200
(6) Labor											
Family Labor	man day	84			11,750	987,000	18			11,750	211,500
Hired Labor	man day		25,000	0	11,750	0		25,000	0	11,750	0
Sub Total (Before Labor Costs)				0		987,000			0		211,500
Total Costs				351,300		1,418,000			295,400		572,700
Income Before Labor Costs				1,459,100		1,945,150			350,200		486,150
Net Income				1,459,100		958,150			350,200		274,650

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-4 Estimated Net Income Per Hectare (Vegetable and Beans)

Item	Unit	Vegetable: Potato					Beans				
		Financial		Economic		Amount/ha	Financial		Economic		Amount/ha
		Amount/ha	Unit Price	Rls./ ha	Unit Price		Unit Price	Rls./ ha	Unit Price	Rls./ ha	
Value of Output											
(1) Main-products	kg	14,900.00	800	11,920,000	750	11,175,000	1,643.00	2,285	3,754,255	2,150	3,532,450
(2) By-products	kg										
Total (Revenue)				11,920,000		11,175,000			3,754,255		3,532,450
Inputs Costs											
(1) Seed	kg	400.0	1,000	400,000	940	376,000	10	4,000	40,000	3,760	37,600
(2) Fertilizer											
Manure	kg	3,500	23	80,500	20	70,000	14,000	23	322,000	20	280,000
Urea	kg	300	530	159,000	1,000	300,000	100	530	53,000	1,000	100,000
Ammonium phosphate	kg	200	460	92,000	810	162,000	110	460	50,600	810	89,100
Ammonium nitrate	kg	0	450	0	790	0	0	450	0	790	0
(3) Agro-chemicals	kg	0.80	8,470	6,800	7,962	6,400	0.70	8,470	5,900	7,962	5,600
Sub Total (Before Labor Costs)				738,300		914,400			471,500		512,300
(6) Labor											
Family Labor	man day	82			11,750	963,500	53			11,750	622,750
Hired Labor	man day		25,000	0	11,750	0		25,000	0	11,750	0
Sub Total (Before Labor Costs)				0		963,500			0		622,750
Total Costs				738,300		1,877,900			471,500		1,135,050
Income Before Labor Costs				11,181,700		10,260,600			3,282,755		3,020,150
Net Income				11,181,700		9,297,100			3,282,755		2,397,400

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-5 Estimated Net Income Per Hectare (Sugar beet, Irrigated Alfalfa)

Item	Unit	Sugar beet					Irrigated Alfalfa				
		Financial		Economic		Amount/ha	Financial		Economic		Amount/ha
		Amount/ha	Unit Price	Rls./ ha	Unit Price		Unit Price	Rls./ ha	Unit Price	Rls./ ha	
Value of Output											
(1) Main-products	kg	28,800.00	252	7,257,600	250	7,200,000	8,755.00	1,000	8,755,000	940	8,229,700
(2) By-products	kg										
Total (Revenue)				7,257,600		7,200,000			8,755,000		8,229,700
Inputs Costs											
(1) Seed	kg	15	2,500	37,500	2,350	35,300	60	5,000	300,000	4,700	282,000
(2) Fertilizer											
Manure	kg	2,700	23	62,100	20	54,000	5,000	23	115,000	20	100,000
Urea	kg	300	530	159,000	1,000	300,000	400	530	212,000	1,000	400,000
Ammonium phosphate	kg	200	460	92,000	810	162,000	0	460	0	810	0
Ammonium nitrate	kg	20	450	9,000	790	15,800	0	450	0	790	0
(3) Agro-chemicals	kg	10.00	8,470	84,700	7,962	79,600	15.00	8,470	127,100	7,962	119,400
Sub Total (Before Labor Costs)				444,300		646,700			754,100		901,400
(6) Labor											
Family Labor	man day	83			11,750	975,250	44			11,750	517,000
Hired Labor	man day		25,000	0	11,750	0	10	25,000	250,000	11,750	117,500
Sub Total (Before Labor Costs)				0		975,250			250,000		634,500
Total Costs				444,300		1,621,950			1,004,100		1,535,900
Income Before Labor Costs				6,813,300		6,553,300			8,000,900		7,328,300
Net Income				6,813,300		5,578,050			7,750,900		6,693,800

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-6 Estimated Net Income Per Hectare (Rainfed Alfalfa)

Item	Unit	Rainfed Alfalfa				
		Amount	Financial		Economic	
		Amount/ha	Unit Price	Rls./ ha	Unit Price	Rls./ ha
Value of Output						
(1) Main-products	kg	666.00	1,000	666,000	940	626,040
(2) By-products	kg					
Total (Revenue)				666,000		626,040
Inputs Costs						
(1) Seed	kg	25	5,000	125,000	4,700	117,500
(2) Fertilizer						
Manure	kg	500	23	11,500	20	10,000
Urea	kg	40	530	21,200	1,000	40,000
Ammonium phosphate	kg	0	460	0	810	0
Ammonium nitrate	kg	0	450	0	790	0
(3) Agro-chemicals	kg	0	8,470	0	7,962	0
Sub Total (Before Labor Costs)				157,700		167,500
(6) Labor						
Family Labor	man day	22			11,750	258,500
Hired Labor	man day		25,000	0	11,750	0
Sub Total (Before Labor Costs)				0		258,500
Total Costs				157,700		426,000
Income Before Labor Costs				508,300		458,540
Net Income				508,300		200,040

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-7 Estimated Net Income Per Hectare Apple and Grape)

Item	Unit	Apple					Grape				
		Amount	Financial		Economic		Amount	Financial		Economic	
		Amount/ha	Unit Price	Rls./ ha	Unit Price	Rls./ ha	Amount/ha	Unit Price	Rls./ ha	Unit Price	Rls./ ha
Value of Output											
(1) Main-products	kg	40,000.00	820	32,800,000	770	30,800,000	8,000.00	1,050	8,400,000	990	7,920,000
(2) By-products	kg										
Total (Revenue)				32,800,000		30,800,000			8,400,000		7,920,000
Inputs Costs				(lifetime=30year)					(lifetime=30year)		
(1) Tree	Tree	400	67	26,700	1,880	752,000	400	33	13,333	940	376,000
(2) Fertilizer	Tree	400	700	280,000	658	263,200	4,000	23	92,000	20	80,000
(3) Agro-chemicals	Tree	400	1,300	520,000	1,200	480,000			4,800		5,000
(4) Irrigation	Tree	400	1,300	520,000	1,200	480,000			302,400		284,000
(5) Land preparation	Tree	400	500	200,000	470	188,000			240,000		226,000
(6) Harvest	Tree	400	200	80,000	190	76,000					
Sub Total (Before Labor Costs)				1,626,700		2,239,200			652,533		971,000
(6) Labor											
Family Labor	man day	80			11,750	940,000	80			11,750	940,000
Hired Labor	man day	25	25,000	625,000	11,750	293,750	25	25,000	625,000	11,750	293,750
Sub Total (Before Labor Costs)				625,000		1,233,750			625,000		1,233,750
Total Costs				2,251,700		3,472,950			1,277,533		2,204,750
Income Before Labor Costs				31,173,300		28,560,800			7,747,467		6,949,000
Net Income				30,548,300		27,327,050			7,122,467		5,715,250

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-8 Estimated Net Income Per Hectare (Almond and Walnuts)

Item	Unit	Almond					Walnuts				
		Amount	Financial		Economic		Amount	Financial		Economic	
		Amount/ha	Unit Price	Rls./ ha	Unit Price	Rls./ ha	Amount/ha	Unit Price	Rls./ ha	Unit Price	Rls./ ha
Value of Output											
(1) Main-products	kg	4,000.00	4,000	16,000,000	3,760	15,040,000	20,000	7,200	144,000,000	6,770	135,400,000
(2) By-products	kg										
Total (Revenue)				16,000,000		15,040,000			144,000,000		135,400,000
Inputs Costs			(lifetime=50year)					(lifetime=50year)			
(1) Tree	Tree	400	80	32,000	3,760	1,504,000	400	50	20,000	2,350	940,000
(2) Total Cost				300,000		282,000			1,000,000		940,000
Sub Total (Before Labor Costs)				332,000		1,786,000			1,020,000		1,880,000
(6) Labor											
Family Labor	man day	44			11,750	517,000	44			11,750	517,000
Hired Labor	man day	25	25,000	625,000	11,750	293,750	25	25,000	625,000	11,750	293,750
Sub Total (Before Labor Costs)				625,000		810,750			625,000		810,750
Total Costs				957,000		2,596,750			1,645,000		2,690,750
Income Before Labor Costs				15,668,000		13,254,000			142,980,000		133,520,000
Net Income				15,043,000		12,443,250			142,355,000		132,709,250

Source: Agricultural Production Costs, 1376/77 and 1377/1378, Agricultural Statistics and Information Department, Ministry of Agriculture.

: Provincial Agricultural Organization, Chaharmahal va Bakhtiari Province, 2001

: Field Survey

Table L-16-9 Price Structure of Wheat

Price Structure	Unit	Financial Price	Conversion Factor	Economic Price
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas*	US\$/metric ton	174.2		174.2
Import taxes	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	304,900		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		853,600
Transport/ handling constns from port to regional market through marketing agents (1,020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (105%***)	Rials/metric ton	320,100	0.94	300,900
Ex-mill price	Rials/metric ton	829,000		1,346,300
Milling ratio	%	90.0		90.0
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	726,100		1,192,900

Note: 1) * The CIF price in 1998 is converted to 2000 price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) *** Including the milling const

4) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

5) The World Bank's projected international market price for year 2010 is applied to the future price.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-10 Price Structure of Barley

Price Structure	Unit	Financial Price	Conversion Factor	Economic Price
		Present	Factor	Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas*	US\$/metric ton	141.4		141.4
Import taxes (7,000Rls/ton)	US\$/metric ton	4		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	254,500		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		692,900
Transport/ handling constns from port to regional market through marketing agents (1,020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (125%***)	Rials/metric ton	318,100	0.94	299,000
Ex-mill price	Rials/metric ton	776,600		1,183,700
Milling ratio	%	90.0		90.0
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	678,900		1,046,500

Note: 1) * The CIF price in 1998 is converted to 2000 price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) *** Including the milling const

4) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

5) The World Bank's projected international market price for year 2010 is applied to the future price.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-11 Price Structure of Sugar Beets (Raw Sugar)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas*	US\$/metric ton	229.7		229.7
Import taxes (7,000Rls/ton)	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	402,000		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		1,125,500
Transport/ handling constns from port to regional market through marketing agents (1,020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (120%***)	Rials/metric ton	482,400	0.94	453,500
Ex-mill price	Rials/metric ton	1,088,400		1,770,800
Processing Rate	%	15.0		15.0
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	143,300		246,800

Note: 1) * The CIF price in 1998 is converted to 2000 price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) *** Including the processing const

4) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

5) The World Bank's projected international market price for year 2010 is applied to the future price.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-12 Price Structure of Urea (NPK:46,0,0)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas or Bandae-e-Emam Khomeyni*	US\$/metric ton	152.8		152.8
Export duties	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	267,400		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		748,700
Transport/ handling constns from port to market through processors (1020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (15%***)	Rials/metric ton	40,100	0.94	37,700
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	531,500		997,000

Note: 1) * The CIF price in 1998 is converted to 2000 price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-13 Price Structure of Potassium Chloride (Muriate of Potash) (NPK: 0,0,60)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas or Bandae-e-Emam Khomeyni*	US\$/metric ton	140.6		140.6
Export duties	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	246,100		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		688,900
Transport/ handing constns from port to market through processors (1020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margen (15%)***	Rials/metric ton	36,900	0.94	34,700
Transport/ handing constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	507,000		934,200

Note: 1) * The CIF price in 1998 is converted to 2000price by adding 1.9% of World Bank estimated MUV inflation factore.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-14 Price Structure of Triple Super Phosphate (NPK: 0,46,0)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas or Bandae-e-Emam Khomeyni*	US\$/metric ton	124.6		124.6
Export duties	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	218,100		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		610,500
Transport/ handing constns from port to market through processors (1020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margen (15%)***	Rials/metric ton	32,700	0.94	30,700
Transport/ handing constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	474,800		851,800

Note: 1) * The CIF price in 1998 is converted to 2000price by adding 1.9% of World Bank estimated MUV inflation factore.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-15 Price Structure of Ammonium Phosphate (NPK: 11,50,0)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas or Bandae-e-Emam Khomeyni*	US\$/metric ton	116.0		116
Export duties	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	203,000		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		568,400
Transport/ handling constns from port to market through processors (1020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (15%***)	Rials/metric ton	30,500	0.94	28,700
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	457,500		807,700

Note: 1) * The CIF price in 1998 is converted to 2000price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-16 Price Structure of Ammonium Nitrate (NPK: 34,0,0)

Price Structure	Unit	Financial Price Present	Conversion Factor	Economic Price Present
Trade status			Imported	
CIF price at ports of Bandar-e-Abbas or Bandae-e-Emam Khomeyni*	US\$/metric ton	112.9		112.9
Export duties	US\$/metric ton	0		0
Equivalent to Rials for financial analysis (US\$1=Rls. 1,750)	Rials/metric ton	197,600		-
Equivalent to Rials for economic analysis (US\$1=Rls. 4,900)**	Rials/metric ton	-		553,200
Transport/ handling constns from port to market through processors (1020 km)	Rials/metric ton	204,000	0.94	191,800
Other marketing margin (15%***)	Rials/metric ton	29,600	0.94	27,800
Transport/ handling constns from regional market to farm gate (Study Area: average 100km)	Rials/metric ton	20,000	0.94	18,800
Farmgate prices	Rials/metric ton	451,200		791,600

Note: 1) * The CIF price in 1998 is converted to 2000price by adding 1.9% of World Bank estimated MUV inflation factor.

2) ** The shadow exchange rate used for economic analysis is estimated at Rls. 4,900 /US\$.

3) Transport/ handling costs are calculated based on Rials 200/km-ton of the transport cost.

Source: 1) "Foreign Trade Statistical Yearbook 1377", Custom Administration Office.

2) Field survey

Table L-16-17 Financial and Economic Price of Agricultural Products

Item	Financial Price	Conversion Factor	Economic Price	Remarks
Unit Price (Rls/kg)				
Wheat	1,050 ¹⁾	-	1,190 ²⁾	Traded Goods
Barley	800 ¹⁾	-	1,050 ²⁾	Traded Goods
Vegetables (Potato)	800 ³⁾	0.94	750 ⁴⁾	
Beans	2,285 ¹⁾	0.94	2,150 ⁴⁾	
Sugar beet	252 ¹⁾	-	250 ²⁾	Traded Goods
Alfalfa	1,000 ⁵⁾	0.94	940 ⁴⁾	
Apples (class 1)	820 ¹⁾	0.94	770 ¹⁾	Traded Goods
Grape	1,050 ⁵⁾	0.94	990 ⁵⁾	Traded Goods
Almond	4,000 ⁵⁾	0.94	3,760 ⁵⁾	Traded Goods
Walnuts	7,200 ⁵⁾	0.94	6,770 ⁵⁾	Traded Goods
Seed (Rls/kg)				
Wheat	1,000 ⁵⁾	0.94	940 ⁴⁾	
Barley	1,000 ⁵⁾	0.94	940 ⁴⁾	
Vegetables (Potato)	1,000 ⁵⁾	0.94	940 ⁴⁾	
Beans	4,000 ⁵⁾	0.94	3,760 ⁴⁾	
Sugar beet	2,500 ⁵⁾	0.94	2,350 ⁴⁾	
Alfalfa	5,000 ⁵⁾	0.94	4,700 ⁴⁾	
Apples (Rls./tree)	2,000 ⁵⁾	0.94	1,880 ⁴⁾	
Grape (Rls./tree)	1,000 ⁵⁾	0.94	940 ⁴⁾	
Almond	4,000 ⁵⁾	0.94	3,760 ⁴⁾	
Walnuts	2,500 ⁵⁾	0.94	2,350 ⁴⁾	
Fertilizer (Rls/kg)				
Manure	23 ⁵⁾	0.94	20 ⁴⁾	
Urea	530 ²⁾	-	1,000 ²⁾	Traded Goods
Muriate of Potash	510 ²⁾	-	930 ²⁾	Traded Goods
TSP	470 ²⁾	-	850 ²⁾	Traded Goods
Ammonium Phosphate	460 ²⁾	-	810 ²⁾	Traded Goods
Ammonium Nitrate	450 ²⁾	-	790 ²⁾	Traded Goods
Agro-chemicals (Rls/kg)	8,470 ⁵⁾	0.94	7,962 ⁴⁾	
Irrigation (Rls/ha)	⁵⁾	0.94	0 ⁴⁾	
Land preparation (Rls/ha)	⁵⁾	0.94	0 ⁴⁾	
Labor Cost (Rls/day)	25,000 ⁵⁾	0.47	11,750 ⁴⁾	

1) Guranteed Price in Year 2000-2001, Provincial Agriculture Office, Chahalmahal va Bakhtiyari Province.

2) Import/ Export parity

3) World Bank's projected international market prices of 2010 prices is derived from "Global Commodity Markets, April 2000, World Bank", given in 1990 constant price terms

4) Conversion Factor

5) Provincial Agricultural Office, Chahalmahal ve Bakhtiyari Province. Farmgate Price is estimated by excluding transportation cost from market price

6) Field Survey.

Table L-16-18 Summary of Field Survey (Agriculture, Livestock)

Item	Vastegan 1	Vastegan 2	Bazoft	Sarbaz 1	Sarbaz 2	Tangsorkh	Zeras	Average
Yield (kg/ha)								
Wheat	3,000	2,500	2,000			1,500		2,250
Barley	3,000	2,500	2,000					2,500
Potato	353,000							353,000
Alfalfa	3,000	9,000	2,000	1500*3				4,667
Legume	600		1,000					800
Walnuts						8,000		8,000
Apple				40,000	1,200	35,000		25,400
Unit Price of Seed (Rls./kg)								
Wheat	Self	Self	Self			Self	Self	
Barley	Self	Self	Self				Self	
Potato	Self							
Alfalfa	Self		Self	5,000				5,000
Legume	Self		Self					
Walnuts								
Apple				12,000				12,000
Input Amount of Seed (kg/ha)								
Wheat			75				60	68
Barley			75					75
Potato	4,000							4,000
Alfalfa			12	120				66
Legume	20		50					35
Walnuts								
Apple				12,000				12,000
Farmgate Price (Rls./kg)								
Wheat	1,000	1,000	1,000			1,000	1,000	1,000
Rice	1,000	1,000	1,000					1,000
Beans	5,000		1000-5000			6,000		5,500
Potato	800							800
Alfalfa		1,000						1,000
Legume								
Walnuts						1,200		1,200
Apple				1,800	1,500	1,500		1,600
Unit Price of Fertilizer (Rls./kg)								
Urea	500	400	17,000seek	360	500	500	525	464
TSP	600	500	13,000seek	1000-460	700	500	350	530
Manure			Animal	234	Animal			234
Input Amount of Fertilizer (kg/ha)								
Urea							50	50
TSP								
Manure								
Transportation								
Means	Pick-up	Pick-up	Pick-up	Foot	Tricycle		Pick-up	
Distance (km)	20	30	170		150		30	25
Cost (Rls./km)	2,500	1,300	1,000		2000-2600		1,600	3000bagagi
Cost (Rls./head)	2500Rls/km		1000Rls/km		2000Rls/km		10,000	
Tractor (Rls./ha)				50,000	20,000		50,000	40,000
Days				7				7
Labor Cost				20,000	25,000		30,000	25,000
Electricity (Rls./month)	7,500	10,000	7,500		7,500			8,125
Kerosense (Rls./month)	60,000	15,000						37,500
Unit Price of Livestock (Rls./head)								
Cow	2,009,000	8000R/kg			1,500,000	9000Rls/kg		1,754,500
Cattle (adult)	2,900,000					9000Rls/kg		2,900,000
Cattle (calf)	1,500,000	8000R/kg						1,500,000
Sheep			300,000		300,000	18000Rls/k	10000Rls/k	300,000
Goat			150,000				150,000	150,000
Chicken								
Sheep & Goat Baby		1000R/kg				1000R/kg	10000Rls/kg	
Bee keeping (Rls/kg)				15000R/kg	20000R/kg		18000R/kg	
Unit Price of Livestock By-products (Rls./kg)								
Milk							1,500	1,500
Butter							25,000	25,000

Source: Field Survey, April - May, 2001

Table L-17-1 Estimated Total Expenditure of Transportation

(1000Rls.)

Master Plan Area	Source	Financial			Conversion Factor	Economic		
		Without	With	Benefit		Without	With	Benefit
Vastegan	Kornak Sofla to Bourjen, Sharekord (Wheat)	18,810	3,490	15,320	0.94	17,680	3,280	14,400
	Kornak Sofla, Nasir Abad to Bourjen, Sharekord (Wheat)	37,630	6,970	30,660	0.94	35,370	6,550	28,820
	Nasir Abad to Bourjen, Sharekord (Wheat)	56,440	10,460	45,980	0.94	53,050	9,830	43,220
	Movement of Villagers (Village to Market)	23,470	5,130	18,340	0.94	22,060	4,820	17,240
	Total			110,300				103,680
Bazoft	Tabarak Sofla to Farsan (Wheat)	16,700	6,050	10,650	0.94	15,700	5,690	10,010
	Tabarak Sofla to Farsan (Walnuts)	7,420	2,690	4,730	0.94	6,970	2,530	4,440
	Tabarak Sofla to Farsan (Milk)	11,280	4,090	7,190	0.94	10,600	3,840	6,760
	Tabarak Sofla to Farsan (Fish)	13,160	4,770	8,390	0.94	12,370	4,480	7,890
	Tabarak Olya to Farsan (Wheat)	15,180	5,500	9,680	0.94	14,270	5,170	9,100
	Tabarak Olya to Farsan (Walnuts)	7,420	2,690	4,730	0.94	6,970	2,530	4,440
	Tabarak Olya to Farsan (Fish)	11,280	4,090	7,190	0.94	10,600	3,840	6,760
	Gale Tabarak (Wheat)	5,780	2,090	3,690	0.94	5,430	1,960	3,470
	River side to Farsaan (Wheat)	4,380	1,590	2,790	0.94	4,120	1,490	2,630
	River side to Farsaan (Wheat)	1,590	570	1,020	0.94	1,490	540	950
	Movement of Villagers (Village to Market)	16,970	6,980	9,990	0.94	15,950	6,560	9,390
	Total			70,050				65,840
Sarbaz	Noor Abad to Semirom, Esfahan (Apple)	237,310	86,020	151,290	0.94	223,070	80,860	142,210
	Noor Abad to Semirom, Esfahan (Apple)	144,200	52,270	91,930	0.94	135,550	49,130	86,420
	Sarbaz to Semirom, Esfahan (Apple)	680,620	246,700	433,920	0.94	639,780	231,900	407,880
	Sarbaz to Semirom, Esfahan (Milk)	8,460	3,070	5,390	0.94	7,950	2,890	5,060
	Sarbaz to Semirom, Esfahan (Milk)	8,460	3,070	5,390	0.94	7,950	2,890	5,060
	Sarbaz to Semirom, Esfahan (Fish)	8,460	3,070	5,390	0.94	7,950	2,890	5,060
	Farm to Telmohamad (Apple)	219,180	79,450	139,730	0.94	206,030	74,680	131,350
	Telmohamad to Yasuj (Apple)	151,290	54,840	96,450	0.94	142,210	51,550	90,660
	Deh Bozorg to Yasuj (Apple)	151,290	54,840	96,450	0.94	142,210	51,550	90,660
	Kahangan to Yasuj (Apple)	151,290	54,840	96,450	0.94	142,210	51,550	90,660
	Movement of Villagers (Village to Market)	386,010	158,750	227,260	0.94	362,850	149,230	213,620
	Total			1,349,650				1,268,640
Tang Sorkh	Farm to Tangsorkh (Apple)	11,330	4,110	7,220	0.94	10,650	3,860	6,790
	Farm to Tangsorkh (Wheat)	1,020	370	650	0.94	960	350	610
	Farm to Tangsorkh (Apple)	39,550	14,340	25,210	0.94	37,180	13,480	23,700
	Farm to Tangsorkh (Wheat)	8,650	3,140	5,510	0.94	8,130	2,950	5,180
	Farm to Tangsorkh (Wheat)	3,260	1,180	2,080	0.94	3,060	1,110	1,950
	Tangsorkh to Yasuj (Apple)	48,200	17,470	30,730	0.94	45,310	16,420	28,890
	Tangsorkh to Yasuj (Horticultural Crops)	24,100	8,740	15,360	0.94	22,650	8,220	14,430
	Tangsorkh to Yasuj (Fish)	12,220	4,430	7,790	0.94	11,490	4,160	7,330
	Movement of Villagers (Village to Market)	11,520	4,740	6,780	0.94	10,830	4,460	6,370
	Total			101,330				95,250
Zeras	Zeras to Dehdaz, Izeh (Wheat)	4,160	1,510	2,650	0.94	3,910	1,420	2,490
	Sebahntak to Dehdaz, Izeh (Wheat)	1,290	470	820	0.94	1,210	440	770
	Ali Banderh to Dehdaz, Izeh (Wheat)	11,940	4,330	7,610	0.94	11,220	4,070	7,150
	Ali Banderh to Dehdaz, Izeh (Wheat)	990	360	630	0.94	930	340	590
	Cham to Dehdaz, Izeh (Wheat)	36,030	13,060	22,970	0.94	33,870	12,280	21,590
	Cham to Dehdaz, Izeh (Wheat)	107,010	38,790	68,220	0.94	100,590	36,460	64,130
	Movement of Villagers (Village to Market)	1,736,310	714,070	1,022,240	0.94	1,632,130	671,230	960,900
	Total			1,125,140				1,057,620

Table L-17-2 Estimated Distance and Amount of Transportation

Master Plan Area	Distance of Transportation			Transport Item				
	From	To	(km)	Item	Area/ Scale	Crop Intensity (%)	Yield (t/ha)	Total (t/year)
Vastegan	Farm (Konarak Sofla)	Market (Bourjen, Sharekord)	2.50	Agricultural Products (Irrigated Wheat)	280 ha	27%	2.47	187
	Farm (Konarak Sofla, Nasir Abad)	Market (Bourjen, Sharekord)	5.00	Agricultural Products (Irrigated Wheat)	280 ha	27%	2.47	187
	Farm (Nasir Abad)	Market (Bourjen, Sharekord)	7.50	Agricultural Products (Irrigated Wheat)	280 ha	27%	2.47	187
Bazoft	Farm (Tabarak Sofla)	Market (Farsan)	3.00	Agricultural Products (Rainfed Wheat)	386 ha	100%	0.70	270
			3.00	Agricultural Products (Walnuts)	6 ha	100%	20.00	120
	Milk Processing Facility (Tabarak Sofla)	Market (Farsan)	3.00	Milk Processing Products	300 kg/day	-	-	110
	Fish Pond (Tabarak Sofla)	Market (Farsan)	3.50	Fish Culture Products	200 t	-	-	200
	Farm (Tabarak Olya)	Market (Farsan)	3.00	Agricultural Products (Rainfed Wheat)	351 ha	100%	0.70	246
			3.00	Agricultural Products (Walnuts)	6 ha	100%	20.00	120
	Fish Pond (Tabarak Olya)	Market (Farsan)	3.00	Fish Culture Products	30 t	-	-	30
	Fram (Ghale Tabarak)	Market (Farsan)	4.50	Agricultural Products (Rainfed Wheat)	89 ha	100%	0.70	62
	Farm (River Side)	Market (Farsan)	2.00	Agricultural Products (Irrigated Wheat)	43 ha	100%	2.47	106
			2.00	Agricultural Products (Rainfed Wheat)	55 ha	100%	0.70	39
Sarbaz	Farm (Noorabad)	Market (Semilom, Esfahan)	4.50	Agricultural Products (Apple)	64 ha	100%	40.00	2,560
			1.75	Agricultural Products (Apple)	100 ha	100%	40.00	4,000
	Farm (Sarbaz)	Market (Semilom, Esfahan)	3.50	Agricultural Products (Apple)	236 ha	100%	40.00	9,440
	Milk Processing Facility (Sarbaz)	Market (Semilom, Esfahan)	2.25	Milk Processing Products	300 kg/day	-	-	110
	Collecting and Distribution Facility for Milk (Sarbaz)	Market (Semilom, Esfahan)	2.25	Collecting and Distribution Facility for Milk	5,000 kg/day	-	-	1,825
	Fish Pond (Sarbaz)	Market (Semilom, Esfahan)	2.25	Fish Culture Products	100 t	-	-	100
	Farm (Telmonamad)	Village (Telmonamad)	2.00	Agricultural Products (Apple)	133 ha	100%	40.00	5,320
	Apple Collecting and Grading Center (Telmonamad)	Market (Yasuj)	17.00	Graded Apple (20% of Products)	432,000 kg/year	-	-	432
	Apple Collecting and Grading Center (Deh Bozorg)	Market (Yasuj)	17.00	Graded Apple (20% of Products)	432,000 kg/year	-	-	432
	Apple Collecting and Grading Center (Kahangan)	Market (Yasuj)	17.00	Graded Apple (20% of Products)	432,000 kg/year	-	-	432
Tang Sorkh	Farm	Village (Tang Sorkg)	1.25	Agricultural Products (Apple)	11 ha	100%	40.00	440
			1.25	Agricultural Products (Irrigated Wheat)	16 ha	100%	2.47	40
			2.00	Agricultural Products (Apple)	24 ha	100%	40.00	960
			2.00	Agricultural Products (Irrigated Wheat)	85 ha	100%	2.47	210
			1.00	Agricultural Products (Irrigated Wheat)	64 ha	100%	2.47	158
	Apple Grading Center (Tang Sorkg)	Market (Yasuj)	3.25	Graded Apple	720,000 kg/year	-	-	720
	Horticultural Crops Grading Center (Tang Sorkg)	Market (Yasuj)	3.25	Horticultural Crops	360,000 kg/year	-	-	360
	Fish Pond (Tang Sorkg)	Market (Yasuj)	3.25	Fish Culture Products	30 t	-	-	30
Zeras	Farm (Zeras)	Market (Dehdez, Izeh)	2.00	Agricultural Products (Rainfed Wheat)	209 ha	69%	0.70	101
	Farm (Sebalufak)	Market (Dehdez, Izeh)	1.75	Agricultural Products (Rainfed Wheat)	74 ha	69%	0.70	36
	Farm (Ali Bandeh)	Market (Dehdez, Izeh)	8.00	Agricultural Products (Rainfed Wheat)	150 ha	69%	0.70	72
			2.00	Agricultural Products (Rainfed Wheat)	50 ha	69%	0.70	24
	Farm (Cham)	Market (Dehdez, Izeh)	17.00	Agricultural Products (Rainfed Wheat)	213 ha	69%	0.70	103
			15.00	Agricultural Products (Rainfed Wheat)	717 ha	69%	0.70	346

Table L-17-3 Estimated Number of Transportation

Master Plan Area	Course	Production	Carrying Capacity	Number of Vehicle		
		(t/year)	(t/unit)	Shipment ①	Daily Activity ②	Total (①+②)×2
Vastegan	Kornak Sofla to Bourjen, Sharekord (Wheat)	187	0.50	373	1,494	3,735
	Kornak Sofla, Nasir Abad to Bourjen, Sharekord (Wheat)	187	0.50	373	1,494	3,735
	Nasir Abad to Bourjen, Sharekord (Wheat)	187	0.50	373	1,494	3,735
Bazoft	Tabarak Sofla to Farsan (Wheat)	270	0.50	540	2,162	5,404
	Tabarak Sofla to Farsan (Walnuts)	120	0.50	240	960	2,400
	Tabarak Sofla to Farsan (Milk)	110	—	365	1,460	3,650
	Tabarak Sofla to Farsan (Fish)	200	—	365	1,460	3,650
	Tabarak Olya to Farsan (Wheat)	246	0.50	491	1,966	4,914
	Tabarak Olya to Farsan (Walnuts)	120	0.50	240	960	2,400
	Tabarak Olya to Farsan (Fish)	30	—	365	1,460	3,650
	Gale Tabarak (Wheat)	62	0.50	125	498	1,246
	River side to Farsaan (Wheat)	106	0.50	212	850	2,124
	River side to Farsaan (Wheat)	39	0.50	77	308	770
Sarbaz	Noor Abad to Semirom, Esfahan (Apple)	2,560	0.50	5,120	20,480	51,200
	Noor Abad to Semirom, Esfahan (Apple)	4,000	0.50	8,000	32,000	80,000
	Sarbaz to Semirom, Esfahan (Apple)	9,440	0.50	18,880	75,520	188,800
	Sarbaz to Semirom, Esfahan (Milk)	110	—	365	1,460	3,650
	Sarbaz to Semirom, Esfahan (Milk)	1,825	—	365	1,460	3,650
	Sarbaz to Semirom, Esfahan (Fish)	100	—	365	1,460	3,650
	Farm to Telmohamad (Apple)	5,320	0.50	10,640	42,560	106,400
	Telmohamad to Yasuj (Apple)	432	0.50	864	3,456	8,640
	Deh Bozorg to Yasuj (Apple)	432	0.50	864	3,456	8,640
	Kahangan to Yasuj (Apple)	432	0.50	864	3,456	8,640
Tang Sorkh	Farm to Tangsorkh (Apple)	440	0.50	880	3,520	8,800
	Farm to Tangsorkh (Wheat)	40	0.50	79	316	790
	Farm to Tangsorkh (Apple)	960	0.50	1,920	7,680	19,200
	Farm to Tangsorkh (Wheat)	210	0.50	420	1,680	4,199
	Farm to Tangsorkh (Wheat)	158	0.50	316	1,265	3,162
	Tangsorkh to Yasuj (Apple)	720	0.50	1,440	5,760	14,400
	Tangsorkh to Yasuj (Horticultural Crops)	360	0.50	720	2,880	7,200
	Tangsorkh to Yasuj (Fish)	30	—	365	1,460	3,650
Zeras	Zeras to Dehdaz, Izeh (Wheat)	101	0.50	202	808	2,019
	Sebalutak to Dehdaz, Izeh (Wheat)	36	0.50	71	286	715
	Ali Bandeh to Dehdaz, Izeh (Wheat)	72	0.50	145	580	1,449
	Ali Bandeh to Dehdaz, Izeh (Wheat)	24	0.50	48	193	483
	Cham to Dehdaz, Izeh (Wheat)	103	0.50	206	823	2,058
	Cham to Dehdaz, Izeh (Wheat)	346	0.50	693	2,770	6,926

Table L-17-4 Estimated Number of Transportation (Person)

Master Plan Area	Course	Distance		Population		Carrying Capacity person/ unit	Number of Vehicle	Without Project						With Project					Project Benefit	
		(km)	Year 2020	50%	52 Times/ Year			Speed	Operation Hours	Expenditur e (Rls./hr)	Expenditure of Driving (Rls.)	Wage & Salary (Rls.)	Total Expenditure (Rls.)	Speed	Operation Hours	Expenditur e (Rls./hr)	Expenditure of Driving (Rls.)	Wage & Salary (Rls.)		Total Expenditure (Rls.)
Vastegan	Nasir Abad to Bourjen, Sharekord	7.50	830	415	21,580	5.0	4316	10	3237.00	450	1,456,650	22,011,600	23,468,250	60	539.50	2,700	1,456,650	3,668,600	5,125,250	18,343,000
													23,468,250						5,125,250	18,343,000
Bazoft	Tabarak Sofla to Farsan	3.00	1,770	885	46,020	5.0	9204	20	1380.60	900	1,242,540	9,388,080	10,630,620	60	460.20	2,700	1,242,540	3,129,360	4,371,900	6,258,720
	Tabarak Olya to Farsan	3.00	740	370	19,240	5.0	3848	20	577.20	900	519,480	3,924,960	4,444,440	60	192.40	2,700	519,480	1,308,320	1,827,800	2,616,640
	Gale Tabarak to Farsan	4.50	210	105	5,460	5.0	1092	20	245.70	900	221,130	1,670,760	1,891,890	60	81.90	2,700	221,130	556,920	778,050	1,113,840
													16,966,950						6,977,750	9,989,200
Sarbaz	Noor Abad to Semirom, Esfahan	4.50	1,020	510	26,520	5.0	5304	20	1193.40	900	1,074,060	8,115,120	9,189,180	60	397.80	2,700	1,074,060	2,705,040	3,779,100	5,410,080
	Sarbaz to Semirom, Esfahan	2.25	3,640	1820	94,640	5.0	18928	20	2129.40	900	1,916,460	14,479,920	16,396,380	60	709.80	2,700	1,916,460	4,826,640	6,743,100	9,653,280
	Telnohamad to Yasuj	17.00	4,860	2430	126,360	5.0	25272	20	21481.20	900	19,333,080	146,072,160	165,405,240	60	7160.40	2,700	19,333,080	48,690,720	68,023,800	97,381,440
	Deh Bozorg to Yasuj	17.00	2,910	1455	75,660	5.0	15132	20	12862.20	900	11,575,980	87,462,960	99,038,940	60	4287.40	2,700	11,575,980	29,154,320	40,730,300	58,308,640
	Kahangan to Yasuj	17.00	2,820	1410	73,320	5.0	14664	20	12464.40	900	11,217,960	84,757,920	95,975,880	60	4154.80	2,700	11,217,960	28,252,640	39,470,600	56,505,280
													386,005,620						158,746,900	227,258,720
Tang Sorkh	Tangsorkh to Yasuj	3.25	1,600	800	41,600	5.0	8320	20	1352.00	900	1,216,800	9,193,600	10,410,400	60	450.67	2,700	1,216,800	3,064,533	4,281,333	6,129,067
	Sar Tangsorkh to Yasuj	3.25	170	85	4,420	5.0	884	20	143.65	900	129,285	976,820	1,106,105	60	47.88	2,700	129,285	325,607	454,892	651,213
													11,516,505						4,736,225	6,780,280
Zeras	Zeras to Dehdaz, Izeh	150.00	80	40	2,080	5.0	416	20	3120.00	900	2,808,000	21,216,000	24,024,000	60	1040.00	2,700	2,808,000	7,072,000	9,880,000	14,144,000
	Bardkal to Dehdaz, Izeh	150.00	20	10	520	5.0	104	20	780.00	900	702,000	5,304,000	6,006,000	60	260.00	2,700	702,000	1,768,000	2,470,000	3,536,000
	Ali Bandeh to Dehdaz, Izeh	209.00	10	5	260	5.0	52	20	543.40	900	489,060	3,695,120	4,184,180	60	181.13	2,700	489,060	1,231,707	1,720,767	2,463,413
	Bahoz to Dehdaz, Izeh	209.00	410	205	10,660	5.0	2132	20	22279.40	900	20,051,460	151,499,920	171,551,380	60	7426.47	2,700	20,051,460	50,499,973	70,551,433	100,999,947
	Sehalutak to Dehdaz, Izeh	74.00	70	35	1,820	5.0	364	20	1346.80	900	1,212,120	9,158,240	10,370,360	60	448.93	2,700	1,212,120	3,052,747	4,264,867	6,105,493
	Gard Lidan to Dehdaz, Izeh	717.00	130	65	3,380	5.0	676	20	24234.60	900	21,811,140	164,795,280	186,606,420	60	8078.20	2,700	21,811,140	54,931,760	76,742,900	109,863,520
	Dareh Zangi to Dehdaz, Izeh	717.00	600	300	15,600	5.0	3120	20	111852.00	900	100,666,800	760,593,600	861,260,400	60	37284.00	2,700	100,666,800	253,531,200	354,198,000	507,062,400
	Badelon to Dehdaz, Izeh	717.00	200	100	5,200	5.0	1040	20	37284.00	900	33,555,600	253,531,200	287,086,800	60	12428.00	2,700	33,555,600	84,510,400	118,066,000	169,020,800
	Dareh Sohrab to Dehdaz, Izeh	700.00	120	60	3,120	5.0	624	20	21840.00	900	19,656,000	148,512,000	168,168,000	60	7280.00	2,700	19,656,000	49,504,000	69,160,000	99,008,000
	Cham to Dehdaz, Izeh	213.00	40	20	1,040	5.0	208	20	2215.20	900	1,993,680	15,063,360	17,057,040	60	738.40	2,700	1,993,680	5,021,120	7,014,800	10,042,240
													1,736,314,580						714,068,767	1,022,245,813

Table L-17-5 Estimated Total Expenditure of Transportation (Without Project)

Master Plan Area	Course	Number of Vehicle	Without Project						
			Distance (km)	Speed (km/hr)	Operation Hours (hr)	Expenditure (Rls./hr)	Expenditure of Driving (Rls.)	Wage & Salary (Rls.)	Total Expenditure (Rls.)
Vastegan	Kornak Sofla to Bourjen,Sharekord (Wheat)	3,735	2.50	10	934	450	420,147	18,393,102	18,813,249
	Kornak Sofla,Nasir Abad to Bourjen,Sharekord (Wheat)	3,735	5.00	10	1,867	450	840,294	36,786,204	37,626,498
	Nasir Abad to Bourjen, Sharekord (Wheat)	3,735	7.50	10	2,801	450	1,260,441	55,179,306	56,439,747
	Total								112,879,494
Bazoft	Tabarak Sofla to Farsan (Wheat)	5,404	3.00	20	811	900	729,540	15,968,820	16,698,360
	Tabarak Sofla to Farsan (Walnuts)	2,400	3.00	20	360	900	324,000	7,092,000	7,416,000
	Tabarak Sofla to Farsan (Milk)	3,650	3.00	20	548	900	492,750	10,785,750	11,278,500
	Tabarak Sofla to Farsan (Fish)	3,650	3.50	20	639	900	574,875	12,583,375	13,158,250
	Tabarak Olya to Farsan (Wheat)	4,914	3.00	20	737	900	663,390	14,520,870	15,184,260
	Tabarak Olya to Farsan (Walnuts)	2,400	3.00	20	360	900	324,000	7,092,000	7,416,000
	Tabarak Olya to Farsan (Fish)	3,650	3.00	20	548	900	492,750	10,785,750	11,278,500
	Gale Tabarak (Wheat)	1,246	4.50	20	280	900	252,315	5,522,895	5,775,210
	River side to Farsaan (Wheat)	2,124	2.00	20	212	900	191,178	4,184,674	4,375,852
	River side to Farsaan (Wheat)	770	2.00	20	77	900	69,300	1,516,900	1,586,200
Total								94,167,132	
Sarbaz	Noor Abad to Semirom, Esfahan (Apple)	51,200	4.50	20	11,520	900	10,368,000	226,944,000	237,312,000
	Noor Abad to Semirom, Esfahan (Apple)	80,000	1.75	20	7,000	900	6,300,000	137,900,000	144,200,000
	Sarbaz to Semirom, Esfahan (Apple)	188,800	3.50	20	33,040	900	29,736,000	650,888,000	680,624,000
	Sarbaz to Semirom, Esfahan (Milk)	3,650	2.25	20	411	900	369,563	8,089,313	8,458,875
	Sarbaz to Semirom, Esfahan (Milk)	3,650	2.25	20	411	900	369,563	8,089,313	8,458,875
	Sarbaz to Semirom, Esfahan (Fish)	3,650	2.25	20	411	900	369,563	8,089,313	8,458,875
	Farm to Telmohamad (Apple)	106,400	2.00	20	10,640	900	9,576,000	209,608,000	219,184,000
	Telmohamad to Yasuj (Apple)	8,640	17.00	20	7,344	900	6,609,600	144,676,800	151,286,400
	Deh Bozorg to Yasuj (Apple)	8,640	17.00	20	7,344	900	6,609,600	144,676,800	151,286,400
	Kahangan to Yasuj (Apple)	8,640	17.00	20	7,344	900	6,609,600	144,676,800	151,286,400
Total								1,760,555,825	
Tang Sorkh	Farm to Tangsorkh (Apple)	8,800	1.25	20	550	900	495,000	10,635,000	11,330,000
	Farm to Tangsorkh (Wheat)	790	1.25	20	49	900	44,460	973,180	1,017,640
	Farm to Tangsorkh (Apple)	19,200	2.00	20	1,920	900	1,728,000	37,824,000	39,552,000
	Farm to Tangsorkh (Wheat)	4,199	2.00	20	420	900	377,910	8,272,030	8,649,940
	Farm to Tangsorkh (Wheat)	3,162	1.00	20	158	900	142,272	3,114,176	3,256,448
	Tangsorkh to Yasuj (Apple)	14,400	3.25	20	2,340	900	2,106,000	46,098,000	48,204,000
	Tangsorkh to Yasuj (Horticultural Crops)	7,200	3.25	20	1,170	900	1,053,000	23,049,000	24,102,000
	Tangsorkh to Yasuj (Fish)	3,650	3.25	20	593	900	533,813	11,684,563	12,218,375
	Total								148,330,403
Zaras	Zaras to Dehdaz, Izeh (Wheat)	2,019	2.00	20	202	900	181,705	3,977,312	4,159,016
	Sebahutak to Dehdaz, Izeh (Wheat)	715	1.75	20	63	900	56,294	1,232,205	1,288,499
	Ali Bander to Dehdaz, Izeh (Wheat)	1,449	8.00	20	580	900	521,640	11,418,120	11,939,760
	Ali Bander to Dehdaz, Izeh (Wheat)	483	2.00	20	48	900	43,470	951,510	994,980
	Cham to Dehdaz, Izeh (Wheat)	2,058	17.00	20	1,749	900	1,574,049	34,454,177	36,028,226
	Cham to Dehdaz, Izeh (Wheat)	6,926	15.00	20	5,195	900	4,675,199	102,334,901	107,010,099
Total								161,420,580	

Table L-17.6 Estimated Total Expenditure of Transportation (With Project)

Master Plan Area	Course	Number of Vehicle	With Project						Total Expenditure (Rls.)
			Distance (km)	Speed (km/hr)	Operation Hours (hr)	Expenditure (Rls./hr)	Expenditure of Wage & Salary Driving (Rls.)	(Rls.)	
Vastegan	Kornak Sofla to Bourjen, Sharekord (Wheat)	3,735	2.50	60	156	2700	420,147	3,065,517	3,485,664
	Kornak Sofla, Nasir Abad to Bourjen, Sharekord (Wheat)	3,735	5.00	60	311	2700	840,294	6,131,034	6,971,328
	Nasir Abad to Bourjen, Sharekord (Wheat)	3,735	7.50	60	467	2700	1,260,441	9,196,551	10,456,992
	Total								20,913,984
Bazoft	Tabarak Sofla to Farsan (Wheat)	5,404	3.00	60	270	2700	729,540	5,322,940	6,052,480
	Tabarak Sofla to Farsan (Walnuts)	2,400	3.00	60	120	2700	324,000	2,364,000	2,688,000
	Tabarak Sofla to Farsan (Milk)	3,650	3.00	60	183	2700	492,750	3,595,250	4,088,000
	Tabarak Sofla to Farsan (Fish)	3,650	3.50	60	213	2700	574,875	4,194,458	4,769,333
	Tabarak Olya to Farsan (Wheat)	4,914	3.00	60	246	2700	663,390	4,840,290	5,503,680
	Tabarak Olya to Farsan (Walnuts)	2,400	3.00	60	120	2700	324,000	2,364,000	2,688,000
	Tabarak Olya to Farsan (Fish)	3,650	3.00	60	183	2700	492,750	3,595,250	4,088,000
	Gale Tabarak (Wheat)	1,246	4.50	60	93	2700	252,315	1,840,965	2,093,280
	River side to Farsan (Wheat)	2,124	2.00	60	71	2700	191,178	1,394,891	1,586,069
	River side to Farsan (Wheat)	770	2.00	60	26	2700	69,300	505,633	574,933
	Total								34,131,776
Sarbaz	Noor Abad to Semrom, Esfahan (Apple)	51,200	4.50	60	3,840	2700	10,368,000	75,648,000	86,016,000
	Noor Abad to Semrom, Esfahan (Apple)	80,000	1.75	60	2,333	2700	6,300,000	45,966,667	52,266,667
	Sarbaz to Semrom, Esfahan (Apple)	188,800	3.50	60	11,013	2700	29,736,000	216,962,667	246,698,667
	Sarbaz to Semrom, Esfahan (Milk)	3,650	2.25	60	137	2700	369,563	2,696,438	3,066,000
	Sarbaz to Semrom, Esfahan (Milk)	3,650	2.25	60	137	2700	369,563	2,696,438	3,066,000
	Sarbaz to Semrom, Esfahan (Fish)	3,650	2.25	60	137	2700	369,563	2,696,438	3,066,000
	Farm to Telmohamad (Apple)	106,400	2.00	60	3,547	2700	9,576,000	69,869,333	79,445,333
	Telmohamad to Yasuj (Apple)	8,640	17.00	60	2,448	2700	6,609,600	48,225,600	54,835,200
	Deh Bozorg to Yasuj (Apple)	8,640	17.00	60	2,448	2700	6,609,600	48,225,600	54,835,200
	Kahangan to Yasuj (Apple)	8,640	17.00	60	2,448	2700	6,609,600	48,225,600	54,835,200
	Total								638,130,267
Tang Sorkh	Farm to Tangsorkh (Apple)	8,800	1.25	60	183	2700	495,000	3,611,667	4,106,667
	Farm to Tangsorkh (Wheat)	790	1.25	60	16	2700	44,460	324,393	368,853
	Farm to Tangsorkh (Apple)	19,200	2.00	60	640	2700	1,728,000	12,608,000	14,336,000
	Farm to Tangsorkh (Wheat)	4,199	2.00	60	140	2700	377,910	2,757,343	3,135,253
	Farm to Tangsorkh (Wheat)	3,162	1.00	60	53	2700	142,272	1,038,059	1,180,331
	Tangsorkh to Yasuj (Apple)	14,400	3.25	60	780	2700	2,106,000	15,366,000	17,472,000
	Tangsorkh to Yasuj (Horticultural Crops)	7,200	3.25	60	390	2700	1,053,000	7,683,000	8,736,000
	Tangsorkh to Yasuj (Fish)	3,650	3.25	60	198	2700	533,813	3,894,854	4,428,667
	Total								53,763,771
Zeras	Zeras to Dehdaz, Izeh (Wheat)	2,019	2.00	60	67	2700	181,705	1,325,771	1,507,475
	Sebahutak to Dehdaz, Izeh (Wheat)	715	1.75	60	21	2700	56,294	410,735	467,029
	Ali Bandeh to Dehdaz, Izeh (Wheat)	1,449	8.00	60	193	2700	521,640	3,806,040	4,327,680
	Ali Bandeh to Dehdaz, Izeh (Wheat)	483	2.00	60	16	2700	43,470	317,170	360,640
	Cham to Dehdaz, Izeh (Wheat)	2,058	17.00	60	583	2700	1,574,049	11,484,726	13,058,774
	Cham to Dehdaz, Izeh (Wheat)	6,926	15.00	60	1,732	2700	4,675,199	34,111,634	38,786,832
	Total								58,508,430

Table L-18-1 Value of Output (K4-1-9 Vastegan)

(1,000Rls.)

Table 1-10-1 Value of Output (KRW) - Vastagan			(1,000KRW)			
Project	Facility	Qty	Financial		Economic	
			Unit Price	Value of Output	Unit Price	Value of Output
7. Diversification to Milk Cow						
	Collecting and distribution facilities for milk	1	2,263,000	2,263,000	2,127,950	2,127,950
	Sub-total			2,263,000		2,127,950
10. Establishment of Cooperative						
	Groups and cooperatives for handicraft	4	60,000	240,000	56,400	225,600
	Multi-purpose Training Facilities	4	0	0	0	0
	Groups and cooperatives for milk processing facilities	2	511,000	1,022,000	480,340	960,680
	Sub-total			1,262,000		1,186,280
	Total			3,525,000		3,314,230

Table L-18-2 Value of Output (K5-19a Chaman Goli-Bazoft)

(1,000Rls.)

Table E-18-2 Value of Output (R-19a Channel GOLF Bazoni)						(1,000Kia)
Project	Facility	Qty	Financial		Economic	
			Unit Price	Value of Output	Unit Price	Value of Output
8. Fish Culture Promotion						
	Fish culture production	1	3,400,000	3,400,000	3,196,000	3,196,000
	Sub-total			3,400,000		3,196,000
9. Diversification to Milk Cow						
	Collecting and distribution facilities for milk	1	2,263,000	2,263,000	2,127,950	2,127,950
	Sub-total			2,263,000		2,127,950
12. Establishment of Cooperative						
	Groups and cooperatives for handicraft	1	60,000	60,000	56,400	56,400
	Multi-purpose Training Facilities	7	0	0	0	0
	Groups and cooperatives for milk processing facilities	4	511,000	2,044,000	480,340	1,921,360
	Sub-total			2,104,000		1,977,760
	Total			7,767,000		7,381,710

Table L-18-3 Value of Output (K7-0-19-1 Sarbaz)

(1,000Rls.)

Project	Facility	Qty	Financial		Economic	
			Unit Price	Value of Output	Unit Price	Value of Output
7. Collecting and Grading Center of Apple						
	Apple collecting & grading facilities (large)	3	3,110,400	9,331,200	2,923,780	8,771,340
	Sub-total			9,331,200		8,771,340
8. Diversification to Milk Cow						
	Collecting and distribution facilities for milk	1	2,263,000	2,263,000	2,127,950	2,127,950
	Sub-total			2,263,000		2,127,950
11. Establishment of Cooperative						
	Groups and cooperatives for handicraft	1	60,000	60,000	56,400	56,400
	Multi-purpose Training Facilities	8	0	0	0	0
	Groups and cooperatives for milk processing facilities	4	511,000	2,044,000	480,340	1,921,360
	Sub-total			2,104,000		1,977,760
	Total			13,698,200		12,877,050

Table L-18-4 Value of Output (K7-48 Tang Sorkh)

(1,000Rls.)

Project	Facility	Qty	Financial		Economic	
			Unit Price	Value of Output	Unit Price	Value of Output
6. Collecting and Grading Center of Apples and Vegetable						
	Apple collecting & grading facilities (small)	1	940,800	940,800	884,350	884,350
	Horticultural crops collecting and grading facilities	1	381,600	381,600	358,700	358,700
	Sub-total			1,322,400		1,243,050
9. Establishment of Cooperative						
	Multi-purpose Training Facilities	1	0	0	0	0
	Sub-total			0		0
	Total			1,322,400		1,243,050

Table L-18-5 Value of Output (K8-28 Zeras)

(1,000Rls.)

Project	Facility	Qty	Financial		Economic	
			Unit Price	Value of Output	Unit Price	Value of Output
5. Milk Processing and Marketing						
	Groups and cooperatives for milk processing facilities	2	511,000	1,022,000	480,340	960,680
	Sub-total			1,022,000		960,680
7. Establishment of Cooperative						
	Groups and cooperatives for handicraft	4	60,000	240,000	56,400	225,600
	Multi-purpose Training Facilities	4	0	0	0	0
	Sub-total			240,000		225,600
	Total			1,262,000		1,186,280

Table L-18-6 Value of Output for Handicraft Facility

Work Item	Spec	Q'ty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
1. Carpet (Horizontal weaving machine)	Wool, 2m×3m	10	piece/year	3,000,000 Rls.	30,000,000	0.94	2,820,000 Rls.	28,200,000
2. Carpet (Horizontal weaving machine)	Wool, 2m×3m	10	piece/year	3,000,000 Rls.	30,000,000	0.94	2,820,000 Rls.	28,200,000
Total					60,000,000			56,400,000
Rounded Total					60,000,000			56,400,000

Table L-18-7 Value of Output for Multi-purpose Training Facility

Work Item	Spec	Q'ty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(none, only for training & education to villagers)								
Total						0		0
Rounded Total						0		0

Table L-18-8 Value of Output for Milk Processing Facility

Work Item	Spec	Qty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(raw milk: 1l/day = 10litre/day/head×100head)		(365days)						
1. Yorgult	200kg/day	73,000	kg/year	1,500 Rls.	109,500,000	0.94	1,410 Rls.	102,930,000
2. Butter	50kg/day	18,250	kg/year	20,000 Rls.	365,000,000	0.94	18,800 Rls.	343,100,000
3. Kashk	50kg/day	18,250	kg/year	2,000 Rls.	36,500,000	0.94	1,880 Rls.	34,310,000
Total					511,000,000			480,340,000
Rounded Total					511,000,000			480,340,000

Table L-18-9 Value of Output Collection and Distribution Facility for Milk

Work Item	Spec	Qty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(raw milk: 5l/day = 10litre/day/head×500head)		(365days)						
1. Milk	5000kg/day	1,825,000	kg/year	1,240 Rls.	2,263,000,000	0.94	1,166 Rls.	2,127,950,000
Total					2,263,000,000			2,127,950,000
Rounded Total					2,263,000,000			2,127,950,000

Table L-18-10 Value of Output for Fish Culture Production

Work Item	Spec	Q'ty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
1. Fish (Rainbow Trout)	200t/year	200,000	kg/year	17,000 Rls.	3,400,000,000	0.94	15,980 Rls.	3,196,000,000
Total					3,400,000,000			3,196,000,000
Rounded Total					3,400,000,000			3,196,000,000

Table L-18-11 Value of Output for Apple Collecting & Grading Facility (Large)

Work Item	Spec	Qty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(raw apple: 2400t/year)		(Total: 2,160,000kg = 90% of raw apple)						
1. Graded apple	Excellent (20%)	432,000	kg/year	1,800 Rls.	777,600,000	0.94	1,692 Rls.	730,944,000
	Class 1 (50%)	1,080,000	kg/year	1,600 Rls.	1,728,000,000	0.94	1,504 Rls.	1,624,320,000
	Class 2 (20%)	432,000	kg/year	1,400 Rls.	604,800,000	0.94	1,316 Rls.	568,512,000
	Loss (10%)	216,000	kg/year					
Total					3,110,400,000			2,923,776,000
Rounded Total					3,110,400,000			2,923,780,000

Table L-18-12 Value of Output for Apple Collecting & Grading Facility (Small)

Work Item	Spec	Qty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(raw apple: 800t/year)		(Total: 720,000kg = 90% of raw apple)						
1. Graded apple	Excellent (20%)	114,000	kg/year	1,800 Rls.	205,200,000	0.94	1,692 Rls.	192,888,000
	Class 1 (50%)	360,000	kg/year	1,600 Rls.	576,000,000	0.94	1,504 Rls.	541,440,000
	Class 2 (20%)	114,000	kg/year	1,400 Rls.	159,600,000	0.94	1,316 Rls.	150,024,000
	Loss (10%)	72,000	kg/year					
Total					940,800,000			884,352,000
Rounded Total					940,800,000			884,350,000

Table L-18-13 Value of Output for Horticultural Crops Collecting and Grading Facility

Work Item	Spec	Qty	Unit	Financial		Conversion Factor	Economic	
				Unit Price	Amount (Rial)		Unit Price	Amount (Rial)
(raw vegetable: 400t/year)		(Total: 360,000 = 90% of raw vegetable)						
1. Cleaned vegetables	Excellent (20%)	72,000	kg/year	1,300 Rls.	93,600,000	0.94	1,222 Rls.	87,984,000
	Class 1 (50%)	180,000	kg/year	1,200 Rls.	216,000,000	0.94	1,128 Rls.	203,040,000
	Class 2 (20%)	72,000	kg/year	1,000 Rls.	72,000,000	0.94	940 Rls.	67,680,000
	Loss (10%)	36,000	kg/year					
Total					381,600,000			358,704,000
Rounded Total					381,600,000			358,700,000

Table L-19 Result of Financial and Economic Analysis (K4-1-9 Vastegan)

(1,000RIs.)

Project	Financial Analysis			Economic Analysis		
	NPV	B/C	FIRR	NPV	B/C	EIRR
(1) Construction of check dam	-	-	-	-1,280,354	0.42	1.9%
(2) River improvement	-	-	-	-2,153,616	0.37	#NUM!
(3) Rangeland vegetation improvement	-	-	-	562,841	13.21	341.8%
(4) Orchard terracing	6,655,403	6.68	93.0%	6,090,412	6.53	91.5%
(5) Groundwater monitoring	Intangible	Intangible	Intangible	Intangible	Intangible	Intangible
(6) Increase of irrigated agriculture	308,029	2.13	92.1%	244,927	1.96	83.5%
(7) Diversification to milk cow	1,198,541	1.17	143.9%	1,194,769	1.18	162.5%
(8) Rural water supply improvement	-154,958	0.58	#DIV/0!	-167,670	0.52	#DIV/0!
(9) Rural road improvement	-293,894	0.71	5.8%	-350,114	0.63	4.8%
(10) Establishment of cooperative	1,508,183	1.25	80.2%	1,862,699	1.36	93.9%
(11) Community enhancement	Intangible	Intangible	Intangible	Intangible	Intangible	Intangible
Total	9,082,776	1.55	57.4%	4,710,051	1.22	23.5%

Table L-19-1 Orchard terracing (Financial Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	181,450	0	181,450	0	-181,450	0.8929	162,017	0	-162,017
2	2003	181,450	0	181,450	0	-181,450	0.7972	144,652	0	-144,652
3	2004	181,450	0	181,450	0	-181,450	0.7118	129,156	0	-129,156
4	2005	181,450	73,400	254,850	1,351,600	1,096,750	0.6355	161,957	858,942	696,985
5	2006	181,450	73,400	254,850	1,351,600	1,096,750	0.5674	144,602	766,898	622,296
6	2007	181,450	73,400	254,850	1,351,600	1,096,750	0.5066	129,107	684,721	555,614
7	2008	0	73,400	73,400	1,351,600	1,278,200	0.4523	33,199	611,329	578,130
8	2009	0	73,400	73,400	1,351,600	1,278,200	0.4039	29,646	545,911	516,265
9	2010	0	73,400	73,400	1,351,600	1,278,200	0.3606	26,468	487,387	460,919
10	2011	0	73,400	73,400	1,351,600	1,278,200	0.3220	23,635	435,215	411,580
11	2012	0	73,400	73,400	1,351,600	1,278,200	0.2875	21,103	388,585	367,482
12	2013	0	73,400	73,400	1,351,600	1,278,200	0.2567	18,842	346,956	328,114
13	2014	0	73,400	73,400	1,351,600	1,278,200	0.2292	16,823	309,787	292,964
14	2015	0	73,400	73,400	1,351,600	1,278,200	0.2046	15,018	276,537	261,519
15	2016	0	73,400	73,400	1,351,600	1,278,200	0.1827	13,410	246,937	233,527
16	2017	0	73,400	73,400	1,351,600	1,278,200	0.1631	11,972	220,446	208,474
17	2018	0	73,400	73,400	1,351,600	1,278,200	0.1456	10,687	196,793	186,106
18	2019	0	73,400	73,400	1,351,600	1,278,200	0.1300	9,542	175,708	166,166
19	2020	0	73,400	73,400	1,351,600	1,278,200	0.1161	8,522	156,921	148,399
20	2021		73,400	73,400	1,351,600	1,278,200	0.1037	7,612	140,161	132,549
21	2022		73,400	73,400	1,351,600	1,278,200	0.0926	6,797	125,158	118,361
22	2023		73,400	73,400	1,351,600	1,278,200	0.0826	6,063	111,642	105,579
23	2024		73,400	73,400	1,351,600	1,278,200	0.0738	5,417	99,748	94,331
24	2025		73,400	73,400	1,351,600	1,278,200	0.0659	4,837	89,070	84,233
25	2026		73,400	73,400	1,351,600	1,278,200	0.0588	4,316	79,474	75,158
26	2027		73,400	73,400	1,351,600	1,278,200	0.0525	3,854	70,959	67,105
27	2028		73,400	73,400	1,351,600	1,278,200	0.0469	3,442	63,390	59,948
28	2029		73,400	73,400	1,351,600	1,278,200	0.0419	3,075	56,632	53,557
29	2030		73,400	73,400	1,351,600	1,278,200	0.0374	2,745	50,550	47,805
30	2031		73,400	73,400	1,351,600	1,278,200	0.0334	2,452	45,143	42,691
31	2032		73,400	73,400	1,351,600	1,278,200	0.0298	2,187	40,278	38,091
32	2033		73,400	73,400	1,351,600	1,278,200	0.0266	1,952	35,953	34,001
33	2034		73,400	73,400	1,351,600	1,278,200	0.0238	1,747	32,168	30,421
34	2035		73,400	73,400	1,351,600	1,278,200	0.0212	1,556	28,654	27,098
35	2036		73,400	73,400	1,351,600	1,278,200	0.0189	1,387	25,545	24,158
36	2037		73,400	73,400	1,351,600	1,278,200	0.0169	1,240	22,842	21,602
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		1,088,700	2,422,200	3,510,900	44,602,800	41,091,900		1,171,037	7,826,440	6,655,403

N.P.V=	6,655,403
B/C=	6.68
FIRR=	93.0%

Table L-19-2 Increase of Agricultural production (Financial Analysis) (K4-1-9 Vastegan)

(1,000RIs.)

							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	8,926	0	8,926	0	-8,926	0.8929	7,970	0	-7,970
2	2003	8,922	0	8,922	0	-8,922	0.7972	7,113	0	-7,113
3	2004	8,922	0	8,922	0	-8,922	0.7118	6,351	0	-6,351
4	2005	8,922	35,200	44,122	98,425	54,303	0.6355	28,040	62,549	34,509
5	2006	8,922	35,200	44,122	98,425	54,303	0.5674	25,035	55,846	30,811
6	2007	8,922	35,200	44,122	98,425	54,303	0.5066	22,352	49,862	27,510
7	2008	8,922	35,200	44,122	98,425	54,303	0.4523	19,956	44,518	24,562
8	2009	8,922	35,200	44,122	98,425	54,303	0.4039	17,821	39,754	21,933
9	2010	8,922	35,200	44,122	98,425	54,303	0.3606	15,910	35,492	19,582
10	2011	8,922	35,200	44,122	98,425	54,303	0.3220	14,207	31,693	17,486
11	2012	8,922	35,200	44,122	98,425	54,303	0.2875	12,685	28,297	15,612
12	2013	8,922	35,200	44,122	98,425	54,303	0.2567	11,326	25,266	13,940
13	2014	8,922	35,200	44,122	98,425	54,303	0.2292	10,113	22,559	12,446
14	2015	8,922	35,200	44,122	98,425	54,303	0.2046	9,027	20,138	11,111
15	2016	8,922	35,200	44,122	98,425	54,303	0.1827	8,061	17,982	9,921
16	2017	8,922	35,200	44,122	98,425	54,303	0.1631	7,196	16,053	8,857
17	2018	8,922	35,200	44,122	98,425	54,303	0.1456	6,424	14,331	7,907
18	2019	8,922	35,200	44,122	98,425	54,303	0.1300	5,736	12,795	7,059
19	2020	0	35,200	35,200	98,425	63,225	0.1161	4,087	11,427	7,340
20	2021		35,200	35,200	98,425	63,225	0.1037	3,650	10,207	6,557
21	2022		35,200	35,200	98,425	63,225	0.0926	3,260	9,114	5,854
22	2023		35,200	35,200	98,425	63,225	0.0826	2,908	8,130	5,222
23	2024		35,200	35,200	98,425	63,225	0.0738	2,598	7,264	4,666
24	2025		35,200	35,200	98,425	63,225	0.0659	2,320	6,486	4,166
25	2026		35,200	35,200	98,425	63,225	0.0588	2,070	5,787	3,717
26	2027		35,200	35,200	98,425	63,225	0.0525	1,848	5,167	3,319
27	2028		35,200	35,200	98,425	63,225	0.0469	1,651	4,616	2,965
28	2029		35,200	35,200	98,425	63,225	0.0419	1,475	4,124	2,649
29	2030		35,200	35,200	98,425	63,225	0.0374	1,316	3,681	2,365
30	2031		35,200	35,200	98,425	63,225	0.0334	1,176	3,287	2,111
31	2032		35,200	35,200	98,425	63,225	0.0298	1,049	2,933	1,884
32	2033		35,200	35,200	98,425	63,225	0.0266	936	2,618	1,682
33	2034		35,200	35,200	98,425	63,225	0.0238	838	2,343	1,505
34	2035		35,200	35,200	98,425	63,225	0.0212	746	2,087	1,341
35	2036		35,200	35,200	98,425	63,225	0.0189	665	1,860	1,195
36	2037		35,200	35,200	98,425	63,225	0.0169	595	1,663	1,068
37	2038		35,200	35,200	98,425	63,225	0.0151	532	1,486	954
38	2039		35,200	35,200	98,425	63,225	0.0135	475	1,329	854
39	2040		35,200	35,200	98,425	63,225	0.0120	422	1,181	759
40	2041		35,200	35,200	98,425	63,225	0.0107	377	1,053	676
41	2042		35,200	35,200	98,425	63,225	0.0096	338	945	607
42	2043		35,200	35,200	98,425	63,225	0.0086	303	846	543
43	2044		35,200	35,200	98,425	63,225	0.0076	268	748	480
44	2045		35,200	35,200	98,425	63,225	0.0068	239	669	430
45	2046		35,200	35,200	98,425	63,225	0.0061	215	600	385
46	2047		35,200	35,200	98,425	63,225	0.0054	190	531	341
47	2048		35,200	35,200	98,425	63,225	0.0049	172	482	310
48	2049		35,200	35,200	98,425	63,225	0.0043	151	423	272
		160,600	1,584,000	1,744,600	4,429,125	2,684,525		272,193	580,222	308,029

N.P.V=	308,029
B/C=	2.13
FIRR=	92.1%

Table L-19-3 Diversification to Milk Cow (Financial Analysis) (K4-1-9 Vastegan)

(1,000Rds.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1 2002	0	0	0	0	0	0.8929	0	0	0	
2 2003	0	0	0	0	0	0.7972	0	0	0	
3 2004	0	0	0	0	0	0.7118	0	0	0	
4 2005	0	0	0	0	0	0.6355	0	0	0	
5 2006	0	0	0	0	0	0.5674	0	0	0	
6 2007	133,840	373,626	507,466	452,600	-54,866	0.5066	257,082	229,287	-27,795	
7 2008	133,840	747,252	881,092	905,200	24,108	0.4523	398,518	409,422	10,904	
8 2009	133,840	1,120,878	1,254,718	1,357,800	103,082	0.4039	506,781	548,415	41,634	
9 2010	133,840	1,494,504	1,628,344	1,810,400	182,056	0.3606	587,181	652,830	65,649	
10 2011	133,840	1,868,130	2,001,970	2,263,000	261,030	0.3220	644,634	728,686	84,052	
11 2012	0	1,868,130	1,868,130	2,263,000	394,870	0.2875	537,087	650,613	113,526	
12 2013	0	1,868,130	1,868,130	2,263,000	394,870	0.2567	479,549	580,912	101,363	
13 2014	0	1,868,130	1,868,130	2,263,000	394,870	0.2292	428,175	518,680	90,505	
14 2015	0	1,868,130	1,868,130	2,263,000	394,870	0.2046	382,219	463,010	80,791	
15 2016	0	1,868,130	1,868,130	2,263,000	394,870	0.1827	341,307	413,450	72,143	
16 2017	0	1,868,130	1,868,130	2,263,000	394,870	0.1631	304,692	369,095	64,403	
17 2018	0	1,868,130	1,868,130	2,263,000	394,870	0.1456	272,000	329,493	57,493	
18 2019	0	1,868,130	1,868,130	2,263,000	394,870	0.1300	242,857	294,190	51,333	
19 2020	0	1,868,130	1,868,130	2,263,000	394,870	0.1161	216,890	262,734	45,844	
20 2021		1,868,130	1,868,130	2,263,000	394,870	0.1037	193,725	234,673	40,948	
21 2022		1,868,130	1,868,130	2,263,000	394,870	0.0926	172,989	209,554	36,565	
22 2023		1,868,130	1,868,130	2,263,000	394,870	0.0826	154,308	186,924	32,616	
23 2024		1,868,130	1,868,130	2,263,000	394,870	0.0738	137,868	167,009	29,141	
24 2025		1,868,130	1,868,130	2,263,000	394,870	0.0659	123,110	149,132	26,022	
25 2026		1,868,130	1,868,130	2,263,000	394,870	0.0588	109,846	133,064	23,218	
26 2027		1,868,130	1,868,130	2,263,000	394,870	0.0525	98,077	118,808	20,731	
27 2028		1,868,130	1,868,130	2,263,000	394,870	0.0469	87,615	106,135	18,520	
28 2029		1,868,130	1,868,130	2,263,000	394,870	0.0419	78,275	94,820	16,545	
29 2030		1,868,130	1,868,130	2,263,000	394,870	0.0374	69,868	84,636	14,768	
30 2031		1,868,130	1,868,130	2,263,000	394,870	0.0334	62,396	75,584	13,188	
31 2032		1,868,130	1,868,130	2,263,000	394,870	0.0298	55,670	67,437	11,767	
32 2033		1,868,130	1,868,130	2,263,000	394,870	0.0266	49,692	60,196	10,504	
33 2034		1,868,130	1,868,130	2,263,000	394,870	0.0238	44,461	53,859	9,398	
34 2035		1,868,130	1,868,130	2,263,000	394,870	0.0212	39,604	47,976	8,372	
35 2036		1,868,130	1,868,130	2,263,000	394,870	0.0189	35,308	42,771	7,463	
36 2037		1,868,130	1,868,130	2,263,000	394,870	0.0169	31,571	38,245	6,674	
37 2038		1,868,130	1,868,130	2,263,000	394,870	0.0151	28,209	34,171	5,962	
38 2039		1,868,130	1,868,130	2,263,000	394,870	0.0135	25,220	30,551	5,331	
39 2040		1,868,130	1,868,130	2,263,000	394,870	0.0120	22,418	27,156	4,738	
40 2041		1,868,130	1,868,130	2,263,000	394,870	0.0107	19,989	24,214	4,225	
41 2042										
42 2043										
43 2044										
44 2045										
45 2046										
46 2047										
47 2048										
48 2049										
		669,200	61,648,290	62,317,490	74,679,000	12,361,510		7,239,191	8,437,732	1,198,541

N.P.V=	1,198,541
B/C=	1.17
FIRR=	143.9%

Table L-19-4 Rural water supply (Financial Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	8,563	0	8,563	0	-8,563	0.8929	7,646	0	-7,646
2	2003	8,561	0	8,561	0	-8,561	0.7972	6,825	0	-6,825
3	2004	8,561	46,800	55,361	32,740	-22,621	0.7118	39,406	23,304	-16,102
4	2005	8,561	46,800	55,361	32,740	-22,621	0.6355	35,182	20,806	-14,376
5	2006	8,561	46,800	55,361	32,740	-22,621	0.5674	31,412	18,577	-12,835
6	2007	8,561	46,800	55,361	32,740	-22,621	0.5066	28,046	16,586	-11,460
7	2008	8,561	46,800	55,361	32,740	-22,621	0.4523	25,040	14,808	-10,232
8	2009	8,561	46,800	55,361	32,740	-22,621	0.4039	22,360	13,224	-9,136
9	2010	8,561	46,800	55,361	32,740	-22,621	0.3606	19,963	11,806	-8,157
10	2011	8,561	46,800	55,361	32,740	-22,621	0.3220	17,826	10,542	-7,284
11	2012	8,561	46,800	55,361	32,740	-22,621	0.2875	15,916	9,413	-6,503
12	2013	8,561	46,800	55,361	32,740	-22,621	0.2567	14,211	8,404	-5,807
13	2014	8,561	46,800	55,361	32,740	-22,621	0.2292	12,689	7,504	-5,185
14	2015	8,561	46,800	55,361	32,740	-22,621	0.2046	11,327	6,699	-4,628
15	2016	8,561	46,800	55,361	32,740	-22,621	0.1827	10,114	5,982	-4,132
16	2017	8,561	46,800	55,361	32,740	-22,621	0.1631	9,029	5,340	-3,689
17	2018	8,561	46,800	55,361	32,740	-22,621	0.1456	8,061	4,767	-3,294
18	2019	8,561	46,800	55,361	32,740	-22,621	0.1300	7,197	4,256	-2,941
19	2020	0	46,800	46,800	32,740	-14,060	0.1161	5,433	3,801	-1,632
20	2021		46,800	46,800	32,740	-14,060	0.1037	4,853	3,395	-1,458
21	2022		46,800	46,800	32,740	-14,060	0.0926	4,334	3,032	-1,302
22	2023		46,800	46,800	32,740	-14,060	0.0826	3,866	2,704	-1,162
23	2024		46,800	46,800	32,740	-14,060	0.0738	3,454	2,416	-1,038
24	2025		46,800	46,800	32,740	-14,060	0.0659	3,084	2,158	-926
25	2026		46,800	46,800	32,740	-14,060	0.0588	2,752	1,925	-827
26	2027		46,800	46,800	32,740	-14,060	0.0525	2,457	1,719	-738
27	2028		46,800	46,800	32,740	-14,060	0.0469	2,195	1,536	-659
28	2029		46,800	46,800	32,740	-14,060	0.0419	1,961	1,372	-589
29	2030		46,800	46,800	32,740	-14,060	0.0374	1,750	1,224	-526
30	2031		46,800	46,800	32,740	-14,060	0.0334	1,563	1,094	-469
31	2032		46,800	46,800	32,740	-14,060	0.0298	1,395	976	-419
32	2033		46,800	46,800	32,740	-14,060	0.0266	1,245	871	-374
33	2034		46,800	46,800	32,740	-14,060	0.0238	1,114	779	-335
34	2035		46,800	46,800	32,740	-14,060	0.0212	992	694	-298
35	2036		46,800	46,800	32,740	-14,060	0.0189	885	619	-266
36	2037		46,800	46,800	32,740	-14,060	0.0169	791	553	-238
37	2038		46,800	46,800	32,740	-14,060	0.0151	707	494	-213
38	2039		46,800	46,800	32,740	-14,060	0.0135	632	442	-190
39	2040		46,800	46,800	32,740	-14,060	0.0120	562	393	-169
40	2041		46,800	46,800	32,740	-14,060	0.0107	501	350	-151
41	2042		46,800	46,800	32,740	-14,060	0.0096	449	314	-135
42	2043		46,800	46,800	32,740	-14,060	0.0086	402	282	-120
43	2044		46,800	46,800	32,740	-14,060	0.0076	356	249	-107
44	2045		46,800	46,800	32,740	-14,060	0.0068	318	223	-95
45	2046		46,800	46,800	32,740	-14,060	0.0061	285	200	-85
46	2047		46,800	46,800	32,740	-14,060	0.0054	253	177	-76
47	2048		46,800	46,800	32,740	-14,060	0.0049	229	160	-69
48	2049		46,800	46,800	32,740	-14,060	0.0043	201	141	-60
		154,100	2,152,800	2,306,900	1,506,040	-800,860		371,269	216,311	-154,958

N.P.V=	-154,958
B/C=	0.58
FIRR=	#DIV/0!

Table L-19-5 Rural road improvement (Financial Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	283,634	0	283,634	0	-283,634	0.8929	253,257	0	-253,257
2	2003	283,633	0	283,633	0	-283,633	0.7972	226,112	0	-226,112
3	2004	283,633	50,200	333,833	110,300	-223,533	0.7118	237,622	78,512	-159,110
4	2005	0	50,200	50,200	110,300	60,100	0.6355	31,902	70,096	38,194
5	2006	0	50,200	50,200	110,300	60,100	0.5674	28,483	62,584	34,101
6	2007	0	50,200	50,200	110,300	60,100	0.5066	25,431	55,878	30,447
7	2008	0	50,200	50,200	110,300	60,100	0.4523	22,705	49,889	27,184
8	2009	0	50,200	50,200	110,300	60,100	0.4039	20,276	44,550	24,274
9	2010	0	50,200	50,200	110,300	60,100	0.3606	18,102	39,774	21,672
10	2011	0	50,200	50,200	110,300	60,100	0.3220	16,164	35,517	19,353
11	2012	0	50,200	50,200	110,300	60,100	0.2875	14,433	31,711	17,278
12	2013	0	50,200	50,200	110,300	60,100	0.2567	12,886	28,314	15,428
13	2014	0	50,200	50,200	110,300	60,100	0.2292	11,506	25,281	13,775
14	2015	0	50,200	50,200	110,300	60,100	0.2046	10,271	22,567	12,296
15	2016	0	50,200	50,200	110,300	60,100	0.1827	9,172	20,152	10,980
16	2017	0	50,200	50,200	110,300	60,100	0.1631	8,188	17,990	9,802
17	2018	0	50,200	50,200	110,300	60,100	0.1456	7,309	16,060	8,751
18	2019	0	50,200	50,200	110,300	60,100	0.1300	6,526	14,339	7,813
19	2020	0	50,200	50,200	110,300	60,100	0.1161	5,828	12,806	6,978
20	2021		50,200	50,200	110,300	60,100	0.1037	5,206	11,438	6,232
21	2022		50,200	50,200	110,300	60,100	0.0926	4,649	10,214	5,565
22	2023		50,200	50,200	110,300	60,100	0.0826	4,147	9,111	4,964
23	2024		50,200	50,200	110,300	60,100	0.0738	3,705	8,140	4,435
24	2025		50,200	50,200	110,300	60,100	0.0659	3,308	7,269	3,961
25	2026		50,200	50,200	110,300	60,100	0.0588	2,952	6,486	3,534
26	2027		50,200	50,200	110,300	60,100	0.0525	2,636	5,791	3,155
27	2028		50,200	50,200	110,300	60,100	0.0469	2,354	5,173	2,819
28	2029		50,200	50,200	110,300	60,100	0.0419	2,103	4,622	2,519
29	2030		50,200	50,200	110,300	60,100	0.0374	1,877	4,125	2,248
30	2031		50,200	50,200	110,300	60,100	0.0334	1,677	3,684	2,007
31	2032		50,200	50,200	110,300	60,100	0.0298	1,496	3,287	1,791
32	2033		50,200	50,200	110,300	60,100	0.0266	1,335	2,934	1,599
33	2034		50,200	50,200	110,300	60,100	0.0238	1,195	2,625	1,430
34	2035									
35	2036									
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		850,900	1,556,200	2,407,100	3,419,300	1,012,200		1,004,813	710,919	-293,894

N.P.V=	-293,894
B/C=	0.71
FIRR=	5.8%

Table L-19-6 Establishment of cooperative (Financial Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	55,413	0	55,413	0	-55,413	0.8929	49,478	0	-49,478
2	2003	55,411	0	55,411	0	-55,411	0.7972	44,174	0	-44,174
3	2004	55,411	0	55,411	0	-55,411	0.7118	39,442	0	-39,442
4	2005	55,411	938,020	993,431	1,262,000	268,569	0.6355	631,325	802,001	170,676
5	2006	55,411	938,020	993,431	1,262,000	268,569	0.5674	563,673	716,059	152,386
6	2007	55,411	938,020	993,431	1,262,000	268,569	0.5066	503,272	639,329	136,057
7	2008	55,411	938,020	993,431	1,262,000	268,569	0.4523	449,329	570,803	121,474
8	2009	55,411	938,020	993,431	1,262,000	268,569	0.4039	401,247	509,722	108,475
9	2010	55,411	938,020	993,431	1,262,000	268,569	0.3606	358,231	455,077	96,846
10	2011	55,411	938,020	993,431	1,262,000	268,569	0.3220	319,885	406,364	86,479
11	2012	55,411	938,020	993,431	1,262,000	268,569	0.2875	285,611	362,825	77,214
12	2013	55,411	938,020	993,431	1,262,000	268,569	0.2567	255,014	323,955	68,941
13	2014	55,411	938,020	993,431	1,262,000	268,569	0.2292	227,694	289,250	61,556
14	2015	55,411	938,020	993,431	1,262,000	268,569	0.2046	203,256	258,205	54,949
15	2016	55,411	938,020	993,431	1,262,000	268,569	0.1827	181,500	230,567	49,067
16	2017	55,411	938,020	993,431	1,262,000	268,569	0.1631	162,029	205,832	43,803
17	2018	55,411	938,020	993,431	1,262,000	268,569	0.1456	144,644	183,747	39,103
18	2019	55,411	938,020	993,431	1,262,000	268,569	0.1300	129,146	164,060	34,914
19	2020	0	938,020	938,020	1,262,000	323,980	0.1161	108,904	146,518	37,614
20	2021		938,020	938,020	1,262,000	323,980	0.1037	97,273	130,869	33,596
21	2022		938,020	938,020	1,262,000	323,980	0.0926	86,861	116,861	30,000
22	2023		938,020	938,020	1,262,000	323,980	0.0826	77,480	104,241	26,761
23	2024		938,020	938,020	1,262,000	323,980	0.0738	69,226	93,136	23,910
24	2025		938,020	938,020	1,262,000	323,980	0.0659	61,816	83,166	21,350
25	2026		938,020	938,020	1,262,000	323,980	0.0588	55,156	74,206	19,050
26	2027		938,020	938,020	1,262,000	323,980	0.0525	49,246	66,255	17,009
27	2028		938,020	938,020	1,262,000	323,980	0.0469	43,993	59,188	15,195
28	2029		938,020	938,020	1,262,000	323,980	0.0419	39,303	52,878	13,575
29	2030		938,020	938,020	1,262,000	323,980	0.0374	35,082	47,199	12,117
30	2031		938,020	938,020	1,262,000	323,980	0.0334	31,330	42,151	10,821
31	2032		938,020	938,020	1,262,000	323,980	0.0298	27,953	37,608	9,655
32	2033		938,020	938,020	1,262,000	323,980	0.0266	24,951	33,569	8,618
33	2034		938,020	938,020	1,262,000	323,980	0.0238	22,325	30,036	7,711
34	2035		938,020	938,020	1,262,000	323,980	0.0212	19,886	26,754	6,868
35	2036		938,020	938,020	1,262,000	323,980	0.0189	17,729	23,852	6,123
36	2037		938,020	938,020	1,262,000	323,980	0.0169	15,853	21,328	5,475
37	2038		938,020	938,020	1,262,000	323,980	0.0151	14,164	19,056	4,892
38	2039		938,020	938,020	1,262,000	323,980	0.0135	12,663	17,037	4,374
39	2040		938,020	938,020	1,262,000	323,980	0.0120	11,256	15,144	3,888
40	2041		938,020	938,020	1,262,000	323,980	0.0107	10,037	13,503	3,466
41	2042		938,020	938,020	1,262,000	323,980	0.0096	9,005	12,115	3,110
42	2043		938,020	938,020	1,262,000	323,980	0.0086	8,067	10,853	2,786
43	2044		938,020	938,020	1,262,000	323,980	0.0076	7,129	9,591	2,462
44	2045		938,020	938,020	1,262,000	323,980	0.0068	6,379	8,582	2,203
45	2046		938,020	938,020	1,262,000	323,980	0.0061	5,722	7,698	1,976
46	2047		938,020	938,020	1,262,000	323,980	0.0054	5,065	6,815	1,750
47	2048		938,020	938,020	1,262,000	323,980	0.0049	4,596	6,184	1,588
48	2049		938,020	938,020	1,262,000	323,980	0.0043	4,033	5,427	1,394
		997,400	42,210,900	43,208,300	56,790,000	13,581,700		5,931,433	7,439,616	1,508,183

N.P.V=	1,508,183
B/C=	1.25
FIRR=	80.2%

Table L-19-7 Financial Evaluation of the Proposed Projects (Grand Total) (K4-1-9 Vastegan)

(1,000RIs.)

Year	Total cost	Total benefit	Net Benefit	I = 12%			
				Discount Rate	Cost	Benefit	N.P.V
1	537,987	0	-537,987	0.8929	480,369	0	-480,369
2	537,978	0	-537,978	0.7972	428,876	0	-428,876
3	634,978	143,040	-491,938	0.7118	451,977	101,816	-350,161
4	1,397,965	2,855,065	1,457,100	0.6355	888,407	1,814,394	925,987
5	1,397,965	2,855,065	1,457,100	0.5674	793,205	1,619,964	826,759
6	1,905,431	3,307,665	1,402,234	0.5066	965,291	1,675,663	710,372
7	2,097,607	3,760,265	1,662,658	0.4523	948,748	1,700,768	752,020
8	2,471,233	4,212,865	1,741,632	0.4039	998,131	1,701,576	703,445
9	2,844,859	4,665,465	1,820,606	0.3606	1,025,856	1,682,367	656,511
10	3,218,485	5,118,065	1,899,580	0.3220	1,036,352	1,648,017	611,665
11	3,084,645	5,118,065	2,033,420	0.2875	886,835	1,471,444	584,609
12	3,084,645	5,118,065	2,033,420	0.2567	791,828	1,313,807	521,979
13	3,084,645	5,118,065	2,033,420	0.2292	707,001	1,173,060	466,059
14	3,084,645	5,118,065	2,033,420	0.2046	631,118	1,047,156	416,038
15	3,084,645	5,118,065	2,033,420	0.1827	563,565	935,070	371,505
16	3,084,645	5,118,065	2,033,420	0.1631	503,106	834,756	331,650
17	3,084,645	5,118,065	2,033,420	0.1456	449,124	745,190	296,066
18	3,446,601	5,118,065	1,671,464	0.1300	448,058	665,348	217,290
19	3,231,700	5,118,065	1,886,365	0.1161	375,200	594,207	219,007
20	3,231,700	5,118,065	1,886,365	0.1037	335,127	530,743	195,616
21	3,231,700	5,118,065	1,886,365	0.0926	299,255	473,933	174,678
22	3,231,700	5,118,065	1,886,365	0.0826	266,938	422,752	155,814
23	3,231,700	5,118,065	1,886,365	0.0738	238,499	377,713	139,214
24	3,231,700	5,118,065	1,886,365	0.0659	212,969	337,280	124,311
25	3,231,700	5,118,065	1,886,365	0.0588	190,024	300,942	110,918
26	3,231,700	5,118,065	1,886,365	0.0525	169,664	268,698	99,034
27	3,231,700	5,118,065	1,886,365	0.0469	151,567	240,037	88,470
28	3,231,700	5,118,065	1,886,365	0.0419	135,408	214,447	79,039
29	3,231,700	5,118,065	1,886,365	0.0374	120,866	191,416	70,550
30	3,231,700	5,118,065	1,886,365	0.0334	107,939	170,943	63,004
31	3,231,700	5,118,065	1,886,365	0.0298	96,305	152,518	56,213
32	3,231,700	5,118,065	1,886,365	0.0266	85,963	136,141	50,178
33	3,231,700	5,118,065	1,886,365	0.0238	76,914	121,810	44,896
34	3,231,700	5,118,065	1,886,365	0.0212	68,512	108,503	39,991
35	3,231,700	5,118,065	1,886,365	0.0189	61,079	96,731	35,652
36	3,231,700	5,118,065	1,886,365	0.0169	54,616	86,495	31,879
37	3,231,700	5,118,065	1,886,365	0.0151	48,799	77,283	28,484
38	3,231,700	5,118,065	1,886,365	0.0135	43,628	69,094	25,466
39	3,231,700	5,118,065	1,886,365	0.0120	38,780	61,417	22,637
40	3,231,700	5,118,065	1,886,365	0.0107	34,579	54,763	20,184
41	3,231,700	5,118,065	1,886,365	0.0096	31,024	49,133	18,109
42	3,231,700	5,118,065	1,886,365	0.0086	27,793	44,015	16,222
43	3,231,700	5,118,065	1,886,365	0.0076	24,561	38,897	14,336
44	3,231,700	5,118,065	1,886,365	0.0068	21,976	34,803	12,827
45	3,231,700	5,118,065	1,886,365	0.0061	19,713	31,220	11,507
46	3,231,700	5,118,065	1,886,365	0.0054	17,451	27,638	10,187
47	3,231,700	5,118,065	1,886,365	0.0049	15,835	25,079	9,244
48	3,231,700	5,118,065	1,886,365	0.0043	13,896	22,008	8,112
	139,034,604	221,403,965	82,369,361		16,382,727	25,491,055	9,108,328

N.P.V=	9,108,328
B/C=	1.56
EIRR=	57.4%

Table L-19-8 Construction of check dam (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Figure 2.12.6 Construction of Check dam (Economic Parameters) (2001-2049) (Rupees)							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	402,375	0	402,375	0	-402,375	0.8929	359,281	0	-359,281
2	2003	402,375	0	402,375	0	-402,375	0.7972	320,773	0	-320,773
3	2004	402,375	0	402,375	0	-402,375	0.7118	286,411	0	-286,411
4	2005	402,375	35,500	437,875	158,970	-278,905	0.6355	278,270	101,025	-177,245
5	2006	402,375	35,500	437,875	158,970	-278,905	0.5674	248,450	90,200	-158,250
6	2007	402,375	35,500	437,875	158,970	-278,905	0.5066	221,827	80,534	-141,293
7	2008	402,375	35,500	437,875	158,970	-278,905	0.4523	198,051	71,902	-126,149
8	2009	402,375	35,500	437,875	158,970	-278,905	0.4039	176,858	64,208	-112,650
9	2010	0	35,500	35,500	158,970	123,470	0.3606	12,801	57,325	44,524
10	2011	0	35,500	35,500	158,970	123,470	0.3220	11,431	51,188	39,757
11	2012	0	35,500	35,500	158,970	123,470	0.2875	10,206	45,704	35,498
12	2013	0	35,500	35,500	158,970	123,470	0.2567	9,113	40,808	31,695
13	2014	0	35,500	35,500	158,970	123,470	0.2292	8,137	36,436	28,299
14	2015	0	35,500	35,500	158,970	123,470	0.2046	7,263	32,525	25,262
15	2016	0	35,500	35,500	158,970	123,470	0.1827	6,486	29,044	22,558
16	2017	0	35,500	35,500	158,970	123,470	0.1631	5,790	25,928	20,138
17	2018	0	35,500	35,500	158,970	123,470	0.1456	5,169	23,146	17,977
18	2019	0	35,500	35,500	158,970	123,470	0.1300	4,615	20,666	16,051
19	2020	0	35,500	35,500	158,970	123,470	0.1161	4,122	18,456	14,334
20	2021		35,500	35,500	158,970	123,470	0.1037	3,681	16,485	12,804
21	2022		35,500	35,500	158,970	123,470	0.0926	3,287	14,721	11,434
22	2023		35,500	35,500	158,970	123,470	0.0826	2,932	13,131	10,199
23	2024		35,500	35,500	158,970	123,470	0.0738	2,620	11,732	9,112
24	2025		35,500	35,500	158,970	123,470	0.0659	2,339	10,476	8,137
25	2026		35,500	35,500	158,970	123,470	0.0588	2,087	9,347	7,260
26	2027		35,500	35,500	158,970	123,470	0.0525	1,864	8,346	6,482
27	2028		35,500	35,500	158,970	123,470	0.0469	1,665	7,456	5,791
28	2029		35,500	35,500	158,970	123,470	0.0419	1,487	6,661	5,174
29	2030		35,500	35,500	158,970	123,470	0.0374	1,328	5,945	4,617
30	2031		35,500	35,500	158,970	123,470	0.0334	1,186	5,310	4,124
31	2032		35,500	35,500	158,970	123,470	0.0298	1,058	4,737	3,679
32	2033		35,500	35,500	158,970	123,470	0.0266	944	4,229	3,285
33	2034		35,500	35,500	158,970	123,470	0.0238	845	3,783	2,938
34	2035		35,500	35,500	158,970	123,470	0.0212	753	3,370	2,617
35	2036		35,500	35,500	158,970	123,470	0.0189	671	3,005	2,334
36	2037		35,500	35,500	158,970	123,470	0.0169	600	2,687	2,087
37	2038		35,500	35,500	158,970	123,470	0.0151	536	2,400	1,864
38	2039		35,500	35,500	158,970	123,470	0.0135	479	2,146	1,667
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		3,219,000	1,242,500	4,461,500	5,563,950	1,102,450		2,205,416	925,062	-1,280,354

N.P.V=	-1,280,354
B/C=	0.42
EIRR=	1.9%

Table L-19-9 River improvement (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1 2002	0	0	0	0	0	0.8929	0	0	0
2 2003	0	0	0	0	0	0.7972	0	0	0
3 2004	0	0	0	0	0	0.7118	0	0	0
4 2005	0	0	0	0	0	0.6355	0	0	0
5 2006	0	0	0	0	0	0.5674	0	0	0
6 2007	0	0	0	0	0	0.5066	0	0	0
7 2008	0	0	0	0	0	0.4523	0	0	0
8 2009	0	0	0	0	0	0.4039	0	0	0
9 2010	2,203,800	0	2,203,800	0	-2,203,800	0.3606	794,690	0	-794,690
10 2011	2,203,800	0	2,203,800	0	-2,203,800	0.3220	709,624	0	-709,624
11 2012	2,203,800	0	2,203,800	0	-2,203,800	0.2875	633,593	0	-633,593
12 2013	2,203,800	91,700	2,295,500	0	-2,295,500	0.2567	589,255	0	-589,255
13 2014	2,203,800	91,700	2,295,500	611,510	-1,683,990	0.2292	526,129	140,158	-385,971
14 2015	0	91,700	91,700	611,510	519,810	0.2046	18,762	125,115	106,353
15 2016	0	91,700	91,700	611,510	519,810	0.1827	16,754	111,723	94,969
16 2017	0	91,700	91,700	611,510	519,810	0.1631	14,956	99,737	84,781
17 2018	0	91,700	91,700	611,510	519,810	0.1456	13,352	89,036	75,684
18 2019	0	91,700	91,700	611,510	519,810	0.1300	11,921	79,496	67,575
19 2020	0	91,700	91,700	611,510	519,810	0.1161	10,646	70,996	60,350
20 2021		91,700	91,700	611,510	519,810	0.1037	9,509	63,414	53,905
21 2022		91,700	91,700	611,510	519,810	0.0926	8,491	56,626	48,135
22 2023		91,700	91,700	611,510	519,810	0.0826	7,574	50,511	42,937
23 2024		91,700	91,700	611,510	519,810	0.0738	6,767	45,129	38,362
24 2025		91,700	91,700	611,510	519,810	0.0659	6,043	40,299	34,256
25 2026		91,700	91,700	611,510	519,810	0.0588	5,392	35,957	30,565
26 2027		91,700	91,700	611,510	519,810	0.0525	4,814	32,104	27,290
27 2028		91,700	91,700	611,510	519,810	0.0469	4,301	28,680	24,379
28 2029		91,700	91,700	611,510	519,810	0.0419	3,842	25,622	21,780
29 2030		91,700	91,700	611,510	519,810	0.0374	3,430	22,870	19,440
30 2031		91,700	91,700	611,510	519,810	0.0334	3,063	20,424	17,361
31 2032		91,700	91,700	611,510	519,810	0.0298	2,733	18,223	15,490
32 2033		91,700	91,700	611,510	519,810	0.0266	2,439	16,266	13,827
33 2034		91,700	91,700	611,510	519,810	0.0238	2,182	14,554	12,372
34 2035		91,700	91,700	611,510	519,810	0.0212	1,944	12,964	11,020
35 2036		91,700	91,700	611,510	519,810	0.0189	1,733	11,558	9,825
36 2037		91,700	91,700	611,510	519,810	0.0169	1,550	10,335	8,785
37 2038		91,700	91,700	611,510	519,810	0.0151	1,385	9,234	7,849
38 2039		91,700	91,700	611,510	519,810	0.0135	1,238	8,255	7,017
39 2040		91,700	91,700	611,510	519,810	0.0120	1,100	7,338	6,238
40 2041		91,700	91,700	611,510	519,810	0.0107	981	6,543	5,562
41 2042		91,700	91,700	611,510	519,810	0.0096	880	5,870	4,990
42 2043		91,700	91,700	611,510	519,810	0.0086	789	5,259	4,470
43 2044		91,700	91,700	611,510	519,810	0.0076	697	4,647	3,950
44 2045									
45 2046									
46 2047									
47 2048									
48 2049									
11,019,000		2,934,400	13,953,400	18,956,810	5,003,410		3,422,559	1,268,943	-2,153,616

N.P.V= -2,153,616

B/C= 0.37

EIRR= #NUM!

Table L-19-10 Groundwater monitoring (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	133,489	0	133,489	0	-133,489	0.8929	119,192	0	-119,192
2	2003	133,483	0	133,483	0	-133,483	0.7972	106,413	0	-106,413
3	2004	133,483	0	133,483	0	-133,483	0.7118	95,013	0	-95,013
4	2005	133,483	86,100	219,583	0	-219,583	0.6355	139,545	0	-139,545
5	2006	133,483	86,100	219,583	0	-219,583	0.5674	124,591	0	-124,591
6	2007	133,483	86,100	219,583	0	-219,583	0.5066	111,241	0	-111,241
7	2008	133,483	86,100	219,583	0	-219,583	0.4523	99,317	0	-99,317
8	2009	133,483	86,100	219,583	0	-219,583	0.4039	88,690	0	-88,690
9	2010	133,483	86,100	219,583	0	-219,583	0.3606	79,182	0	-79,182
10	2011	133,483	86,100	219,583	0	-219,583	0.3220	70,706	0	-70,706
11	2012	133,483	86,100	219,583	0	-219,583	0.2875	63,130	0	-63,130
12	2013	133,483	86,100	219,583	0	-219,583	0.2567	56,367	0	-56,367
13	2014	133,483	86,100	219,583	0	-219,583	0.2292	50,328	0	-50,328
14	2015	133,483	86,100	219,583	0	-219,583	0.2046	44,927	0	-44,927
15	2016	133,483	86,100	219,583	0	-219,583	0.1827	40,118	0	-40,118
16	2017	133,483	86,100	219,583	0	-219,583	0.1631	35,814	0	-35,814
17	2018	133,483	86,100	219,583	0	-219,583	0.1456	31,971	0	-31,971
18	2019	133,483	86,100	219,583	0	-219,583	0.1300	28,546	0	-28,546
19	2020	0	86,100	86,100	0	-86,100	0.1161	9,996	0	-9,996
20	2021		86,100	86,100	0	-86,100	0.1037	8,929	0	-8,929
21	2022		86,100	86,100	0	-86,100	0.0926	7,973	0	-7,973
22	2023		86,100	86,100	0	-86,100	0.0826	7,112	0	-7,112
23	2024		86,100	86,100	0	-86,100	0.0738	6,354	0	-6,354
24	2025		86,100	86,100	0	-86,100	0.0659	5,674	0	-5,674
25	2026		86,100	86,100	0	-86,100	0.0588	5,063	0	-5,063
26	2027		86,100	86,100	0	-86,100	0.0525	4,520	0	-4,520
27	2028		86,100	86,100	0	-86,100	0.0469	4,038	0	-4,038
28	2029		86,100	86,100	0	-86,100	0.0419	3,608	0	-3,608
29	2030		86,100	86,100	0	-86,100	0.0374	3,220	0	-3,220
30	2031		86,100	86,100	0	-86,100	0.0334	2,876	0	-2,876
31	2032		86,100	86,100	0	-86,100	0.0298	2,566	0	-2,566
32	2033		86,100	86,100	0	-86,100	0.0266	2,290	0	-2,290
33	2034		86,100	86,100	0	-86,100	0.0238	2,049	0	-2,049
34	2035		86,100	86,100	0	-86,100	0.0212	1,825	0	-1,825
35	2036		86,100	86,100	0	-86,100	0.0189	1,627	0	-1,627
36	2037		86,100	86,100	0	-86,100	0.0169	1,455	0	-1,455
37	2038		86,100	86,100	0	-86,100	0.0151	1,300	0	-1,300
38	2039		86,100	86,100	0	-86,100	0.0135	1,162	0	-1,162
39	2040		86,100	86,100	0	-86,100	0.0120	1,033	0	-1,033
40	2041		86,100	86,100	0	-86,100	0.0107	921	0	-921
41	2042		86,100	86,100	0	-86,100	0.0096	827	0	-827
42	2043		86,100	86,100	0	-86,100	0.0086	740	0	-740
43	2044		86,100	86,100	0	-86,100	0.0076	654	0	-654
44	2045		86,100	86,100	0	-86,100	0.0068	585	0	-585
45	2046		86,100	86,100	0	-86,100	0.0061	525	0	-525
46	2047		86,100	86,100	0	-86,100	0.0054	465	0	-465
47	2048		86,100	86,100	0	-86,100	0.0049	422	0	-422
48	2049		86,100	86,100	0	-86,100	0.0043	370	0	-370
		2,402,700	3,874,500	6,277,200	0	-6,277,200		1,475,270	0	-1,475,270

N.P.V= -1,475,270

B/C= 0.00

EIRR= #DIV/0!

Table L-19-11 Rangeland vegetation improvement (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1 2002	1,130	0	1,130	0	-1,130	0.8929	1,009	0	-1,009
2 2003	1,130	0	1,130	0	-1,130	0.7972	901	0	-901
3 2004	1,130	0	1,130	0	-1,130	0.7118	804	0	-804
4 2005	1,130	6,800	7,930	104,240	96,310	0.6355	5,040	66,245	61,205
5 2006	1,130	6,800	7,930	104,240	96,310	0.5674	4,499	59,146	54,647
6 2007	1,130	6,800	7,930	104,240	96,310	0.5066	4,017	52,808	48,791
7 2008	1,130	6,800	7,930	104,240	96,310	0.4523	3,587	47,148	43,561
8 2009	1,130	6,800	7,930	104,240	96,310	0.4039	3,203	42,103	38,900
9 2010	1,130	6,800	7,930	104,240	96,310	0.3606	2,860	37,589	34,729
10 2011	1,130	6,800	7,930	104,240	96,310	0.3220	2,553	33,565	31,012
11 2012	0	6,800	6,800	104,240	97,440	0.2875	1,955	29,969	28,014
12 2013	0	6,800	6,800	104,240	97,440	0.2567	1,746	26,758	25,012
13 2014	0	6,800	6,800	104,240	97,440	0.2292	1,559	23,892	22,333
14 2015	0	6,800	6,800	104,240	97,440	0.2046	1,391	21,328	19,937
15 2016	0	6,800	6,800	104,240	97,440	0.1827	1,242	19,045	17,803
16 2017	0	6,800	6,800	104,240	97,440	0.1631	1,109	17,002	15,893
17 2018	0	6,800	6,800	104,240	97,440	0.1456	990	15,177	14,187
18 2019	0	6,800	6,800	104,240	97,440	0.1300	884	13,551	12,667
19 2020	0	6,800	6,800	104,240	97,440	0.1161	789	12,102	11,313
20 2021		6,800	6,800	104,240	97,440	0.1037	705	10,810	10,105
21 2022		6,800	6,800	104,240	97,440	0.0926	630	9,653	9,023
22 2023		6,800	6,800	104,240	97,440	0.0826	562	8,610	8,048
23 2024		6,800	6,800	104,240	97,440	0.0738	502	7,693	7,191
24 2025		6,800	6,800	104,240	97,440	0.0659	448	6,869	6,421
25 2026		6,800	6,800	104,240	97,440	0.0588	400	6,129	5,729
26 2027		6,800	6,800	104,240	97,440	0.0525	357	5,473	5,116
27 2028		6,800	6,800	104,240	97,440	0.0469	319	4,889	4,570
28 2029		6,800	6,800	104,240	97,440	0.0419	285	4,368	4,083
29 2030		6,800	6,800	104,240	97,440	0.0374	254	3,899	3,645
30 2031		6,800	6,800	104,240	97,440	0.0334	227	3,482	3,255
31 2032		6,800	6,800	104,240	97,440	0.0298	203	3,106	2,903
32 2033		6,800	6,800	104,240	97,440	0.0266	181	2,773	2,592
33 2034		6,800	6,800	104,240	97,440	0.0238	162	2,481	2,319
34 2035		6,800	6,800	104,240	97,440	0.0212	144	2,210	2,066
35 2036		6,800	6,800	104,240	97,440	0.0189	129	1,970	1,841
36 2037		6,800	6,800	104,240	97,440	0.0169	115	1,762	1,647
37 2038		6,800	6,800	104,240	97,440	0.0151	103	1,574	1,471
38 2039		6,800	6,800	104,240	97,440	0.0135	92	1,407	1,315
39 2040		6,800	6,800	104,240	97,440	0.0120	82	1,251	1,169
40 2041		6,800	6,800	104,240	97,440	0.0107	73	1,115	1,042
41 2042									
42 2043									
43 2044									
44 2045									
45 2046									
46 2047									
47 2048									
48 2049									
11,300		251,600	262,900	3,856,880	3,593,980		46,111	608,952	562,841

N.P.V=	562,841
B/C=	13.21
EIRR=	341.8%

Table L-19-12 Orchard terracing (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1 2002	170,565	0	170,565	0	-170,565	0.8929	152,297	0	-152,297	
2 2003	170,567	0	170,567	0	-170,567	0.7972	135,976	0	-135,976	
3 2004	170,567	0	170,567	0	-170,567	0.7118	121,410	0	-121,410	
4 2005	170,567	69,000	239,567	1,241,900	1,002,333	0.6355	152,245	789,227	636,982	
5 2006	170,567	69,000	239,567	1,241,900	1,002,333	0.5674	135,930	704,654	568,724	
6 2007	170,567	69,000	239,567	1,241,900	1,002,333	0.5066	121,365	629,147	507,782	
7 2008	0	69,000	69,000	1,241,900	1,172,900	0.4523	31,209	561,711	530,502	
8 2009	0	69,000	69,000	1,241,900	1,172,900	0.4039	27,869	501,603	473,734	
9 2010	0	69,000	69,000	1,241,900	1,172,900	0.3606	24,881	447,829	422,948	
10 2011	0	69,000	69,000	1,241,900	1,172,900	0.3220	22,218	399,892	377,674	
11 2012	0	69,000	69,000	1,241,900	1,172,900	0.2875	19,838	357,046	337,208	
12 2013	0	69,000	69,000	1,241,900	1,172,900	0.2567	17,712	318,796	301,084	
13 2014	0	69,000	69,000	1,241,900	1,172,900	0.2292	15,815	284,643	268,828	
14 2015	0	69,000	69,000	1,241,900	1,172,900	0.2046	14,117	254,093	239,976	
15 2016	0	69,000	69,000	1,241,900	1,172,900	0.1827	12,606	226,895	214,289	
16 2017	0	69,000	69,000	1,241,900	1,172,900	0.1631	11,254	202,554	191,300	
17 2018	0	69,000	69,000	1,241,900	1,172,900	0.1456	10,046	180,821	170,775	
18 2019	0	69,000	69,000	1,241,900	1,172,900	0.1300	8,970	161,447	152,477	
19 2020	0	69,000	69,000	1,241,900	1,172,900	0.1161	8,011	144,185	136,174	
20 2021		69,000	69,000	1,241,900	1,172,900	0.1037	7,155	128,785	121,630	
21 2022		69,000	69,000	1,241,900	1,172,900	0.0926	6,389	115,000	108,611	
22 2023		69,000	69,000	1,241,900	1,172,900	0.0826	5,699	102,581	96,882	
23 2024		69,000	69,000	1,241,900	1,172,900	0.0738	5,092	91,652	86,560	
24 2025		69,000	69,000	1,241,900	1,172,900	0.0659	4,547	81,841	77,294	
25 2026		69,000	69,000	1,241,900	1,172,900	0.0588	4,057	73,024	68,967	
26 2027		69,000	69,000	1,241,900	1,172,900	0.0525	3,623	65,200	61,577	
27 2028		69,000	69,000	1,241,900	1,172,900	0.0469	3,236	58,245	55,009	
28 2029		69,000	69,000	1,241,900	1,172,900	0.0419	2,891	52,036	49,145	
29 2030		69,000	69,000	1,241,900	1,172,900	0.0374	2,581	46,447	43,866	
30 2031		69,000	69,000	1,241,900	1,172,900	0.0334	2,305	41,479	39,174	
31 2032		69,000	69,000	1,241,900	1,172,900	0.0298	2,056	37,009	34,953	
32 2033		69,000	69,000	1,241,900	1,172,900	0.0266	1,835	33,035	31,200	
33 2034		69,000	69,000	1,241,900	1,172,900	0.0238	1,642	29,557	27,915	
34 2035		69,000	69,000	1,241,900	1,172,900	0.0212	1,463	26,328	24,865	
35 2036		69,000	69,000	1,241,900	1,172,900	0.0189	1,304	23,472	22,168	
36 2037		69,000	69,000	1,241,900	1,172,900	0.0169	1,166	20,988	19,822	
37 2038										
38 2039										
39 2040										
40 2041										
41 2042										
42 2043										
43 2044										
44 2045										
45 2046										
46 2047										
47 2048										
48 2049										
		1,023,400	2,277,000	3,300,400	40,982,700	37,682,300	1,100,810	7,191,222	6,090,412	

N.P.V=	6,090,412
B/C=	6.53
EIRR=	91.5%

Table L-19-13 Increase of Agricultural production (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	8,387	0	8,387	0	-8,387	0.8929	7,489	0	-7,489
2	2003	8,389	0	8,389	0	-8,389	0.7972	6,688	0	-6,688
3	2004	8,389	0	8,389	0	-8,389	0.7118	5,971	0	-5,971
4	2005	8,389	33,100	41,489	84,963	43,474	0.6355	26,366	53,994	27,628
5	2006	8,389	33,100	41,489	84,963	43,474	0.5674	23,541	48,208	24,667
6	2007	8,389	33,100	41,489	84,963	43,474	0.5066	21,018	43,042	22,024
7	2008	8,389	33,100	41,489	84,963	43,474	0.4523	18,765	38,429	19,664
8	2009	8,389	33,100	41,489	84,963	43,474	0.4039	16,757	34,317	17,560
9	2010	8,389	33,100	41,489	84,963	43,474	0.3606	14,961	30,638	15,677
10	2011	8,389	33,100	41,489	84,963	43,474	0.3220	13,359	27,358	13,999
11	2012	8,389	33,100	41,489	84,963	43,474	0.2875	11,928	24,427	12,499
12	2013	8,389	33,100	41,489	84,963	43,474	0.2567	10,650	21,810	11,160
13	2014	8,389	33,100	41,489	84,963	43,474	0.2292	9,509	19,474	9,965
14	2015	8,389	33,100	41,489	84,963	43,474	0.2046	8,489	17,383	8,894
15	2016	8,389	33,100	41,489	84,963	43,474	0.1827	7,580	15,523	7,943
16	2017	8,389	33,100	41,489	84,963	43,474	0.1631	6,767	13,857	7,090
17	2018	8,389	33,100	41,489	84,963	43,474	0.1456	6,041	12,371	6,330
18	2019	8,389	33,100	41,489	84,963	43,474	0.1300	5,394	11,045	5,651
19	2020	0	33,100	33,100	84,963	51,863	0.1161	3,843	9,864	6,021
20	2021		33,100	33,100	84,963	51,863	0.1037	3,432	8,811	5,379
21	2022		33,100	33,100	84,963	51,863	0.0926	3,065	7,868	4,803
22	2023		33,100	33,100	84,963	51,863	0.0826	2,734	7,018	4,284
23	2024		33,100	33,100	84,963	51,863	0.0738	2,443	6,270	3,827
24	2025		33,100	33,100	84,963	51,863	0.0659	2,181	5,599	3,418
25	2026		33,100	33,100	84,963	51,863	0.0588	1,946	4,996	3,050
26	2027		33,100	33,100	84,963	51,863	0.0525	1,738	4,461	2,723
27	2028		33,100	33,100	84,963	51,863	0.0469	1,552	3,985	2,433
28	2029		33,100	33,100	84,963	51,863	0.0419	1,387	3,560	2,173
29	2030		33,100	33,100	84,963	51,863	0.0374	1,238	3,178	1,940
30	2031		33,100	33,100	84,963	51,863	0.0334	1,106	2,838	1,732
31	2032		33,100	33,100	84,963	51,863	0.0298	986	2,532	1,546
32	2033		33,100	33,100	84,963	51,863	0.0266	880	2,260	1,380
33	2034		33,100	33,100	84,963	51,863	0.0238	788	2,022	1,234
34	2035		33,100	33,100	84,963	51,863	0.0212	702	1,801	1,099
35	2036		33,100	33,100	84,963	51,863	0.0189	626	1,606	980
36	2037		33,100	33,100	84,963	51,863	0.0169	559	1,436	877
37	2038		33,100	33,100	84,963	51,863	0.0151	500	1,283	783
38	2039		33,100	33,100	84,963	51,863	0.0135	447	1,147	700
39	2040		33,100	33,100	84,963	51,863	0.0120	397	1,020	623
40	2041		33,100	33,100	84,963	51,863	0.0107	354	909	555
41	2042		33,100	33,100	84,963	51,863	0.0096	318	816	498
42	2043		33,100	33,100	84,963	51,863	0.0086	285	731	446
43	2044		33,100	33,100	84,963	51,863	0.0076	252	646	394
44	2045		33,100	33,100	84,963	51,863	0.0068	225	578	353
45	2046		33,100	33,100	84,963	51,863	0.0061	202	518	316
46	2047		33,100	33,100	84,963	51,863	0.0054	179	459	280
47	2048		33,100	33,100	84,963	51,863	0.0049	162	416	254
48	2049		33,100	33,100	84,963	51,863	0.0043	142	365	223
		151,000	1,489,500	1,640,500	3,823,335	2,182,835		255,942	500,869	244,927

N.P.V=	244,927
B/C=	1.96
EIRR=	83.5%

Table L-19-14 Diversification to Milk Cow (Economic Analysis) (K4-1-9 Vastegan)

(1,000RIs.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1 2002	0	0	0	0	0	0.8929	0	0	0
2 2003	0	0	0	0	0	0.7972	0	0	0
3 2004	0	0	0	0	0	0.7118	0	0	0
4 2005	0	0	0	0	0	0.6355	0	0	0
5 2006	0	0	0	0	0	0.5674	0	0	0
6 2007	125,840	347,696	473,536	425,590	-47,946	0.5066	239,893	215,604	-24,289
7 2008	125,840	695,392	821,232	851,180	29,948	0.4523	371,443	384,989	13,546
8 2009	125,840	1,043,088	1,168,928	1,276,770	107,842	0.4039	472,130	515,687	43,557
9 2010	125,840	1,390,784	1,516,624	1,702,360	185,736	0.3606	546,895	613,871	66,976
10 2011	125,840	1,738,480	1,864,320	2,127,950	263,630	0.3220	600,311	685,200	84,889
11 2012	0	1,738,480	1,738,480	2,127,950	389,470	0.2875	499,813	611,786	111,973
12 2013	0	1,738,480	1,738,480	2,127,950	389,470	0.2567	446,268	546,245	99,977
13 2014	0	1,738,480	1,738,480	2,127,950	389,470	0.2292	398,460	487,726	89,266
14 2015	0	1,738,480	1,738,480	2,127,950	389,470	0.2046	355,693	435,379	79,686
15 2016	0	1,738,480	1,738,480	2,127,950	389,470	0.1827	317,620	388,776	71,156
16 2017	0	1,738,480	1,738,480	2,127,950	389,470	0.1631	283,546	347,069	63,523
17 2018	0	1,738,480	1,738,480	2,127,950	389,470	0.1456	253,123	309,830	56,707
18 2019	0	1,738,480	1,738,480	2,127,950	389,470	0.1300	226,002	276,634	50,632
19 2020	0	1,738,480	1,738,480	2,127,950	389,470	0.1161	201,838	247,055	45,217
20 2021		1,738,480	1,738,480	2,127,950	389,470	0.1037	180,280	220,668	40,388
21 2022		1,738,480	1,738,480	2,127,950	389,470	0.0926	160,983	197,048	36,065
22 2023		1,738,480	1,738,480	2,127,950	389,470	0.0826	143,598	175,769	32,171
23 2024		1,738,480	1,738,480	2,127,950	389,470	0.0738	128,300	157,043	28,743
24 2025		1,738,480	1,738,480	2,127,950	389,470	0.0659	114,566	140,232	25,666
25 2026		1,738,480	1,738,480	2,127,950	389,470	0.0588	102,223	125,123	22,900
26 2027		1,738,480	1,738,480	2,127,950	389,470	0.0525	91,270	111,717	20,447
27 2028		1,738,480	1,738,480	2,127,950	389,470	0.0469	81,535	99,801	18,266
28 2029		1,738,480	1,738,480	2,127,950	389,470	0.0419	72,842	89,161	16,319
29 2030		1,738,480	1,738,480	2,127,950	389,470	0.0374	65,019	79,585	14,566
30 2031		1,738,480	1,738,480	2,127,950	389,470	0.0334	58,065	71,074	13,009
31 2032		1,738,480	1,738,480	2,127,950	389,470	0.0298	51,807	63,413	11,606
32 2033		1,738,480	1,738,480	2,127,950	389,470	0.0266	46,244	56,603	10,359
33 2034		1,738,480	1,738,480	2,127,950	389,470	0.0238	41,376	50,645	9,269
34 2035		1,738,480	1,738,480	2,127,950	389,470	0.0212	36,856	45,113	8,257
35 2036		1,738,480	1,738,480	2,127,950	389,470	0.0189	32,857	40,218	7,361
36 2037		1,738,480	1,738,480	2,127,950	389,470	0.0169	29,380	35,962	6,582
37 2038		1,738,480	1,738,480	2,127,950	389,470	0.0151	26,251	32,132	5,881
38 2039		1,738,480	1,738,480	2,127,950	389,470	0.0135	23,469	28,727	5,258
39 2040		1,738,480	1,738,480	2,127,950	389,470	0.0120	20,862	25,535	4,673
40 2041		1,738,480	1,738,480	2,127,950	389,470	0.0107	18,602	22,769	4,167
41 2042									
42 2043									
43 2044									
44 2045									
45 2046									
46 2047									
47 2048									
48 2049									
		629,200	57,369,840	57,999,040	70,222,350	12,223,310	6,739,420	7,934,189	1,194,769

N.P.V=	1,194,769
B/C=	1.18
EIRR=	162.5%

Table L-19-15 Rural water supply (Economic Analysis) (K4-1-9 Vastegan)

(1,000RIs.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	8,050	0	8,050	0	-8,050	0.8929	7,188	0	-7,188
2	2003	8,050	0	8,050	0	-8,050	0.7972	6,417	0	-6,417
3	2004	8,050	44,000	52,050	0	-52,050	0.7118	37,049	0	-37,049
4	2005	8,050	44,000	52,050	30,770	-21,280	0.6355	33,078	19,554	-13,524
5	2006	8,050	44,000	52,050	30,770	-21,280	0.5674	29,533	17,459	-12,074
6	2007	8,050	44,000	52,050	30,770	-21,280	0.5066	26,369	15,588	-10,781
7	2008	8,050	44,000	52,050	30,770	-21,280	0.4523	23,542	13,917	-9,625
8	2009	8,050	44,000	52,050	30,770	-21,280	0.4039	21,023	12,428	-8,595
9	2010	8,050	44,000	52,050	30,770	-21,280	0.3606	18,769	11,096	-7,673
10	2011	8,050	44,000	52,050	30,770	-21,280	0.3220	16,760	9,908	-6,852
11	2012	8,050	44,000	52,050	30,770	-21,280	0.2875	14,964	8,846	-6,118
12	2013	8,050	44,000	52,050	30,770	-21,280	0.2567	13,361	7,899	-5,462
13	2014	8,050	44,000	52,050	30,770	-21,280	0.2292	11,930	7,052	-4,878
14	2015	8,050	44,000	52,050	30,770	-21,280	0.2046	10,649	6,296	-4,353
15	2016	8,050	44,000	52,050	30,770	-21,280	0.1827	9,510	5,622	-3,888
16	2017	8,050	44,000	52,050	30,770	-21,280	0.1631	8,489	5,019	-3,470
17	2018	8,050	44,000	52,050	30,770	-21,280	0.1456	7,578	4,480	-3,098
18	2019	8,050	44,000	52,050	30,770	-21,280	0.1300	6,767	4,000	-2,767
19	2020	0	44,000	44,000	30,770	-13,230	0.1161	5,108	3,572	-1,536
20	2021		44,000	44,000	30,770	-13,230	0.1037	4,563	3,191	-1,372
21	2022		44,000	44,000	30,770	-13,230	0.0926	4,074	2,849	-1,225
22	2023		44,000	44,000	30,770	-13,230	0.0826	3,634	2,542	-1,092
23	2024		44,000	44,000	30,770	-13,230	0.0738	3,247	2,271	-976
24	2025		44,000	44,000	30,770	-13,230	0.0659	2,900	2,028	-872
25	2026		44,000	44,000	30,770	-13,230	0.0588	2,587	1,809	-778
26	2027		44,000	44,000	30,770	-13,230	0.0525	2,310	1,615	-695
27	2028		44,000	44,000	30,770	-13,230	0.0469	2,064	1,443	-621
28	2029		44,000	44,000	30,770	-13,230	0.0419	1,844	1,289	-555
29	2030		44,000	44,000	30,770	-13,230	0.0374	1,646	1,151	-495
30	2031		44,000	44,000	30,770	-13,230	0.0334	1,470	1,028	-442
31	2032		44,000	44,000	30,770	-13,230	0.0298	1,311	917	-394
32	2033		44,000	44,000	30,770	-13,230	0.0266	1,170	818	-352
33	2034		44,000	44,000	30,770	-13,230	0.0238	1,047	732	-315
34	2035		44,000	44,000	30,770	-13,230	0.0212	933	652	-281
35	2036		44,000	44,000	30,770	-13,230	0.0189	832	582	-250
36	2037		44,000	44,000	30,770	-13,230	0.0169	744	520	-224
37	2038		44,000	44,000	30,770	-13,230	0.0151	664	465	-199
38	2039		44,000	44,000	30,770	-13,230	0.0135	594	415	-179
39	2040		44,000	44,000	30,770	-13,230	0.0120	528	369	-159
40	2041		44,000	44,000	30,770	-13,230	0.0107	471	329	-142
41	2042		44,000	44,000	30,770	-13,230	0.0096	422	295	-127
42	2043		44,000	44,000	30,770	-13,230	0.0086	378	265	-113
43	2044		44,000	44,000	30,770	-13,230	0.0076	334	234	-100
44	2045		44,000	44,000	30,770	-13,230	0.0068	299	209	-90
45	2046		44,000	44,000	30,770	-13,230	0.0061	268	188	-80
46	2047		44,000	44,000	30,770	-13,230	0.0054	238	166	-72
47	2048		44,000	44,000	30,770	-13,230	0.0049	216	151	-65
48	2049		44,000	44,000	30,770	-13,230	0.0043	189	132	-57
		144,900	2,024,000	2,168,900	1,384,650	-784,250		349,061	181,391	-167,670

N.P.V=	-167,670
B/C=	0.52
EIRR=	#DIV/0!

Table L-19-16 Rural road improvement (Economic Analysis) (K4-1-9 Vastegan)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	266,600	0	266,600	0	-266,600	0.8929	238,047	0	-238,047
2	2003	266,600	0	266,600	0	-266,600	0.7972	212,534	0	-212,534
3	2004	266,600	47,200	313,800	0	-313,800	0.7118	223,363	0	-223,363
4	2005	0	47,200	47,200	103,680	56,480	0.6355	29,996	65,889	35,893
5	2006	0	47,200	47,200	103,680	56,480	0.5674	26,781	58,828	32,047
6	2007	0	47,200	47,200	103,680	56,480	0.5066	23,912	52,524	28,612
7	2008	0	47,200	47,200	103,680	56,480	0.4523	21,349	46,894	25,545
8	2009	0	47,200	47,200	103,680	56,480	0.4039	19,064	41,876	22,812
9	2010	0	47,200	47,200	103,680	56,480	0.3606	17,020	37,387	20,367
10	2011	0	47,200	47,200	103,680	56,480	0.3220	15,198	33,385	18,187
11	2012	0	47,200	47,200	103,680	56,480	0.2875	13,570	29,808	16,238
12	2013	0	47,200	47,200	103,680	56,480	0.2567	12,116	26,615	14,499
13	2014	0	47,200	47,200	103,680	56,480	0.2292	10,818	23,763	12,945
14	2015	0	47,200	47,200	103,680	56,480	0.2046	9,657	21,213	11,556
15	2016	0	47,200	47,200	103,680	56,480	0.1827	8,623	18,942	10,319
16	2017	0	47,200	47,200	103,680	56,480	0.1631	7,698	16,910	9,212
17	2018	0	47,200	47,200	103,680	56,480	0.1456	6,872	15,096	8,224
18	2019	0	47,200	47,200	103,680	56,480	0.1300	6,136	13,478	7,342
19	2020	0	47,200	47,200	103,680	56,480	0.1161	5,480	12,037	6,557
20	2021		47,200	47,200	103,680	56,480	0.1037	4,895	10,752	5,857
21	2022		47,200	47,200	103,680	56,480	0.0926	4,371	9,601	5,230
22	2023		47,200	47,200	103,680	56,480	0.0826	3,899	8,564	4,665
23	2024		47,200	47,200	103,680	56,480	0.0738	3,483	7,652	4,169
24	2025		47,200	47,200	103,680	56,480	0.0659	3,110	6,833	3,723
25	2026		47,200	47,200	103,680	56,480	0.0588	2,775	6,096	3,321
26	2027		47,200	47,200	103,680	56,480	0.0525	2,478	5,443	2,965
27	2028		47,200	47,200	103,680	56,480	0.0469	2,214	4,863	2,649
28	2029		47,200	47,200	103,680	56,480	0.0419	1,978	4,344	2,366
29	2030		47,200	47,200	103,680	56,480	0.0374	1,765	3,878	2,113
30	2031		47,200	47,200	103,680	56,480	0.0334	1,576	3,463	1,887
31	2032		47,200	47,200	103,680	56,480	0.0298	1,407	3,090	1,683
32	2033		47,200	47,200	103,680	56,480	0.0266	1,256	2,758	1,502
33	2034		47,200	47,200	103,680	56,480	0.0238	1,123	2,468	1,345
34	2035									
35	2036									
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		799,800	1,463,200	2,263,000	3,110,400	847,400		944,564	594,450	-350,114

N.P.V=	-350,114
B/C=	0.63
EIRR=	4.8%

Table L-19-17 Establishment of cooperative (Economic Analysis) (K4-1-9 Vastegan)

(1,000RIs.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	52,152	0	52,152	0	-52,152	0.8929	46,567	0	-46,567
2	2003	52,144	0	52,144	0	-52,144	0.7972	41,569	0	-41,569
3	2004	52,144	0	52,144	0	-52,144	0.7118	37,116	0	-37,116
4	2005	52,144	806,180	858,324	1,186,280	327,956	0.6355	545,465	753,881	208,416
5	2006	52,144	806,180	858,324	1,186,280	327,956	0.5674	487,013	673,095	186,082
6	2007	52,144	806,180	858,324	1,186,280	327,956	0.5066	434,827	600,969	166,142
7	2008	52,144	806,180	858,324	1,186,280	327,956	0.4523	388,220	536,554	148,334
8	2009	52,144	806,180	858,324	1,186,280	327,956	0.4039	346,677	479,138	132,461
9	2010	52,144	806,180	858,324	1,186,280	327,956	0.3606	309,512	427,773	118,261
10	2011	52,144	806,180	858,324	1,186,280	327,956	0.3220	276,380	381,982	105,602
11	2012	52,144	806,180	858,324	1,186,280	327,956	0.2875	246,768	341,056	94,288
12	2013	52,144	806,180	858,324	1,186,280	327,956	0.2567	220,332	304,518	84,186
13	2014	52,144	806,180	858,324	1,186,280	327,956	0.2292	196,728	271,895	75,167
14	2015	52,144	806,180	858,324	1,186,280	327,956	0.2046	175,613	242,713	67,100
15	2016	52,144	806,180	858,324	1,186,280	327,956	0.1827	156,816	216,733	59,917
16	2017	52,144	806,180	858,324	1,186,280	327,956	0.1631	139,993	193,482	53,489
17	2018	52,144	806,180	858,324	1,186,280	327,956	0.1456	124,972	172,722	47,750
18	2019	52,144	806,180	858,324	1,186,280	327,956	0.1300	111,582	154,216	42,634
19	2020	0	806,180	806,180	1,186,280	380,100	0.1161	93,597	137,727	44,130
20	2021		806,180	806,180	1,186,280	380,100	0.1037	83,601	123,017	39,416
21	2022		806,180	806,180	1,186,280	380,100	0.0926	74,652	109,850	35,198
22	2023		806,180	806,180	1,186,280	380,100	0.0826	66,590	97,987	31,397
23	2024		806,180	806,180	1,186,280	380,100	0.0738	59,496	87,547	28,051
24	2025		806,180	806,180	1,186,280	380,100	0.0659	53,127	78,176	25,049
25	2026		806,180	806,180	1,186,280	380,100	0.0588	47,403	69,753	22,350
26	2027		806,180	806,180	1,186,280	380,100	0.0525	42,324	62,280	19,956
27	2028		806,180	806,180	1,186,280	380,100	0.0469	37,810	55,637	17,827
28	2029		806,180	806,180	1,186,280	380,100	0.0419	33,779	49,705	15,926
29	2030		806,180	806,180	1,186,280	380,100	0.0374	30,151	44,367	14,216
30	2031		806,180	806,180	1,186,280	380,100	0.0334	26,926	39,622	12,696
31	2032		806,180	806,180	1,186,280	380,100	0.0298	24,024	35,351	11,327
32	2033		806,180	806,180	1,186,280	380,100	0.0266	21,444	31,555	10,111
33	2034		806,180	806,180	1,186,280	380,100	0.0238	19,187	28,233	9,046
34	2035		806,180	806,180	1,186,280	380,100	0.0212	17,091	25,149	8,058
35	2036		806,180	806,180	1,186,280	380,100	0.0189	15,237	22,421	7,184
36	2037		806,180	806,180	1,186,280	380,100	0.0169	13,624	20,048	6,424
37	2038		806,180	806,180	1,186,280	380,100	0.0151	12,173	17,913	5,740
38	2039		806,180	806,180	1,186,280	380,100	0.0135	10,883	16,015	5,132
39	2040		806,180	806,180	1,186,280	380,100	0.0120	9,674	14,235	4,561
40	2041		806,180	806,180	1,186,280	380,100	0.0107	8,626	12,693	4,067
41	2042		806,180	806,180	1,186,280	380,100	0.0096	7,739	11,388	3,649
42	2043		806,180	806,180	1,186,280	380,100	0.0086	6,933	10,202	3,269
43	2044		806,180	806,180	1,186,280	380,100	0.0076	6,127	9,016	2,889
44	2045		806,180	806,180	1,186,280	380,100	0.0068	5,482	8,067	2,585
45	2046		806,180	806,180	1,186,280	380,100	0.0061	4,918	7,236	2,318
46	2047		806,180	806,180	1,186,280	380,100	0.0054	4,353	6,406	2,053
47	2048		806,180	806,180	1,186,280	380,100	0.0049	3,950	5,813	1,863
48	2049		806,180	806,180	1,186,280	380,100	0.0043	3,467	5,101	1,634
		938,600	36,278,100	37,216,700	53,382,600	16,165,900		5,130,538	6,993,237	1,862,699

N.P.V=	1,862,699
B/C=	1.36
EIRR=	93.9%

Table L-19-18 Economic Evaluation of the Proposed Projects (Grand Total)

(1,000Rs.)

Year	Total cost	Total benefit	Net Benefit	I = 12%			
				Discount Rate	Cost	Benefit	N.P.V
1	1,042,748	0	-1,042,748	0.8929	931,070	0	-931,070
2	1,042,739	0	-1,042,739	0.7972	831,272	0	-831,272
3	1,133,939	0	-1,133,939	0.7118	807,138	0	-807,138
4	1,904,019	2,910,803	1,006,784	0.6355	1,210,004	1,849,815	639,811
5	1,904,019	2,910,803	1,006,784	0.5674	1,080,340	1,651,590	571,250
6	2,377,555	3,336,393	958,838	0.5066	1,204,469	1,690,217	485,748
7	2,554,684	3,761,983	1,207,299	0.4523	1,155,484	1,701,545	546,061
8	2,902,380	4,187,573	1,285,193	0.4039	1,172,271	1,691,361	519,090
9	5,051,501	4,613,163	-438,338	0.3606	1,821,571	1,663,507	-158,064
10	5,399,197	5,038,753	-360,444	0.3220	1,738,541	1,622,478	-116,063
11	5,272,227	5,038,753	-233,474	0.2875	1,515,765	1,448,641	-67,124
12	5,363,927	5,038,753	-325,174	0.2567	1,376,920	1,293,448	-83,472
13	5,363,927	5,650,263	286,336	0.2292	1,229,412	1,295,040	65,628
14	3,160,127	5,650,263	2,490,136	0.2046	646,562	1,156,044	509,482
15	3,160,127	5,650,263	2,490,136	0.1827	577,355	1,032,303	454,948
16	3,160,127	5,650,263	2,490,136	0.1631	515,417	921,558	406,141
17	3,160,127	5,650,263	2,490,136	0.1456	460,114	822,678	362,564
18	3,160,127	5,650,263	2,490,136	0.1300	410,817	734,534	323,717
19	2,958,060	5,650,263	2,692,203	0.1161	343,431	655,996	312,565
20	2,958,060	5,650,263	2,692,203	0.1037	306,751	585,932	279,181
21	2,958,060	5,650,263	2,692,203	0.0926	273,916	523,214	249,298
22	2,958,060	5,650,263	2,692,203	0.0826	244,336	466,712	222,376
23	2,958,060	5,650,263	2,692,203	0.0738	218,305	416,989	198,684
24	2,958,060	5,650,263	2,692,203	0.0659	194,936	372,352	177,416
25	2,958,060	5,650,263	2,692,203	0.0588	173,934	332,235	158,301
26	2,958,060	5,650,263	2,692,203	0.0525	155,298	296,639	141,341
27	2,958,060	5,650,263	2,692,203	0.0469	138,733	264,997	126,264
28	2,958,060	5,650,263	2,692,203	0.0419	123,943	236,746	112,803
29	2,958,060	5,650,263	2,692,203	0.0374	110,631	211,320	100,689
30	2,958,060	5,650,263	2,692,203	0.0334	98,799	188,719	89,920
31	2,958,060	5,650,263	2,692,203	0.0298	88,150	168,378	80,228
32	2,958,060	5,650,263	2,692,203	0.0266	78,684	150,297	71,613
33	2,958,060	5,650,263	2,692,203	0.0238	70,402	134,476	64,074
34	2,958,060	5,650,263	2,692,203	0.0212	62,711	119,786	57,075
35	2,958,060	5,650,263	2,692,203	0.0189	55,907	106,790	50,883
36	2,958,060	5,650,263	2,692,203	0.0169	49,991	95,489	45,498
37	2,958,060	5,650,263	2,692,203	0.0151	44,667	85,319	40,652
38	2,958,060	5,650,263	2,692,203	0.0135	39,934	76,279	36,345
39	2,958,060	5,650,263	2,692,203	0.0120	35,497	67,803	32,306
40	2,958,060	5,650,263	2,692,203	0.0107	31,651	60,458	28,807
41	2,958,060	5,650,263	2,692,203	0.0096	28,397	54,243	25,846
42	2,958,060	5,650,263	2,692,203	0.0086	25,439	48,592	23,153
43	2,958,060	5,650,263	2,692,203	0.0076	22,481	42,942	20,461
44	2,958,060	5,650,263	2,692,203	0.0068	20,115	38,422	18,307
45	2,958,060	5,650,263	2,692,203	0.0061	18,044	34,467	16,423
46	2,958,060	5,650,263	2,692,203	0.0054	15,974	30,511	14,537
47	2,958,060	5,650,263	2,692,203	0.0049	14,494	27,686	13,192
48	2,958,060	5,650,263	2,692,203	0.0043	12,720	24,296	11,576
145,855,297					21,782,793	26,492,844	4,710,051

N.P.V=	4,710,051
B/C=	1.22
EIRR=	23.5%

Table L-20 Result of Financial and Economic Analysis (K5-19a Chaman Goli-Bazofi)

(1,000Rls.)

Project	Financial Analysis			Economic Analysis		
	NPV	B/C	FIRR	NPV	B/C	EIRR
(1) Construction of check dam	-	-	-	2,884,381	2.37	33.5%
(2) River treatment	-	-	-	-667,394	0.11	#NUM!
(3) Landslide Protection and Rock-fall protection	-	-	-	43,467	1.10	14.2%
(4) Soil erosion protection	-	-	-	107,976	1.16	16.5%
(5) Rangeland vegetation improvement	-	-	-	607,819	14.05	355.8%
(6) Forestland vegetation recovery	-	-	-	508,805	34.71	#DIV/0!
(7) Increase of irrigated agriculture	377,483	1.23	22.8%	233,064	1.15	18.9%
(8) Fish culture promotion	865,656	1.05	15.3%	899,234	1.05	15.6%
(9) Diversification to milk cow	2,228,591	1.31	#DIV/0!	2,163,348	1.32	#DIV/0!
(10) Rural water supply improvement	-246,038	0.74	#NUM!	-231,562	0.74	#NUM!
(11) Rural road improvement	-1,440,729	0.24	#DIV/0!	-1,354,511	0.24	#DIV/0!
(12) Establishment of cooperative	2,243,007	1.22	85.9%	2,533,438	1.28	95.5%
(13) Community enhancement	Intangible	Intangible	Intangible	Intangible	Intangible	Intangible
Total	4,128,174	1.10	20.4%	7,911,475	1.19	24.1%

Table L-20-1 Increase of Agricultural production (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	110,902	0	110,902	0	-110,902	0.8929	99,024	0	-99,024
2	2003	110,894	0	110,894	0	-110,894	0.7972	88,405	0	-88,405
3	2004	110,894	0	110,894	0	-110,894	0.7118	78,934	0	-78,934
4	2005	110,894	141,700	252,594	342,108	89,514	0.6355	160,523	217,410	56,887
5	2006	110,894	141,700	252,594	342,108	89,514	0.5674	143,322	194,112	50,790
6	2007	110,894	141,700	252,594	342,108	89,514	0.5066	127,964	173,312	45,348
7	2008	110,894	141,700	252,594	342,108	89,514	0.4523	114,248	154,735	40,487
8	2009	110,894	141,700	252,594	342,108	89,514	0.4039	102,023	138,177	36,154
9	2010	110,894	141,700	252,594	342,108	89,514	0.3606	91,085	123,364	32,279
10	2011	110,894	141,700	252,594	342,108	89,514	0.3220	81,335	110,159	28,824
11	2012	110,894	141,700	252,594	342,108	89,514	0.2875	72,621	98,356	25,735
12	2013	110,894	141,700	252,594	342,108	89,514	0.2567	64,841	87,819	22,978
13	2014	110,894	141,700	252,594	342,108	89,514	0.2292	57,895	78,411	20,516
14	2015	110,894	141,700	252,594	342,108	89,514	0.2046	51,681	69,995	18,314
15	2016	110,894	141,700	252,594	342,108	89,514	0.1827	46,149	62,503	16,354
16	2017	110,894	141,700	252,594	342,108	89,514	0.1631	41,198	55,798	14,600
17	2018	110,894	141,700	252,594	342,108	89,514	0.1456	36,778	49,811	13,033
18	2019	110,894	141,700	252,594	342,108	89,514	0.1300	32,837	44,474	11,637
19	2020	0	141,700	141,700	342,108	200,408	0.1161	16,451	39,719	23,268
20	2021		141,700	141,700	342,108	200,408	0.1037	14,694	35,477	20,783
21	2022		141,700	141,700	342,108	200,408	0.0926	13,121	31,679	18,558
22	2023		141,700	141,700	342,108	200,408	0.0826	11,704	28,258	16,554
23	2024		141,700	141,700	342,108	200,408	0.0738	10,457	25,248	14,791
24	2025		141,700	141,700	342,108	200,408	0.0659	9,338	22,545	13,207
25	2026		141,700	141,700	342,108	200,408	0.0588	8,332	20,116	11,784
26	2027		141,700	141,700	342,108	200,408	0.0525	7,439	17,961	10,522
27	2028		141,700	141,700	342,108	200,408	0.0469	6,646	16,045	9,399
28	2029		141,700	141,700	342,108	200,408	0.0419	5,937	14,334	8,397
29	2030		141,700	141,700	342,108	200,408	0.0374	5,300	12,795	7,495
30	2031		141,700	141,700	342,108	200,408	0.0334	4,733	11,426	6,693
31	2032		141,700	141,700	342,108	200,408	0.0298	4,223	10,195	5,972
32	2033		141,700	141,700	342,108	200,408	0.0266	3,769	9,100	5,331
33	2034		141,700	141,700	342,108	200,408	0.0238	3,372	8,142	4,770
34	2035		141,700	141,700	342,108	200,408	0.0212	3,004	7,253	4,249
35	2036		141,700	141,700	342,108	200,408	0.0189	2,678	6,466	3,788
36	2037		141,700	141,700	342,108	200,408	0.0169	2,395	5,782	3,387
37	2038		141,700	141,700	342,108	200,408	0.0151	2,140	5,166	3,026
38	2039		141,700	141,700	342,108	200,408	0.0135	1,913	4,618	2,705
39	2040		141,700	141,700	342,108	200,408	0.0120	1,700	4,105	2,405
40	2041		141,700	141,700	342,108	200,408	0.0107	1,516	3,661	2,145
41	2042		141,700	141,700	342,108	200,408	0.0096	1,360	3,284	1,924
42	2043		141,700	141,700	342,108	200,408	0.0086	1,219	2,942	1,723
43	2044		141,700	141,700	342,108	200,408	0.0076	1,077	2,600	1,523
44	2045		141,700	141,700	342,108	200,408	0.0068	964	2,326	1,362
45	2046		141,700	141,700	342,108	200,408	0.0061	864	2,087	1,223
46	2047		141,700	141,700	342,108	200,408	0.0054	765	1,847	1,082
47	2048		141,700	141,700	342,108	200,408	0.0049	694	1,676	982
48	2049		141,700	141,700	342,108	200,408	0.0043	609	1,471	862
		1,996,100	6,376,500	8,372,600	15,394,860	7,022,260		1,639,277	2,016,760	377,483

N.P.V=	377,483
B/C=	1.23
FIRR=	22.8%

Table L-20-2 Fish culture promotion (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	910,640	0	910,640	0	-910,640	0.8929	813,110	0	-813,110
2	2003	910,640	0	910,640	0	-910,640	0.7972	725,962	0	-725,962
3	2004	910,640	0	910,640	0	-910,640	0.7118	648,194	0	-648,194
4	2005	910,640	2,681,500	3,592,140	3,400,000	-192,140	0.6355	2,282,805	2,160,700	-122,105
5	2006	910,640	2,681,500	3,592,140	3,400,000	-192,140	0.5674	2,038,180	1,929,160	-109,020
6	2007	0	2,681,500	2,681,500	3,400,000	718,500	0.5066	1,358,448	1,722,440	363,992
7	2008	0	2,681,500	2,681,500	3,400,000	718,500	0.4523	1,212,842	1,537,820	324,978
8	2009	0	2,681,500	2,681,500	3,400,000	718,500	0.4039	1,083,058	1,373,260	290,202
9	2010	0	2,681,500	2,681,500	3,400,000	718,500	0.3606	966,949	1,226,040	259,091
10	2011	0	2,681,500	2,681,500	3,400,000	718,500	0.3220	863,443	1,094,800	231,357
11	2012	0	2,681,500	2,681,500	3,400,000	718,500	0.2875	770,931	977,500	206,569
12	2013	0	2,681,500	2,681,500	3,400,000	718,500	0.2567	688,341	872,780	184,439
13	2014	0	2,681,500	2,681,500	3,400,000	718,500	0.2292	614,600	779,280	164,680
14	2015	0	2,681,500	2,681,500	3,400,000	718,500	0.2046	548,635	695,640	147,005
15	2016	0	2,681,500	2,681,500	3,400,000	718,500	0.1827	489,910	621,180	131,270
16	2017	0	2,681,500	2,681,500	3,400,000	718,500	0.1631	437,353	554,540	117,187
17	2018	0	2,681,500	2,681,500	3,400,000	718,500	0.1456	390,426	495,040	104,614
18	2019	0	2,681,500	2,681,500	3,400,000	718,500	0.1300	348,595	442,000	93,405
19	2020	0	2,681,500	2,681,500	3,400,000	718,500	0.1161	311,322	394,740	83,418
20	2021		2,681,500	2,681,500	3,400,000	718,500	0.1037	278,072	352,580	74,508
21	2022		2,681,500	2,681,500	3,400,000	718,500	0.0926	248,307	314,840	66,533
22	2023		2,681,500	2,681,500	3,400,000	718,500	0.0826	221,492	280,840	59,348
23	2024		2,681,500	2,681,500	3,400,000	718,500	0.0738	197,895	250,920	53,025
24	2025		2,681,500	2,681,500	3,400,000	718,500	0.0659	176,711	224,060	47,349
25	2026		2,681,500	2,681,500	3,400,000	718,500	0.0588	157,672	199,920	42,248
26	2027		2,681,500	2,681,500	3,400,000	718,500	0.0525	140,779	178,500	37,721
27	2028		2,681,500	2,681,500	3,400,000	718,500	0.0469	125,762	159,460	33,698
28	2029		2,681,500	2,681,500	3,400,000	718,500	0.0419	112,355	142,460	30,105
29	2030		2,681,500	2,681,500	3,400,000	718,500	0.0374	100,288	127,160	26,872
30	2031		2,681,500	2,681,500	3,400,000	718,500	0.0334	89,562	113,560	23,998
31	2032		2,681,500	2,681,500	3,400,000	718,500	0.0298	79,909	101,320	21,411
32	2033		2,681,500	2,681,500	3,400,000	718,500	0.0266	71,328	90,440	19,112
33	2034		2,681,500	2,681,500	3,400,000	718,500	0.0238	63,820	80,920	17,100
34	2035		2,681,500	2,681,500	3,400,000	718,500	0.0212	56,848	72,080	15,232
35	2036		2,681,500	2,681,500	3,400,000	718,500	0.0189	50,680	64,260	13,580
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		4,553,200	85,808,000	90,361,200	108,800,000	18,438,800		18,764,584	19,630,240	865,656

N.P.V=	865,656
B/C=	1.05
FIRR=	15.3%

Table L-20-3 Diversification to Milk Cow (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	0	0	0	0	0.8929	0	0	0	0
2	2003	0	0	0	0	0.7972	0	0	0	0
3	2004	0	0	0	0	0.7118	0	0	0	0
4	2005	0	0	0	0	0.6355	0	0	0	0
5	2006	0	0	0	0	0.5674	0	0	0	0
6	2007	133,840	373,626	507,466	1,357,800	0.5066	257,082	687,861	430,779	
7	2008	133,840	747,252	881,092	1,584,100	0.4523	398,518	716,488	317,970	
8	2009	133,840	1,120,878	1,254,718	1,810,400	0.4039	506,781	731,221	224,440	
9	2010	133,840	1,494,504	1,628,344	2,036,700	0.3606	587,181	734,434	147,253	
10	2011	133,840	1,868,130	2,001,970	2,263,000	0.3220	644,634	728,686	84,052	
11	2012	0	1,868,130	1,868,130	2,263,000	0.2875	537,087	650,613	113,526	
12	2013	0	1,868,130	1,868,130	2,263,000	0.2567	479,549	580,912	101,363	
13	2014	0	1,868,130	1,868,130	2,263,000	0.2292	428,175	518,680	90,505	
14	2015	0	1,868,130	1,868,130	2,263,000	0.2046	382,219	463,010	80,791	
15	2016	0	1,868,130	1,868,130	2,263,000	0.1827	341,307	413,450	72,143	
16	2017	0	1,868,130	1,868,130	2,263,000	0.1631	304,692	369,095	64,403	
17	2018	0	1,868,130	1,868,130	2,263,000	0.1456	272,000	329,493	57,493	
18	2019	0	1,868,130	1,868,130	2,263,000	0.1300	242,857	294,190	51,333	
19	2020	0	1,868,130	1,868,130	2,263,000	0.1161	216,890	262,734	45,844	
20	2021		1,868,130	1,868,130	2,263,000	0.1037	193,725	234,673	40,948	
21	2022		1,868,130	1,868,130	2,263,000	0.0926	172,989	209,554	36,565	
22	2023		1,868,130	1,868,130	2,263,000	0.0826	154,308	186,924	32,616	
23	2024		1,868,130	1,868,130	2,263,000	0.0738	137,868	167,009	29,141	
24	2025		1,868,130	1,868,130	2,263,000	0.0659	123,110	149,132	26,022	
25	2026		1,868,130	1,868,130	2,263,000	0.0588	109,846	133,064	23,218	
26	2027		1,868,130	1,868,130	2,263,000	0.0525	98,077	118,808	20,731	
27	2028		1,868,130	1,868,130	2,263,000	0.0469	87,615	106,135	18,520	
28	2029		1,868,130	1,868,130	2,263,000	0.0419	78,275	94,820	16,545	
29	2030		1,868,130	1,868,130	2,263,000	0.0374	69,868	84,636	14,768	
30	2031		1,868,130	1,868,130	2,263,000	0.0334	62,396	75,584	13,188	
31	2032		1,868,130	1,868,130	2,263,000	0.0298	55,670	67,437	11,767	
32	2033		1,868,130	1,868,130	2,263,000	0.0266	49,692	60,196	10,504	
33	2034		1,868,130	1,868,130	2,263,000	0.0238	44,461	53,859	9,398	
34	2035		1,868,130	1,868,130	2,263,000	0.0212	39,604	47,976	8,372	
35	2036		1,868,130	1,868,130	2,263,000	0.0189	35,308	42,771	7,463	
36	2037		1,868,130	1,868,130	2,263,000	0.0169	31,571	38,245	6,674	
37	2038		1,868,130	1,868,130	2,263,000	0.0151	28,209	34,171	5,962	
38	2039		1,868,130	1,868,130	2,263,000	0.0135	25,220	30,551	5,331	
39	2040		1,868,130	1,868,130	2,263,000	0.0120	22,418	27,156	4,738	
40	2041		1,868,130	1,868,130	2,263,000	0.0107	19,989	24,214	4,225	
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		669,200	61,648,290	62,317,490	76,942,000	14,624,510	7,239,191	9,467,782	2,228,591	

N.P.V=	2,228,591
B/C=	1.31
FIRR=	#DIV/0!

Table L-20-4 Rural water supply (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	116,066	0	116,066	0	-116,066	0.8929	103,635	0	-103,635
2	2003	116,067	0	116,067	0	-116,067	0.7972	92,529	0	-92,529
3	2004	116,067	104,100	220,167	109,180	-110,987	0.7118	156,715	77,714	-79,001
4	2005	0	104,100	104,100	109,180	5,080	0.6355	66,156	69,384	3,228
5	2006	0	104,100	104,100	109,180	5,080	0.5674	59,066	61,949	2,883
6	2007	0	104,100	104,100	109,180	5,080	0.5066	52,737	55,311	2,574
7	2008	0	104,100	104,100	109,180	5,080	0.4523	47,084	49,382	2,298
8	2009	0	104,100	104,100	109,180	5,080	0.4039	42,046	44,098	2,052
9	2010	0	104,100	104,100	109,180	5,080	0.3606	37,538	39,370	1,832
10	2011	0	104,100	104,100	109,180	5,080	0.3220	33,520	35,156	1,636
11	2012	0	104,100	104,100	109,180	5,080	0.2875	29,929	31,389	1,460
12	2013	0	104,100	104,100	109,180	5,080	0.2567	26,722	28,027	1,305
13	2014	0	104,100	104,100	109,180	5,080	0.2292	23,860	25,024	1,164
14	2015	0	104,100	104,100	109,180	5,080	0.2046	21,299	22,338	1,039
15	2016	0	104,100	104,100	109,180	5,080	0.1827	19,019	19,947	928
16	2017	0	104,100	104,100	109,180	5,080	0.1631	16,979	17,807	828
17	2018	0	104,100	104,100	109,180	5,080	0.1456	15,157	15,897	740
18	2019	0	104,100	104,100	109,180	5,080	0.1300	13,533	14,193	660
19	2020	0	104,100	104,100	109,180	5,080	0.1161	12,086	12,676	590
20	2021		104,100	104,100	109,180	5,080	0.1037	10,795	11,322	527
21	2022		104,100	104,100	109,180	5,080	0.0926	9,640	10,110	470
22	2023		104,100	104,100	109,180	5,080	0.0826	8,599	9,018	419
23	2024		104,100	104,100	109,180	5,080	0.0738	7,683	8,057	374
24	2025		104,100	104,100	109,180	5,080	0.0659	6,860	7,195	335
25	2026		104,100	104,100	109,180	5,080	0.0588	6,121	6,420	299
26	2027		104,100	104,100	109,180	5,080	0.0525	5,465	5,732	267
27	2028		104,100	104,100	109,180	5,080	0.0469	4,882	5,121	239
28	2029		104,100	104,100	109,180	5,080	0.0419	4,362	4,575	213
29	2030		104,100	104,100	109,180	5,080	0.0374	3,893	4,083	190
30	2031		104,100	104,100	109,180	5,080	0.0334	3,477	3,647	170
31	2032		104,100	104,100	109,180	5,080	0.0298	3,102	3,254	152
32	2033		104,100	104,100	109,180	5,080	0.0266	2,769	2,904	135
33	2034		104,100	104,100	109,180	5,080	0.0238	2,478	2,598	120
34	2035									
35	2036									
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		348,200	3,227,100	3,575,300	3,384,580	-190,720		949,736	703,698	-246,038

N.P.V=	-246,038
B/C=	0.74
FIRR=	#NUM!

Table L-20-5 Rural road improvement (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

Table 12b-3 Rural Road Improvement (Financial Analysis) (R-15a Chamar Gou-Bazari)							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	451,034	0	451,034	0	-451,034	0.8929	402,728	0	-402,728
2	2003	451,033	0	451,033	0	-451,033	0.7972	359,564	0	-359,564
3	2004	451,033	125,500	576,533	70,050	-506,483	0.7118	410,376	49,862	-360,514
4	2005	0	125,500	125,500	70,050	-55,450	0.6355	79,755	44,517	-35,238
5	2006	0	125,500	125,500	70,050	-55,450	0.5674	71,209	39,746	-31,463
6	2007	0	125,500	125,500	70,050	-55,450	0.5066	63,578	35,487	-28,091
7	2008	0	125,500	125,500	70,050	-55,450	0.4523	56,764	31,684	-25,080
8	2009	0	125,500	125,500	70,050	-55,450	0.4039	50,689	28,293	-22,396
9	2010	0	125,500	125,500	70,050	-55,450	0.3606	45,255	25,260	-19,995
10	2011	0	125,500	125,500	70,050	-55,450	0.3220	40,411	22,556	-17,855
11	2012	0	125,500	125,500	70,050	-55,450	0.2875	36,081	20,139	-15,942
12	2013	0	125,500	125,500	70,050	-55,450	0.2567	32,216	17,982	-14,234
13	2014	0	125,500	125,500	70,050	-55,450	0.2292	28,765	16,055	-12,710
14	2015	0	125,500	125,500	70,050	-55,450	0.2046	25,677	14,332	-11,345
15	2016	0	125,500	125,500	70,050	-55,450	0.1827	22,929	12,798	-10,131
16	2017	0	125,500	125,500	70,050	-55,450	0.1631	20,469	11,425	-9,044
17	2018	0	125,500	125,500	70,050	-55,450	0.1456	18,273	10,199	-8,074
18	2019	0	125,500	125,500	70,050	-55,450	0.1300	16,315	9,107	-7,208
19	2020	0	125,500	125,500	70,050	-55,450	0.1161	14,571	8,133	-6,438
20	2021		125,500	125,500	70,050	-55,450	0.1037	13,014	7,264	-5,750
21	2022		125,500	125,500	70,050	-55,450	0.0926	11,621	6,487	-5,134
22	2023		125,500	125,500	70,050	-55,450	0.0826	10,366	5,786	-4,580
23	2024		125,500	125,500	70,050	-55,450	0.0738	9,262	5,170	-4,092
24	2025		125,500	125,500	70,050	-55,450	0.0659	8,270	4,616	-3,654
25	2026		125,500	125,500	70,050	-55,450	0.0588	7,379	4,119	-3,260
26	2027		125,500	125,500	70,050	-55,450	0.0525	6,589	3,678	-2,911
27	2028		125,500	125,500	70,050	-55,450	0.0469	5,886	3,285	-2,601
28	2029		125,500	125,500	70,050	-55,450	0.0419	5,258	2,935	-2,323
29	2030		125,500	125,500	70,050	-55,450	0.0374	4,694	2,620	-2,074
30	2031		125,500	125,500	70,050	-55,450	0.0334	4,192	2,340	-1,852
31	2032		125,500	125,500	70,050	-55,450	0.0298	3,740	2,087	-1,653
32	2033		125,500	125,500	70,050	-55,450	0.0266	3,338	1,863	-1,475
33	2034		125,500	125,500	70,050	-55,450	0.0238	2,987	1,667	-1,320
34	2035									
35	2036									
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		1,353,100	3,890,500	5,243,600	2,171,550	-3,072,050		1,892,221	451,492	-1,440,729

N.P.V= -1,440,729

B/C= 0.24

FIRR= #DIV/0!

Table L-20-6 Establishment of cooperative (Financial Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%				
						Discount Rate	Cost	Benefit	N.P.V	
1	2002	73,213	0	73,213	0	-73,213	0.8929	65,372	0	-65,372
2	2003	73,211	0	73,211	0	-73,211	0.7972	58,364	0	-58,364
3	2004	73,211	0	73,211	0	-73,211	0.7118	52,112	0	-52,112
4	2005	73,211	1,633,480	1,706,691	2,104,000	397,309	0.6355	1,084,602	1,337,092	252,490
5	2006	73,211	1,633,480	1,706,691	2,104,000	397,309	0.5674	968,376	1,193,810	225,434
6	2007	73,211	1,633,480	1,706,691	2,104,000	397,309	0.5066	864,610	1,065,886	201,276
7	2008	73,211	1,633,480	1,706,691	2,104,000	397,309	0.4523	771,936	951,639	179,703
8	2009	73,211	1,633,480	1,706,691	2,104,000	397,309	0.4039	689,332	849,806	160,474
9	2010	73,211	1,633,480	1,706,691	2,104,000	397,309	0.3606	615,433	758,702	143,269
10	2011	73,211	1,633,480	1,706,691	2,104,000	397,309	0.3220	549,555	677,488	127,933
11	2012	73,211	1,633,480	1,706,691	2,104,000	397,309	0.2875	490,674	604,900	114,226
12	2013	73,211	1,633,480	1,706,691	2,104,000	397,309	0.2567	438,108	540,097	101,989
13	2014	73,211	1,633,480	1,706,691	2,104,000	397,309	0.2292	391,174	482,237	91,063
14	2015	73,211	1,633,480	1,706,691	2,104,000	397,309	0.2046	349,189	430,478	81,289
15	2016	73,211	1,633,480	1,706,691	2,104,000	397,309	0.1827	311,812	384,401	72,589
16	2017	73,211	1,633,480	1,706,691	2,104,000	397,309	0.1631	278,361	343,162	64,801
17	2018	73,211	1,633,480	1,706,691	2,104,000	397,309	0.1456	248,494	306,342	57,848
18	2019	73,211	1,633,480	1,706,691	2,104,000	397,309	0.1300	221,870	273,520	51,650
19	2020	0	1,633,480	1,633,480	2,104,000	470,520	0.1161	189,647	244,274	54,627
20	2021		1,633,480	1,633,480	2,104,000	470,520	0.1037	169,392	218,185	48,793
21	2022		1,633,480	1,633,480	2,104,000	470,520	0.0926	151,260	194,830	43,570
22	2023		1,633,480	1,633,480	2,104,000	470,520	0.0826	134,925	173,790	38,865
23	2024		1,633,480	1,633,480	2,104,000	470,520	0.0738	120,551	155,275	34,724
24	2025		1,633,480	1,633,480	2,104,000	470,520	0.0659	107,646	138,654	31,008
25	2026		1,633,480	1,633,480	2,104,000	470,520	0.0588	96,049	123,715	27,666
26	2027		1,633,480	1,633,480	2,104,000	470,520	0.0525	85,758	110,460	24,702
27	2028		1,633,480	1,633,480	2,104,000	470,520	0.0469	76,610	98,678	22,068
28	2029		1,633,480	1,633,480	2,104,000	470,520	0.0419	68,443	88,158	19,715
29	2030		1,633,480	1,633,480	2,104,000	470,520	0.0374	61,092	78,690	17,598
30	2031		1,633,480	1,633,480	2,104,000	470,520	0.0334	54,558	70,274	15,716
31	2032		1,633,480	1,633,480	2,104,000	470,520	0.0298	48,678	62,699	14,021
32	2033		1,633,480	1,633,480	2,104,000	470,520	0.0266	43,451	55,966	12,515
33	2034		1,633,480	1,633,480	2,104,000	470,520	0.0238	38,877	50,075	11,198
34	2035		1,633,480	1,633,480	2,104,000	470,520	0.0212	34,630	44,605	9,975
35	2036		1,633,480	1,633,480	2,104,000	470,520	0.0189	30,873	39,766	8,893
36	2037		1,633,480	1,633,480	2,104,000	470,520	0.0169	27,606	35,558	7,952
37	2038		1,633,480	1,633,480	2,104,000	470,520	0.0151	24,666	31,770	7,104
38	2039		1,633,480	1,633,480	2,104,000	470,520	0.0135	22,052	28,404	6,352
39	2040		1,633,480	1,633,480	2,104,000	470,520	0.0120	19,602	25,248	5,646
40	2041		1,633,480	1,633,480	2,104,000	470,520	0.0107	17,478	22,513	5,035
41	2042		1,633,480	1,633,480	2,104,000	470,520	0.0096	15,681	20,198	4,517
42	2043		1,633,480	1,633,480	2,104,000	470,520	0.0086	14,048	18,094	4,046
43	2044		1,633,480	1,633,480	2,104,000	470,520	0.0076	12,414	15,990	3,576
44	2045		1,633,480	1,633,480	2,104,000	470,520	0.0068	11,108	14,307	3,199
45	2046		1,633,480	1,633,480	2,104,000	470,520	0.0061	9,964	12,834	2,870
46	2047		1,633,480	1,633,480	2,104,000	470,520	0.0054	8,821	11,362	2,541
47	2048		1,633,480	1,633,480	2,104,000	470,520	0.0049	8,004	10,310	2,306
48	2049		1,633,480	1,633,480	2,104,000	470,520	0.0043	7,024	9,047	2,023
		1,317,800	73,506,600	74,824,400	94,680,000	19,855,600		10,160,282	12,403,289	2,243,007

N.P.V=	2,243,007
B/C=	1.22
FIRR=	85.9%

Table L-20-7 Financial Evaluation of the Proposed Projects (Grand Total) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

Year	Total cost	Total benefit	Net Benefit	I = 12%			
				Discount Rate	Cost	Benefit	N.P.V
1	1,661,855	0	-1,661,855	0.8929	1,483,870	0	-1,483,870
2	1,661,845	0	-1,661,845	0.7972	1,324,823	0	-1,324,823
3	1,891,445	179,230	-1,712,215	0.7118	1,346,331	127,576	-1,218,755
4	5,781,025	6,025,338	244,313	0.6355	3,673,841	3,829,102	155,261
5	5,781,025	6,025,338	244,313	0.5674	3,280,154	3,418,777	138,623
6	5,377,851	7,383,138	2,005,287	0.5066	2,724,419	3,740,298	1,015,879
7	5,751,477	7,609,438	1,857,961	0.4523	2,601,393	3,441,749	840,356
8	6,125,103	7,835,738	1,710,635	0.4039	2,473,929	3,164,855	690,926
9	6,498,729	8,062,038	1,563,309	0.3606	2,343,442	2,907,171	563,729
10	6,872,355	8,288,338	1,415,983	0.3220	2,212,898	2,668,845	455,947
11	6,738,515	8,288,338	1,549,823	0.2875	1,937,323	2,382,897	445,574
12	6,738,515	8,288,338	1,549,823	0.2567	1,729,777	2,127,616	397,839
13	6,738,515	8,288,338	1,549,823	0.2292	1,544,468	1,899,687	355,219
14	6,738,515	8,288,338	1,549,823	0.2046	1,378,700	1,695,794	317,094
15	6,738,515	8,288,338	1,549,823	0.1827	1,231,127	1,514,279	283,152
16	6,738,515	8,288,338	1,549,823	0.1631	1,099,052	1,351,828	252,776
17	6,738,515	8,288,338	1,549,823	0.1456	981,128	1,206,782	225,654
18	6,738,515	8,288,338	1,549,823	0.1300	876,007	1,077,484	201,477
19	6,554,410	8,288,338	1,733,928	0.1161	760,967	962,276	201,309
20	6,554,410	8,288,338	1,733,928	0.1037	679,692	859,501	179,809
21	6,554,410	8,288,338	1,733,928	0.0926	606,938	767,500	160,562
22	6,554,410	8,288,338	1,733,928	0.0826	541,394	684,617	143,223
23	6,554,410	8,288,338	1,733,928	0.0738	483,715	611,679	127,964
24	6,554,410	8,288,338	1,733,928	0.0659	431,936	546,201	114,265
25	6,554,410	8,288,338	1,733,928	0.0588	385,399	487,354	101,955
26	6,554,410	8,288,338	1,733,928	0.0525	344,107	435,138	91,031
27	6,554,410	8,288,338	1,733,928	0.0469	307,402	388,723	81,321
28	6,554,410	8,288,338	1,733,928	0.0419	274,630	347,281	72,651
29	6,554,410	8,288,338	1,733,928	0.0374	245,135	309,984	64,849
30	6,554,410	8,288,338	1,733,928	0.0334	218,917	276,830	57,913
31	6,554,410	8,288,338	1,733,928	0.0298	195,321	246,992	51,671
32	6,554,410	8,288,338	1,733,928	0.0266	174,347	220,470	46,123
33	6,554,410	8,288,338	1,733,928	0.0238	155,995	197,262	41,267
34	6,554,410	8,288,338	1,733,928	0.0212	138,953	175,713	36,760
35	6,554,410	8,288,338	1,733,928	0.0189	123,878	156,650	32,772
36	6,554,410	8,288,338	1,733,928	0.0169	110,770	140,073	29,303
37	6,554,410	8,288,338	1,733,928	0.0151	98,972	125,154	26,182
38	6,554,410	8,288,338	1,733,928	0.0135	88,485	111,893	23,408
39	6,554,410	8,288,338	1,733,928	0.0120	78,653	99,460	20,807
40	6,554,410	8,288,338	1,733,928	0.0107	70,132	88,685	18,553
41	6,554,410	8,288,338	1,733,928	0.0096	62,922	79,568	16,646
42	6,554,410	8,288,338	1,733,928	0.0086	56,368	71,280	14,912
43	6,554,410	8,288,338	1,733,928	0.0076	49,814	62,991	13,177
44	6,554,410	8,288,338	1,733,928	0.0068	44,570	56,361	11,791
45	6,554,410	8,288,338	1,733,928	0.0061	39,982	50,559	10,577
46	6,554,410	8,288,338	1,733,928	0.0054	35,394	44,757	9,363
47	6,554,410	8,288,338	1,733,928	0.0049	32,117	40,613	8,496
48	6,554,410	8,288,338	1,733,928	0.0043	28,184	35,640	7,456
297,943,130					41,107,771	45,235,945	4,128,174

N.P.V=	4,128,174
B/C=	1.10
EIRR=	20.4%

Table L-20-8 Construction of check dam (Economic Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	384,475	0	384,475	0	-384,475	0.8929	343,298	0	-343,298
2	2003	384,475	0	384,475	0	-384,475	0.7972	306,503	0	-306,503
3	2004	384,475	0	384,475	0	-384,475	0.7118	273,669	0	-273,669
4	2005	384,475	34,500	418,975	858,390	439,415	0.6355	266,259	545,507	279,248
5	2006	384,475	34,500	418,975	858,390	439,415	0.5674	237,726	487,050	249,324
6	2007	384,475	34,500	418,975	858,390	439,415	0.5066	212,253	434,860	222,607
7	2008	384,475	34,500	418,975	858,390	439,415	0.4523	189,502	388,250	198,748
8	2009	384,475	34,500	418,975	858,390	439,415	0.4039	169,224	346,704	177,480
9	2010	0	34,500	34,500	858,390	823,890	0.3606	12,441	309,535	297,094
10	2011	0	34,500	34,500	858,390	823,890	0.3220	11,109	276,402	265,293
11	2012	0	34,500	34,500	858,390	823,890	0.2875	9,919	246,787	236,868
12	2013	0	34,500	34,500	858,390	823,890	0.2567	8,856	220,349	211,493
13	2014	0	34,500	34,500	858,390	823,890	0.2292	7,907	196,743	188,836
14	2015	0	34,500	34,500	858,390	823,890	0.2046	7,059	175,627	168,568
15	2016	0	34,500	34,500	858,390	823,890	0.1827	6,303	156,828	150,525
16	2017	0	34,500	34,500	858,390	823,890	0.1631	5,627	140,003	134,376
17	2018	0	34,500	34,500	858,390	823,890	0.1456	5,023	124,982	119,959
18	2019	0	34,500	34,500	858,390	823,890	0.1300	4,485	111,591	107,106
19	2020	0	34,500	34,500	858,390	823,890	0.1161	4,005	99,659	95,654
20	2021		34,500	34,500	858,390	823,890	0.1037	3,578	89,015	85,437
21	2022		34,500	34,500	858,390	823,890	0.0926	3,195	79,487	76,292
22	2023		34,500	34,500	858,390	823,890	0.0826	2,850	70,903	68,053
23	2024		34,500	34,500	858,390	823,890	0.0738	2,546	63,349	60,803
24	2025		34,500	34,500	858,390	823,890	0.0659	2,274	56,568	54,294
25	2026		34,500	34,500	858,390	823,890	0.0588	2,029	50,473	48,444
26	2027		34,500	34,500	858,390	823,890	0.0525	1,811	45,065	43,254
27	2028		34,500	34,500	858,390	823,890	0.0469	1,618	40,258	38,640
28	2029		34,500	34,500	858,390	823,890	0.0419	1,446	35,967	34,521
29	2030		34,500	34,500	858,390	823,890	0.0374	1,290	32,104	30,814
30	2031		34,500	34,500	858,390	823,890	0.0334	1,152	28,670	27,518
31	2032		34,500	34,500	858,390	823,890	0.0298	1,028	25,580	24,552
32	2033		34,500	34,500	858,390	823,890	0.0266	918	22,833	21,915
33	2034		34,500	34,500	858,390	823,890	0.0238	821	20,430	19,609
34	2035		34,500	34,500	858,390	823,890	0.0212	731	18,198	17,467
35	2036		34,500	34,500	858,390	823,890	0.0189	652	16,224	15,572
36	2037		34,500	34,500	858,390	823,890	0.0169	583	14,507	13,924
37	2038		34,500	34,500	858,390	823,890	0.0151	521	12,962	12,441
38	2039		34,500	34,500	858,390	823,890	0.0135	466	11,588	11,122
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		3,075,800	1,207,500	4,283,300	30,043,650	25,760,350		2,110,677	4,995,058	2,884,381

N.P.V=	2,884,381
B/C=	2.37
EIRR=	33.5%

Table L-20-9 River treatment (Economic Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000Rls.)

Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1	2002	0	0	0	0	0.8929	0	0	0
2	2003	0	0	0	0	0.7972	0	0	0
3	2004	0	0	0	0	0.7118	0	0	0
4	2005	0	0	0	0	0.6355	0	0	0
5	2006	0	0	0	0	0.5674	0	0	0
6	2007	0	0	0	0	0.5066	0	0	0
7	2008	0	0	0	0	0.4523	0	0	0
8	2009	0	0	0	0	0.4039	0	0	0
9	2010	468,000	0	468,000	0	0.3606	168,761	0	-168,761
10	2011	468,000	0	468,000	0	0.3220	150,696	0	-150,696
11	2012	468,000	0	468,000	0	0.2875	134,550	0	-134,550
12	2013	468,000	29,600	497,600	35,610	0.2567	127,734	9,141	-118,593
13	2014	468,000	29,600	497,600	35,610	0.2292	114,050	8,162	-105,888
14	2015	0	29,600	29,600	35,610	0.2046	6,056	7,286	1,230
15	2016	0	29,600	29,600	35,610	0.1827	5,408	6,506	1,098
16	2017	0	29,600	29,600	35,610	0.1631	4,828	5,808	980
17	2018	0	29,600	29,600	35,610	0.1456	4,310	5,185	875
18	2019	0	29,600	29,600	35,610	0.1300	3,848	4,629	781
19	2020	0	29,600	29,600	35,610	0.1161	3,437	4,134	697
20	2021		29,600	29,600	35,610	0.1037	3,070	3,693	623
21	2022		29,600	29,600	35,610	0.0926	2,741	3,297	556
22	2023		29,600	29,600	35,610	0.0826	2,445	2,941	496
23	2024		29,600	29,600	35,610	0.0738	2,184	2,628	444
24	2025		29,600	29,600	35,610	0.0659	1,951	2,347	396
25	2026		29,600	29,600	35,610	0.0588	1,740	2,094	354
26	2027		29,600	29,600	35,610	0.0525	1,554	1,870	316
27	2028		29,600	29,600	35,610	0.0469	1,388	1,670	282
28	2029		29,600	29,600	35,610	0.0419	1,240	1,492	252
29	2030		29,600	29,600	35,610	0.0374	1,107	1,332	225
30	2031		29,600	29,600	35,610	0.0334	989	1,189	200
31	2032		29,600	29,600	35,610	0.0298	882	1,061	179
32	2033		29,600	29,600	35,610	0.0266	787	947	160
33	2034		29,600	29,600	35,610	0.0238	704	848	144
34	2035		29,600	29,600	35,610	0.0212	628	755	127
35	2036		29,600	29,600	35,610	0.0189	559	673	114
36	2037		29,600	29,600	35,610	0.0169	500	602	102
37	2038		29,600	29,600	35,610	0.0151	447	538	91
38	2039		29,600	29,600	35,610	0.0135	400	481	81
39	2040		29,600	29,600	35,610	0.0120	355	427	72
40	2041		29,600	29,600	35,610	0.0107	317	381	64
41	2042		29,600	29,600	35,610	0.0096	284	342	58
42	2043		29,600	29,600	35,610	0.0086	255	306	51
43	2044		29,600	29,600	35,610	0.0076	225	271	46
44	2045								
45	2046								
46	2047								
47	2048								
48	2049								
		2,340,000	947,200	3,287,200	1,139,520	-2,147,680	750,430	83,036	-667,394

N.P.V= -667,394

B/C= 0.11

EIRR= #NUM!

Table L-20-10 Landslide Protection and Rock-fall protection (Economic Analysis) (K5-19a Chaman Goli-Bazoft)

(1,000RIs.)

Table D-28-10 Landslide Protection and Rock-fall protection (Economic Analysis) (RS-17a Chiman Con-Dazoli)							I = 12%			
Year	Project Cost	O&M Cost	Total Cost	Total Benefit	Net Benefit	Discount Rate	Cost	Benefit	N.P.V	
1	2002	108,666	0	108,666	0	-108,666	0.8929	97,028	0	-97,028
2	2003	108,667	0	108,667	0	-108,667	0.7972	86,629	0	-86,629
3	2004	108,667	26,200	134,867	73,440	-61,427	0.7118	95,998	52,275	-43,723
4	2005	0	26,200	26,200	73,440	47,240	0.6355	16,650	46,671	30,021
5	2006	0	26,200	26,200	73,440	47,240	0.5674	14,866	41,670	26,804
6	2007	0	26,200	26,200	73,440	47,240	0.5066	13,273	37,205	23,932
7	2008	0	26,200	26,200	73,440	47,240	0.4523	11,850	33,217	21,367
8	2009	0	26,200	26,200	73,440	47,240	0.4039	10,582	29,662	19,080
9	2010	0	26,200	26,200	73,440	47,240	0.3606	9,448	26,482	17,034
10	2011	0	26,200	26,200	73,440	47,240	0.3220	8,436	23,648	15,212
11	2012	0	26,200	26,200	73,440	47,240	0.2875	7,533	21,114	13,581
12	2013	0	26,200	26,200	73,440	47,240	0.2567	6,726	18,852	12,126
13	2014	0	26,200	26,200	73,440	47,240	0.2292	6,005	16,832	10,827
14	2015	0	26,200	26,200	73,440	47,240	0.2046	5,361	15,026	9,665
15	2016	0	26,200	26,200	73,440	47,240	0.1827	4,787	13,417	8,630
16	2017	0	26,200	26,200	73,440	47,240	0.1631	4,273	11,978	7,705
17	2018	0	26,200	26,200	73,440	47,240	0.1456	3,815	10,693	6,878
18	2019	0	26,200	26,200	73,440	47,240	0.1300	3,406	9,547	6,141
19	2020	0	26,200	26,200	73,440	47,240	0.1161	3,042	8,526	5,484
20	2021		26,200	26,200	73,440	47,240	0.1037	2,717	7,616	4,899
21	2022		26,200	26,200	73,440	47,240	0.0926	2,426	6,801	4,375
22	2023		26,200	26,200	73,440	47,240	0.0826	2,164	6,066	3,902
23	2024		26,200	26,200	73,440	47,240	0.0738	1,934	5,420	3,486
24	2025		26,200	26,200	73,440	47,240	0.0659	1,727	4,840	3,113
25	2026		26,200	26,200	73,440	47,240	0.0588	1,541	4,318	2,777
26	2027		26,200	26,200	73,440	47,240	0.0525	1,376	3,856	2,480
27	2028		26,200	26,200	73,440	47,240	0.0469	1,229	3,444	2,215
28	2029		26,200	26,200	73,440	47,240	0.0419	1,098	3,077	1,979
29	2030		26,200	26,200	73,440	47,240	0.0374	980	2,747	1,767
30	2031		26,200	26,200	73,440	47,240	0.0334	875	2,453	1,578
31	2032		26,200	26,200	73,440	47,240	0.0298	781	2,189	1,408
32	2033		26,200	26,200	73,440	47,240	0.0266	697	1,954	1,257
33	2034		26,200	26,200	73,440	47,240	0.0238	624	1,748	1,124
34	2035									
35	2036									
36	2037									
37	2038									
38	2039									
39	2040									
40	2041									
41	2042									
42	2043									
43	2044									
44	2045									
45	2046									
46	2047									
47	2048									
48	2049									
		326,000	812,200	1,138,200	2,276,640	1,138,440		429,877	473,344	43,467

N.P.V=	43,467
B/C=	1.10
EIRR=	14.2%