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### 7. Appendices

Appendix 1: Budget for Indigenous Beef (Nkone) in Mpofu District, Eastern Cape

The farming system
Location Mpofu/

Location	Mpotu/Seymour district,
	Eastern Cape
Practice	Indigenous Nkone
	breeding
Production cycle	22 months
Working hours	8.00
Total area (ha)	1060.00
Total AU	275.40
Stocking rate (ha/AU)	4.00
Hired wage (R/day)	10.00
Family labour (R/day)	6.00
Offtake rate (%)	14.00
Social price for beef per ton	4874.36
Social price for beef per AU	545.38
kept	
Discount rate (%)	5.00

Activity calendar per cycle

Activity	Time	Fixed input	Adult labour (man- days)	Family labour (man-days)
Calving	Sep - Nov	Cattle scale	90.00	45.00
Castration & Dehoming	Dec	Burdizzo, Disbudding iron, Neck clamp, pen	3.00	1.00
Condition scoring & mating	Dec - Feb		90.00	45.00
Vaccination	Mar	Handling pen	4.00	2.00
Weaning	Apr/May	handling pen	3.00	1.00
Pregnancy diagnosis	May	handling pen	5.00	2.00
Long weaners	Jan/May	Cattle scale	2.00	1.00
Cull cows (sale)	Jun		1.00	1.00



#### Calculation of fixed costs per cycle

Fixed input	Initial cost (whole farm) (R)	Useful life (yrs)	Salvage value (SV) (R)	Present value of SV (R)	Net initial cost (whole farm) (R)
Handling facilities	7000.00	10.00	0.00	0.00	7000.00
Disbudding iron .	450.00	5.00	0.00	0.00	450.00
Burdizzo	350.00	5.00	0.00	0.00	350.00
Neck clamp	350.00	5.00	0.00	0.00	350.00
Cattle scale	750.00	5.00	0.00	0.00	750.00

Fixed input	Days/AU	Days / cycle	Per AU share of cycle hours
Handling facilities	0.08	21.00	0.64
Disbudding iron	0.01	2.50	0.08
Burdizzo	0.01	2.50	0.08
Neck clamp	0.01	4.00	0.12
Cattle scale	0.01	3.00	0.09

Fixed input	Net initial cost (whole farm) (R)	Capital recovery factor	Per AU share of cycle hours	Fixed cost per cycle
Handling facilities	7000.00	0.13	0.64	576.86
Disbudding iron	450.00	0.23	0.08	7.87
Burdizzo	350.00	0.23	0.08	6.12
Neck clamp	350.00	0.23	0.12	9.80
Cattle scale	750.00	0.23	0.09	15.74



#### Private Costs and Revenues per AU per cycle

ITEM	QUANTITY (AU)	RANDS PER AU	TOTAL PER AU PER CYCLE (R)
Fixed inputs			
Handling facilities	1.00	5.77	5.77
Disbudding iron	1.00	7.48	7.48
Burdizzo	1.00	5.82	5.82
Neck clamp	1.00	9.31	9.31
Cattle scale	1.00	14.96	14.21
Capital amortisation	1.00	116.28	116.28
TOTAL FIXED COSTS			158.86
Direct labour (days)			
Unskilled hired:			
Year 1	0.72	20.00	14.40
Year 2	0.00	20.00	0.08
TOTAL UNSKILLED HIRED			14.48
LAB			
Unskilled family:			
Year 1	0.35	12.00	4.20
Year 2	0.00	12.00	0.05
TOTAL UNSKILLED FAMILY			4.25
LAB			
TOTAL DIRECT LABOUR COST			18.73



Appendix 1: Continued

ITEM	QUANTITY (AU)	RANDS PER AU	TOTAL PER AU PER CYCLE (R)
Intermediate inputs			
	0.51	0.80	0.41
Ear tags (units)		75.47.7	
Dips (ml)	145.24	0.49	71.17
Penicillin (ml)	0.73	0.58	0.42
Terramycin (ml)	1.45	0.97	1.41
Workers' gear (AU)	1.00	0.01	0.01
TOTAL INTERMEDIATE COST			73.42
Land (per AU)	4.00	30.00	120.00
TOTAL PRIVATE COSTS (R)			371.00
Annual Revenue			
Long weaners sale (AU)	1.00	2325.58	2325.58
Cull cows sale (AU)	1.00	1260.00	1260.00
TOTAL REVENUE PER AU SO	LD PER CYCLE(R	)	3585.58
TOTAL REVENUE PER AU KE			573.69
PROFIT PER AU KEPT PER C	A SECTION OF SECTION S	X.	202.69



Decomposition of per AU private costs and revenues (R) QUANTITY LAND DIRECT LABOUR CAPITAL TRADABLE INPUTS **INPUTS** TOTAL **Fixed inputs** 42.58 42.58 Tools Capital amortisation 116.28 116.28 Total 158.86 Direct labour 0.72 14.48 Unskilled hired 14.48 0.35 Unskilled family 4.25 4.25 Total 18.73 Intermediate inputs 0.51 0.41 0.41 Ear tags 145.24 Dips 71.17 71.17 Penicillin 0.73 0.42 0.42 1.45 Terramycin 1.41 1.41 Workers' gear 1.00 0.01 0.01 Total 73.42 Land 4.00 Land rental (AU) 120.00 120.00 TOTAL COST PER AU PER CYCLE (R) 371.00 TOTAL REVENUE PER AU KEPT PER CYCLE (R) 573.69 PROFIT PER AU KEPT PER CYCLE (R) 202.69



Decomposition of per AU social costs and revenues (R)

ITEM	QUANTITY	LAND	DIRECT LABOUR	CAPITAL	TRADABLE INPUTS	TOTAL
Fixed inputs						
Tools				37.35		37.35
Capital amortisation				116.28		116.28
Total				153.63		
Direct labour						
Unskilled hired	0.72		7.24			14.48
Unskilled family	0.35		2.12			4.25
ntermediate inputs						
Ear tags	0.51				0.36	0.36
Dips	145.24				71.17	71.17
Penicillin	0.73				0.42	0.42
Terramycin	1.45				1.41	1.41
Norkers' gear	27.00				0.01	0.01
Total					73.36	
_and						
and rental (AU)	4.00	120.00				120.00
TOTAL COST PER AU PER	CYCLE (R)					365.72
OTAL REVENUE PER AU TARIFF-ADJUSTED)						545.38
PROFIT PER AU KEPT PER	R CYCLE (R)					179.66



Policy Analysis Matrix for Indigenous Nkone beef Mpofu, Eastern Cape ( Per Animal Unit)

	Revenue		Production costs					Profit
	Tradable	Tradable inputs		Domestic fac	ctors		Total Domestic factors	
			Unskilled labour ; Family	Unskilled labour ; Hired	Land	Capital		
Private Prices	573.69	73.42	4.25	14.48	120.00	158.86	297.58	202.69
Social Prices	545.38	73.36	4.25	14.48	120.00	153.63	292.36	179.66
Divergences	28.31	0.05					5.23	23.03

NPCO	1.05
NPCI	1.00
EPC	1.06
SRP	0.04
DRC	0.62
PC	1.13



## Appendix 2: Budget for Exotic (Simmentaler) Dual-Purpose Cattle in Mpofu District, Eastern Cape

Location	Mpofu district, Eastern
	Cape
Practice	Dual purpose
	(Simmentaler)
	breeding
Production season	11 months
Herd size (AU)	115.10
Total extent (ha)	277
Stocking rate (ha/AU)	2.4
Working hours	8
Hired wage (R/day)	10
Family wage (R/day)	6
Discount rate (%)	5
Social revenue (Incl. milk)	389.59
Offtake rate (%)	14

Activity Calendar

Activity Calendar				
Activity	Time	Fixed input	Hired lab (man-days)	Family labour (man-days)
Calving	Sep - Nov		45	23
Castration	Dec	Handling pen	3	2
Mating	Nov-Jan		23	12
Pregnancy diagnosis	Apr		1	1
Weaning	Jul	Handling pen	1	1
Weaners	Aug	Loading ramp	2	1



Calculation of per AU fixed costs per cycle

Fixed input	Initial cost for whole farm (R)	Useful life (yrs)	Salvage value (SV) (R)	Present value of SV (R)	Net initial cost for whole farm (R)
Handling facilities	82	10	0	0	82
Loading ramp	430	10	0	0	430

Fixed input	Days/AU	Days/ season	Per AU share of use per cycle
Handling facilities	0.061	7	0.70
Loading ramp	0.026	3	0.30

Fixed input	Net initial cost (R)	Capital recovery factor	Per AU share of use per cycle	Fixed cost per AU per cycle
Handling facilities	82	0.1295	0.70	7.45
Loading ramp	430	0.1295	0.30	16.64



Private Costs per AU per cycle (R)

Private Costs per AU per cycle (R)			
Item	Quantity	Rands per unit	Total (R)
Fixed inputs			
Handling facilities	1	7.45	7.45
Loading ramp	3	16.64	16.64
Capital amortisation	1	138.62	138.62
TOTAL FIXED COST			162.71
Direct labour (days)			
Unskilled hired	0.65	10.00	6.50
Unskilled family	0.35	6.00	2.10
TOTAL LABOUR COSTS			8.60
Intermediate inputs			
Ear tags (units)	40	2.40	96.00
Dosing mixture (ml)	30	0.01	0.30
Black quarter vaccine (ml)	17	0.13	2.21
Terramycin (ml)	43	1.62	69.66
Placenta treatment tablets (units)	0.03	213.00	6.39
Syringes (units)	0.17	3.50	0.60
Lucerne feed (bales)	0.87	25.00	21.75
Mineral licks (blocks)	0.26	33.00	8.58
TOTAL INTERMEDIATE COSTS			205.49
Land (per AU)	2	30.00	60.00
TOTAL PRIVATE COSTS (R)			436.79
Total Revenue (R)			
Weaners sale (AU)	1	2759.89	2759.89
Milk consumption (AU)	1	12.60	12.60
TOTAL REVENUE/AU SOLD (R)			2772.49
TOTAL REVENUE/AU KEPT (R)			388.15
PROFIT PER AU KEPT PER CYCLE (R)			-48.64



Decomposition of per AU private costs (R)

Item	Quantity	Land	Direct labour	Capital	Tradable inputs	Total
Fixed inputs					mputs	
Tools				24.09		24.09
Capital amortisation				138.62		138.62
Total				162.71		
Direct labour						
Unskilled hired	0.65		6.50			6.50
Unskilled family	0.35		2.10			2.10
Total			8.60			
Intermediate inputs						
Ear tags (units)	40				96.00	96.00
Dosing mixture (ml)	30				0.30	0.30
Black quarter vaccine (ml)	17				2.21	2.21
Terramycin (ml)	43				69.66	69.66
Placenta treatment tablets (units)	0.03				6.39	6.39
Syringes (units)	0.17				0.60	0.60
Lucerne feed (bales)	0.87				21.75	21.75
Mineral licks (blocks)	0.26				8.58	8.58
Total	2.50				205.49	
Land					1252.54.16	
Land rental (AU)	2	60.00				60.00
TOTAL COST PER CYCLE (R)						436.79
TOTAL REVENUE PER AU KEPT PER	R CYCLE (R)					388.15
PROFIT PER AU KEPT PER CYCLE (						-48.64



Decomposition of per AU social cos Item	Quantity	Land	Direct labour	Capital	Tradable	Total
Fixed inputs	Quantity	Land	Direct labour	Capital	Trauable	Total
Tools				21.13		21.13
Capital amortisation				138.62		138.62
Total				159.75		
Direct labour			.5.24			
Unskilled hired	0.65		6.50			
Unskilled family	0.35		2.10			6.50
Total			8.60			2.10
Intermediate inputs						
Ear tags (units)	40					
Dosing mixture (ml)	30				84.21	84.21
Black quarter vaccine (ml)	17				0.30	0.30
Terramycin (ml)	43				2.21	2.21
Placenta treatment tablets (units)	0.03				69.66	69.66
Syringes (units)	0.17				6.39	6.39
Lucerne feed (bales)	0.87				0.52	0.52
Mineral licks (blocks)	0.26				21.75	21.75
Total	VC				8.58	8.58
Land						7175
Land rental (AU)	2	60.00				60
TOTAL COST PER CYCLE (R)						421.98
TOTAL REVENUE PER AU KÉPT PEI (TARRIF-ADJUSTED	R CYCLE (R)					38959
PROFIT PER AU KEPT PER CYCLE (	(R)					-33.83



### Policy Analysis Matrix for dual purpose breeder - Mpofu, Eastern Cape (Animal Unit)

	Revenue		Production costs						
		Tradable inputs		Domestic facto	rs		Total Domestic factors		
			Unskilled labour ; Family	Unskilled labour ; Hired	Land	Capital			
Private Prices	388.15	205.49	2.10	6.50	60.00	162.71	231.31	-48.64	
Social Prices	389,59	193.62	2.10	6.50	60.00	159.75	228.35	-33.38	
Divergences	11.86	11.86					2.96	-16.26	

1.00
1.06
0.93
-0.04
1.17
1.50



# Appendix 3: Budget for Dairy Cattle in Keiskammahoek District, Eastern Cape

The farming system

The farming system	
Location	Keiskammahoek, Eastern
	Cape
Practice	Milk production
Working hours	10.00
Dairy unit area (ha)	17.00
Hired wage (R)	10.00
Family wage (R)	6.00
Total AU	27.00
Total pasture area (ha)	12.00
Kikuyu area (ha)	6.00
Ryegrass area (ha)	6.00
Pasture stocking rate (ha/AU)	0.44



Activity calendar Time Fixed input Hired lab Family lab Intermediate input Activity (man-days) (man-days) Soil preparation, planting and Sep-Oct contractor 0.09 ton 2.3.2, 0.01 ton kikuyu seed fertilising (kikuyu) Electric fence 90.00 45.00 Calving Sep-Nov dairy meal boxes, watering troughs Mating Jan 90.00 45.00 2nd fertilising (kikuyu) Jan 1.5 ton LAN contractor Soil preparation, planting and Feb-Mar 0.09 ton 2.3.2; 0.01 contractor fertilising (ryegrass) ton ryegrass seed Mar 3rd fertilising (kikuyu) 0.09 ton LAN contractor 2nd fertilising (ryegrass) Mar contractor 0.09 ton LAN 3rd fertilising (ryegrass) 0.09 ton LAN May contractor Weeding (pasture) hand slasher 3.00 1.00 daily 1056.00 Milking activity



Calculation of annual fixe	ed costs			
Fixed input	Initial cost	Useful life	Salvage	Net initial
	(R)	(yrs)	value (SV)	cost (R)
			(R)	
Electric fence box	876.00	5.00	0.00	876,00
Watering troughs	380.00	5.00	0.00	380.00
Hand slasher	80.00	5.00	0.00	80.00
Handling facilities	7000.00	10.00	0.00	7000.00
Fixed input	Days/AU	Days/	Per ha/AU	
		season	share of	
			seasonal	
			use	
Electric fence box	5.00	135.00	0.24	
Watering troughs	15.00	405.00	0.72	
Hand slasher	0.15	4.00	0.01	
Handling facilities	0.78	21.00	0.04	
Fixed input	Net initial	Capital	Share of	Annual
	cost (R)	recovery	seasonal	capital
		factor	use	cost
Electric fence box	876.00	0.23	0.24	50.57
Watering troughs	380.00	0.23	0.72	64.93
Hand slasher	80.00	0.23	0.01	0.18
Handling facilities	7000.00	0.13	0.04	33.79



Appendix 3: Continued Annual Private Costs

Annual Private Costs			
Item	Quantity	Rands/ unit	Total
Fixed inputs			
Electric fence box	1.00	50.57	50.57
Watering troughs	5.00	64.93	324.65
Hand slasher	3.00	0.18	0.55
Handling facilities	1.00	33.79	33.79
Capital amortisation	1.00	298.50	298.50
TOTAL			708.05
Direct labour			
Unskilled hired labour (man-days)	45.89	10.00	458.90
Unskilled family labour (man-days)	3.37	6.00	20.22
TOTAL			479.12
Intermediate inputs			
2.3.2 fertiliser (ton)	0.18	1245.00	224.10
LAN (ton)	1.77	1115.80	1974.97
Kikuyu seed (ton)	0.01	1440.00	14.40
Rye seed (ton)	0.01	5500.00	55.00
Supplementary feed (ton)	1.06	1134.60	1202.68
Terramycin (litres)	0.06	536.80	32.21
Deadline (litres)	0.63	150.80	95.00
Weedicide (litres)	0.63	13.22	8.33
Contractors	0.40	500.00	200.00
TOTAL			3806.68
Land (per ha)			600.00
TOTAL PRIVATE COSTS (R)			5593.86
Annual Revenue			
Milk sales (L)	2360,00	2.00	4720.00
Cull sales (per AU)	0.63	1984.13	1250.00
TOTAL REVENUE			5970.00
ANNUAL PROFIT			376.15



Decomposition of per AU private costs (R) ITEM QUANTITY LAND DIRECT CAPITAL TRADABLE TOTAL LABOUR Fixed inputs 1.00 409.55 409.55 Tools and facilities 298.50 298.50 1.00 Capital amortisation 708.05 Total Direct labour 458.90 Unskilled hired 45.89 458.90 Unskilled family 3.37 20.22 20.22 479.12 Total Intermediate inputs 0.18 2.3.2 fertiliser (ton) 224.10 224.10 LAN (ton) 1.77 1974.97 1974.97 Kikuyu seed (ton) 0.01 14.40 14.40 Rye seed (ton) 0.01 55.00 55.00 Supplementary feed (ton) 1202.68 1202.68 1.06 Terramycin (litres) 0.06 32.21 32.21 0.63 95.00 Deadline (litres) 95.00 Weedicide (litres) 0.63 8.33 8.33 Contractors (ha) 0.40 200.00 200.00 Total 3806.68 Land Land rental 0.00 ANNUAL TOTAL COSTS (R) 4993.86 ANNUAL TOTAL REVENUE (R) 5970.00 AUUNAL PROFIT (R) 976.15



Appendix 3: Continued

Decomposition of per AU social	costs (R)					
ITEM	QUANTITY	LAND	DIRECT	CAPITAL	TRADABLE	TOTAL
Fixed inputs						
Investment cost	1.00			538.54		538.54
Tools and facilities	1.00			359,26		359.26
Capital amortisation	1.00			298.50		298.50
Total				1196.30		
Direct labour						
Unskilled hired	45.89		458.90			458.90
Unskilled family	3.37		20.22			20.22
Total			479.12			
Intermediate inputs						
2.3.2 fertiliser (ton)	0.18				224.10	224.10
LAN (ton)	1.77				1974.97	1974.97
Grass seed (ton)	0.01				14.40	14.40
Seed (ton)	0.01				55.00	55.00
Supplementary feed (ton)	1.06				1202.68	1202.68
Terramycin (litres)	0.06				32.21	32.21
Deadline (litres)	0.63				95.00	95.00
Weedicide (litres)	0.63				8.33	8.33
Contractors (AU)	0.40				175.44	175.44
Total					3782.12	100
Land						
Land rental	1.00			600.00		600.00
ANNUAL TOTAL COSTS (R)						5519.00
ANNUAL TOTAL REVENUE (R)						5970.00
ANNUAL PROFIT (R)						451.00



### Policy Analysis Matrix for small-scale dairy producer (Animal Unit) - Keiskammahoek, Eastern Cape

	Revenue	Production costs					Profit	
		Tradable inputs	1 -		Domestic factors		Total Domestic	
			Unskilled labour; Family	Unskilled labour; Hired	Land	Capital	factors	1
Private Prices	5970.00	3806.68	20.22	458.90	0.00	708.05	1187.17	976.15
Social Prices	5970.00	3782.12	20.22	458.90	600.00	1196.30	2275.42	-87.54
Divergences	0.00	24.56	1				-1088.24	1063.68

NPCO	1.00
NPCI	1.01
EPC	0.99
SRP	0.18
DRC	1.04
PC	-11.15



# Appendix 4: Budget for Irrigated Citrus in Mpofu District, Eastern Cape

The farming system	
Location	Mpofu,
	Eastern
	Cape
Practice	Irrigated
	citrus
	production
Citrus area (ha)	17.00
Expected lifespan (yrs)	40.00
Full production attained	eighth year
in	
Working hours	8.00
Hired wage (R)	30.00
Discount rate (%)	5.00



Activity	Fixed input	Adult labour	Intermediate
riotivity.	. mod mpar	(man-days)	input
Land preparation		contractor	114
Irrigation equipment	Irrigation	contractor	
installation	lines and		
	equipment		
Planting	spades	90.00	600 trees, 100 windbreaks
Fertilising	knapsack	1.00	0.5 ton
			fertiliser;480 L
			fertiliser
Pest and disease	boom	377.00	73 L pesticide;
control	sprayer,		0.1 ton
	tractor	- taxer	pesticide
Weed control	herbicide	55.00	9 L weedicide
4.6	sprayer	337737070	
Soil and leaf sampling		contractor	
Maintenance	slasher,	2.00	
	hand-saw		
Harvesting	picking	696.00	1 picking bags
	shears,		
	storage shed,		
	bin trailer		
Marketing		contractor	



List of fixed costs items and their Net Initial Costs

Fixed input	Initial cost	Useful life (yrs)	Salvage value	Present	Net initial
	(R)		(SV) (R)	value of	cost (R)
				SV(R)	
Tractor	58208.50	10.00	5820.85	3573.50	54657.69
Boom sprayer	47880.00	10.00	4788.00	2920.68	44959.32
Herbicide sprayer	4000.00	10.00	400.00	244.00	3756.00
Storage shed	15000.00	10.00	1500.00	915.00	14085.00
Bin trailer	14800.00	10.00	1480.00	902.80	14348.60
Knapsack	250.00	5.00	0.00	0.00	250.00
Slasher	80.00	5.00	0.00	0.00	80.00
Picking shear	25.00	5.00	0.00	0.00	25.00
Hand-saw	9.00	5.00	0.00	0.00	9.00
Spades	32.00	5.00	0.00	0.00	32.00
Irrigation lines and equipment	102000.00	10.00	10200.00	6261.92	95738.08



Calculation of annu				
Fixed input	Days/ha	Days/ year	Per ha share of	
	32.45	Court train	annual use	
Tractor	25.50	1087.00	0.19	
Boom sprayer	22.40	378.00	0.17	
Herbicide sprayer	3.20	55.00	0.02	
Slasher	0.06	1.00	0.00	
Hand-saw	0.06	1.00	0.00	
Knapsack	1.00	1.00	0.01	
Picking shear	38.50	654.00	0.29	
Bin trailer	38.50	654.00	0.29	
Loading shed	2.50	42.00	0.02	
Fixed input	Net initial	Capital recovery	Share of annual	Annual
	cost (R)	factor	use	capital cost
Tractor	54657.69	0.13	0.47	3326.70
Boom sprayer	44959.32	0.13	0.42	2445.30
Herbicide sprayer	3756.00	0.13	0.06	29.20
Slasher	80.00	0.23	0.00	0.01
Hand-saw	9.00	0.23	0.00	0.00
Knapsack	250.00	0.23	0.02	1.20
Picking shear	25.00	0.23	0.29	1.67
Bin trailer	14348.60	0.13	0.29	538.86
Loading shed	14085.00	0.13	0.02	36.48



Calculation of annual private costs (R/ha)

ITEM	QUANTITY	RANDS PER UNIT	TOTAL (R)
Fixed inputs		ONT	
Tractor	2.00	3326.70	6653.40
Boom sprayer	1.00	2445.30	2445.30
Herbicide sprayer	1.00	29.20	29.20
Slasher	2.00	0.01	0.02
Hand-saw	6.00	0.00	0.01
Knapsack	2.00	1.20	2.40
Picking shear	25.00	1.67	41.75
Bin trailer	1.00	538.86	538.86
Loading shed	1.00	36.48	36.48
Investment cost	1.00	19657.61	1260.50
TOTAL FIXED INPUT	COST		11007.92
Direct labour (days)			
Unskilled adult	109.00	20.00	2180.00
Intermediate inputs			
Fertiliser (ton)	0.50	2161.43	1080.72
Fertiliser (L)	480.00	1.55	744.00
Pesticide (ton)	0.10	29.79	2.98
Pesticide (L)	73.00	52.66	3844.18
Weedicide (I)	85.00	18.74	1592.90
Picking bags (units)	1.00	9.00	9.00
Contractor-leaf and	1.00	175.00	175.00
soil sampling (ha)			
Water (ha)	1.00	120.00	120.00
Electricity (ha)	1.00	555.00	555.00
Repair and	1.00	939.00	939.00
maintenance (ha)			
Fuel and lubricants	1.00	240.00	240.00
(ha)			
Packing (ha)	1.00	5007.10	5007.10
Transport (ton)	35.00	31.20	1092.00
TOTAL INTERMEDIA	TE COSTS		15401.87



ITEM	QUANTITY	RANDS PER UNIT	TOTAL (R)
Land (ha)	1.00	2000.00	2000.00
TOTAL PRIVATE COSTS (R)			30589.79
Annual Revenue Sales:			
Export (ton)	22.75	1340.00	30485.00
Local (ton)	9.25	450.00	4162.50
Factory (ton)	3.00	200.00	600.00
TOTAL			35247.50
ANNUAL PROFIT PER HA			4657.71

# Calculation of annual investment cost (amortised over 40 years)

ordi in junio		
TOTAL AMOUNT (R)	21628.37	
AMMORTIZATION	0.06	
FACTOR		
ANNUAL COST (R)	1260.50	



Decomposition of annual private costs (R/ha) LABOUR (R/ha) LAND (R/ha) CAPITAL ITEM QUANTITY TOTAL TRADABLE INPUT (R/ha) (R/ha) Fixed Inputs Implements (ha) 1.00 9747.41 9747.41 Investment cost (ha) 1.00 1260.50 1260.50 11007.92 Total Direct labour Unskilled adult (days) 109.00 2180.00 2180.00 Intermediate inputs 1080.72 Fertiliser (ton) 0.50 1080.72 744.00 744.00 Fertiliser (L) 480.00 0.10 2.98 2.98 Pesticide (ton) 73.00 Pesticide (L) 3844.18 3844.18 Weedicide (L) 85.00 1592.90 1592.90 Picking bags (units) 1.00 9.00 9.00 Packing (ha) 1.00 5007.10 5007.10 Water (ha) 1.00 120,00 120.00 Electricity (ha) 1.00 555.00 555.00 939.00 939.00 1.00 Repair and maintenance (ha) 240.00 240.00 Fuel and lubricants 1.00 (ha) Contractors 175.00 175.00 1.00 Contractor-leaf and soil sampling (ha) Transport (ton) 35.00 1092.00 1092.00 Total 15401.87 2000.00 1.00 2000.00 Land 30589.79 TOTAL ANNUAL COSTS (R) TOTAL ANNUAL REVENUE (R) 35247.50 TOTAL ANNUAL PROFIT (R) 4657.71



### Decomposition of annual social costs (R/ha)

ITEM	QUANTITY	TRADABLE INPUT	LABOUR	LAND	CAPITAL	TOTAL
Fixed inputs						
Implements (ha)	1.00				8550.36	8550.36
Investment cost (ha)	1.00				1260.50	1260.50
Total					9810.86	
Direct labour						
Unskilled adult (days)	109.00		2180.00			2180.00
Intermediate inputs						
Fertiliser (ton)	0.50	948.00				948.00
Fertiliser (L)	480.00	652.63				652.63
Pesticide (ton)	0.10	2.61				2.61
Pesticide (L)	73.00	3372.09				3372.09
Weedicide (L)	85.00	1397.28				1397.28
Picking bags (units)	1.00	7.89				7.89
Packing (ha)	1.00	4392.19				4392.19
Water (ha)	1.00	105.26				105.26
Electricity (ha)	1.00	486.84				486.84
Repair and	1.00	823.68				823.68
maintenance (ha)						
Fuel and lubricants	1.00	210.53				210.53
(ha)						12 13 71
Contractors						
Contractor-leaf and	1.00	175.00				175.00
soil sampling (ha)						
Transport (ton)	35.00	1092.00				1092.00
Total		13666.01				
Land	1.00			2000.00		2000.00
TOTAL ANNUAL COST	TS (R)					27656.88
TOTAL ANNUAL REVE	ENUE (R)					35247.50 7590.62



### Policy Analysis Matrix for 1ha Irrigated Citrus (8th year - representative year)

	Revenue	Production costs						Profit
		Tradable inputs	D	omestic factors			Total Domestic factors	
			Unskilled labour; Family	Unskilled labour; Hired	Land	Capital	,,,,,,,,,	
Private Prices	35247.50	15401.87		2180.00	2000.00	11007.92	15187.92	4657.71
Social Prices	35247.50	13666.01		2180.00	2000.00	9810.86	13990.86	7590.62
Divergences	0.00	1735.86					1197.05	-2932.91

NPCO	1.00
NPCI	1.13
EPC	0.92
SRP	-0.08
DRC	0.65
PC	0.61



# Appendix 5: Budget for Irrigated Cabbage in Zwelitsha District, Eastern Cape

The farming syste	em
Location	Zwelitsha
	district,
	Eastern
	Cape
Practice	Irrigated
	cabbage
	production
Production cycle	4
(months)	
Crops/year	12
Working hours	8
Total annual	4.8
cabbage area (ha)	
Hired wage rate	10
(R/day)	
Family wage	6
(R/day)	



<b>Activity Calendar</b>				
Activity	Fixed input	Hired labour (man-days)	Family labour (man-days)	Intermediate input
Land preparation and weeding		contractor		2L herbicide
Planting	marker	96	48	25000 seedlings
Fertilisation		12	6	0.5 ton 2.3.4; 0.5 ton LAN
Pest and disease control		contractor		0.02 ton pesticide; 6L pesticide
Harvesting Marketing	slasher	216 contractor	108	1675pockets

Annual fixed input costs							
Fixed input	Initial cost (R)	Useful life (yrs)	Salvage value (SV) (R)	Present value of SV (R)	Net initial cost (R)		
marker	10	5	0	0	10		
slasher	80	5	0	0	80		

Fixed input	Days/ha	Days/ year	Per ha share of annual use
marker	20.8	100	0.24
slasher	67.5	324	0.76

Fixed input	Net initial cost (R)	Capital recovery factor	Share of annual use	Annual capital cost (R)
marker	10	0.2309	0.24	0.55
slasher	80	0.2309	0.76	14.04



4.1	and the second s
Annual	Private Costs

Annual Private Cos	its			
ITEM	QUANTITY	RANDS PER UNIT	TOTAL (R)	
Fixed inputs				
Marker	1	0.55	0.55	
Slasher	1	14.04	14.04	
TOTAL FIXED			14.59	
COSTS				
Direct labour (days)				
Unskilled hired	67.5	10.00	675.00	
Unskilled family	33.75	6.00	202.50	
TOTAL LABOUR			877.50	
Intermediate inputs				
Herbicide (L)	2	361.30	722.60	
Seedlings (units)	25000	0.05	1250.00	
Fertiliser 2.3.4 (ton)	0.5	1360.00	680.00	
Fertiliser LAN (ton)	0.5	1040.00	520.00	
Pesticide (ton)	0.02	31330.00	626,60	
Pesticide (L)	6	258.72	1552.32	
Pockets (units)	1675	0.85	1423.75	
Land Preparation (L fuel)	30	6,50	195.00	
Transport (ha)	1	200.00	200.00	
Water, repair and	1	150.00	150.00	
maintenance (ha)				
TOTAL INTERMEDIA	ATE COSTS		7320.27	
Land (per ha)	1	0.00	0.00	
TOTAL PRIVATE CO	OSTS (R)		8212.36	



ITEM	QUANTITY	RANDS PER UNIT	TOTAL (R)
Annual Income (R)			
Local sales (bags)	1050	6.00	6300.00
Urban market sales (bags)	625	6.00	3750.00
Home consumption (bags)	0,2	6.00	8.50
TOTAL GROSS INCO	OME (R)		10058.50
ANNUAL PROFIT (R	/ha)		1846.14



Decomposition of p	er ha private costs	s (R)				
ITEM	QUANTITY	LAND	DIRECT LABOUR	CAPITAL	TRADABLE INPUT	TOTAL
Fixed inputs						
Implements	1			14.59		14.59
Direct labour						
Unskilled hired	67.5		675.00			675.00
Unskilled family	33.75		202.50			202.50
Total	343676		877.50			4.03.03
Intermediate inputs						
Herbicide (L)	2				722.60	722.60
Seedlings (units)	25000				1250.00	1250.00
Fertiliser 2.3.4 (ton)	0.5				680.00	680.00
Fertiliser LAN (ton)	0.5				520.00	520.00
Pesticide (ton)	0.02				626.60	626.60
Pesticide (L)	6				1552.32	1552.32
Pockets (units)	1675				1423.75	1423.75
Land preparation (L fuel)	30				195.00	195.00
Transport (ha)	1				200.00	200.00
Water, repair and maintenance (ha)	1				150.00	150.00
Total					7320.27	
Land						
Land rental(ha)	1	0.00				0.00
ANNUAL TOTAL CO						8212,36
ANNUAL TOTAL RE' ANNUAL PROFIT (R						10058.50 1846.14



Decomposition of p	er ha social costs	(R)				
ITEM	QUANTITY	LAND	DIRECT	CAPITAL	TRADABLE INPUT	TOTAL
Fixed inputs						
Implements				12.80		12.80
Investment cost				1683.50		1683.50
Total				1696.30		
Direct labour						
Unskilled hired	67.5		675.00			675.00
Unskilled family	33.75		202.50			202.50
Total						
Intermediate inputs						
Herbicide (L)	2				722.60	722.60
Seedlings (units)	25000				1250.00	1250.00
Fertiliser 2.3.4 (ton)	0.5				680.00	680.00
Fertiliser LAN (ton)	0.5				520.00	520.00
Pesticide (ton)	0.02				626.60	626.60
Pesticide (L)	6				1552.32	1552.32
Pockets (units)	1750				1248.90	1248.90
Land Preparation (L	30				171.05	171.05
fuel)						
Transport (ha)	1				175.44	175.44
Water, repair and	1				131.58	131.58
maintenance (ha)						
Total					7078.49	
Land						
Land rental(ha)	40	450.00				450.00
ANNUAL TOTAL CO	STS (R)					10102.29
ANNUAL TOTAL RE ANNUAL PROFIT (R						10058.50 -43.79



### Policy Analysis Matrix for 1ha Cabbage : Zwelitsha District, Eastern Cape

	Revenue	nue Production costs						Profit
		Tradable inputs		Domestic fact	ors		Total Domestic factors	
			Unskilled labour ; Family	Unskilled labour ; Hired	Land	Capital		
Private Prices	10058.50	7320.27	202.50	675.00	0.00	14.59	892.09	1846.14
Social Prices	10058.50	7078.49	202.50	675.00	450.00	1696.30	3023.80	-43.79
Divergences	0.00	241.78				I	-2131.71	1889.93

NPCO	1.00
NPCI	1.03
EPC	0.92
SRP	0.19
DRC	1.01
PC	-42.15



# Appendix 6: Budget for Irrigated Maize in Keiskammahoek District, Eastern Cape

The farming system

Location	Keiskammahoek
	district, Eastern Cape
Practice	Irrigated maize
	production
Production cycle	12 months
Working hours	8.00
Total maize area (ha)	1.00
Family wage (R/day)	6.00

Activity Calendar				
Activity	Time	Fixed input	Family labour (man- days)	Intermediate input
Soil preparation and planting	Aug	contractor		0.05 ton seed
First fertilisation	Oct/Nov	contractor		0.6 ton 2.3.2 fertiliser
Cut -worm control	Oct/Nov	Knapsack		0.005 ton Cutworm
				bait
Stalkborer control	Nov	Knapsack		0.002 ton Granules
Cultivation	Dec	contractor		
Hoeing	Dec	hoes	25.00	
Second fertilisation	Dec	contractor		0.3 ton LAN
Harvesting	Jun/July		25.00	80 bags
Shelling	July		25.00	



Annual fixed inpu	it costs			
Fixed input	Initial cost (R)	Useful life (Yrs)	Salvage value (R)	Net initial cost (R)
Hoe	25.00	5.00	0.00	25.00
Knapsack	250.00	5.00	0.00	250.00
Fixed input	Days/ha	Days/year	Per ha share of annual	
			use	
Hoe	25.00	25.00	0.68	
Knapsack	12.00	12.00	0.32	
Fixed input	Net initial cost (R)	Capital	Share of annual use	Annual capital cost
		recovery		(R/ha)
Hoe	25.00	0.23	0.68	3.93
Knapsack	250.00	0.23	0.32	18.47



Annual Total Private Costs

ITEM	QUANTITY	RANDS PER UNIT	TOTAL (R)
Fixed inputs			
Hoes	5.00	3.93	19.63
Knapsacks	2.00	18.47	36.94
TOTAL FIXED COSTS			56.57
Direct labour (days)			
Family labour	37.00	10.00	370.00
TOTAL DIRECT LABOUR	COST		370.00
Intermediate inputs	50.00	9.00	450.00
Seed (kg)		The second secon	450.00
Fertiliser; 2:3:4 (30) (kg)	600.00	1.23	738.00
LAN	300.00	0.83	249.00
Cutworm bait (ton)	0.01 0.00	5084.40 4263.60	25.42 8.53
Stalkborer granules (ton)	80.00	2.00	160.00
Bags (units) Water	1.00	45.00	45.00
Contractors:	1.00	375.00	375.00
Plough/plant (ha)	1.00	373.00	373.00
Contractor: Transport	1.00	80.00	80.00
TOTAL INTERMEDIATE C		00.00	2130.95
Land (ha)	1.00	0.00	0.00
AND A COLUMN TO THE REAL PROPERTY OF THE PARTY OF THE PAR	47.53		
TOTAL PRIVATE COSTS	(R)		2557.52
Annual Total Revenue			
Maize sales (bags)	60.00	60.00	3600.00
Maize consumed (bags)	20.00	60.00	1200.00
ANNUAL TOTAL			4800.00
INCOME (R)			
ANNUAL PROFIT (R)			2242.48



Decomposition of per ha private costs (R) ITEM QUANTITY LAND DIRECT LABOUR CAPITAL TRADABLE TOTAL **INPUTS** Fixed inputs 5.00 Hoes 19.63 19.63 2.00 Knapsack 36.94 36.94 Total 56.57 Direct labour Family labour 37.00 370.00 370.00 Intermediate inputs 50.00 Seed (kg) 450.00 450.00 Fertiliser; 2:3:4 (30) (kg) 600.00 738.00 738.00 300.00 LAN 249.00 249.00 Cutworm bait (ton) 0.01 25.42 25.42 0.00 Stalkborer granules (ton) 8.53 8.53 80.00 160.00 Bags (units) 160.00 1.00 Water 45.00 45.00 Contractors: 1.00 375.00 375.00 Plough/plant (ha) Contractor: Transport 1.00 80.00 80.00 Total 2130.95 Land Land rental 1.00 0.00 0.00 ANNUAL TOTAL COSTS (R) 2557.52 ANNUAL TOTAL INCOME (R) 4800.00 ANNUAL PROFIT (R) 2242.48



Decomposition of per ha social costs (R) ITEM QUANTITY LAND DIRECT LABOUR CAPITAL TRADABLE TOTAL **INPUTS** Fixed inputs 5.00 17.22 17.22 Hoes 32.41 Knapsack 2.00 32.41 Total 49.62 Direct labour Family labour 37.00 370.00 370.00 Intermediate inputs Seed (kg) 50.00 450.00 450.00 Fertiliser; 2:3:4 (30) (kg) 600.00 738.00 738.00 249.00 249.00 LAN 300.00 0.01 25.42 Cutworm bait (ton) 25.42 Stalkborer granules (ton) 0.00 8.53 8.53 140.35 80.00 140.35 Bags (units) 39.47 Water 1.00 39.47 Contractors: 1.00 328.95 328.95 Plough/plant (ha) Contractor: Transport 1.00 70.18 70.18 2049.90 Total Land Land rental 1.00 600.00 600.00 ANNUAL TOTAL COSTS (R) 3069.52 4800.00 ANNUAL TOTAL INCOME (R) ANNUAL PROFIT (R) 1730.48



### Policy Analysis Matrix for 1ha Irrigated Maize, Emerging Farmer - Eastern Cape

	Revenue	Production costs						Profit
	Tradable inputs		Domestic factors				Total Domestic factors	
			Unskilled labour; Family	Unskilled labour ; Hired	Land	Capital		
Private Prices	4800.00	2130.95	370.00		0.00	56.57	426,57	2242.48
Social Prices	4800.00	2049.90	370.00		600.00	49.62	1019.62	1730.48
Divergences	0.00	81.05					-593.05	512.00

NPCO	1.00
NPCI	1.04
EPC	0.97
SRP	0.11
DRC	0.37
PC	1.30



### Appendix 7: Budget for Dryland Maize in Herschel District, Eastern Cape

The farming system Location Herschel district, Eastern Cape Practice Irrigated maize production Production cycle 12 months Working hours 8.00 Total maize area 1.00 (ha) 6.00 Family wage (R/day)



Activity Calendar				
Activity	Time	Fixed input	Family labour (man- days)	Intermediate input
Soil preparation and planting	Aug	contractor		0.012 ton seed
First fertilisation	Oct/Nov	contractor		0.012 ton 2.3.2 fertiliser
Herbicide application	Oct/Nov	contractor		1.75 L Herbicide
Cut -worm control	Oct/Nov	contractor		0.006 ton Cutworm bait
Stalkborer control	Nov	contractor		0.004 ton Granules
Cultivation	Dec	contractor		
Hoeing	Dec	hoes	25.00	
Second fertilisation	Dec	contractor	7	0.07 ton LAN, 0.05 ton Urea
Harvesting Transportation	Jun/July July	contractor	25.00	50 bags
Shelling	July	Astonia (a)	25.00	



Calculation of a	nnual fixed costs	5		
Fixed input	Initial cost (R)	Useful life (Yrs)	Salvage value (R)	Net initial cost (R)
Hoe	25.00	5.00	0.00	25.00
Fixed input	Days/ha	Days/year	Per ha share of annual	
Hoe	25.00	25.00	1.00	
Fixed input	Net initial cost (R)	Capital recovery factor	Share of annual use	Annual capital cost (R/ha)
Hoe	25.00	0.23	1.00	5.77



Calmidation of		market and be	The Later	IPP/IL-1
Calculation of	annuai	private	COSIS	(R/na)

Calculation of annu	al private co	sts (R/ha)	
Item Quant		Rands per unit	Total (R)
Fixed inputs			
Hoes	5.00	5.77	28.86
TOTAL FIXED			28.86
COSTS			
Direct labour (days)	ri .		
Family labour	75.00	10.00	750.00
TOTAL DIRECT LAB	OUR COST		750.00
Intermediate inputs			
Seed (ton)	0.01	9576.00	114.91
Fertiliser (ton)	0.13	1596.00	210.67
Herbicide (L)	1.75	32.39	56.68
Cutworm bait (ton)	0.01	5084.40	30.51
Stalkborer granules	0.00	4263.60	17.05
(ton)			
Bags (units)	50.00	2.00	100.00
Contractors (ha)	1.00	60.00	60.00
TOTAL INTERMEDIA	ATE COSTS		589.83
Land (ha)	1.00	0.00	0.00
TOTAL PRIVATE CO	OSTS (R)		1368.69
Annual Total Reven	ue		
Maize sales (bags)	35.00	60.00	2100.00
Fodder (bags)	15.00	60.00	900.00
ANNUAL TOTAL INC	OME (R)		3000.00
ANNUAL PROFIT (R	)		1631.31



Decomposition of p	er ha private	costs (R)				
Item	Quantity	Land	Direct labour	Capital	Tradable inputs	Total
Fixed inputs						
Hoes	5.00			28.86		28.86
Direct labour						
Family labour	75.00		750.00			750.00
Intermediate inputs						
Seed (ton)	0.01				114.91	114.91
Fertiliser (ton)	0.13				210.67	210.67
Herbicide (L)	1.75				56.68	56.68
Cutworm bait (ton)	0.01				30.51	30.51
Stalkborer granules (ton)	0.00				17.05	17.05
Bags (units)	50.00				100.00	100.00
Contractor (ha)	1.00				60.00	60.00
Total					589.83	
Land						
Land rental	1.00	0.00				0.00
ANNUAL TOTAL CO	STS (R)					1368.69
ANNUAL TOTAL INC	OME (R)					3000.00
ANNUAL PROFIT (R	)					1631.31



Decomposition of per ha social costs (R) Quantity Direct Capital Tradable Total Land Item labour inputs Fixed inputs 5.00 25.32 Hoes 25.32 Direct labour 750.00 Family labour 75.00 750.00 Intermediate inputs Seed (ton) 0.01 114.91 114.91 Fertiliser (ton) 0.13 210.67 210.67 1.75 56.68 Herbicide (L) 56.68 0.01 Cutworm bait (ton) 30.51 30.51 17.05 Stalkborer granules 0.00 17.05 (ton) 50.00 87.72 Bags (units) 87.72 Contractors (ha) 1.00 52.63 52.63 570.18 Land 1.00 100.00 Land rental 100.00 ANNUAL TOTAL COSTS (R) 1445.50 ANNUAL TOTAL INCOME (R) 3000.00 ANNUAL PROFIT(R) 1554.50



### Policy Analysis Matrix for the Dryland Maize, Emerging Farmer - Herschel, Eastern Cape

	Revenue Production costs						Profit		
			Tradable inputs	Domestic factors					
			Unskilled labour; Family	Unskilled labour ; Hired	Land	Capital	Total Domestic factors		
Private Prices	3000.00	589.83	750.00		0.00	28.86	778.86	1631.31	
Social Prices	3000.00	570.18	750.00		100.00	25.32	875.32	1554.50	
Divergences	0.00	19.65					-96.46	76.81	

1.00
1.03
0.99
0.03
0.36
1.05