



# 2021

## A CROP BUDGET GUIDE

FOR SMALLHOLDER VEGETABLE/CROP PRODUCERS

*"A world class regulator of a vibrant, diversified and sustainable crop industry"*

# TABLE OF CONTENTS

DEFINITIONS .....	1
INTRODUCTION.....	2
BUTTERNUT ENTERPRISE.....	3
CABBAGE ENTERPRISE.....	5
GREEN PEPPER ENTERPRISE.....	7
ONION ENTERPRISE.....	9
SWEET POTATO ENTERPRISE.....	11
TOMATO ENTERPRISE.....	13
CONCLUSION.....	15

# 1. DEFINITIONS

**TABLE 1: DEFINITIONS**

<b>Break-even-point</b>	When sales are equal to the total costs
<b>Break-even-Price (BEP)</b>	The price per unit is equal to the cost per unit
<b>Break-even-Yield</b>	The minimum number of units that must be produced or sold to make a profit
<b>Fixed Costs</b>	Costs or expenses that do not vary with outputs within the production period (short-run)
<b>Gross Profit</b>	Total revenue (sales) minus total variable costs
<b>Gross Margin</b>	Gross profit expressed as a percentage of the total revenue
<b>Man-days</b>	Unit of measure for the efforts needed to complete a task. i.e. Number of people assigned to do a task times the total number of days it takes such people to complete the task
<b>Net Profit Before Tax</b>	The share of the sale that remains after deducting the variable costs, fixed costs, and interest
<b>Opportunity Cost</b>	Is the forgone benefit that would have been derived by an option not chosen
<b>Price Per Unit</b>	Price at which each unit produced is sold or being priced
<b>Quantity</b>	The number of units purchased, produced, or sold
<b>Unit</b>	A single amount of measure for the items purchased, produced, and/or sold
<b>Variable Costs</b>	Costs or expenses that directly vary (increase or decrease) with the level of revenue or sales

## 2. INTRODUCTION

This crop enterprise budget guide booklet encompasses six (6) vegetables commonly planted by smallholder growers in Namibia, namely; butternut, cabbage, green pepper, onion, sweet potato, and tomato. Information contained in this booklet was collected from smallholder horticulture producers situated in Kavango, Zambezi, and North Central production zones of Namibia, and thus information presented in this booklet is based on the Namibian situation.

The content of this booklet includes estimated variable and fixed production costs, yield, price, revenue, net profit (before income tax), breakeven, and sensitivity analysis, based on one hectare. The cost of variable inputs such as seeds, fertilizers and agrochemicals, fuel, labour, ploughing services, etc., is adjusted with actual retail prices obtained from Namibian suppliers.

On the other hand, this booklet is intended to provide some basic information required in decision making on what to produce, the monitoring of input costs, increasing profitability and sustainability of crop enterprises. It also offers basic information for development initiatives and financial institutions in evaluating agricultural commodity enterprise credit lending. It may also become an informative tool for farmer extension providers on which inputs and costs should be expected when getting involved in the different agriculture-related enterprises.

Furthermore, the bulk of the information in this booklet is about expected returns under prevailing market prices when proper management practices have been adhered to. Therefore, end-users of this booklet are advised to benchmark the production enterprise budgets for the selected crops based on the information provided in this guide, given the different situations under which operations are undertaken.





### 3. BUTTERNUT ENTERPRISE

Table 2 indicates that the cost of producing butternut in Namibia is likely to be N\$ 73,320.00 (variable costs) and N\$48,274.56 (fixed costs) per ha, which is equivalent to a total production cost of N\$121,594.56 per ha. The estimated yield per ha is 26 000 kg, and at a unit price of N\$6.25 per kg, a producer can expect to generate total revenue of approximately N\$162,500.00 per ha.

Finally, the net profit (before tax) of approximately N\$10,202.33 (6% of revenue) per ha indicates that the production of butternut by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 20 468 per ha, and to cover the cost of production, a producer should not charge less than N\$4.92 per kg.

**TABLE 2: BUTTERNUT CROP BUDGET**

BUTTERNUTS CROP BUDGET					1ha
Income					
Item/ Description	Units	Units (kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Sales	kg	26 000	6,25	162 500,00	
Variable Costs					
Item/ Descriptions	Unit	Quantity	Cost/unit (Ex VAT)	Total Cost/ ha	Sub-Total & % share of Total Cost of Production
<b>Planting Material</b>					<b>NAD 14 416,00</b>
Seed (Pluto or equivalent)	1000s	16	901,00	14 416,00	12%
<b>Land Preparation</b>					<b>NAD 3 750,00</b>
Discing/Harrow	Ha	1	750,00	750,00	3%
Ripping	Ha	2	750,00	1 500,00	
Ridging	Ha	2	750,00	1 500,00	
<b>Fertilizers</b>					<b>NAD 14 636,75</b>
NPK 2:3:2	50kg Bag	6	476,00	2 856,00	12%
Ammonium Sulphate	50kg Bag	6	391,00	2 346,00	
Ureum	50kg Bag	3	408,00	1 224,00	
Potassium Nitrate	25kg Bag	6	510,00	3 060,00	
Calcium Nitrate	25kg Bag	6	527,00	3 162,00	
Calmabon	5litre	1	233,75	233,75	
Manure	Bakkie-Laods	6	250,00	1 500,00	NAD
Nitrospray	5litre	1	255,00	255,00	
<b>Agrochemicals</b>					
Mectin (Pesticide)	Litre	1	346,80	346,80	1%
Oscar (powdery mildew)	Litre	1	346,80	346,80	
Coppercount (Fungicide)	5 litres	1	297,50	297,50	
Grab or Last Call (Pesticide - for fruit flies)	1 litre	1	255,00	255,00	
Bludbuff (for water PH improvement)	1 litre	5	114,75	573,75	
<b>Irrigation</b>					<b>NAD 5 400,00</b>
Fuel	Litre	400	13,50	5 400,00	4%
<b>Labour</b>					<b>NAD 11 078,40</b>
Planting	Man/day	28	57,70	1 615,60	9%
Fertilizers Application	Man/day	25	57,70	1 442,50	
Weeding	Man/day	74	57,70	4 269,80	
Irrigation & Spraying	Man/day	15	57,70	865,50	
Harvesting & Packaging	Man/day	50	57,70	2 885,00	
<b>Packaging, Transport &amp; Telephone</b>					<b>NAD 22 219,00</b>
Packaging Material	10kg bag	2 600	2,98	7 735,00	6%
Transport (inputs & outputs)	Trip	17	800,00	13 600,00	11%
Telephone & Data	Month	4	221,00	884,00	1%
<b>Total Variable Costs</b>				<b>73 320,00</b>	
<b>Gross Profit</b>				<b>89 180,00</b>	
<b>Gross Margin</b>				<b>55%</b>	

TABLE 2 CONTINUED: BUTTERNUT CROP BUDGET

Fixed Costs					
Details	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	4	3500,00	14 000,00	12%
Depreciation (Equipment, Machinery & Buildings)	Month	4	5842,11	23 368,44	19%
Land Lease	Month	4	1666,67	6 666,67	5%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance	Times	1	4 987,59	4 239,45	3%
Total Fixed Costs N\$/ha				48 274,56	
Total Cost of Production N\$/ha				121 594,56	
Less: Producer Levy -NAB (1,4% of Total Sales)				2 275,00	
Net Profit Before Interest & Tax N\$/ha				38 630,44	
Less: Opportunity Cost (10% pa) @ 4 Months				4 053,11	
Net Profit After Interest N\$/ha (Before tax)				34 577,33	
Less: Value Added Tax (VAT 15%)				24 375,00	
Net Profit (Taxable Income)				10 202,33	
Break-Even Analysis					
Break-Even Price (N\$/kg)				4,92	
Break-Even Yield (kg/ha)				20 468	
Sensitivity Analysis					
Yield per hectare (kg)	Even Price (N\$/kg)				
26 000	4,92				
23 000	5,56				
20 000	6,40				
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 26 000 kg per hectare, the break-even price was N\$ 4.92 per kg, but when the yield decreased to 20 000 kg per hectare, the break-even price increased to N\$ 6.40 per kg.					



## 4. CABBAGE ENTERPRISE

Table 3 indicates that the cost of producing cabbage in Namibia is likely to be N\$125,489.90 (variable costs) and N\$62,716.57 (fixed costs) per ha, which is equivalent to a total production cost of N\$188,206.47 per ha. The estimated yield per ha is 25 000 heads, and at a unit price of N\$10.00 per head, a producer can expect to generate a total revenue of approximately N\$250,000.00 per ha.

Finally, the net profit (before tax) of approximately N\$12,951.61 (5% of revenue) per ha indicates that the production of cabbage by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 19 955 heads per ha, and to cover the cost of production, a producer should not charge less than N\$7.98 per head.

**TABLE 3: CABBAGE CROP BUDGET**

GREEN PEPPER		CROP BUDGET		1ha	
Income					
Item/ Description	Units	Units (Kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Revenue	Kg	20 000	12,00	240 000,00	
Variable Costs					
Cost Descriptions	Unit	Quantity	Cost/Unit (Ex VAT)	Total Cost/ ha	Sub-Total & % share of Total Cost of Production
Plant Material					NAD 23 375,00
Seeds	1000s	25	935,00	23 375,00	13%
Land Preparation					NAD 3 750,00
Discing/ Harrowing	Ha	1	750,00	750,00	2%
Ripping	Ha	2	750,00	1 500,00	
Ridging	Ha	2	750,00	1 500,00	
Fertilizers					NAD 19 605
Growmix	25kg	14	382,50	5 355	11%
NPK 2:3:2 or 2.3.4	50kg Bag	6	476,00	2 856,00	
Potassium Nitrate	50kg Bag	10	510,00	5 100,00	
MAP	50kg Bag	3	510,00	1 530,00	
Ammonium Sulphate	50kg Bag	8	408,00	3 264,00	
Manure	Bakkie-Load	6	250,00	1 500,00	
Agrochemicals					NAD 5 781,30
Masta	Kg	1	484,50	484,50	3%
Decis (at flowering)	Litre	1	782,00	782,00	
Ampligo	1litre	1	2 507,50	2 507,50	
Odeon (Fungicide)	5litre	1	1 109,25	1 109,25	
Methomex	1kg	1	507,05	507,05	
Comite	1litre	1	391,00	391,00	
Labour					NAD 21 926,00
Planting & Transplanting	Man/day	52	57,70	3 000,40	12%
Fertilizers Application	Man/day	30	57,70	1 731,00	
Weeding	Man/day	192	57,70	11 078,40	
Irrigation & Spraying	Man/day	30	57,70	1 731,00	
Harvesting & Packaging	Man/day	76	57,70	4 385,20	
Irrigation					NAD 5 400,00
Fuel	Litre	400	13,50	5 400,00	3%
Transport & Telephone					NAD 27 951,00
Transport (inputs & outputs)	Trip	20	800,00	16 000,00	9%
Packaging Material	Plastic	25000	0,43	10 625,00	6%
Telephone	Month	6	221,00	1 326,00	0,7%
Total Variable Costs				107 788,30	
Gross Profit				132 211,70	
Gross Margin				55%	

TABLE 3 CONTINUED: CABBAGE CROP BUDGET

Fixed Costs					
	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	5	3500,00	17 500,00	9%
Depreciation (Equipment, Machinery & Buildings)	Month	5	5842,11	29 210,55	16%
Land Lease	Month	5	1666,67	8 333,33	4%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance	Times	1	9 026,69	7 672,69	4%
Total Fixed Costs N\$/ha				62 716,57	
Total Cost of Production N\$/ha				188 206,47	
Less: NAB Levy (1,4% of Total Sales)				3 500,00	
Net Profit Before Interest & Tax N\$/ha				58 293,53	
Less: Opportunity Cost (10% pa) @ 5months				7 841,92	
Net Profit After Interest N\$/ha (Before tax)				50 451,61	
Less: Value Added Tax (VAT 15%)				37 500,00	
Net Profit (Taxable Income)				12 951,61	
Break-Even Analysis					
Break-Even Price (N\$/kg)				7,98	
Break-Even Yield (kg/ha)				19 955	
Sensitivity Analysis					
Yield per hectare (Heads units)		Break-Even Price (N\$/Head)			
25 000		7,98			
23 000		8,68			
21 000		9,50			
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 25 000 heads per hectare, the break-even price was N\$ 7.98 per head, but when the yield decreased to 21 000 heads per hectare, the break-even price increased to N\$ 9.50 per head.					



## 5. GREEN PEPPER ENTERPRISE

Table 4 indicates that the cost of producing green pepper in Namibia is likely to be N\$107,788.30 (variable costs) and N\$73,440.90 (fixed costs) per ha, which is equivalent to a total production cost of N\$181,229.20 per ha. The estimated yield per ha is 20 000 kg, and at a unit price of N\$12 per kg, a producer can expect to generate a total revenue of approximately N\$240,000.00 per ha.

Finally, the net profit (before tax) of approximately N\$10,349.34 (4% of revenue) per ha indicates that the production of green pepper by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 16 138kg per ha, and to cover the costs of production, a producer should not charge less than N\$9.68 per kg.

**TABLE 4: GREEN PEPPER CROP BUDGET**

GREEN PEPPER		CROP BUDGET		1ha	
Income					
Item/ Description	Units	Units (Kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Revenue	Kg	20 000	12,00	240 000,00	
Variable Costs					
Cost Descriptions	Unit	Quantity	Cost/Unit (Ex VAT)	Total Cost/ ha	
Plant Material					
Seeds	1000s	25	935,00	23 375,00	
Land Preparation					
Discing/ Harrowing	Ha	1	750,00	750,00	
Ripping	Ha	2	750,00	1 500,00	
Ridging	Ha	2	750,00	1 500,00	
Fertilizers					
Growmix	25kg	14	382,50	5 355	
NPK 2:3:2 or 2.3.4	50kg Bag	6	476,00	2 856,00	
Potassium Nitrate	50kg Bag	10	510,00	5 100,00	
MAP	50kg Bag	3	510,00	1 530,00	
Ammonium Sulphate	50kg Bag	8	408,00	3 264,00	
Manure	Bakkie-Load	6	250,00	1 500,00	
Agrochemicals					
Masta	Kg	1	484,50	484,50	
Decis (at flowering)	Litre	1	782,00	782,00	
Ampligo	1litre	1	2 507,50	2 507,50	
Odeon (Fungicide)	5litre	1	1 109,25	1 109,25	
Methomex	1kg	1	507,05	507,05	
Comite	1litre	1	391,00	391,00	
Labour					
Planting & Transplanting	Man/day	52	57,70	3 000,40	
Fertilizers Application	Man/day	30	57,70	1 731,00	
Weeding	Man/day	192	57,70	11 078,40	
Irrigation & Spraying	Man/day	30	57,70	1 731,00	
Harvesting & Packaging	Man/day	76	57,70	4 385,20	
Irrigation					
Fuel	Litre	400	13,50	5 400,00	
Transport & Telephone					
Transport (inputs & outputs)	Trip	20	800,00	16 000,00	
Packaging Material	Plastic	25000	0,43	10 625,00	
Telephone	Month	6	221,00	1 326,00	
Total Variable Costs				107 788,30	
Gross Profit				132 211,70	
Gross Margin				55%	

TABLE 4 CONTINUED: GREEN PEPPER CROP BUDGET

Fixed Costs					
	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	6	3500,00	21 000,00	12%
Depreciation (Equipment, Machinery & Buildings)	Month	6	5842,11	35 052,66	19%
Land Lease	Month	6	1666,67	10 000,00	6%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance.	Times	1	8 692,05	7 388,24	4%
Total Fixed Costs N\$/ha				73 440,90	
Total Cost of Production N\$/ha				181 229,20	
Less: Producer Levy -NAB (1,4% of Total Sales)				3 360,00	
Net Profit Before Interest, Levy & Tax N\$/ha				55 410,80	
Less: Opportunity Cost (10% pa) @ 6 Months				9 061,46	
Net Profit After Interest N\$/ha (Before tax)				46 349,34	
Less: Value Added Tax (VAT 15%)				36 000,00	
Net Profit (Taxable Income)				10 349,34	
Break-Even Analysis					
Break-Even Price (N\$/kg)				9,68	
Break-Even Yield (kg/ha)				16 138	
Sensitivity Analysis					
Yield per hectare (Kg)		Break-Even Price (N\$/Kg)			
20 000		9,68			
18 000		10,76			
16 000		12,10			
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 20 000 crates per hectare, the break-even price was N\$ 9.68 per kg, but when the yield decreased to 16 000 kg per hectare, the break-even price increased to N\$ 12.10 per kg.					



## 6. ONION ENTERPRISE

Table 5 indicates that the cost of producing onion in Namibia is likely to be N\$117,116.15 (variable costs) and N\$73,837.33 (fixed costs) per ha, which is equivalent to the total production cost of N\$190,953.48 per ha. The estimated yield per ha is 35 000 kg, and at a unit price of N\$7.50 per kg, a producer can expect to generate total revenue of approximately N\$262,500.00 per ha.

Finally, the net profit (before tax) of approximately N\$17,039.31 (6% of revenue) per ha indicates that the production of onions by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 27 478kg per ha, and to cover the cost of production, a producer should not charge less than N\$5.89 per kg.

**TABLE 5: ONION CROP BUDGET**

ONION CROP BUDGET					1ha
Income					
Item/ Description	Units	Units (kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Sales	Kg	35 000	7,50	262 500,00	
Variable Costs					
Cost Descriptions	Unit	Quantity	Cost/Unit (Ex VAT)	Total Cost/ ha	Sub-Total & % share of Total Cost of Production
<b>Plant Material</b>					NAD 800,00 23
Seeds	1kg	4	5950	23 800,00	12%
<b>Land Preparation</b>					NAD 1 500,00 1%
Disc/Harrow	Ha	1	750	750,00	
Ridge/ Bedding	Ha	1	750	750,00	
<b>Fertilizers</b>					NAD 27 068,00 14%
NPK 2:3:2	50kg Bag	10	476	4 760,00	
MAP	50kg Bag	10	510	5 100,00	
Ammonium Sulphate	50kg Bag	8	408	3 264,00	
Potassium Nitrate	25kg	12	510	6 120,00	
Calcium Nitrate	25kg	12	527	6 324,00	
Manure	Bakkie-Load	6	250	1 500,00	
<b>Agrochemicals</b>					NAD 5 661,45 3%
Chemicals-Ampligo	Litre	1	2508	2 507,50	
Karate	Litre	1	607	606,90	
Folicur (Fungicide)	5litre	1	2040	2 040,00	
Methomex	1kg	1	507	507,05	
<b>Irrigation</b>					NAD 8 100,00 4%
Irrigation	Litre	600	13,5	8 100,00	
<b>Labour</b>					NAD 26 311,20 14%
Planting & Transplanting	Man/day	200	57,70	11 540,00	
Fertilizers Application	Man/day	30	57,70	1 731,00	
Weeding	Man/day	120	57,70	6 924,00	
Irrigation & Spraying	Man/day	30	57,70	1 731,00	
Harvesting & Packaging	Man/day	76	57,70	4 385,20	
<b>Packaging, Transport &amp; Telephone</b>					NAD 24 675,50
Packaging	Bag	3 500	3,0	10 412,50	5%
Transport (inputs & outputs)	Trip	17	800	13 600,00	7%
Telephone	Month	3	221	663,00	0,3%
<b>Total Variable Costs</b>				<b>117 116,15</b>	
<b>Gross Profit</b>				<b>145 383,85</b>	
<b>Gross Margin</b>				<b>55%</b>	



TABLE 5 CONTINUED: ONION CROP BUDGET

Fixed Costs					
	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	6	3500,00	21 000,00	11 %
Depreciation (Equipment, Machinery & Buildings)	Month	6	5842,11	35 052,66	18 %
Land Lease	Month	6	1666,67	10 000,00	5%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance.	Times	1	7 784,67	7 784,67	4%
Total Fixed Costs N\$/ha				73 837,33	
Total Cost of Production N\$/ha				190 953,48	
NAB Levy (1.4% of Total Sales)				3 675,00	
Net Profit Before Interest & Tax N\$/ha				67 871,52	
Less: Opportunity Cost (10% pa) @ 6 Months				11 457,21	
Net Profit After Interest N\$/ha (Before tax)				56 414,31	
Less: Value Added Tax (VAT 15%)				39 375,00	
Net Profit (Taxable Income)				17 039,31	
Break-Even Analysis					
Break-Even Price (N\$/kg)				5,89	
Break-Even Yield (kg/ha)				27 478	
Sensitivity Analysis					
Yield per hectare (kg)		Break-Even Price (N\$/kg)			
35 000		5,89			
32 000		6,44			
29 000		7,11			
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 35 000 kg per hectare, the break-even price is N\$ 5.84 per kg, but when the yield is decreased to 29 000 bags per hectare, the break-even price increased to N\$ 7.05 per kg.					



## 7. SWEET POTATO ENTERPRISE

Table 6 indicates that the cost of producing sweet potatoes in Namibia is likely to be N\$ 53,997.13 (variable costs) and N\$71,154.78 (fixed costs) per ha, which is equivalent to a total production cost of N\$125,151.91 per ha. The estimated yield per ha is 16 632 kg, and at a unit price of N\$10.00 per kg, a producer can expect to generate total revenue of approximately N\$166,320.00 per ha.

Finally, the net profit (before tax) of approximately N\$7,634.02 (5% of revenue) per ha indicates that the production of sweet potatoes by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 13 374 kg per ha, and to cover the costs of production, a producer should not charge less than N\$8.04 per kg.

**TABLE 6: SWEET POTATO CROP BUDGET**

TABLE 6: SWEET POTATO CROP BUDGET 1ha					
Income					
Item/ Description	Units	Units (kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Sales	Kg	16 632	10,00	166 320,00	
Variable Costs					
Cost Descriptions	Unit	Quantity	Cost/Unit (Ex VAT)	Total Cost/ ha	
Plant Material					Sub-Total & % share of Total Cost of Production
Planting Materials (Vines)	Bags	40	150	6 000,00	NAD 6 000,00
Land Preparation					5%
Discing/ Harrowing	Ha	1	750	750,00	NAD 2 250,00
Ripping	Ha	1	750	750,00	2%
Ridging	Ha	1	750	750,00	
Fertilizers					NAD 12 291,00
Fertilizer -NPK 2:3:2	50kg Bag	6	476	2 856,00	10%
MAP	50kg Bag	6	510	3 060,00	
Urea or Ammonium Sulphate	50kg Bag	4	408	1 632,00	
Superphosphate	50kg Bag	6	382,5	2 295,00	
Ammonium Sulphate	50kg Bag	6	408	2 448,00	
Agrochemicals					NAD 113,95
Karate or cypermethrin	Litre	1	606,9	606,90	1%
Methomex	Kg	1	507,05	507,05	
Irrigation					NAD 5 400,00
Irrigation (Fuel)	Litre	400	13,5	5 400,00	4%
Labour					NAD 17 656,20
Transplanting	Man/day	52	57,70	3 000,40	14%
Fertilizers Application	Man/day	30	57,70	1 731,00	
Weeding	Man/day	74	57,70	4 269,80	
Irrigation & Spraying	Man/day	30	57,70	1 731,00	
Harvesting & Packaging	Man/day	120	57,70	6 924,00	
Packaging, Transport & Telephone					NAD 285,98
Packaging	18kg Bag	924	3,145	2 905,98	2%
Transport (inputs & outputs)	Trip	7	800	5 600,00	4%
Telephone	Month	260	3	780,00	1%
<b>Total Variable Costs</b>				<b>53 997,13</b>	
<b>Gross Profit</b>				<b>112 322,87</b>	
<b>Gross Margin</b>				<b>68%</b>	

TABLE 6 CONTINUED: SWEET POTATO CROP BUDGET

Fixed Costs					
	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	6	3500,00	21 000,00	17 %
Depreciation (Equipment, Machinery & Buildings)	Month	6	5842,11	35 052,66	28 %
Land Lease	Month	6	1666,67	10 000,00	8%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance.	Times	1	5 102,12	5 102,12	4%
Total Fixed Costs N\$/ha				71 154,78	
Total Cost of Production N\$/ha				125 151,91	
Less: Producer Levy -NAB (1.4% of Total Sales)				2 328,48	
Net Profit Before Interest & Tax N\$/ha				38 839,61	
Less: Opportunity Cost (10% pa) @ 6 Months				6 257,60	
Net Profit After Interest N\$/ha (Before tax)				32 582,02	
Less: Value Added Tax (VAT 15%)				24 948,00	
Net Profit (Taxable Income)				7 634,02	
Break-Even Analysis					
Break-Even Price (N\$/kg)				8,04	
Break-Even Yield (kg/ha)				13 374	
Sensitivity Analysis					
Yield per hectare (kg)		Break-Even Price (N\$/kg)			
16 632		8,04			
16 200		8,26			
15 300		8,74			
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 16 632 kg per hectare, the break-even price was N\$ 8.04 per kg, but when the yield is decreased to 15 300 kg per hectare, the break-even price increased to N\$ 8.74 per kg.					



## 8. TOMATO ENTERPRISE

Table 7 indicates that the cost of producing tomatoes in Namibia is likely to be N\$139,129.14 (variable costs) and N\$63,296.24 (fixed costs) per ha, which is equivalent to a total production cost of N\$202,425.38 per ha. The estimated yield per ha is 28 600kg, and at a unit price of N\$9.50 per kg, a producer can expect to generate total revenue of approximately N\$271,700.00 per ha.

Finally, the net profit (before tax) of approximately N\$14,594.55 (5% of revenue) per ha indicates that the production of tomato by smallholder producers in Namibia is a viable enterprise. The breakeven yield is 22 774kg per ha, and to cover the cost of production, a producer should not charge less than N\$7.56 per kg.

**TABLE 7: TOMATO CROP BUDGET**

TOMATO CROP BUDGET					1ha
Income					
	Units	Units (kg/ha)	Price (N\$/kg)	Total Revenue (N\$/ha)	
Sales	Kg	28 600	9,50	271 700,00	
Variable Costs					
Cost Description	Unit	Quantity	Cost/Unit	Total Cost/ ha	Sub-Total & % share of Total Cost of Production
Plant Material					NAD 25 500,00
seeds	1000s	25	1020	25 500,00	13%
Land Preparation					NAD 2 250,00
Discing/ Harrowing	Ha	1	750	750,00	1%
Ripping	Ha	1	750	750,00	
Ridging	Ha	1	750	750,00	
Fertilizers					NAD 26 583,50
Growingmix	25kg	9	382,5	3 442,50	
NPK 2:3:2 or 2:3:4	50kg Bag	4	476	1 904,00	
Magnesium Sulphate	25kg Bag	8	476	3 808,00	
Superphosphate	50kg Bag	6	382,5	2 295,00	13%
Urea or Ammonium Sulphate	50kg Bag	8	408	3 264,00	
Calcium Nitrate	25kg Bag	10	527	5 270,00	
Potassium Nitrate	25kg Bag	10	510	5 100,00	
Manure	Load	6	250	1 500,00	
Agrochemicals					NAD 16 600,44
Belt	Litre	1	2805	2 805,00	8%
Ampligo	Litre	1	2507,5	2 507,50	
Agri-mek	Litre	1	935	935,00	
Karate	Litre	1	606,9	606,90	
Chess ( controls whiteflies)	400g	4	773,5	3 094,00	
Methomex	1kg	1	484,5	484,50	
Mecti (Miticide)	Litre	5	98	491,88	
Seizer (control worms, leaf miners, mites etc)	Litre	5	208	1 038,91	
Folicur (Fungicide)	5litre	1	2040	2 040,00	
Coppercount (Fungicide)	1litre	5	298	1 487,50	
Odeon (Fungicide)	5litre	1	1109	1 109,25	
Irrigation					NAD 8 100,00
Irrigation (Fuel)	Litre	600	13,5	8 100,00	4%
Labour					NAD 33 235,20
Planting	Man/day	52	57,70	3 000,40	16%
Fertilizers Application	Man/day	60	57,70	3 462,00	
Weeding	Man/day	192	57,70	11 078,40	
Irrigation & Spraying	Man/day	80	57,70	4 616,00	
Harvesting & Packaging	Man/day	192	57,70	11 078,40	
Packaging, Transport & Telephone					NAD 26 860,00
Packaging	1kg plastic	28 600	0,425	12 155,00	6%
Transport (inputs & outputs)	Trip	17	800	13 600,00	7%
Telephone	Month	5	221	1 105,00	0,5%
<b>Total Variable Costs</b>				<b>139 129,14</b>	
<b>Gross Profit</b>				<b>132 570,86</b>	
<b>Gross Margin</b>				<b>49%</b>	

TABLE 7 CONTINUED: TOMATO CROP BUDGET

Fixed Costs					
	Unit	Number of units	Cost/Unit	Total Cost/ha	
Salaries	Month	5	3500,00	17 500,00	9%
Depreciation (Equipment, Machinery & Buildings)	Month	5	5842,11	29 210,55	14%
Land Lease	Month	5	1666,67	8 333,33	4%
Miscellaneous (5% of Cost of Production): Handling, stationery, courier, cleanings, advertisement, repair & maintenance.	Times	1	8 252,35	8 252,35	4%
Total Fixed Costs N\$/ha				63 296,24	
Total Cost of Production N\$/ha				202 425,38	
Less: Producer Levy -NAB (1.4% of Total Sales)				3 803,80	
Net Profit Before Interest & Tax N\$/ha				65 470,82	
Less: Opportunity Cost (10% pa) @ 5 Months				10 121,27	
Profit After Interest N\$/ha (Before tax)				55 349,55	
Less: Value Added Tax (VAT 15%)				40 755,00	
Net Profit (Taxable Income)				14 594,55	
Break-Even Analysis					
Break-Even Price (N\$/kg)				7,56	
Break-Even Yield (kg/ha)				22 774	
Sensitivity Analysis					
Yield per hectare (kg)	Break-Even Price (N\$/kg)				
28 600	7,56				
26 400	8,20				
24 200	8,94				
The sensitivity analysis indicates that the lower the yield, the higher the break-even price. For example, at a yield of 28 600 kg per hectare, the break-even price was N\$ 7.56 per kg, but when the yield is decreased to 24 200 per kg, the break-even price increased to N\$ 8.94 per kg.					

## 9. CONCLUSION

The bulk of the information in this booklet is about expected returns under prevailing market prices when proper management practices have been adhered to. The analysis of the enterprise budgets clearly indicates that all the six (6) vegetables considered in this booklet are viable and variable costs constitute the biggest portion of the total production cost. Furthermore, it was also observed that the net profit margin (before income tax) for all six (6) vegetable enterprises constitute between 4% and 6% of the expected revenue.

On the other hand, the market for these crops is available countrywide, with seasonal shortages or surplus. Most of these crops, except cabbage, are imported from South Africa which demonstrates that they are open to being grown by local producers on a commercial basis.

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### **PUBLISHED BY:**

**Namibian Agronomic Board  
Agronomy and Horticulture Market Development Division  
Research and Policy Development Subdivision**

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