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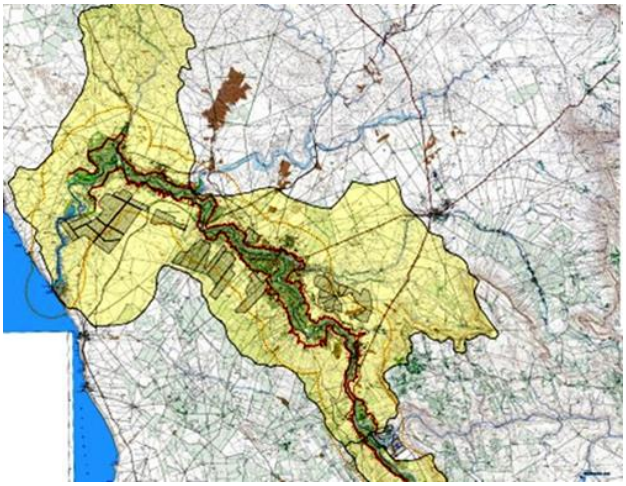
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Post Feasibility Bridging Study for the Proposed Bulk Conveyance Infrastructure from the Raised Clanwilliam Dam (WP0485)

Financial Viability of Irrigation Farming Sub-Report





August 2018

Department of Water and Sanitation
Directorate: Options Analysis

POST FEASIBILITY BRIDGING STUDY FOR THE PROPOSED BULK CONVEYANCE INFRASTRUCTURE FROM THE RAISED CLANWILLIAM DAM

APPROVAL

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Consultants	:	Aurecon South Africa (Pty) Ltd
Report status	:	Final
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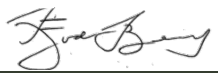
Author signature		Approver signature	
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DEPARTMENT OF WATER AND SANITATION

Directorate: Options Analysis

Post Feasibility Bridging Study for the Proposed Bulk Conveyance Infrastructure from the Raised Clanwilliam Dam

FINANCIAL VIABILITY OF IRRIGATION FARMING SUB-REPORT

August 2018

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Post Feasibility Bridging Study for the Proposed Bulk Conveyance Infrastructure from the Raised Clanwilliam Dam

Reports produced as part of this project are indicated below.

Bold type indicates this report.

Report Index	Report Number	Report Title
1		Inception Report
2	P WMA 09/E10/00/0417/2	Capacity Building & Training Year 1
3	P WMA 09/E10/00/0417/3	Capacity Building & Training Year 2
4	P WMA 09/E10/00/0417/4	Water Requirements Assessment
5	P WMA 09/E10/00/0417/5	Distribution of Additional Available Water
6		Existing Infrastructure and Current Agricultural Development Sub-Report
7	P WMA 09/E10/00/0417/6	Existing Conveyance Infrastructure and Irrigated Land
8		Suitable Agricultural Areas and Land Ownership Report
9		Evaluation of Development Options Sub-Report
10	P WMA 09/E10/00/0417/10	Suitable Areas for Agricultural Development
11		Right Bank Canal Design Sub-Report
12		Conceptual Design Sub-Report
13		Environmental Screening Sub-Report
14		Jan Dissels and Ebenhaeser Schemes Design Sub-Report
15	P WMA 09/E10/00/0417/13	Feasibility Design
16	P WMA 09/E10/00/0417/7	Topographical Surveys
17	P WMA 09/E10/00/0417/8	Geotechnical Investigations
18	P WMA 09/E10/00/0417/9	Soil Survey
19		**Financial viability of irrigation farming Sub-Report**
20	P WMA 09/E10/00/0417/11	Agricultural Production and Farm Development
21		Right Bank Canal Cost Analysis Sub-Report
22		Socio-Economic Impact Analysis Sub-Report
23	P WMA 09/E10/00/0417/12	Socio-Economic Impact Analysis
24	P WMA 09/E10/00/0417/14	Record of Implementation Decisions Report
25	P WMA 09/E10/00/0417/1	Main Report
26	P WMA 09/E10/00/0417/15	Historically Disadvantaged Farmers Report

Concise Description of the Content of Study Reports

Report Index	Report Number	Report Title and Description of Content
1		Inception The report forms part of the contract and stipulates the scope of work for the study, the contract amount and the contract period. It contains a detailed description of tasks and methodology, a study programme, human resource schedule, budget and deliverables. The Capacity Building and Training Plan has been included.
2	P WMA 09/E10/00/0417/2	Capacity Building & Training Year 1 Describes the range of capacity building and training activities planned for the study, and the activities undertaken during the first year of the study, including field-based training, training workshop 1 and mentorship of DWS interns through secondment.
3	P WMA 09/E10/00/0417/3	Capacity Building & Training Year 2 Describes the range of capacity building and training activities planned for the study, and the activities undertaken during the second year of the study, including field-based training, training workshop 2 and mentorship of DWS interns through secondment.
4	P WMA 09/E10/00/0417/4	Water Requirements Assessment Provides an analysis of the existing water use and current water allocations in the study area, and addresses ecological water requirements, water use for irrigated agriculture and projections for future use, current domestic and industrial water use and projections for future use, water use for hydropower and water losses in the water supply system.
5	P WMA 09/E10/00/0417/5	Distribution of Additional Available Water Confirms the volume of additional water available for development, after water has been reserved for the current water uses, as well as making recommendations on how the additional yield should be distributed among water use sectors and water users.
6		Existing Infrastructure and Current Agricultural Development Sub-Report Provides an overview of the extent and general condition of the current bulk water storage and conveyance infrastructure. This report also provides an overview of the locality and extent of the existing agricultural areas determined by reviewing Geographic Information System (GIS) data obtained from various sources.
7	P WMA 09/E10/00/0417/6	Existing Conveyance Infrastructure and Irrigated Land An update of the Sub-Report, providing a refinement of the current agricultural water requirements following evaluation of the current crop types, an assessment of the desirability of diverting releases for downstream irrigators via the Clanwilliam Canal and Jan Dissels River, to meet the summer ecological flows in the lower Jan Dissels River, and presents an Implementation Action Plan with costs.

Report Index	Report Number	Report Title and Description of Content
8		Suitable Agricultural Areas and Land Ownership Sub-Report Description of the collection of information and the preparation undertaken for the analysis of options, which includes a summary of existing irrigated areas and water use, cadastral information, land ownership, environmental sensitivity, soils suitability, water quality considerations and constraints, and the initiation of the process to identify additional areas suitable for irrigation.
9		Evaluation of Development Options Sub-Report Describes the salient features, costs and impacts of identified potential irrigation development options for new irrigation development in the lower Olifants River. This provides the background and an introduction to the discussions at the Options Screening Workshop held in December 2018.
10	P WMA 09/E10/00/0417/10	Suitable Areas for Agricultural Development Describes the supporting information, process followed and the salient features, costs and impacts of identified potential irrigation development options for new irrigation development in the lower Olifants River. Recommends the preferred options to be evaluated at feasibility level.
11		Right Bank Canal Feasibility Design Sub-Report Describes the Design Criteria Memorandum, based on best practice in engineering and complying with recognised codes and standards. Description of route alignments and salient features of the new Right Bank canal. Feasibility-level design of bulk infrastructure, including evaluation of capacities, hydraulic conditions, canal design, surface flow considerations, canal structures, power supply and access roads. Operational considerations and recommendations.
12		Conceptual Design Sub-Report Describes the scheme layouts at a conceptual level and infrastructure components to be designed, alternatives to consider or sub-options, and affected land and infrastructure, as well as the updated recommended schemes for new irrigation development.
13		Environmental Screening Sub-Report Describes and illustrates the opportunities and constraints, and potential ecological risks/impacts and recommendations for the short-listed bulk infrastructure development options at reconnaissance level. Describes relevant legislation that applies to the proposed irrigation developments.
14		Jan Dissels and Ebenhaeser Schemes Feasibility Design Sub-Report Describes the Design Criteria Memorandum, based on best practice in engineering and complying with recognised codes and standards. Description of route alignments and salient features of the Jan Dissels and Ebenhaeser schemes. Feasibility-level design of bulk infrastructure, including evaluation of capacities, hydraulic conditions, intake structures, balancing dams and reservoirs, rising mains and gravity pipelines and trunk mains where relevant, power supply and access roads. Operational considerations and recommendations.

Report Index	Report Number	Report Title and Description of Content
15	P WMA 09/E10/00/0417/13	Feasibility Design Description of the approach to and design of selected bulk infrastructure at feasibility level, with supporting plans and implementation recommendations.
16	P WMA 09/E10/00/0417/7	Topographical Surveys Describes the contour surveys for the proposed identified bulk infrastructure conveyance routes and development areas, the surveying approach, inputs and accuracy, as well as providing the survey information.
17	P WMA 09/E10/00/0417/8	Geotechnical Investigations Presents the findings of geotechnical investigations of the various identified sites, as well as the approach followed, field investigations and testing, laboratory testing, interpretation of findings and geotechnical recommendations.
18	P WMA 09/E10/00/0417/9	Soil Survey Describes the soil types, soil suitability and amelioration measures of the additional area covering about 10 300 ha of land lying between 60 to 100 m above river level, between the upper inundation of the raised Clanwilliam Dam and Klawer.
19		Financial Viability of Irrigation Farming Sub-Report Describes the findings of an evaluation of the financial viability of pre-identified crop-mixes, within study sub-regions, and advises on the desirability of specific crops to be grown in these sub-regions. It includes an evaluation of the financial viability of existing irrigation farming or expanding irrigation farming, as well as the identification of factors that may be obstructive for new entrants from historically disadvantaged communities.
20	P WMA 09/E10/00/0417/11	Agricultural Production and Farm Development This report will focus on policy, institutional arrangements, available legal and administrative mechanisms as well as the proposed classes of water users and the needs of each. This would include identifying opportunities for emerging farmers, including grant and other types of Government and private support, and a recommendation on the various options and opportunities that exist to ensure that land reform and water allocation reform will take place through the project implementation.
21		Right Bank Canal Cost Analysis Sub-Report Provides an economic modelling approach to quantify the risk of the failure of the existing main canal and the determination of the economic viability of the construction of the new right bank canal to reduce the risk of water supply failure.
22		Socio-Economic Impact Analysis Sub-Report Describes the socio-economic impact analysis undertaken for the implementation of the new irrigation development schemes, for both the construction and operational phases. This includes a description of the social and economic contributions, the return on capital investment, as well as the findings of a fiscal impact analysis.

Report Index	Report Number	Report Title and Description of Content
23	P WMA 09/E10/00/0417/12	Socio-Economic Impact Analysis Synthesis of agricultural economic and socio-economic analyses undertaken, providing an integrated description of agricultural production and farm development and socio-economic impact analysis, as well as the analysis of the right bank canal costs and benefits.
24	P WMA 09/E10/00/0417/14	Record of Implementation Decisions Describes the scope of the project, the specific configuration of the schemes to be implemented, the required implementation timelines, required institutional arrangements and the required environmental and other approval requirements and mitigation measures, to ensure that the project is ready for implementation.
25	P WMA 09/E10/00/0417/1	Main Report Provides a synthesis of approaches, results and findings from the supporting study tasks and interpretation thereof, culminating in the study recommendations. Provides information in support of the project funding motivation to be provided to National Treasury.
26	P WMA 09/E10/00/0417/15	Historically Disadvantaged Farmers Report Describes the activities undertaken by an independent consultant to evaluate existing HDI Farmers policies and legislative context, identify, map and analyse prospective HDI farmers and potential land for new irrigation, as well as propose a mechanism for the identification and screening of HDI farmers.

Executive Summary

Introduction

In this report, the financial viability of various pre-identified crops within certain sub-regions of the study area was investigated, to form an opinion on the desirability of specific crops to be developed in these regions.

Methodology

Chapter 2 of this report outlines the methodology followed, including important assumptions. The study area was divided into three zones. Zone 1 covers the Citrusdal area above the Clanwilliam Dam wall, Zone 2 covers the Clanwilliam area below the dam wall to the Bulshoek Weir and Zone 3 covers the area from the Bulshoek Weir to the sea (including Trawal, Klawer, Vredendal, Lutzville and Ebenhaeser). There are three water user associations (WUAs) in the study area, which overlap with the zones to a large extent.

Suitable crops were chosen based on adaptability to climate and soil conditions, market potential, as well as crops that are already grown at scale in the study area.

Please see a summary in **Table E1**.

Table E1 | Identified Irrigation Areas and Suitable Crops

Zone	Location	Suitable Crops
1	Citrusdal	• Citrus (oranges & soft citrus)
2	From Clanwilliam Dam wall to Bulshoek Weir (incl. Clanwilliam and Jan Dissels River)	• Citrus (oranges & soft citrus) • Table Grapes • Potatoes / wheat in rotation
3	From Bulshoek Weir to Ebenhaeser (Trawal, Zypherfontein, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	• Table grapes – Trawal • Table grapes - Vredendal • Raisins • Wine grapes • Tomatoes / brassica seed in rotation

Inputs to Farming Models in the Study Area

The assumptions used in the financial models were gathered from industry study groups, local farmers, industry bodies and industry representatives. All assumptions were based on constant 2016/17 season values.

Farming Models and Cost of Water

Chapter 5 provides summary data and the main discussion on the various farming models investigated. The following measures were investigated:

- Profitability: Measured in Internal Rate of Return (IRR), Net Present Value (NPV), Gross Profit Margin and Earnings Before Tax (EBT);
- Affordability: The impact of different own-to-loaned capital ratios on the break-even year of the expected cash flow from farming is illustrated to indicate affordability; and
- Efficiency: The annual net financial benefit that is realised from irrigation farming per m^3 of water used per year and the ratio of job creation per 1000 m^3 of irrigation water consumed.

Further to the above, the financial feasibility of the following models was evaluated:

- Existing irrigation farming;
- Expansion of existing irrigation farming;
- New black-owned farms; and
- Small-scale commercial farm in Ebenhaeser.

The findings are presented in **Table E2** to **Table E5** below.

Table E2 | Financial Viability of Existing Irrigation Farming

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus	90	11 380	28.1%	671 459	3.9	6	6	6	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (including Jan Dissels River)	Citrus	90	12 250	31.4%	690 993	3.7	6	6	6	0.09
	Table grapes	50	9 000	30.7%	780 266	5.7	6	6	6	0.33
	Potatoes & wheat[1]	70	4 997	1.1%	(198 530)	(2.6)	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes (Trawal)[2]	50	13 580	29.9%	758 754	3.7	6	6	7	0.22
	Table grapes (Vredendal)[2]	50	13 037	33.9%	593 141	3.0	5	5	6	0.23
	Raisins[3]	64	9 106	8.5%	23 631	0.2	14	>14	>14	0.02
	Wine grapes[4]	64	9 106	0.2%	(180 749)	(1.3)	>14	>14	>14	0.02
	Tomatoes & Brassica seed[5]	55	6 930	-0.7%	(114 235)	(1.1)	>14	>14	>14	0.13

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at the real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs
- The estimated market value of existing farms is taken into consideration in calculating the returns with an exit value based on the aforementioned, plus capex less depreciation
- [1]The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land) allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [2]The Table grape harvest is 7-10 days later at Vredendal than Trawal and DIP price assumption therefore R7.5 per carton lower but farm market value is lower at Vredendal countering the impact on IRR
- [3]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 74%
- [4]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to 5.1%
- [5]The average indicated tomato yield of 90 tons per ha was used. However top growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 32%
- [5]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

Table E3 | Financial Viability of the Expansion of Existing Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus Clanwilliam	20	12 250	13.1%	631 385	3.39	9	10	10	0.09
	Table grapes	20	9 000	17.3%	744 835	5.44	8	8	9	0.33
	Potatoes/wheat[1]	20	4 997	13.8%	70 179	0.92	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes (Trawal)	20	13 580	17.2%	730 791	3.54	8	8	9	0.22
	Table grapes (Vredendal)	20	13 037	14.6%	512 476	2.58	9	9	10	0.23
	Raisins[2]	20	9 106	5.1%	(87 088)	(0.63)	>14	>14	>14	0.02
	Wine grapes[3]	20	9 106	1.6%	(212 536)	(1.53)	>14	>14	>14	0.02
	Tomatoes/brassica seed[4]	20	6 930	9.0%	27 930	0.26	>14	>14	>14	0.15

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs at full production
- In calculating the return on the expansion, only the additional income and expenditure (capital, fixed and variable) related to the expansion has been taken into consideration. The increase in land value based on the change from dry land to irrigable based on the issue of additional water rights has also been factored in
- Expansion of Citrus farms in Citrusdal has not been included as this would require the construction of an additional farm dam, which will significantly impact viability of the expansion
- [1]The expansion of the potato/wheat farm is based on the addition of one 20ha centre pivot with a 1 year in 3 rotation on potatoes and 1 in 4 on wheat
- [2]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 19.1%
- [3]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to 4.1%
- [4]The tomato and brassica model is based on 20ha's of tomatoes planted in summer and 2ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

Table E4 | Financial Viability of New Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus[1]	90	11 380	2.4%	(109 585)	(0.63)	14	14	>14	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus[1]	90	12 250	4.6%	20 568	0.11	13	14	14	0.09
	Table grapes	50	9 000	8.7%	169 295	1.24	13	14	>14	0.33
	Potatoes/wheat[2]	70	4 997	1.0%	(222 043)	(2.92)	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser))	Table grapes (Trawal)[3]	50	13 580	8.5%	155 250	0.75	13	14	>14	0.22
	Table grapes (Vredendal)[3]	50	13 037	6.3%	(49 565)	(0.25)	13	14	>14	0.23
	Raisins[4]	64	9 106	1.2%	(298 646)	(2.16)	>14	>14	>14	0.02
	Wine grapes[5]	64	9 106	-2.3%	(446 670)	(3.22)	>14	>14	>14	0.02
	Tomatoes & brassica seed[6]	55	6 930	-0.3%	(238 717)	(2.26)	>14	>14	>14	0.13

Notes:

- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs
- In calculating the IRR, the current estimated land value for undeveloped irrigable land together with all necessary capital expenditure to develop and equip the farms have been taken into account. An exit value has also been calculated in year 15 based on the total capital expenditure to that point, less depreciation
- It is assumed that new citrus plantings take place over three years and new table and wine grape plantings over 2 years
- [1]A new Citrusdal farm will require construction of a dam whereas it is assumed a farm in Clanwilliam will irrigate directly from the river or canal
- [2] The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land), allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [3]The Table grape harvest is 7-10 days later at Vredendal than Trawal and DIP price assumption therefore R7.5 per carton lower but farm market value is lower at Vredendal countering the impact on IRR
- [4]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 14%
- [5]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20%, which would raise the IRR of wine grapes to -0.01%
- [6]The average indicated tomato yield of 90 tons per ha was used. However better growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 14%
- [6]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

Table E5 | Financial Viability of New Black-Owned Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Reall IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus	90	11 380	6.1%	90 415	0.52	12	12	13	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus	90	12 250	8.0%	170 568	0.92	11	11	12	0.09
	Table grapes	50	9 000	10.2%	281 312	2.1	12	12	13	0.33
	Potatoes & wheat[1]	70	4 997	1.7%	(108 959)	(1.4)	>14	>14	>14	0.02
Zone 3 - Bulshoek Wier to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes	50	13 580	9.9%	259 800	1.26	12	12	13	0.22
	Raisins[2]	64	9 106	1.5%	(209 032)	(1.5)	>14	>14	>14	0.02
	Wine grapes[3]	64	9 106	-3.0%	(357 056)	(2.6)	>14	>14	>14	0.02
	Tomatoes & brassica seed[4]	55	6 930	-0.5%	(149 103)	(1.4)	>14	>14	>14	0.13

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs at full production
- It is assumed that new Citrus palntings take place over three years and table and wine grapes over two years
- It is assumed that government land is granted to the growers
- [1]The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land) allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [2]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 17%
- [3]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to -0.2%
- [4]The average indicated tomato yield of 90 tons per ha was used. However top growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 24%
- [4]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

Findings – Financial Viability of Irrigation Farming

In general, the development of new irrigation farms seems to be problematic from a financial viability viewpoint. Given the reality of relatively profitable existing farming operations in the various regions of the study area, the major contributing factor to lower profit margins seem to be the expected relatively high capital cost of the development of new farms and the time taken for new plantings to come into full production.

It is therefore important to note that the expansion of existing irrigation farms will in general be financially more viable than the development of new irrigation farms, should more irrigation water become available from the raised Clanwilliam Dam (applies to areas where there is adequate bulk conveyance infrastructure to increase the water supply to farmers). The main reasons for this are the cost effectiveness of the improved utilisation of infrastructure on existing farms relative to the costly nature of the development of new farms. For expansion of existing farms, citrus and table grapes appear to be profitable, followed by the other crops under certain circumstances.

Economic Empowerment of Previously Disadvantaged Individuals

This financial viability study also investigated whether agricultural production could be profitable for smallholder and commercial water users.

From a commercial perspective, the large-scale production of citrus and table grapes by previously disadvantaged individuals on new farms could be profitable in the study area, if land is provided at no cost. A possibility exists to develop areas like the Jan Dissels River and Zypherfontein to produce these crops at scale. Raisins, tomatoes and wheat could also be profitable, if high yields are produced.

From a smallholder farming perspective, it was found that a 6ha agricultural unit in Ebenhaezer could potentially provide the farmer with an income of over R8 000 per month, if irrigation infrastructure and implements are covered by grants and the growers possess the inputs, skills and expertise to produce commercial-grade yields. This finding could also be extrapolated to other areas that may be able to receive new water use allocations, e.g. municipal commonage schemes or other peri-urban or subsistence farming operations.

A more detailed discussion of factors influencing the beneficial use of water by previously disadvantaged individuals in the study area will also follow in the Agricultural Production and Farm Development Report of this study.

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Acronyms

DAFF	Department of Agriculture, Fisheries and Forestry
DCGTA	Provincial Department of Cooperative Governance and Traditional Affairs
DCM	Design Criteria Memorandum
DEA&DP	Provincial Department of Environment Affairs and Development Planning and Tourism
DHS	Department of Human Settlements
DLARD	Department of Land Affairs and Rural Development
DoA	Department of Agriculture (National)
DRDLR	Provincial Department of Rural Development and Land Reform
DWS	Department of Water and Sanitation
EBT	Earnings Before Tax
EWR	Ecological water requirements
FTE	Full-Time Equivalent employment opportunity
GDP	Gross Domestic Product
GIS	Geographical information system
IRR	Internal Rate of Return
LORGWS	Lower Olifants River Government Water Scheme
LORWUA	Lower Olifants River Water User Association
MAR	Mean annual runoff
NAFU	National African Farmer's Union
NPV	Net Present Value
PMC	Project Management Committee
PSP	Professional Service Provider
RPF	Resource Poor Farmer
PSC	Project Steering Committee
PSP	Professional Service Provider
SALGA	South African Local Government Association
SAM	Social Accounting Matrix
URV	Unit Reference Value
VAT	Value added tax
WCDoA	Western Cape Department of Agriculture (Provincial)
WUA	Water User Association

Definition of Terms

Gross Margin	A farm or crop's total sales revenue minus its variable cost of production expressed as a percentage of sales revenue. It provides a means of comparing the relative profitability of different crops.
Constant 2016/17 values	Assumptions based on 2016/17 production season statistics with no inflationary increase included for subsequent years in the budget
Real Internal Rate of Return (Real IRR)	The internal rate of return (IRR) is a method of calculating rate of return. The terms real and internal refers to the fact that its calculation does not involve external factors, such as inflation or the cost of capital
Pack-out	The portion of the total harvest packed into a given grade or class expressed as a percentage (i.e. export pack-out or Class 1 pack-out)
Fixed Assets	Assets which are purchased for long-term use and are not likely to be converted quickly into cash, such as land, buildings, and equipment
Net Present Value (NPV)	NPV is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. NPV is used in capital budgeting to analyse the profitability of a projected investment or project

1 Introduction

1.1 Background

The Clanwilliam Dam is situated on the Olifants River near the town of Clanwilliam in the Berg/Olifants River Catchment Management Area in the Western Cape. The dam requires remedial work for dam safety reasons, which offers the opportunity to increase the yield at the same time by raising the dam and enlarging the storage capacity. Water use in the region is predominantly for irrigated agriculture.

A feasibility study was completed in 2008, which concluded that the raising of Clanwilliam Dam and further associated agricultural development is economically viable and socially desirable. The feasibility study recommended the raising of the full supply level of the existing Clanwilliam Dam by 13 m, to augment the water supply to the existing scheduled irrigation area, towns and industrial areas, as well as to provide additional water for new irrigation areas to establish previously disadvantaged subsistence, smallholder and commercial farmers.

1.2 Study Objective

The objective of this Bridging Study is to provide recommendations on the bulk conveyance infrastructure (new developments / upgrading / rehabilitation) required for the equitable distribution of the existing and additional water from the raised Clanwilliam Dam, after investigation of:

- the existing water allocation and projections for the supply area;
- new areas for agricultural development;
- options for the required conveyance infrastructure; and
    - appropriate farming models and cost of irrigation water.

The Bridging Study builds on the work done on the conveyance system and proposed irrigation development during the feasibility study, and other studies mentioned. There is a need to liaise closely with other role players and stakeholders to ensure that the recommendations for the proposed bulk infrastructure provide an acceptable and economically viable solution.

1.3 Purpose and Structure of this Report

This report forms part of Task 8: Farming Model and Cost of Water. Task 8 will build on work that has been done in the previous feasibility study, incorporating new inputs and revising existing work, in order to identify and evaluate various opportunities for irrigation development resulting from the raising of the Clanwilliam Dam. In this report, we will evaluate the financial viability of

various pre-identified crops within certain sub-regions of the study area, to form an opinion on the desirability of specific crops to be developed in these regions.

Specific objectives are the following:

- an evaluation of the financial viability of existing irrigation farming in the relevant farming regions,
- an evaluation of the financial viability to expand irrigation farming (i.e. the expansion of existing farms and/or the creation of new farms) in the relevant farming areas, and
- an identification of factors that may be obstructive for new entrants from previously disadvantaged communities.

During the feasibility study for the raising of the Clanwilliam Dam, a comprehensive financial viability study was performed. The report titled *Financial Viability of Irrigation Farming* sets out in detail the proposed crops, farming models and profitability thereof within the study area (DWAF, 2007). This current report will revise and update the information provided in the 2007 study, based on 2016/2017 market data, stakeholder engagements and current conditions within the greater agricultural market system.

Chapter 2 of this report outlines the methodology followed, including important assumptions. Chapter 3 outlines the inputs to the farming models developed, including capital costs, infrastructure costs, cropping assumptions and marketing considerations. Chapter 4 provides more detail on the cost of water in respect of the WUAs within the study area. Chapter 5 provides summary data and the main discussion on the various farming models investigated, while Chapter 6 discusses important considerations for the economic empowerment of previously disadvantaged individuals based on the study findings.

2 Methodology

2.1 Description of the Study Area

The study area mainly comprises the Clanwilliam Dam supply area, which is within the Cederberg and Matzikama Local Municipalities, and includes the towns of Clanwilliam, Trawal, Klawer, Vredendal and Lutzville. The study area may potentially include portions of the Olifants River valley upstream of Clanwilliam Dam. Some activities may even extend the study area to the larger catchment area, such as the Jan Dissels River and Jackals River.

For the purposes of this Financial Viability of Irrigation Farming Sub-Report, the study area was divided into three zones. **Figure 2.1** (overleaf) shows a map of the larger Berg- Olifants Catchment Area and outlines the respective Zones. The geographical areas were chosen based on the recommendations in the existing feasibility study for raising of the Clanwilliam Dam. Zone 1 covers the Citrusdal area above the dam wall, Zone 2 covers the Clanwilliam area downstream of the dam wall to the Bulshoek Weir, and Zone 3 covers the area from the Bulshoek Weir to the sea (including Trawal, Klawer, Vredendal, Lutzville and Ebenhaeser). There are three water user associations (WUAs) in the study area, which overlap with the zones to a large extent as follows, Zone 1 – Citrusdal WUA, Zone 2 – Clanwilliam WUA and Zone 3 – Lower Olifants River WUA (LORWUA). Refer to Figure 2.2 for a map showing the WUA areas of operation.

The mentioned farming areas are relatively homogeneous from the viewpoint of soil and climatic characteristics, and thus, by implication, production possibilities.

The Citrusdal region (Zone 1) is upstream of the Clanwilliam Dam and thus leads to a different strategy as far as the development of irrigation water sources is concerned. Existing farms are mainly irrigated directly from the Olifants River, while a portion of the irrigation water requirements for the peak irrigation period is stored in private dams. The raising of the dam wall will therefore not directly lead to an increase in available water in this zone and expansion in this zone will generally require construction of additional private off-line dams, which will reduce run-off into the Clanwilliam Dam. Consequently, less focus was placed on this zone in this report.

Figure 2.1 | Study Area Zones and Municipalities of the Berg/Olifants WMA

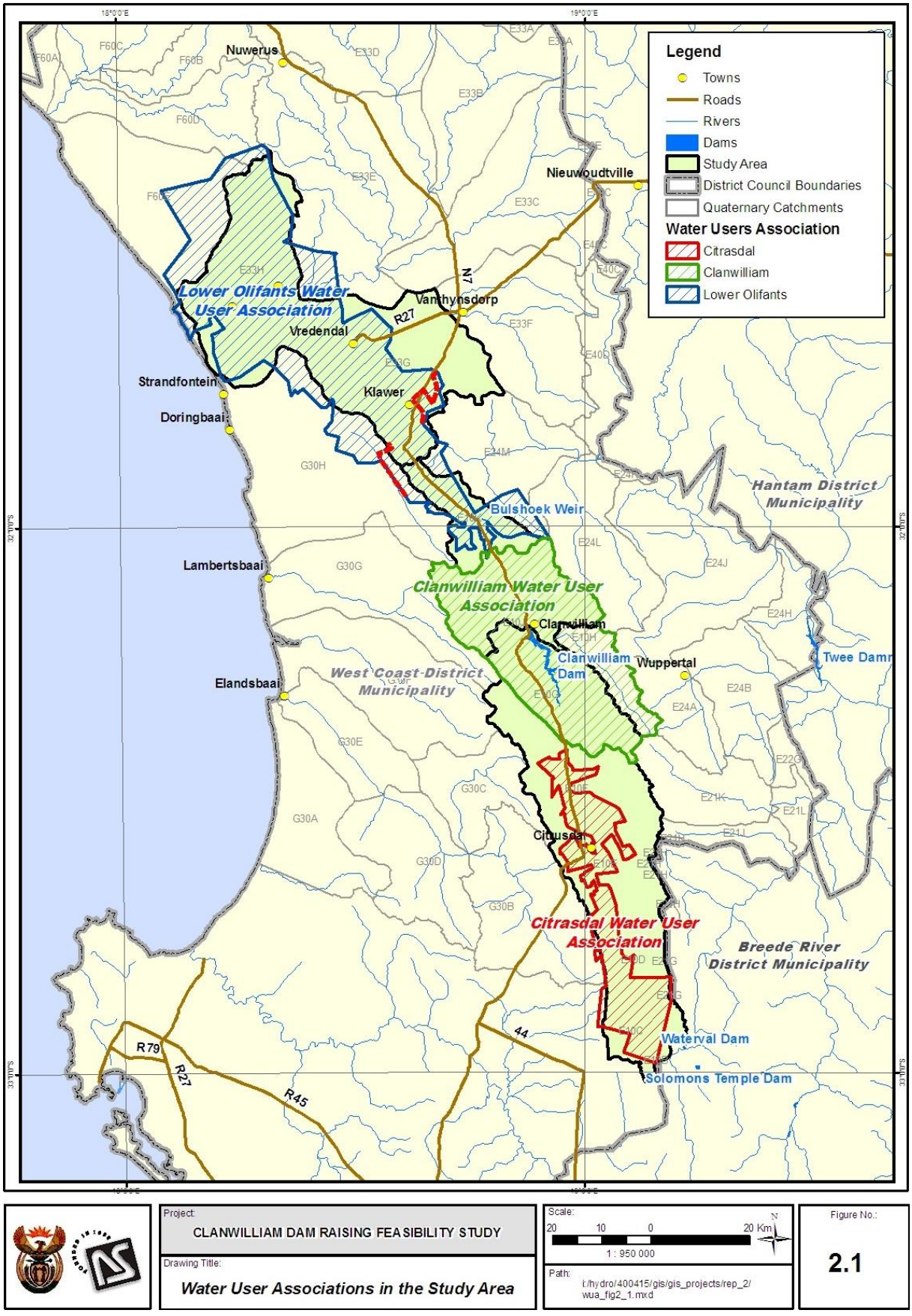

Figure 2.2 | WUAs in the Study Area

Climate, soil suitability and market potential are the most critical factors that will determine the potential expansion of sustainable, economically viable irrigation in the Olifants River Basin. It was found in the *Irrigation Development & Water Distribution Options* report of DWAF (2007) that, due to the advanced farming technology and management skills that exist in the intensely developed sections of the basin, most of the inherent soil limitations do not pose any serious constraints on irrigation development (DWAF, 2007).

Complete, updated information on crops currently planted in all the zones of the study area were not available at the time of writing this report. Information was however provided by LORWUA, which is the biggest water user and currently has scheduled water use authorisations issued totalling 9 510 ha. This provides a good representation of the crops planted in Zone 3 of the study area at present. Please see **Table 2.1**.

Table 2.1 | Types of Crops Planted in the LORWUA Area (2017)

Crop		Hectares
Grapes	Table grapes	713
	Wine	8 610
	Raisins	832
Tomatoes	Tunnels	20
	Factory	350
	Market	166
Vegetables	Under cover	70
	Open	615
Seed		105
Peaches		50
Pecan nuts		50
Other		920
TOTAL		**12 501**

Source: LORWUA

Although no detailed information was available for the Clanwilliam WUA (Zone 2), it is known that Clanwilliam WUA has 1 640 ha of scheduled water use authorisations issued (excluding the Jan Dissels River, Rondegat and outlying areas). According to the Clanwilliam WUA chairman, the main crops grown in the Clanwilliam area are citrus, potatoes and table grapes. The main crop grown in the Citrusdal area, which comprises Zone 1 of the study area, is citrus.

Water use authorisations in both the LORWUA and Clanwilliam WUA are allocated based on a quota of 12 200 m^3/ha per annum. It should be noted that with modern, more efficient irrigation techniques, such as micro-jet and drip irrigation, in many cases more than one hectare could be irrigated with a quota of 12 200 m^3/ha.

In Zone 3, there is a notable difference in water quality below the confluence of the Doring and Olifants Rivers (at Trawal). The water quality of the Doring River is low due to high salinity, particularly during the summer months. This in turn increases the salinity in the Olifants River

downstream from the confluence. During the winter months (June to September) the salt levels in the Doring River are lower and the water quality is satisfactory for irrigation use.

However, the majority of the cropping takes place in summer, in which case the river water below the confluence either needs to be blended with higher quality canal water in farm holding dams and/or irrigation practices can be adapted to leach salts. This may influence on-farm capital costs, as additional infrastructure might be needed (e.g. balancing dams to be used as "mixing dams").

Further to the above, it should be noted that the canal below the Bulshoek Weir is already operating at maximum capacity during the peak summer months (based on current water scheduling, aside from quota limitations when there is insufficient water in the dam). Considering this, despite increased water availability resulting from the raising of the dam wall, no further water could be released through the canal below Bulshoek Weir during the summer and any additional water could only be accessed directly from the river, or from alternate potential conveyance infrastructure.

2.2 Selection of Crops and Farm Sizes

2.2.1 Selection of Crops

Commercial agriculture is a highly competitive business, with South African farmers competing both nationally and internationally. Consequently, the reality is that most crops are not financially viable when mediocre yield and/or quality is produced. In selecting crops, it is not only a case of selecting crops which can be grown in the respective zones in the study area, but also to select the crops that are very well adapted to the conditions, enabling top yields and quality to be produced. This will provide the growers with a competitive advantage not only within South Africa, but also relative to international competitors in export markets.

The criteria used for selecting crops to evaluate within this study were as follows:

- Crops which are well suited to the climate and soils enabling high yields and good quality to be produced; and
- Crops which are tried and tested in the area and already grown on a large scale commercially. Crops grown on a smaller scale with limited economic contribution to the region were therefore not selected.

Based on the above criteria the following crops were selected for this study;

- Table grapes;
- Citrus;
- Raisins;
- Wine grapes;
- Tomatoes with brassica seed in rotation; and
- Potatoes with wheat in rotation.

The financial analysis of the above crops was done per zone as relevant, based on the main crops currently grown in the respective zones. Please refer to Table 2.2 for more detail.

Table 2.2 | Identified Irrigation Zones and Suitable Crops

Zone	Location	Suitable Crops
1	Citrusdal	• Citrus (oranges & soft citrus)
2	From Clanwilliam Dam Wall to Bulshoek Weir (including Jan Dissels River)	• Citrus (oranges & soft citrus) • Table Grapes • Potatoes / wheat in rotation
3	From Bulshoek Weir to Ebenhaeser (Trawal, Zypherfontein, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	• Table grapes – Trawal • Table grapes - Vredendal • Raisins • Wine grapes • Tomatoes / brassica seed in rotation

Contrary to the approach taken in the Clanwilliam Dam Raising Feasibility study, mixed farms were not evaluated in this study, except where relevant from a crop rotation point of view in the case of annual crops. This approach was taken to enable each crop to be evaluated on the basis of its own merits in isolation.

With respect to citrus, a mixture of oranges and soft citrus was evaluated within this study, as the area can produce competitive yields in these crops. Although Lemons will grow in this area, the Eastern Cape Province is able to produce significantly higher yields, giving them a competitive advantage. Based on current indications, the South African lemon volumes are set to double in the coming years, putting the market under pressure.

Prior to selecting the crops to be evaluated in this study, a broader list of potential crops was investigated. These crops will be discussed to provide context as to the process that was followed leading up to the selection of crops and the general agricultural trends in the area. This information could also be used in the adjudication of water use licence authorisation applications.

For further information on potential crops covered in the feasibility study for the Clanwilliam Dam raising, refer to the *Soils, Water Requirements and Crops Report* (DWAF, 2007) and the

WODRIS study (PGWC, 2001). Please see a discussion on the list of alternative crops in Table 2.3.

Table 2.3 | List of Alternative Crops to be Grown in the Study Area

Crop	Description
Onions	Can be produced along the Olifants River from Keerom to the Coast. Most is produced for the local fresh market.
Watermelons and Canteloupes	Commonly planted in the warmer areas along the river from the middle to the end of August to be marketed from the end of November to New Year on the large produce markets. A number of producers also export suitable cantaloupe varieties.
Pumpkins, Squash and Cucumbers	Because these crops are easy to produce, local markets are easily saturated, leading to very low prices.
Sweet potatoes	Can be produced all along the Olifants River. To realise better prices on local markets harvest dates are planned for "out of season" periods. To achieve this, sweet potatoes are planted to mature during summer. The tubers are left in the soil to supply the markets during the following early summer. For this practice sandy, non-wet soils are used and the dry climate conditions in the Klawer-Lutzville areas are especially suitable to prevent rotting of the tubers. Sweet potatoes are also exported.
Garlic, Beetroot, Rhubarb and Eggplant	These crops are climatically well adapted to the area, but seldom planted.
Avocadoes	Have been grown on a small scale in Vredendal for over 30 years. Commercial planting, however, is not very successful due to wind, heat stress and diseases. Avocados prefer cooler, moderate winter and summer temperatures. The most suitable areas for avocados in the basin appear to be the cooler coastal areas and high lying upper slopes.
Mangoes	Have been tested to a limited extent in the study area. The main limiting factors appear to be wind and lime rich/saline soils. The warm, dry summer conditions in the Northern areas of the study area promote disease-free tree and fruit; especially bacterial black spot. Mangoes could be sold on the local market or used for processing.
Papayas	Papayas are affected by low temperatures, and therefore only certain cultivars could work in the study area. The best suited area along the Olifants River for cold resistant selections is the Trawal area with the warmest winters. In this area, however, papayas would require wind protection.
Persimmons	Persimmons could be grown in the study area. The problem with persimmons is that the best cultivars are protected and can only be planted under contract with the registered owner of the protected cultivar. With the limited production, the profitability of these persimmons is very high.
Granadillas	Certain cultivars could be planted in the study area, and during periods of low prices the fruit is used to make juice.

Crop	Description
Figs	Well adapted to the climatic conditions all along the Olifants River. Fresh figs are also a niche market product and can be used for drying or for green or ripe fig jam.
Guavas	Although ripening is affected by the differences in climatic conditions from Keerom to the coast, it bears well throughout the study area. The biggest problem with guavas, however, is available markets (that will largely determine price and profitability).
Carrots	Occasionally produced under centre pivot in the Clanwilliam district for fruit juice factories at Ceres.
Cauliflower	Seldom planted for the open market.
Pecan nuts	Well adapted all along the Olifants River. It does especially well on the valley floor and tributaries. Pecan nuts have a deep, strongly developed tap-root system and can make use of deep soil water. Improved cultivars can produce large crops.

2.3 Selection of Farm Sizes

For the financial viability evaluation, the average existing farm sizes for the respective study groups were used as follows:

- Citrus: 90 ha;
- Table grapes: 50 ha; and
- Wine grapes: 64 ha.

Where no accurate information was available, indications of viable farm size units from discussions with growers or industry representatives was used and in the case of raisins, the same farm size as wine grapes was used to enable a like-for-like comparison. These viable farm sizes are as follows:

- Raisins: 64 ha;
- Potatoes: 90 ha farm (30 ha potatoes with a 1 year in 3 rotation and 40 ha wheat with a 1 year in 2 rotation);
- Tomatoes: 50 ha (summer) with 5 ha brassica seed (winter).

2.4 Research Approach and Assumptions

2.4.1 Research Approach

The focus of this Financial Viability of Irrigation Farming Sub-Report is two-fold:

- Investigate the feasibility of commercial irrigation farming as a water use: Given that the raising of Clanwilliam Dam and concomitant bulk infrastructure expansions would be a very costly exercise, financially profitable enterprises should make use of the water. The Department of Water and Sanitation will pay for the capital costs of expansion but would recover the bulk of these costs from the water users in line with the user-pay principle (NWRS2, 2013). It is therefore important that financially profitable, effective and efficient enterprises should make beneficial use of the additional water;
- Investigate the feasibility of water uses for previously disadvantaged subsistence, smallholder and commercial producers: Although financially viable enterprises are needed to make beneficial use of the water, there is an important responsibility on the Department of Water and Sanitation to ensure equitable water access and water allocation reform (NWRS1, 2005 and NWRS2, 2013). To assist achieving these outcomes, water should be allocated to previously disadvantaged irrigation farmers and water users. These individuals typically have smaller farms and do not grow the same capital-intensive crops as commercial farmers do. It is therefore important to investigate the financial viability and

capability of smaller agricultural units to improve the livelihoods of previously disadvantaged individuals.

Both of the above groups should be allowed to flourish for the socio-economic benefits of the scheme to realise.

2.4.2 Key Explanatory Notes and Assumptions

Please see below a list of important explanatory notes and assumptions relevant to the financial models developed to evaluate the profitability of the various crops and scenarios:

- Typical present farming situations were simulated to evaluate the financial viability of the present state of irrigation farming in the different regions, following which the models were adapted to establish the potential viability of the expansion of existing farms or the establishment of new farms, should more irrigation water become available;
- Data was gathered from the respective industry study groups (citrus, table grapes, wine grapes and raisins) and where industries did not have study groups, data was gathered from individual farmers, industry representatives and industry bodies;
- All calculations were done at constant 2016/2017 price levels;
- The data gathered was used to compile 15-year cashflow models. Results from the models were used to evaluate the crops based on the following criteria: profitability, affordability and efficiency. At the end of the 15-year period in the cash flow model, an exit value was used based on the estimated asset value of the farms. This provided more consisted results *vis-à-vis* the free cash flow method;
- Please note that gross margins between crops cannot be compared on a like-for-like basis, as there were differing approaches in raw data received with respect to the division of fixed and variable expenses between crops;
- The weighted average yields, packed volumes and sales prices of existing cultivars were used;
- Crop water use information data was used from the *Soils, Water Requirements and Crops Report* of the previous feasibility study conducted in 2007 (DWAF, 2007). No figures were available from the previous study for wheat and brassica seed. The water use requirements for these crops were therefore based on generic figures for the respective crops, less the average seasonal rainfall in the respective areas;
- For expansion of existing farming operations, only the variable costs of production will be taken into consideration in the financial analysis, together with any additional on farm capital expenditure and/or overhead expenses directly required because of the expansion; and
- Given that managerial capacity impacts greatly on farming efficiency and viability, it is assumed that the managerial inputs on the typical farms will be optimal.

3 Inputs to Farming Models in the Study Area

3.1 Introduction

The profitability of irrigation farming is mainly influenced by crop establishment costs, yields, prices (market prospects), production costs, overhead costs and the farms' capital structure. In the case of perennial crops, the speed at which new plantings come into full production also plays a significant role in profitability.

In this section the assets, which form part of the underlying assumptions in the respective financial models, is set out together with the water use requirements and the key budget assumptions. Further to this, an overview of the marketing outlook for the selected crops (crops) is provided.

3.2 Expected Capital Structure of Typical Farms

The expected fixed and movable assets of typical farming situations for the establishment of new farms in the different regions of the study area are presented in

to **Table 3.6** (please note that costs on individual farms will differ depending on the specifics needs and circumstances on each farm). These values are based on the full current (2016/2017) value of all assets and the indicative land value of undeveloped land in the respective areas.

When evaluating the profitability of existing farms, the farms were valued, in the financial models, at an indicative market value per hectare provided by farmers in the respective areas, including all fixed and movable assets. The aforementioned value was included in the calculation of the return on investment.

Table 3.1 | Assets - New 90 ha Citrus Farm Zone 2

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	90	150 000	13 500 000
Without water rights	ha	0	5 000	-
Existing Orchards	ha	0	100 000	-
Total				13 500 000
Buildings				
Housing				
Labour (40m^2)		18	180 000	3 240 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Shed (750m^2)		1	2 625 000	2 625 000
Total				9 335 000
Irrigation				
Irrigation infrastructure pumps & pipelines				1 350 000
Existing irrigation in-field	ha	0	35 000	-
Total				1 350 000
Total Fixed Assets				**24 185 000**
Moveable Assets				
Equipment				
Tractors 4x4 orchard cab		4	500 000	2 000 000
Tractors 4x2 utility		4	315 000	1 260 000
Fertiliser spreader		1	42 000	42 000
Spray machines		4	240 000	960 000
Fork lift		1	265 000	265 000
Weed spray machine		4	25 000	100 000
Trailer		1	105 000	105 000
Bin trailers		8	18 000	144 000
LDV		1	250 000	250 000
Truck 8 ton		1	680 000	680 000
Disc		1	36 000	36 000
Ripper		1	25 000	25 000
Plough		1	36 000	36 000
Grader		1	128 000	128 000
Mower		1	40 000	40 000
Motor cycle		2	35 000	70 000
Topper		1	45 000	45 000
Tools and equipment		1	200 000	200 000
Total Moveable Assets				**6 386 000**
Total Capital Investment at Replacement Cost				**30 571 000**
Additoinal Capital Expenditure to Establish plantings		**2 018**	**2019**	**2 020**
Plantings	R100 000 per ha	3 500 000	3 500 000	2 000 000
Irrigation	R35 000 per ha	1 225 000	1 225 000	700 000
Total plantings and irrigation		**4 725 000**	**4 725 000**	**2 700 000**

Table 3.2 | Assets - New 50 ha Table Grape Farm Zone 3 (Trawal)

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	50	140 000	7 000 000
Without water rights	ha		5 000	-
Ochards	ha	0	185 000	-
Dryland	ha	0		-
Total				7 000 000
Buildings				
Housing				
Labour (40m^2) - Avg 1.5 workers per house (husband & wife empl		20	180 000	3 600 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Packhouse		1	3 000 000	3 000 000
Shed (750m^2)		1	2 625 000	2 625 000
Total				12 695 000
Irrigation				
Irrigation infrastructure dam				2 025 000
Irrigation infrastructure pumps & pipelines				957 000
Existing irrigation infrastructure	ha	0	35 000	-
Total				2 982 000
Total Fixed Assets				**22 677 000**
Moveable Assets				
Equipment				
Tractors 4x4 orchard cab		2	500 000	1 000 000
Tractors 4x2 utility		2	315 000	630 000
Fertiliser spreader		1	42 000	42 000
Spray machines		2	240 000	480 000
Suphur spray		1	22 000	22 000
Fork lift		1	265 000	265 000
Weed spray machine		2	25 000	50 000
Trailer		3	35 000	105 000
LDV		1	250 000	250 000
Truck 8 ton		1	680 000	680 000
Disc		1	36 000	36 000
Ripper		1	25 000	25 000
Plough		1	36 000	36 000
Grader		1	128 000	128 000
Mower		1	40 000	40 000
Wood chipper/shredder		1	35 000	35 000
Motor cycle		2	35 000	70 000
Tools and equipment		1	200 000	200 000
Total Moveable Assets				**4 094 000**
Total Capital Investment at Replacement Cost				**26 771 000**
Additional Capex to establish new plantings	Cost R/ha	**2 018**	**2019**	**2 020**
Plantings	185 000	4 625 000	4 625 000	-
Irrigation	35 000	875 000	875 000	-
Total plantings and irrigation		**5 500 000**	**5 500 000**	**-**

Table 3.3 | Assets - New 90 ha Potato Farm Zone 2

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	70	150 000	10 500 000
Without water rights	ha	20	5 000	100 000
Dryland	ha			-
Total		90		10 600 000
Buildings				
Housing				
Labour (40m^2)		5	180 000	900 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Packhouse		0	3 000 000	-
Shed (750m^2)		1	2 625 000	2 625 000
Total				6 995 000
Irrigation				
Existing irrigation infrastructure dam				
Existing irrigation infrastructure pumps & pipelines				2 164 000
Existing irrigation infrastructure	4 tower pivot	4	440 000	1 760 000
Total				3 924 000
Total Fixed Assets				**21 519 000**
Moveable Assets				
Equipment				
Tractors 4x4 60kW (MF290 or similar)		2	500 000	1 000 000
Tractors 4x2 utility (MF240 or similar)		2	315 000	630 000
Fertiliser spreader		1	42 000	42 000
Boom spray		2	32 000	64 000
Weed spray machine		1	25 000	25 000
Potato planter (4 row)		1	206 000	206 000
Potato lifter 1 row		1	1 500 000	1 500 000
Trailer		1	35 000	35 000
Harvest trailer		2	45 000	90 000
LDV		1	250 000	250 000
Hydraulic disc harrow		1	80 000	80 000
Ripper		1	25 000	25 000
Reversable plough		1	45 000	45 000
Potato ridger		1	53 000	53 000
Mower		1	40 000	40 000
Motor cycle		2	35 000	70 000
Tools and equipment		1	150 000	150 000
Total Moveable Assets				**4 305 000**
Total Capital Investment at Replacement Cost				**25 824 000**

Table 3.4 | Assets - New 64 ha Raisin Farm Zone 3 (Vredendal)

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	64	120 000	7 680 000
Without water rights	ha		5 000	-
Vineyards	ha	0	185 000	-
Dryland	ha			-
Total				7 680 000
Buildings				
Housing				
Labour (40m^2)		10	180 000	1 800 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Drying slab		1	125 000	125 000
Shed (750m^2)		1	2 625 000	2 625 000
Total				8 020 000
Irrigation				
Existing irrigation infrastructure dam				
Existing irrigation infrastructure pumps & pipelines				957 000
Existing irrigation infrastructure	ha	0	35 000	-
Total				957 000
Total Fixed Assets				**16 657 000**
Moveable Assets				
Equipment				
Tractors 4x4 orchard cab		2	500 000	1 000 000
Tractors 4x2 utility		2	315 000	630 000
Fertiliser spreader		1	42 000	42 000
Spray machines		2	240 000	480 000
Weed spray machine		1	25 000	25 000
Trailer		1	35 000	35 000
Harvest trailer		2	45 000	90 000
LDV		1	250 000	250 000
Disc		1	36 000	36 000
Ripper		1	25 000	25 000
Plough		1	36 000	36 000
Mower		1	40 000	40 000
Motor cycle		2	35 000	70 000
Tools and equipment		1	150 000	150 000
Total Moveable Assets				**2 909 000**
Total Capital Investment at Replacement Cost				**19 566 000**
Additoinal capex to establish new plantings	Cost R/ha	**2 018**	**2019**	**2 020**
Plantings	185 000	5 920 000	5 920 000	-
Irrigation	40 000	1 280 000	1 280 000	-
Total plantings and irrigation		**7 200 000**	**7 200 000**	**-**

Table 3.5 | Assets- New 64 ha Wine Grape Farm Zone 3 (Vredendal/Lutzville)

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	64	120 000	7 680 000
Without water rights	ha		5 000	-
Vineyards	ha		185 000	-
Dryland	ha			-
Total				7 680 000
Buildings				
Housing				
Labour (40m^2)		10	180 000	1 800 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Shed (750m^2)		1	2 625 000	2 625 000
Total				7 895 000
Irrigation				
Existing irrigation infrastructure dam				
Existing irrigation infrastructure pumps & pipelines				957 000
Existing irrigation infrastructure	ha	0	35 000	-
Total				957 000
Total Fixed Assets				**16 532 000**
Moveable Assets				
Equipment				
Tractors 4x4 orchard cab		2	500 000	1 000 000
Tractors 4x2 utility		2	315 000	630 000
Fertiliser spreader		1	42 000	42 000
Spray machines		2	240 000	480 000
Weed spray machine		1	25 000	25 000
Trailer		1	35 000	35 000
Harvest trailer		2	45 000	90 000
LDV		1	250 000	250 000
Disc		1	36 000	36 000
Ripper		1	25 000	25 000
Plough		1	36 000	36 000
Mower		1	40 000	40 000
Motor cycle		2	35 000	70 000
Tools and equipment		1	150 000	150 000
Total Moveable Assets				**2 909 000**
Total Capital Investment at Replacement Cost				**19 441 000**
Additional capex to establish new plantings	Cost R/ha	**2 018**	**2019**	**2 020**
Plantings	185 000	5 920 000	5 920 000	-
Irrigation	40 000	1 280 000	1 280 000	-
Total plantings and irrigation		**7 200 000**	**7 200 000**	**-**

Table 3.6 | Assets - New 50 ha Tomato Farm Zone 3 (Vredendal/Lutzville)

			Value	
Item	**Units**	**No of Units**	**R/unit**	**R**
Fixed Assets				
Land				
With water rights	ha	50	120 000	6 000 000
Without water rights	ha		5 000	-
Vineyards	ha		185 000	-
Dryland	ha			-
Total				6 000 000
Buildings				
Housing				
Labour (40m^2)		7	180 000	1 260 000
Manager/Owner (200m^2)		1	1 600 000	1 600 000
Assistant manager (80m^2)		2	440 000	880 000
Single quarters (220m^2)		1	990 000	990 000
Shed (750m^2)		1	2 625 000	2 625 000
Total				7 355 000
Irrigation				
Existing irrigation infrastructure dam				
Existing irrigation infrastructure pumps & pipelines				957 000
Existing irrigation infrastructure	ha	50	35 000	1 750 000
Total				2 707 000
Total Fixed Assets				**16 062 000**
Moveable Assets				
Equipment				
Tractors 4x4 60kW (MF290 or similar)		2	500 000	1 000 000
Tractors 4x2 utility (MF240 or similar)		1	315 000	315 000
Fertiliser spreader		1	42 000	42 000
Boom spray		2	32 000	64 000
Weed spray machine		1	25 000	25 000
Trailer		1	35 000	35 000
Harvest trailer		2	45 000	90 000
LDV		1	250 000	250 000
Hydraulic disc harrow		1	80 000	80 000
Ripper		1	25 000	25 000
Reversable plough		1	45 000	45 000
Ridger		1	15 000	15 000
Mower		1	40 000	40 000
Motor cycle		2	35 000	70 000
Tools and equipment		1	150 000	150 000
Total Moveable Assets				**2 246 000**
Total Capital Investment at Replacement Cost				**18 308 000**

3.3 Water Requirements of Crops

The water requirements used in the financial models as illustrated below are largely unchanged since the 2007 feasibility study and are mostly based on the SAPWAT model [*Soils, Water Requirements and Crops Report* (DWAF, 2007)]. See a summary in **Table 3.7** below. Please note that these figures are at field edge and do not make allowance for losses in the bulk distribution infrastructure.

Table 3.7 | Irrigation Water Requirement per Production Area (m^3/ha/a)

Crop	Irrigation water requirement per production area per annum (m^3/ha/a)		
	Citrusdal	**Clanwilliam**	**Trawal/Klawer[1]**
Citrus fruit	11,380	12,250	-
Table grapes	-	9,000[2]	13,580
Wine grapes/Raisins	-	-	9,650
Potatoes with wheat in rotation[3]	4,997	-	-
Tomatoes[4]	-	-	6,930

1 – This is a combination of the Melkboom/Trawal and Klawer/Vredendal areas.
2 – No water requirement for table grapes in Clanwilliam was available from the previous study and this figure is therefore an estimate provided by a local farmer.
3 –Centre pivot system (average water requirement of potatoes and wheat per production cycle).
4 – Drip irrigation system (water requirement per production cycle).

3.4 Cropping Assumptions

Please see Table 3.8 below with a summary of the key income and variable expense assumptions based on 2016/2017 data.

Table 3.8 | Cropping Assumptions

Income and Variable Expense Budget assumptions									
		Oranges	**Soft Citrus**	**Table Grapes**	**Wine Grapes**	**Raisins**	**Potatoes**	**Wheat**	**Tomatoes**
Sales price	Class 1 (DIP)	R127.97 /15kg	R157.85 /10kg	[2]R114.06 /4.5kg	N/A	N/A	N/A	N/A	N/A
	Class 2 (DIP)	R105.47 /15kg	R130.94 /10kg	N/A	N/A	N/A	N/A	N/A	N/A
	Other				R2 105 /t	R16 675/t dry	R3 600 /t	R4 141 /t	R1 655 /t
Gross yield		40 t/ha	43 t/ha	25.6 t/ha	30 t/ha	22 t/ha wet	50 t/ha	8 t/ha	90 t/ha
Packout	Expt Class 1	60%	70%	72%	N/A	25% dry weight	N/A	N/A	N/A
	Expt Class 2	14%	4%	N/A	N/A	N/A	N/A	N/A	N/A
Fertiliser & Chemicals		R28 014 /ha	R45 086 /ha	R38 523 /ha	R5 842 /ha	R5 842 /ha	[3] R73 053 /ha	R13 661 /ha	R78 411 /ha
Seasonal Wages		R27 150 /ha	R48 563 /ha	R93 872 /ha	R1 354 /ha	R8 669 /ha	R831 /ha	R120 /ha	R28 037 /ha
Post Harvest[1]		R28.16 /15kg	R21.05 /10kg	R24.02 /4.5kg	N/A	N/A	N/A	N/A	N/A
Packhouse tip cost		R240 /bin	R322 /bin	N/A	N/A	N/A	N/A	N/A	N/A
Permanent labour/ha		0.2 /ha	0.2 /ha	0.6 /ha	0.17 /ha	0.17 /ha	0.06 /ha	0.06 /ha	0.14 /ha

Yield Curves (% of full production)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Oranges	0%	0%	0%	20%	40%	60%	80%	100%
Soft Citrus	0%	0%	0%	25%	50%	75%	100%	
Table Grape	0%	0%	30%	70%	100%			
Wine Grape	0%	0%	30%	70%	100%			

Notes:

[1]Packaging, inspection, transport, levies

[2]Refers to the Trawal sales price, the Vredendal sales price is estimated at R7.50 per carton lower as the harvest is 7-10 later than Trawal

[3]Includes seed

Please note that in the case of citrus, table grapes, wine grapes and raisins, the current study group weighted average yields and prices were used based on the current cultivar mix within the study group. Similarly, overhead expenses were based on the current study group averages.

3.5 Visualised Investment in Farm Irrigation Infrastructure

The expected investment in the on-farm bulk irrigation infrastructure (excluding the in-field component) in the different regions of the study area is presented in **Table 3.9** below. Assumptions have been made about typical distances, elevations and costs (2018) for the different areas.

Table 3.9 | Expected Investment in Farm Irrigation Infrastructure

	Citrusdal	Clanwilliam	Trawal/Vredendal
IRRIGATION REQUIREMENTS			
Farm size (ha)	90	90	60
Total irr. req. per year (mm/annum)	1138	600	1358
Peak irr. req. per week (mm/week)	50	50	54
Required discharge pressure (bar)	1	2.5	1
Cycle length (days)	7	7	7
Type of irrigation	Drip	Centre Pivot	Drip
Irrigation efficiency	95%	85%	95%
ASSUMED TOPOGRAPHY			
Distance from river to dam (m)	200	-	100
Elevation from river to dam (m)	20	-	15
Distance from dam to field (m)	100	-	100
Elevation from dam to field (m)	15	-	15
Distance from river/canal to field (m)	-	200	-
Elevation from river/canal to field (m)	-	30	-
PRELIMINARY INFRASTRUCTURE SIZING			
Pipe diameter from river to dam (mm)	200	-	200
Pipe diameter from dam to field (mm)	250	-	250
Pipe diameter from river/canal to field (mm)	-	250	-
Pump station, river (kW)	13	-	7
Pump station, irrigation (kW)	27	67	19
Dam storage to embankment ratio 1:	4	-	2
Dam storage (m3)	615000	-	81000
Dam earthfill embankment volume (m3)	153750	-	40500
PRELIMINARY COST ESTIMATE			
Total irrigation pumps and mainlines	R 912,000	R 2,164,000	R 702,000
Total river abstraction pumps and mainlines	R 438,000	R -	R 255,000
Total dam cost estimate	R 7,687,500	R -	R 2,025,000
TOTAL CAPITAL COST ESTIMATE	**R 9,037,500**	**R 2,164,000**	**R 2,982,000**

3.6 Marketing Considerations

Commercial agriculture is a highly competitive business, with South African farmers competing both nationally and internationally. In addition to this, perennial crops such as citrus, table grapes, wine grapes and raisins are very capital intensive to establish, with a long breakeven period and as such constitute a long-term investment. Considering this, it is important to carefully evaluate market

prospects when selecting crops. It must also be noted that the market conditions are dynamic and that at any point in the future when commodity choices are being made, the market prospects should be re-evaluated.

A brief summary of available information on key considerations and the outlook for various crops is provided below.

3.6.1 Table Grapes

The bulk of South Africa's table grapes are exported. Table grapes are a highly perishable product and as such South Africa competes internationally with Southern Hemisphere producers in the same production window such as Chile, Peru and Argentina.

Marketers and exporters faced a difficult 2016/2017 season, compounded by an unstable and unfavourable exchange rate. During the height of the 2016/2017 season – compared to the previous season – the South African Rand was down 16.42% against the US Dollar, 29.33% against the Pound and 21.99% against the Euro. The exchange rate seemed to be the single biggest factor that had a negative effect on returns during the past season.

The UK and European markets are still South Africa's biggest market, taking 72% of the total crop produced during the 2016/2017 season. This represents a decline of 10% compared to the 2015/2016 harvest. One of the main causes of the decline was the drop in the retail price in the UK, Netherlands and Germany. These markets showed a drop of 3%, 6.5% and 5% respectively. Another very important factor that led to the price drop in these markets was an oversupply by all producing countries. The decline to these markets resulted in the Far East and Canada increasing their imports of SA table grapes in line with the South African Table Grape Industry's mission to diversify and deliver to other exciting growth markets.

Exports to the Far East increased by 103% while exports to Canada increased by 114% compared to 2015/2016. Other markets that also grew significantly were Africa at 85%, Russia with 73% and the Middle East by 55% over the same period.

The Olifants River table grape producing area falls into a relatively early production window in the South African season, directly after the early areas, such as Limpopo and the Orange River. A shortage of water has resulted in limited expansion in the Olifants River area to date and as a result there is still a relative shortage of table grapes during this production window, providing a good opportunity for future expansion in the Olifants River area.

3.6.2 Citrus

The bulk of South Africa's citrus is exported. Citrus is also a perishable product and as a result, South Africa again competes against Southern Hemisphere producers in the same production window such as Argentina, Chile and Peru. South Africa is the second biggest citrus exporter in the world after Spain, and the biggest Southern Hemisphere exporter in the world, making them a very important player in the world market (CGA Stats Booklet, 2016).

Citrus is the largest export fruit commodity in South Africa and the industry has performed well in recent years resulting in consistent growth in new plantings. Citrus volumes were down in the 2017 season, mainly due to a drop in orange volumes resulting from the drought in the Limpopo region and due to fruit drop in the Eastern Cape. Soft citrus and lemon volumes in particular are set to grow considerably in the coming years as a result of new plantings and South Africa will need to grow its export markets for these crops.

3.6.3 Wine Grapes

Both the local and export markets play an important role in the South African wine industry. In 2016 the average return on investment at producer level reduced to below 1%, largely driven by the prolonged drought in certain regions, stagnant wine price and cost inflation (Vinpro, 2017). However, there is currently a shortage of bulk wine on a global level. Italy's production was down by 25% in 2016, France's production down by 17% in 2016 and the total EU production for 2017 is the lowest in 45 years (Meiningers, 2017). It is anticipated that the South African price for bulk wine will therefore increase by up to 20%, providing some relief to growers.

3.6.4 Raisins

Global raisin production for 2017/2018 is also expected to decrease by 2% as modest gains in China are offset by lower output in Turkey, USA and Iran. Because of reduced supply, total stocks are expected to plunge 22 percent to 84,000 tons, an 8-year low (USDA, 2017). This also poses an opportunity for raisin exports from South Africa and indications from the South African Dried Fruit Association (SAD) are that the supply is expected to remain short in the world market for the foreseeable future.

3.6.5 Potatoes

The South African potato market is comprised of The National Fresh Produce Markets, processing, informal trade, retail and export, with the bulk of the volume sold in the local market. Slightly more than two thirds of the national crop is marketed in the formal market sector. South African production has increased by 35% in a decade from 2005 to 2015, to 248 million 10 kg bags, while at the same time the number of producers has decreased, due to increased yields and an increase in the number of hectares per farmer. In 2010 there were 690 potato farmers in South Africa compared to 566 in 2015 (Potatoes SA Annual Report, 2016/17).

4 Expected Costs of Irrigation Water

Information about the costs of irrigation water forms an integral part of the database that is required to undertake the financial viability analysis of irrigation farming in the investigation area (refer to Section 5). Please see below available information on the costs of irrigation water.

4.1 Existing Irrigation Farming

The present water tariffs from the respective Water User Associations (WUAs) were used in the budget models. The 2016/2017 LORWUA water cost was R2 937.92 per listed hectare. The 2016/2017 water tariff for Clanwilliam WUA is R888.57 per listed hectare. Table 4.1 below provides a breakdown of the components comprising these tariffs.

Table 4.1 | Scheduled Hectares and Water Tariffs for WUAs

	LORWUA	Clanwilliam WUA
Scheduled hectares (ha's at 12 200m^3/ha)	9 510	*1 640
Tarriffs (2016/17)		
Operations and Maintenance (WUA)	2 194.00	390.96
Depreciation (WUA)	200.00	
Waternavorsingsfonds (Water Affairs)	6.00	5.95
Consumptive (Water Affairs)	295.14	248.88
WMA (Water Affairs)	242.78	242.78
Total (exc VAT)	**2 937.92**	**888.57**

* Includes the canal, dam catchment and Clanwilliam Dam Wall to Bulshoek Weir areas but excludes the Jan Dissels and Rondegat areas

4.2 Future Irrigation Development

The impact of increased water costs based on raising the Clanwilliam Dam wall and upgrading infrastructure will be modelled in the Fiscal Impact Analysis report once the cost of the respective projects and potential impact on water prices is known.

5 Financial Viability of Irrigation Farming

5.1 Introduction

The financial viability of both the existing and the envisaged expansion of irrigation farming in the study area is presented in this section. Inputs to this section were discussed in Sections 3 and 4. The research approach that was described in Section 2 is applied for the analysis, and the income statement and cashflow forecast findings are discussed below.

5.2 Analytical Framework

The multi-period financial analysis was executed at constant 2016/17 price levels (on farm bulk water infrastructure costed at 2018 values). The discounting of the expected future financial results was done at a real interest rate of 4.25% per year (i.e. the difference between a nominal interest rate of 10.25% per year and an annual inflation rate of 6%). Please also refer to the list of general explanatory notes and assumptions in Section 2.3.

5.2.1 Evaluation Criteria

The financial viability analysis focuses on the expected profitability and affordability of irrigation farming in the study area. It also aims to illustrate the relative "efficiency" of the consumption of irrigation water in the different regions of the study area.

a. Profitability

The expected profitability of the typical farming operations in the different regions of the study area is measured by the following mechanisms:

- Internal Rate of Return on the capital employed (IRR);
- The net present value (NPV) per hectare of the expected flow of funds over the calculation period;
- The Gross Profit Margin; and
- Earnings Before Tax (EBT).

Note however that only the IRR and NPV/ha is indicated in the summary tables. Gross Profit Margin and EBT are indicated in the Annexures.

b. Affordability

Farming operations in the study area are relatively capital intensive and risky due to, *inter alia*, uncertain farming output and product prices. Another reality that faces the farmer is the trend that

the market value of land often exceeds the productive value thereof. This implies that a farmer should be able to supply an appropriate portion of the capital needs from his own financial sources. When stated in another way, this means that, in general, farm output-value will not be able to remunerate all the farming inputs when the total capital need for the farm is financed via loaned capital.

The impact of different own-to-loaned capital ratios on the break-even year of the expected cash flow from farming is illustrated to indicate affordability.

c. "Efficiency" of irrigation water consumption

Two criteria are employed to illustrate the relative "efficiency" of the consumption of irrigation water in the different regions of the study area. They are the following:

- The annual net financial benefit that is realised from irrigation farming per m^3 of water used per year; and
- The ratio of job creation per 1 000 m^3 of irrigation water consumed serves as a criterion of the relative “efficiency” of the different regions of the study area.

Please note that these jobs are Full-Time Equivalents (FTE), which means that both full time and part time job opportunities in the value chain were taken into account. Part time job opportunities were converted to their equivalents in full-time terms, i.e. a 6-month job equals 50% of an FTE.

5.3 Financial Viability of Existing Irrigation Farming

The financial viability of existing irrigation farming in the different regions of the study area is presented in Annexures A1 to A9, with a summary thereof in Table 5.1.

Table 5.1 | Financial Viability of Existing Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus	90	11 380	28.1%	671 459	3.9	6	6	6	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (including Jan Dissels River)	Citrus	90	12 250	31.4%	690 993	3.7	6	6	6	0.09
	Table grapes	50	9 000	30.7%	780 266	5.7	6	6	6	0.33
	Potatoes & wheat[1]	70	4 997	1.1%	(198 530)	(2.6)	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes (Trawal)[2]	50	13 580	29.9%	758 754	3.7	6	6	7	0.22
	Table grapes (Vredendal)[2]	50	13 037	33.9%	593 141	3.0	5	5	6	0.23
	Raisins[3]	64	9 106	8.5%	23 631	0.2	14	>14	>14	0.02
	Wine grapes[4]	64	9 106	0.2%	(180 749)	(1.3)	>14	>14	>14	0.02
	Tomatoes & Brassica seed[5]	55	6 930	-0.7%	(114 235)	(1.1)	>14	>14	>14	0.13

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at the real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs
- The estimated market value of existing farms is taken into consideration in calculating the returns with an exit value based on the aforementioned, plus capex less depreciation
- [1]The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land) allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [2]The Table grape harvest is 7-10 days later at Vredendal than Trawal and DIP price assumption therefore R7.5 per carton lower but farm market value is lower at Vredendal countering the impact on IRR
- [3]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 74%
- [4]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to 5.1%
- [5]The average indicated tomato yield of 90 tons per ha was used. However top growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 32%
- [5]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

5.3.1 Important Findings – Existing Irrigation Farming

Based on the information provided in the summary table (Table 5-1), the following findings could be made on the key indicators.

a. Profitability

Existing irrigation farming of citrus, table grapes and raisins is financially viable with a real IRR of greater than 4.25% (this is true in all the relevant zones). Citrus farming in Zone 2 is potentially more profitable than citrus farming in Zone 1, as the Clanwilliam area has a lower land value and does not require private off-line dams. Table grapes is also potentially more profitable in Vredendal than in Trawal, due to the lower land value in Vredendal.

Potatoes with wheat in rotation, wine grapes and tomatoes with brassica seed in rotation are currently not deemed to be profitable, based on current yields, production costs and sales prices, as they have a real IRR of less than 4.25%.

However, wine grapes and tomatoes have the potential to become profitable based on yield or price increases. In this regard the following changes could take place:

- Currently there is a worldwide shortage of bulk wine. This results in indications that prices will increase by 20% which would raise the IRR of wine grapes to 5.1%;
- The average indicated tomato yield of 90 tons/ha was used. Top growers however consistently exceed 120 ton/ha, which would raise the IRR to 32%.

In line with the above, raisins could also benefit from a much higher IRR under the right circumstances. The average Vinpro study group (data evaluated for a group of farmers by Vinpro) raisin yield of 22 ton/ha was used. New plantings of the most suitable varieties can however yield 50 ton/ha which would raise the IRR to 74%.

Potatoes and wheat are deemed to be the least profitable within this model, and no additional factors were taken into account in this study to influence their profitability.

With regards to NPV/ha, table grapes in Zones 2 and 3 (only Trawal) have the highest NPV/ha, followed by citrus in Zones 1 and 2 and table grapes in Zone 3 (Vredendal). Raisins have a very low NPV/ha, and potatoes & wheat, wine grapes and tomatoes & brassicas have a negative NPV/ha.

b. Affordability

The impact of different own-to-loaned capital ratios on the break-even year of the expected cash flow was illustrated to indicate affordability.

It could be concluded that citrus and table grapes are more affordable than the other crops, as their breakeven takes place consistently at or about year 6 even at different own-to-loaned ratios (40%,

60% and 80% equity respectively). Note that there is sufficient cash flow to make provision for a similar break-even at the ratios mentioned.

The break-even for potatoes & wheat, wine grapes and tomatoes & brassica seed all happen after year 14. It is indicated as such, given that the financial model only makes provision for a 15-year cash flow.

c. "Efficiency" of irrigation water consumption

The annuity per m^3 water is the highest for table grapes in Zone 2, followed by citrus in Zone 1, citrus in Zone 2 and table grapes in Zone 3 (with a distinction between Trawal and Vredendal). Raisins have a very low annuity, followed by potatoes & wheat, wine grapes and tomatoes & brassica seed which each has a negative annuity expressed in m^3 per ha.

The ratio of job creation per 1 000 m^3 of irrigation water is the highest for table grapes, followed by tomatoes with brassica seed in rotation and citrus being the most labour-intensive crops. The job creation per 1000 m^3 for raisins, wine grapes, potatoes & wheat are all similar and much lower than the other crops. Please note that the job creation figures are based on the labour requirement at full production.

5.4 Financial Viability of Future Irrigation Development

Both the expansion of existing farms and the development of new farms will be discussed in this section.

5.4.1 Expansion of Existing Irrigation Farming

The financial viability of the expansion of existing irrigation farming on typical farms in the different regions of the study area is presented in Annexures B1 to B8, with a summary thereof in **Table 5.2**.

Please note that only the *additional* income and expenditure related to the expansion was included in the financial evaluations. The increase in land value from a dry land value to a higher value based on the availability of irrigation water was also considered.

The findings of expanding existing irrigation in Zone 1 (Citrusdal) was not presented, as the need for additional private storage dams would be a barrier to entry for most entities.

Table 5.2 | Financial Viability of Expansion of Existing Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus Clanwilliam	20	12 250	13.1%	631 385	3.39	9	10	10	0.09
	Table grapes	20	9 000	17.3%	744 835	5.44	8	8	9	0.33
	Potatoes/wheat[1]	20	4 997	13.8%	70 179	0.92	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes (Trawal)	20	13 580	17.2%	730 791	3.54	8	8	9	0.22
	Table grapes (Vredendal)	20	13 037	14.6%	512 476	2.58	9	9	10	0.23
	Raisins[2]	20	9 106	5.1%	(87 088)	(0.63)	>14	>14	>14	0.02
	Wine grapes[3]	20	9 106	1.6%	(212 536)	(1.53)	>14	>14	>14	0.02
	Tomatoes/brassica seed[4]	20	6 930	9.0%	27 930	0.26	>14	>14	>14	0.15

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs at full production
- In calculating the return on the expansion, only the additional income and expenditure (capital, fixed and variable) related to the expansion has been taken into consideration. The increase in land value based on the change from dry land to irrigable based on the issue of additional water rights has also been factored in
- Expansion of Citrus farms in Citrusdal has not been included as this would require the construction of an additional farm dam, which will significantly impact viability of the expansion
- [1]The expansion of the potato/wheat farm is based on the addition of one 20ha centre pivot with a 1 year in 3 rotation on potatoes and 1 in 4 on wheat
- [2]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 19.1%
- [3]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to 4.1%
- [4]The tomato and brassica model is based on 20ha's of tomatoes planted in summer and 2ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

5.4.2 Important Findings – Expansion of Existing Irrigation Farming

Based on the information provided in the summary table (Table 5-2), the following findings could be made on the key indicators.

a. Profitability

The expansion of existing irrigation farming is financially viable for all crops except wine grapes, as these crops all indicate an IRR of greater than 4.25%. A worldwide shortage of bulk wine has recently developed, which indicates that prices could increase by up to 20%, and would raise the IRR to 4.1% (this is however still under the target of 4,25%). Please also note that the average study group raisin yield of 22 ton/ha was used. New plantings of the most suitable varieties could however yield 50 ton/ha consistently, which would raise the IRR to 19.1%.

With regards to NPV/ha, citrus and table grapes show consistent high values, followed by potatoes & wheat and tomatoes & brassica seed showing low but positive values. Raisins show a negative NPV/ha, and wine grapes show a significantly negative NPV/ha.

b. Affordability

It is concluded that citrus and table grapes are more affordable than the other crops, as their breakeven takes place consistently at year 8, 9 or 10. The values also change slightly with different own-to-loaned ratios (40%, 60% and 80% equity respectively). The change in breakeven does differ as the equity portion decreases. This shows that cash flow is a factor to be taken into account for the expansion of existing irrigation.

The break-even for potatoes & wheat, raisins, wine grapes and tomatoes & brassica seed all happen after year 14. It is indicated as such, given that the financial model only makes provision for a 15-year cash flow. These crops are therefore the least affordable in this model.

c. "Efficiency" of irrigation water consumption

The annuity per m3 water is the highest for table grapes in Zone 2 and 3 (Trawal), followed by citrus in Zone 2 and table grapes in Zone 3 (Vredendal). Potatoes with wheat and tomatoes with brassica seed have a very low annuity. Raisins and wine grapes have a negative annuity.

The ratio of job creation per 1000 m^3 of irrigation water is the highest for table grapes, followed by tomatoes with brassica seed and citrus, being the most labour-intensive crops. The job creation per 1000 m^3 for raisins, wine grapes, potatoes & wheat and are all similar and much lower than the other crops. Please note that these figures are identical to the figures for existing irrigation farms, as the water use requirements and employment creation capabilities for the crops remain constant.

5.4.3 New Irrigation Farms

The expected financial viability of the development of typical irrigation farms on virgin land in the relevant regions of the study area, are presented in Annexures C1 to C9 with a summary thereof in **Table 5.3**.

Table 5.3 | Financial Viability of New Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Real IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus[1]	90	11 380	2.4%	(109 585)	(0.63)	14	14	>14	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus[1]	90	12 250	4.6%	20 568	0.11	13	14	14	0.09
	Table grapes	50	9 000	8.7%	169 295	1.24	13	14	>14	0.33
	Potatoes/wheat[2]	70	4 997	1.0%	(222 043)	(2.92)	>14	>14	>14	0.02
Zone 3 - Bulshoek Weir to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser))	Table grapes (Trawal)[3]	50	13 580	8.5%	155 250	0.75	13	14	>14	0.22
	Table grapes (Vredendal)[3]	50	13 037	6.3%	(49 565)	(0.25)	13	14	>14	0.23
	Raisins[4]	64	9 106	1.2%	(298 646)	(2.16)	>14	>14	>14	0.02
	Wine grapes[5]	64	9 106	-2.3%	(446 670)	(3.22)	>14	>14	>14	0.02
	Tomatoes & brassica seed[6]	55	6 930	-0.3%	(238 717)	(2.26)	>14	>14	>14	0.13

Notes:

- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs
- In calculating the IRR, the current estimated land value for undeveloped irrigable land together with all necessary capital expenditure to develop and equip the farms have been taken into account. An exit value has also been calculated in year 15 based on the total capital expenditure to that point, less depreciation
- It is assumed that new citrus plantings take place over three years and new table and wine grape plantings over 2 years
- [1]A new Citrusdal farm will require construction of a dam whereas it is assumed a farm in Clanwilliam will irrigate directly from the river or canal
- [2] The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land), allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [3]The Table grape harvest is 7-10 days later at Vredendal than Trawal and DIP price assumption therefore R7.5 per carton lower but farm market value is lower at Vredendal countering the impact on IRR
- [4]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 14%
- [5]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20%, which would raise the IRR of wine grapes to -0.01%
- [6]The average indicated tomato yield of 90 tons per ha was used. However better growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 14%
- [6]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

5.4.4 Important Findings - New Irrigation Farms

Based on the information provided in the summary table (Table 5-3), the following findings could be made on the key indicators. Please note that the permanent crops (citrus, table grapes, wine grapes and raisins) only come into full production after several years and have significant establishment costs, which has a significant impact on profitability when compared to established farms that are already in production.

a. Profitability

In general, the development of new irrigation farms seems to be problematic from a financial viability viewpoint. Given the reality of relatively profitable existing farming operations in the various regions of the study area, the major contributing factor to lower profit margins is the expected relatively high capital cost of the development of new farms and the time taken to come into full production.

Only the development of new table grape farms and citrus farms in Clanwilliam is financially viable with an IRR of more than 4.25% and a positive NPV/ha. Establishing new Citrus farms in Citrusdal is not profitable with the cost of building additional off-line water storage capacity being a significant factor. Further to this, citrus takes longer to come into full production than table grapes, which also has an impact on the viability of establishing new farms.

None of the other crops that form part of this study (raisins, wine grapes, potatoes & wheat and tomatoes & brassica seed) are deemed profitable from a greenfield farming perspective, as the IRR and NPV/ha values are too low.

Raisins and tomatoes could however be profitable under the right circumstances. The profitability of raisins is based on a yield of 22 ton/ha. New plantings however consistently deliver yields of 50 ton/ha, which could increase the IRR of raisins to 13.9%. The average tomato yield of 90 ton/ha was also used, but certain growers achieve up to 140 ton/ha and consistently exceed 120 ton/ha, which raises the IRR to 14.4%.

It should be noted that all crops except table grapes and citrus in Clanwilliam have a negative NPV/ha over the 15-year horizon.

b. Affordability

For table grapes in Zones 2 and 3, as well as citrus in Zone 2, breakeven takes place in year 13 at 80% equity, and in year 14 at both 60% and 40% equities. Breakeven for citrus in Zone 1 takes place in year 14.

In respect of all the other crops (potatoes & wheat, raisins, wine grapes and tomatoes & brassica seed), breakeven only takes place after year 14, even at different levels of equity (80%, 60% and 40% respectively).

c. "Efficiency" of irrigation water consumption

The annuity expressed in m^3 per ha is the highest for table grapes, followed by citrus and raisins. Potatoes with wheat and wine grapes have a negative annuity.

The ratio of job creation per 1000 m^3 of irrigation water is the highest for table grapes, followed by tomatoes with brassica seed and citrus, being the most labour-intensive crops. The job creation per 1000 m^3 for raisins, wine grapes, potatoes & wheat and are all similar and much lower than the other crops. Please note that these figures are identical to the figures for existing irrigation farms, as the water use requirements and employment creation capabilities for the crops remain constant.

5.5 Financial Viability of Black-Owned Farms in the Study Area

Given that equitable water access and water allocation reform are key policy considerations in this study, the financial viability of black-owned farms should also be investigated.

The provision of land at no cost is a potential option to lower barriers to entry for previously disadvantaged subsistence, smallholder and commercial producers. This could, for instance, take place through government grants for purchasing land, farming on government-owned land or other commonage schemes.

It should also be determined what the minimum viable commercial unit would be, as previously disadvantaged individuals do not always have access to sufficient land at sufficient economies of scale for irrigation. Further to this, the financial viability of a typical subsistence farm should also be investigated, as there are several subsistence farmers in the study area (especially in the case of Ebenhaeser).

The following options are discussed in this section:

- development of new black-owned commercial farms where land is provided at no cost (e.g. new irrigation areas such as Jan Dissels River or Zypherfontein);
- the financial feasibility of a small scale commercial farm in Ebenhaeser (3ha); and
- an investigation into the minimum viable farm size for existing farms and new black-owned commercial farms.

These options could inform the policy for allocation of water to previously disadvantaged individuals.

5.5.1 New Black-Owned Commercial Farms in the Study Area

In this section, the financial viability of new black-owned farms in the study area is investigated, based on the assumption that black-owned farms will receive the land at no cost. The findings are presented in Annexures D1 to D8, with a summary thereof in **Table 5.4**.

Table 5.4 | Financial Viability of New Black-Owned Farms in the Study Area

Area	Crop	Cultivated ha per annum	Water needed (m^3/ha)	Reall IRR	NPV/ha	Annuity / m^3 water	Breakeven year			Jobs (FTE) / 1 000 m^3 water
							Equity at 80%	Equity at 60%	Equity at 40%	
Zone 1 - Citrusdal	Citrus	90	11 380	6.1%	90 415	0.52	12	12	13	0.10
Zone 2 - Clanwilliam Dam Wall to Bulshoek Weir (Including Jan Dissels River)	Citrus	90	12 250	8.0%	170 568	0.92	11	11	12	0.09
	Table grapes	50	9 000	10.2%	281 312	2.1	12	12	13	0.33
	Potatoes & wheat[1]	70	4 997	1.7%	(108 959)	(1.4)	>14	>14	>14	0.02
Zone 3 - Bulshoek Wier to Ebenhaeser (Trawal, Klawer, Vredendal, Melkboomsdrift, Lutzville, Koekenaap, Ebenhaeser)	Table grapes	50	13 580	9.9%	259 800	1.26	12	12	13	0.22
	Raisins[2]	64	9 106	1.5%	(209 032)	(1.5)	>14	>14	>14	0.02
	Wine grapes[3]	64	9 106	-3.0%	(357 056)	(2.6)	>14	>14	>14	0.02
	Tomatoes & brassica seed[4]	55	6 930	-0.5%	(149 103)	(1.4)	>14	>14	>14	0.13

Notes:
- The model was developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- Annuity per m^3 water is calculated at a real discount rate over 25 years
- Jobs are calculated as Full Time Equivalent (FTE) jobs at full production
- It is assumed that new Citrus palntings take place over three years and table and wine grapes over two years
- It is assumed that government land is granted to the growers
- [1]The Potato / wheat budget is based on 30ha's of potatoes and 40ha's of wheat per annum (on 90ha's land) allowing a 1 in 3 year rotation for potatoes and 1 in 2 year rotation on wheat
- [2]The average study group raisin yield of 22tons/ha wet was used. However new plantings of the most suitable varieties can consistently yield 50 tons/ha raising the IRR to 17%
- [3]A worldwide shortage of bulk wine has recently developed resulting in indications that prices will increase by 20% which would raise the IRR of wine grapes to -0.2%
- [4]The average indicated tomato yield of 90 tons per ha was used. However top growers achieve up to 140tons/ha and some consistently exceed 120 tons/ha which raises the IRR to 24%
- [4]The tomato and brassica model is based on 50ha's of tomatoes planted in summer and 5ha's of brassica seed planted in winter

IRR > 4.25%
IRR < 4.25% with potential based on yield or price increases
IRR < 4.25%

5.5.2 Important Findings – Financial Viability of New Black-Owned Commercial Farms

Based on the information provided in Table 5-4), the following findings could be made on the key indicators.

a. Profitability

Table grapes and citrus are both profitable with an IRR of more than 4.25%. Citrus in Zone 1 is less profitable than citrus in Zone 2, as citrus in Zone 1 would require the building of additional storage dams. Table grapes in Zone 2 has the highest NPV/ha, followed by table grapes in Zone 3. The NPV/ha for citrus is also favourable, with citrus in Zone 2 higher than that of citrus in Zone 1.

Raisins and tomatoes & brassica seed are not profitable, but could become profitable under the right circumstances. For raisins, the average study group yield is 22 ton/ha, but new plantings of the most suitable varieties could yield 50 ton/ha, raising the IRR to 17%. The average yield for tomatoes of 90 ton/ha was used. Top growers however achieve up to 150 ton/ha and some consistently exceed 120 ton/ha, which raises the IRR to 24%.

Wine grapes and potatoes & wheat are not deemed profitable in terms of either IRR or NPV/ha, as these values are negative. The IRR of wine grapes could increase to 0.6% if the price is increased due to expected market conditions, but this is still lower than the target IRR of 4.25%.

b. Affordability

The breakeven for both citrus and table grapes takes place at or about year 11 or 12 for equity at 80%, 60% or 40%. Potatoes & wheat, raisins, wine grapes and tomatoes & brassica seed break even after year 14.

c. "Efficiency" of irrigation water consumption

The annuity per m^3 water is the highest for table grapes, followed by citrus and raisins. Potatoes with wheat and wine grapes have a negative annuity.

The ratio of job creation per 1000 m^3 of irrigation water is the highest for table grapes, followed by citrus. The job creation per 1000 m^3 for raisins, wine grapes, potatoes & wheat and tomatoes & brassica seed are all similar and much lower than the other crops. Please note that these figures are identical to the figures for existing irrigation farms and expansion of existing farms, as the water use requirements and employment creation capabilities for the crops remain constant.

5.5.3 Financial Viability of a Small-scale Commercial Farm in Ebenhaeser

The financial viability of a small scale commercial operation in Ebenhaeser is discussed in this section. The detailed findings are presented in Annexure E with a summary below.

A unit size of 6 ha was used in order to ensure sufficient scale for viability. The standard farm size in Ebenhaeser is 1.8ha, however successful farmers lease land from other farmers in the scheme to increase their land area. The model chosen was 3 ha processing tomatoes in the summer and 3 ha brassica seed in the winter. The land area of 6ha's allows for crop rotation. The choice of crops was due to the tomato processing plant in Lutzville, providing market access and technical support and similarly, Syngenta have a vegetable seed production growing programme in the area providing growing contracts and technical support. Average commercial yields were used – 90 ton/ha for tomatoes and 250 kg/ha for brassica seed.

Initial establishment costs are assumed at R240 000 for 6 ha, to install in-field drip irrigation (it is assumed that this will be funded through grants). It is also assumed that the farmers will have access to tractors and implements (this could be funded through grants if needed).

The usual measures of profitability, affordability and efficiency are less relevant in this instance, given that a unit of this size would not be commercially viable with this crop combination, without the provision of irrigation infrastructure and access to machinery and equipment. Given that the typical small-scale commercial farmer in Ebenhaeser farms to generate a basic household income, the net monthly cash income was calculated, at R 8 377 per farmer per month.

It could be concluded that an agricultural unit in Ebenhaeser could provide the farmer with an income which is more than double the minimum wage, if irrigation infrastructure and implements are covered by grants and the growers possess the inputs, skills and expertise to produce commercial-grade yields.

5.5.4 Minimum Viable Farm Sizes

The minimum viable commercial farm size was also investigated. It is important to show how smaller agricultural units might be viable, as previously disadvantaged subsistence, smallholder and commercial producers typically do not have access to large pieces of land. The minimum viable farm size for an existing farm was calculated, as well as the minimum viable farm size for a new black-owned farm where the land was obtained at no cost. The minimum viable farm size was determined by reducing the area (ha) in the financial model to such a point that the real IRR remains above 9.25% (real discount rate of 4.25% plus 5% risk factor). The results are indicated in **Table 5.5** below.

Table 5.5 | Minimum Viable Farm Sizes

	Existing Commercial Farm	New Black Owned Farm
Citrus	22 ha	90 ha (@IRR 8%)
Table Grapes	16 ha	46 ha
Wine grapes	[1]Not viable	Not viable
Raisins	[2]68 ha / 12 ha	[4]26 ha
Tomatoes/brassica seed - commercial	[3]27ha	[5]41 ha
Tomatoes/brassica seed - small-scale production	6 ha[6]	6 ha[6]

The following important notes should be considered:

- The calculations have been limited to existing farms and new black-owned farms as it is likely that any additional water rights issued will be linked to black ownership;
- Only crops which are viable at the current average farm size or potentially viable based on yield or price increases have been included in the above analysis;
- The minimum viable farm size was determined by reducing the area (ha) in the financial model to such a point that the real IRR remains above 9.25% (real discount rate of 4.25% plus 5% risk factor)
- The models were developed using constant 2016/17 values, with a real discount rate of 4.25%, being the difference between the nominal interest rate at 10.25% and inflation at 6%
- It should be noted that the minimum viable farm sizes are based on the assumptions used in these financial models and that in practice viable farm sizes will differ significantly based on factors such as yield, price, farm overhead and capital cost structure, production systems, etc.;
- The following aspects, amongst others have been included in the models:
    - owners/managers remuneration of R480 000 per annum;
    - replacement of orchards/vineyards between 20-30 years old, depending on the commodity, on existing farms;
    - capital replacement of moveable assets after 10 years on average;
    - farm values at estimated current market value for existing farms and including all establishment costs for new black owned farms with the assumption that land is obtained at no cost;
- Differences in minimum viable farm sizes are not significant between the zones and minimum viable sizes have therefore not been calculated for each zone;
- [1]A 64 ha wine grape farm is marginally viable with a real IRR of 5.1% assuming a 20% price increase on the 2017 season, however a real IRR of 9.25% cannot be achieved based on the aforementioned assumptions;

- [2]For raisins, the 68 ha minimum viable size relates to the current average study group yield of 22 tons/ha and the 12 ha minimum viable size is calculated at a potential yield of 50 tons/ha based on top varieties and best practice;
- [3]A 50 ha tomato farm is not viable at current average tomato yields and the above viable unit has therefore assumed a high yield of 120 tons/ha based on best practice;
- [4]A new black owned raisin farm is not viable at the current average study group yield of 22 tons/ha and the above minimum viable size is therefore calculated at the potential yield of 50 tons/ha based on top varieties and best practice;
- [5]A new black owned tomato farm is not viable at current average tomato yields and the above viable unit has therefore assumed a high yield of 120 tons/ha based on best practice; and
- [6]A minimum viable farm size of 6ha's growing tomatoes and brassica seed could be achieved, but only if land, irrigation infrastructure and equipment were provided by means of grant funding as opposed to the commercial model above where these elements are self-funded.
- The large farm size required for new black owned farms to achieve a real IRR of 9.25%, reflects the reality that the capital required to establish a new farming venture, and the overhead costs to run a commercial farm, are high in relation to the farm's productive value, particularly given the time which it takes for new plantings of perennial crops to come into production.

6 Economic Empowerment of Previously Disadvantaged Individuals

The National Water Act places an important responsibility on the Department of Water and Sanitation to ensure equitable water access and water allocation reform (NWRS1, 2005 and NWRS2, 2013). This means that the allocation of new water uses, for new farms or for expansion of existing farms, should be allocated to the benefit of previously disadvantaged water users, including subsistence, smallholder and commercial farmers.

When the financial viability of irrigation farming is evaluated, the capability to further equitable water access and water allocation reform through agricultural expansion should be clear. Scenarios should be investigated in which previously disadvantaged individuals could make beneficial and financially viable use of the water, based on the findings of the financial evaluation.

The following factors should be considered:

- Irrigation farming is capital intensive, and many previously disadvantaged water users do not possess the required capital to compete in the market system. This is due to, *inter alia*, a lack of own capital, a lack of access to capital due to higher risk profiles, or a lack of access to grants;
- Even if the above barrier to entry could be overcome, the higher value export crops that are needed to compete sufficiently require a high level of technological and managerial inputs. Sufficient support over an extended period is needed to transfer these skills to previously disadvantaged water users;
- Farming for an export market is also highly competitive, as markets are volatile and prices variable. The level of price variability is enhanced by the variable exchange rate of the Rand;
- Agricultural production is of biological nature and is influenced by the availability of natural resources and a stable natural environment. Economic uncertainty in agriculture is further enhanced via variable outputs due to the impact of variable weather conditions, e.g. drought conditions or other natural disasters;
- The gap between the production and market value of land implies that a portion of the capital requirement should be financed by own capital sources or grants.

In line with Department of Water and Sanitation policy, the bulk of new water uses from the raising of the Clanwilliam Dam would be allocated to previously disadvantaged individuals. The raising of the Clanwilliam Dam would also assist to provide security of water delivery for existing users, of which there are many previously disadvantaged subsistence, smallholder and commercial farmers in the study area. For this reason, this financial viability study also investigated whether agricultural production could be profitable for smallholder and commercial water users, and whether subsistence water users should be able to provide for their livelihoods and for their families.

From a commercial perspective, the production of citrus and table grapes by previously disadvantaged individuals on new farms could be profitable in the study area, if land is provided at no cost. Given that the bulk of the new water uses will be allocated to previously disadvantaged individuals, a possibility exists to develop areas like the Jan Dissels River (approx. 1 200 ha estimated) and Zypherfontein (approx. 2 000 ha estimated) to these crops at scale. Raisins and tomatoes & wheat could also be profitable, if high yields are produced.

From a commercial farming perspective, the models showed that the current average farm sizes are ideal to compete in a commercial market. Under certain circumstances smaller agricultural units could be competitive, but only if consistent high yields are produced and/or land, implements and irrigation infrastructure is provided by means of grant assistance.

From a smallholder perspective, it was found that a 6ha agricultural unit in Ebenhaeser could provide the farmer with an income in excess of R8 000 per month, if irrigation infrastructure and implements are covered by grants and the growers possess the inputs, skills and expertise to produce commercial-grade yields. The availability of new water use allocations for Ebenhaeser is still under investigation, but at least an increased security of water delivery because of the dam raising will assist these farmers to provide a livelihood for their families. This finding could also be extrapolated to other areas that may be able to receive new water use allocations, e.g. municipal commonage schemes or other peri-urban or subsistence farming operations.

Strategies to enhance economic empowerment should thus take the mentioned realities into consideration, especially as far as the lack of managerial skills and limited capital resources of envisaged new entrants to farming is concerned. Options for assistance should be further unpacked in the Agricultural Production and Farm Development Report, which should include the following:

- Extension services and/or grants from the Department of Agriculture;
- Technical inputs and/or grants from the Department of Water and Sanitation;
- Availability of affordable capital from the Land Bank;
- Potential for innovative private financing mechanisms, e.g. funds with commercial banks;
- The potential for joint ventures between previously disadvantaged water users and commercial farmers.

A more detailed discussion of factors influencing the beneficial use of water by previously disadvantaged individuals in the study area will also follow in the Agricultural Production and Farm Development Report.

7 Conclusion

In general, the development of new irrigation farms seems to be problematic from a financial viability viewpoint. Given the reality of relatively profitable existing farming operations in the various regions of the study area, the major contributing factors to lower profit margins seem to be the expected relatively high capital cost of the development of new farms and the time taken for new plantings to come into full production.

It is therefore important to note that the expansion of existing irrigation farms will in general be financially more viable than the development of new irrigation farms, should more irrigation water become available from the Clanwilliam Dam (applies to areas where there is adequate bulk conveyance infrastructure to increase the water supply to farmers). The main reason for this finding is the cost effectiveness of the improved utilisation of infrastructure and resources on existing farms, relative to the costly nature of the development of new farms. In areas where the water conveyance infrastructure is already at maximum capacity during peak irrigation periods, the development of infrastructure will be required to deliver additional water to farmers following the raising of the Clanwilliam Dam wall and the cost/benefit of such projects will have to be evaluated.

Based on the financial evaluations, the following conclusions are drawn:

(i) Irrigation farming is capital intensive and costly due to, inter alia, the following:

- High-potential irrigation land is relatively scarce in the RSA and is therefore expensive;
- The upgrading of medium-low and medium potential irrigation soil is a relatively expensive activity;
- The upgrading and development of bulk water infrastructure for irrigation is capital-intensive and therefore costly,
- On-farm water infrastructure is also costly; and
- The establishment costs for new orchards/vineyards are high.

(ii) In order to produce a high income and offset the high capital- and other costs, high-value crops are produced, predominantly for export markets. These high-value crops however require a high level of technological and managerial inputs, making it difficult for new market entrants. For instance, the financial viability models for new black-owned farms and small-scale commercial farms is based on the yields that commercial growers achieve, but it cannot be assumed that all new black-owned farms will achieve these yields.

(iii) Acceptable quality and price levels, which is also needed to produce high-income crops for an export market, is furthermore influenced by sound managerial practices at the farm level and productive marketing practices.

(iv) The trend that the market value of land (refer to Section 6.2) exceeds the productive value thereof, implies that a farmer should be able to supply a considerable portion of the farm's capital need from own financial sources or grants.

(v) The above realities make it increasingly difficult for new market entrants from previously disadvantaged groups to become profitable, efficient and competitive players in the market system. This evaluation did show that previously disadvantaged subsistence, smallholder and commercial farmers could support the livelihoods of their families and even be commercially competitive, but only if support is provided by Government and other institutions.

A more detailed discussion of implementation models and factors influencing the beneficial use of water by previously disadvantaged individuals in the study area will also follow in the Agricultural Production and Farm Development Report.

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Annexure A1 – Income Statement and Cash Flow Forecast for 90 ha Existing Citrus Farm Zone 1

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
INCOME STATEMENT										
Sales	**30,362,150**	**29,128,077**	**27,894,004**	**26,943,471**	**26,276,479**	**25,893,027**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**
less direct costs	(14,103,685)	(13,583,405)	(13,075,665)	(12,702,152)	(12,475,405)	(12,370,344)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)
Gross Profit	**16,258,465**	**15,544,672**	**14,818,339**	**14,241,320**	**13,801,074**	**13,522,683**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**
less overhead costs	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)
EBITDA	**12,235,038**	**11,521,245**	**10,794,912**	**10,217,893**	**9,777,647**	**9,499,256**	**9,432,879**	**9,432,879**	**9,432,879**	**9,432,879**
less depreciation	(1,055,450)	(1,158,900)	(1,262,350)	(1,365,800)	(1,469,250)	(1,572,700)	(1,676,150)	(1,779,600)	(1,404,100)	(1,427,725)
EBIT	**11,179,588**	**10,362,345**	**9,532,562**	**8,852,093**	**8,308,397**	**7,926,556**	**7,756,729**	**7,653,279**	**8,028,779**	**8,005,154**
less interest	-	-	-	-	-	-	-	-	-	-
EBT	**11,179,588**	**10,362,345**	**9,532,562**	**8,852,093**	**8,308,397**	**7,926,556**	**7,756,729**	**7,653,279**	**8,028,779**	**8,005,154**
less income tax 28%	(3,130,285)	(2,901,457)	(2,669,117)	(2,478,586)	(2,326,351)	(2,219,436)	(2,171,884)	(2,142,918)	(2,248,058)	(2,241,443)
EAT	8,049,303	7,460,889	6,863,445	6,373,507	5,982,046	5,707,120	5,584,845	5,510,361	5,780,721	5,763,711
CASHFLOW STATEMENT										
Net Income	**8,049,303**	**7,460,889**	**6,863,445**	**6,373,507**	**5,982,046**	**5,707,120**	**5,584,845**	**5,510,361**	**5,780,721**	**5,763,711**
plus depreciation	1,055,450	1,158,900	1,262,350	1,365,800	1,469,250	1,572,700	1,676,150	1,779,600	1,404,100	1,427,725
Cash flow from operations	**9,104,753**	**8,619,789**	**8,125,795**	**7,739,307**	**7,451,296**	**7,279,820**	**7,260,995**	**7,289,961**	**7,184,821**	**7,191,436**
less investments	(46,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)
Net cash flow before financing	**(37,006,347)**	**7,508,689**	**7,014,695**	**6,628,207**	**6,340,196**	**6,168,720**	**6,149,895**	**6,178,861**	**6,073,721**	**6,080,336**
Cumulative net cashflow before financing	**(37,006,347)**	**(29,497,658)**	**(22,482,963)**	**(15,854,756)**	**(9,514,560)**	**(3,345,840)**	**2,804,055**	**8,982,916**	**15,056,637**	**21,136,973**

Internal Rate of Return (IRR)	28.1%									
Net Present Value (NPV)	60,431,266									
Annuity (at real discount rate)	3,971,212									
Gross margin	54%	53%	53%	53%	53%	52%	52%	52%	52%	52%
EBT profit margin	37%	36%	34%	33%	32%	31%	30%	30%	31%	31%

Annexure A2 – Income Statement and Cash Flow Forecast for 90 ha Existing Citrus Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**30,362,150**	**29,128,077**	**27,894,004**	**26,943,471**	**26,276,479**	**25,893,027**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**	**25,793,115**
less direct costs	(14,103,685)	(13,583,405)	(13,075,665)	(12,702,152)	(12,475,405)	(12,370,344)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)	(12,336,809)
Gross Profit	**16,258,465**	**15,544,672**	**14,818,339**	**14,241,320**	**13,801,074**	**13,522,683**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**	**13,456,306**
less overhead costs	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)
EBITDA	**12,192,367**	**11,478,574**	**10,752,241**	**10,175,222**	**9,734,976**	**9,456,585**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**	**9,390,208**
less depreciation	(1,055,450)	(1,158,900)	(1,262,350)	(1,365,800)	(1,469,250)	(1,572,700)	(1,676,150)	(1,779,600)	(1,404,100)	(1,427,725)	(1,531,175)	(1,634,625)	(1,738,075)	(1,841,525)	(1,944,975)
EBIT	**11,136,917**	**10,319,674**	**9,489,891**	**8,809,422**	**8,265,726**	**7,883,885**	**7,714,058**	**7,610,608**	**7,986,108**	**7,962,483**	**7,859,033**	**7,755,583**	**7,652,133**	**7,548,683**	**7,445,233**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**11,136,917**	**10,319,674**	**9,489,891**	**8,809,422**	**8,265,726**	**7,883,885**	**7,714,058**	**7,610,608**	**7,986,108**	**7,962,483**	**7,859,033**	**7,755,583**	**7,652,133**	**7,548,683**	**7,445,233**
less income tax 28%	(3,118,337)	(2,889,509)	(2,657,169)	(2,466,638)	(2,314,403)	(2,207,488)	(2,159,936)	(2,130,970)	(2,236,110)	(2,229,495)	(2,200,529)	(2,171,563)	(2,142,597)	(2,113,631)	(2,084,665)
EAT	8,018,580	7,430,165	6,832,721	6,342,784	5,951,323	5,676,397	5,554,122	5,479,638	5,749,998	5,732,988	5,658,504	5,584,020	5,509,536	5,435,052	5,360,568
CASHFLOW STATEMENT															
Net Income	**8,018,580**	**7,430,165**	**6,832,721**	**6,342,784**	**5,951,323**	**5,676,397**	**5,554,122**	**5,479,638**	**5,749,998**	**5,732,988**	**5,658,504**	**5,584,020**	**5,509,536**	**5,435,052**	**5,360,568**
plus depreciation	1,055,450	1,158,900	1,262,350	1,365,800	1,469,250	1,572,700	1,676,150	1,779,600	1,404,100	1,427,725	1,531,175	1,634,625	1,738,075	1,841,525	1,944,975
Cash flow from operations	**9,074,030**	**8,589,065**	**8,095,071**	**7,708,584**	**7,420,573**	**7,249,097**	**7,230,272**	**7,259,238**	**7,154,098**	**7,160,713**	**7,189,679**	**7,218,645**	**7,247,611**	**7,276,577**	**7,305,543**
less investments	(41,611,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)	(1,111,100)
Net cash flow before financing	**(32,537,070)**	**7,477,965**	**6,983,971**	**6,597,484**	**6,309,473**	**6,137,997**	**6,119,172**	**6,148,138**	**6,042,998**	**6,049,613**	**6,078,579**	**6,107,545**	**6,136,511**	**6,165,477**	**6,194,443**
Cumulative net cashflow before financing	**(32,537,070)**	**(25,059,105)**	**(18,075,133)**	**(11,477,650)**	**(5,168,177)**	**969,820**	**7,088,992**	**13,237,129**	**19,280,127**	**25,329,740**	**31,408,319**	**37,515,864**	**43,652,374**	**49,817,851**	**56,012,294**
Internal Rate of Return (IRR)	31.4%														
Net Present Value (NPV)	62,189,372														
Annuity (at real discount rate)	4,086,745														
Gross margin	54%	53%	53%	53%	53%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
EBT profit margin	37%	35%	34%	33%	31%	30%	30%	30%	31%	31%	30%	30%	30%	29%	29%

Annexure A3 - Income Statement and Cash Flow Forecast for 50 ha Existing Table Grape Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**22,314,743**	**21,140,283**	**20,318,161**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,613,485**
less direct costs	(10,973,710)	(10,447,537)	(10,077,561)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,864,463)
Gross Profit	**11,341,033**	**10,692,746**	**10,240,600**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**9,749,021**
less overhead costs	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)
EBITDA	**7,662,933**	**7,014,646**	**6,562,501**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,349,810**	**6,070,922**
less depreciation	(829,425)	(908,100)	(986,775)	(1,065,450)	(1,144,125)	(1,222,800)	(1,301,475)	(1,380,150)	(1,151,775)	(1,179,275)	(1,257,950)	(1,336,625)	(1,415,300)	(1,493,975)	(1,572,650)
EBIT	**6,833,508**	**6,106,546**	**5,575,726**	**5,284,360**	**5,205,685**	**5,127,010**	**5,048,335**	**4,969,660**	**5,198,035**	**5,170,535**	**5,091,860**	**5,013,185**	**4,934,510**	**4,855,835**	**4,498,272**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**6,833,508**	**6,106,546**	**5,575,726**	**5,284,360**	**5,205,685**	**5,127,010**	**5,048,335**	**4,969,660**	**5,198,035**	**5,170,535**	**5,091,860**	**5,013,185**	**4,934,510**	**4,855,835**	**4,498,272**
less income tax 28%	(1,913,382)	(1,709,833)	(1,561,203)	(1,479,621)	(1,457,592)	(1,435,563)	(1,413,534)	(1,391,505)	(1,455,450)	(1,447,750)	(1,425,721)	(1,403,692)	(1,381,663)	(1,359,634)	(1,259,516)
EAT	4,920,126	4,396,713	4,014,522	3,804,739	3,748,093	3,691,447	3,634,801	3,578,155	3,742,585	3,722,785	3,666,139	3,609,493	3,552,847	3,496,201	3,238,756
CASHFLOW STATEMENT															
Net Income	**4,920,126**	**4,396,713**	**4,014,522**	**3,804,739**	**3,748,093**	**3,691,447**	**3,634,801**	**3,578,155**	**3,742,585**	**3,722,785**	**3,666,139**	**3,609,493**	**3,552,847**	**3,496,201**	**3,238,756**
plus depreciation	829,425	908,100	986,775	1,065,450	1,144,125	1,222,800	1,301,475	1,380,150	1,151,775	1,179,275	1,257,950	1,336,625	1,415,300	1,493,975	1,572,650
Cash flow from operations	**5,749,551**	**5,304,813**	**5,001,297**	**4,870,189**	**4,892,218**	**4,914,247**	**4,936,276**	**4,958,305**	**4,894,360**	**4,902,060**	**4,924,089**	**4,946,118**	**4,968,147**	**4,990,176**	**4,811,406**
less investments	(25,959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)
Net cash flow before financing	**(20,209,849)**	**4,345,413**	**4,041,897**	**3,910,789**	**3,932,818**	**3,954,847**	**3,976,876**	**3,998,905**	**3,934,960**	**3,942,660**	**3,964,689**	**3,986,718**	**4,008,747**	**4,030,776**	**3,852,006**
Cumulative net cashflow before financing	**(20,209,849)**	**(15,864,435)**	**(11,822,538)**	**(7,911,749)**	**(3,978,931)**	**(24,083)**	**3,952,793**	**7,951,698**	**11,886,658**	**15,829,319**	**19,794,008**	**23,780,726**	**27,789,473**	**31,820,250**	**35,672,255**
Internal Rate of Return (IRR)	30.7%														
Net Present Value (NPV)	39,013,322														
Annuity (at real discount rate)	2,563,742														
Gross margin	51%	51%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
EBT profit margin	31%	29%	27%	26%	26%	26%	25%	25%	26%	26%	26%	25%	25%	24%	23%

Annexure A4 - Income Statement and Cash Flow Forecast for 50 ha Existing Table Grape Farm Zone 3 (Trawal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**22,314,743**	**21,140,283**	**20,318,161**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,965,823**	**19,613,485**
less direct costs	(10,973,710)	(10,447,537)	(10,077,561)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,864,463)
Gross Profit	**11,341,033**	**10,692,746**	**10,240,600**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**10,027,910**	**9,749,021**
less overhead costs	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)
EBITDA	**7,560,466**	**6,912,179**	**6,460,033**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**6,247,343**	**5,968,454**
less depreciation	(829,425)	(908,100)	(986,775)	(1,065,450)	(1,144,125)	(1,222,800)	(1,301,475)	(1,380,150)	(1,151,775)	(1,179,275)	(1,257,950)	(1,336,625)	(1,415,300)	(1,493,975)	(1,572,650)
EBIT	**6,731,041**	**6,004,079**	**5,473,258**	**5,181,893**	**5,103,218**	**5,024,543**	**4,945,868**	**4,867,193**	**5,095,568**	**5,068,068**	**4,989,393**	**4,910,718**	**4,832,043**	**4,753,368**	**4,395,804**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**6,731,041**	**6,004,079**	**5,473,258**	**5,181,893**	**5,103,218**	**5,024,543**	**4,945,868**	**4,867,193**	**5,095,568**	**5,068,068**	**4,989,393**	**4,910,718**	**4,832,043**	**4,753,368**	**4,395,804**
less income tax 28%	(1,884,691)	(1,681,142)	(1,532,512)	(1,450,930)	(1,428,901)	(1,406,872)	(1,384,843)	(1,362,814)	(1,426,759)	(1,419,059)	(1,397,030)	(1,375,001)	(1,352,972)	(1,330,943)	(1,230,825)
EAT	4,846,349	4,322,937	3,940,746	3,730,963	3,674,317	3,617,671	3,561,025	3,504,379	3,668,809	3,649,009	3,592,363	3,535,717	3,479,071	3,422,425	3,164,979
CASHFLOW STATEMENT															
Net Income	**4,846,349**	**4,322,937**	**3,940,746**	**3,730,963**	**3,674,317**	**3,617,671**	**3,561,025**	**3,504,379**	**3,668,809**	**3,649,009**	**3,592,363**	**3,535,717**	**3,479,071**	**3,422,425**	**3,164,979**
plus depreciation	829,425	908,100	986,775	1,065,450	1,144,125	1,222,800	1,301,475	1,380,150	1,151,775	1,179,275	1,257,950	1,336,625	1,415,300	1,493,975	1,572,650
Cash flow from operations	**5,675,774**	**5,231,037**	**4,927,521**	**4,796,413**	**4,818,442**	**4,840,471**	**4,862,500**	**4,884,529**	**4,820,584**	**4,828,284**	**4,850,313**	**4,872,342**	**4,894,371**	**4,916,400**	**4,737,629**
less investments	(25,959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)
Net cash flow before financing	**(20,283,626)**	**4,271,637**	**3,968,121**	**3,837,013**	**3,859,042**	**3,881,071**	**3,903,100**	**3,925,129**	**3,861,184**	**3,868,884**	**3,890,913**	**3,912,942**	**3,934,971**	**3,957,000**	**3,778,229**
Cumulative net cashflow before financing	**(20,283,626)**	**(16,011,989)**	**(12,043,868)**	**(8,206,855)**	**(4,347,814)**	**(466,743)**	**3,436,357**	**7,361,485**	**11,222,669**	**15,091,553**	**18,982,465**	**22,895,407**	**26,830,378**	**30,787,377**	**34,565,606**
Internal Rate of Return (IRR)	29.9%														
Net Present Value (NPV)	37,937,721														
Annuity (at real discount rate)	2,493,059														
Gross margin	51%	51%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
EBT profit margin	30%	28%	27%	26%	26%	25%	25%	24%	26%	25%	25%	25%	24%	24%	22%

Annexure A5 - Income Statement and Cash Flow Forecast for 50 ha Existing Table Grape Farm Zone 3 (Vredendal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**20,862,444**	**19,764,420**	**18,995,804**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,666,397**	**18,336,990**
less direct costs	(10,973,710)	(10,447,537)	(10,077,561)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,937,913)	(9,864,463)
Gross Profit	**9,888,734**	**9,316,884**	**8,918,243**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,728,484**	**8,472,527**
less overhead costs	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)
EBITDA	**6,108,167**	**5,536,316**	**5,137,676**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,947,917**	**4,691,959**
less depreciation	(829,425)	(908,100)	(986,775)	(1,065,450)	(1,144,125)	(1,222,800)	(1,301,475)	(1,380,150)	(1,151,775)	(1,179,275)	(1,257,950)	(1,336,625)	(1,415,300)	(1,493,975)	(1,572,650)
EBIT	**5,278,742**	**4,628,216**	**4,150,901**	**3,882,467**	**3,803,792**	**3,725,117**	**3,646,442**	**3,567,767**	**3,796,142**	**3,768,642**	**3,689,967**	**3,611,292**	**3,532,617**	**3,453,942**	**3,119,309**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**5,278,742**	**4,628,216**	**4,150,901**	**3,882,467**	**3,803,792**	**3,725,117**	**3,646,442**	**3,567,767**	**3,796,142**	**3,768,642**	**3,689,967**	**3,611,292**	**3,532,617**	**3,453,942**	**3,119,309**
less income tax 28%	(1,478,048)	(1,295,901)	(1,162,252)	(1,087,091)	(1,065,062)	(1,043,033)	(1,021,004)	(998,975)	(1,062,920)	(1,055,220)	(1,033,191)	(1,011,162)	(989,133)	(967,104)	(873,407)
EAT	3,800,694	3,332,316	2,988,649	2,795,376	2,738,730	2,682,084	2,625,438	2,568,792	2,733,222	2,713,422	2,656,776	2,600,130	2,543,484	2,486,838	2,245,903
CASHFLOW STATEMENT															
Net Income	**3,800,694**	**3,332,316**	**2,988,649**	**2,795,376**	**2,738,730**	**2,682,084**	**2,625,438**	**2,568,792**	**2,733,222**	**2,713,422**	**2,656,776**	**2,600,130**	**2,543,484**	**2,486,838**	**2,245,903**
plus depreciation	829,425	908,100	986,775	1,065,450	1,144,125	1,222,800	1,301,475	1,380,150	1,151,775	1,179,275	1,257,950	1,336,625	1,415,300	1,493,975	1,572,650
Cash flow from operations	**4,630,119**	**4,240,416**	**3,975,424**	**3,860,826**	**3,882,855**	**3,904,884**	**3,926,913**	**3,948,942**	**3,884,997**	**3,892,697**	**3,914,726**	**3,936,755**	**3,958,784**	**3,980,813**	**3,818,553**
less investments	(18,459,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)	(959,400)
Net cash flow before financing	**(13,829,281)**	**3,281,016**	**3,016,024**	**2,901,426**	**2,923,455**	**2,945,484**	**2,967,513**	**2,989,542**	**2,925,597**	**2,933,297**	**2,955,326**	**2,977,355**	**2,999,384**	**3,021,413**	**2,859,153**
Cumulative net cashflow before financing	**(13,829,281)**	**(10,548,265)**	**(7,532,241)**	**(4,630,815)**	**(1,707,360)**	**1,238,124**	**4,205,637**	**7,195,179**	**10,120,776**	**13,054,073**	**16,009,399**	**18,986,754**	**21,986,138**	**25,007,552**	**27,866,704**

Internal Rate of Return (IRR)	33.9%														
Net Present Value (NPV)	29,657,054														
Annuity (at real discount rate)	1,948,899														
Gross margin	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	46%
EBT profit margin	25%	23%	22%	21%	20%	20%	20%	19%	20%	20%	20%	19%	19%	19%	17%

Annexure A6 - Income Statement and Cash Flow Forecast for 90 ha Existing Potato & Wheat Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**
less direct costs	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)
Gross Profit	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**
less overhead costs	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)
EBITDA	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**
less depreciation	(550,550)	(604,363)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)	(658,175)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)
EBIT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less income tax 28%	(67,529)	(52,462)	(37,394)	(22,327)	(7,259)	-	-	-	(37,394)	(37,394)	(176,681)	(161,613)	(146,546)	(131,478)	(116,411)
EAT	173,647	134,902	96,157	57,412	18,667	(27,886)	(81,699)	(135,511)	96,157	96,157	454,322	415,577	376,832	338,087	299,342
CASHFLOW STATEMENT															
Net Income	**173,647**	**134,902**	**96,157**	**57,412**	**18,667**	**(27,886)**	**(81,699)**	**(135,511)**	**96,157**	**96,157**	**454,322**	**415,577**	**376,832**	**338,087**	**299,342**
plus depreciation	550,550	604,363	658,175	711,988	765,800	819,613	873,425	927,238	658,175	658,175	711,988	765,800	819,613	873,425	927,238
Cash flow from operations	**724,197**	**739,264**	**754,332**	**769,399**	**784,467**	**791,726**	**791,726**	**791,726**	**754,332**	**754,332**	**1,166,309**	**1,181,377**	**1,196,444**	**1,211,512**	**1,226,579**
less investments	(24,050,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)
Net cash flow before financing	**(23,326,303)**	**308,764**	**323,832**	**338,899**	**353,967**	**361,226**	**361,226**	**361,226**	**323,832**	**323,832**	**735,809**	**750,877**	**765,944**	**781,012**	**796,079**
Cumulative net cashflow before financing	**(23,326,303)**	**(23,017,539)**	**(22,693,707)**	**(22,354,807)**	**(22,000,840)**	**(21,639,614)**	**(21,278,387)**	**(20,917,161)**	**(20,593,329)**	**(20,269,497)**	**(19,533,688)**	**(18,782,811)**	**(18,016,867)**	**(17,235,855)**	**(16,439,776)**
Internal Rate of Return (IRR)	1.1%														
Net Present Value (NPV)	(13,897,115)														
Annuity (at real discount rate)	(913,242)														
Gross margin	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	46%	46%	46%	46%	46%
EBT profit margin	4%	3%	2%	1%	0%	0%	-1%	-2%	2%	2%	9%	9%	8%	7%	6%

Annexure A7 - Income Statement and Cash Flow Forecast for 64 ha Existing Raisin Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**5,686,175**	**5,502,750**	**5,374,353**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,319,325**	**5,264,298**
less direct costs	(902,632)	(877,962)	(860,548)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)	(854,744)
Gross Profit	**4,783,543**	**4,624,788**	**4,513,804**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,464,581**	**4,409,554**
less overhead costs	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)	(2,131,721)
EBITDA	**2,651,821**	**2,493,066**	**2,382,083**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,332,860**	**2,277,833**
less depreciation	(804,375)	(863,238)	(922,100)	(980,963)	(1,039,825)	(1,098,688)	(1,157,550)	(1,216,413)	(1,057,100)	(1,079,600)	(1,138,463)	(1,197,325)	(1,256,188)	(1,315,050)	(1,373,913)
EBIT	**1,847,446**	**1,629,829**	**1,459,983**	**1,351,898**	**1,293,035**	**1,234,173**	**1,175,310**	**1,116,448**	**1,275,760**	**1,253,260**	**1,194,398**	**1,135,535**	**1,076,673**	**1,017,810**	**903,920**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**1,847,446**	**1,629,829**	**1,459,983**	**1,351,898**	**1,293,035**	**1,234,173**	**1,175,310**	**1,116,448**	**1,275,760**	**1,253,260**	**1,194,398**	**1,135,535**	**1,076,673**	**1,017,810**	**903,920**
less income tax 28%	(517,285)	(456,352)	(408,795)	(378,531)	(362,050)	(345,568)	(329,087)	(312,605)	(357,213)	(350,913)	(334,431)	(317,950)	(301,468)	(284,987)	(253,098)
EAT	1,330,161	1,173,477	1,051,188	973,366	930,985	888,604	846,223	803,842	918,547	902,347	859,966	817,585	775,204	732,823	650,823
CASHFLOW STATEMENT															
Net Income	**1,330,161**	**1,173,477**	**1,051,188**	**973,366**	**930,985**	**888,604**	**846,223**	**803,842**	**918,547**	**902,347**	**859,966**	**817,585**	**775,204**	**732,823**	**650,823**
plus depreciation	804,375	863,238	922,100	980,963	1,039,825	1,098,688	1,157,550	1,216,413	1,057,100	1,079,600	1,138,463	1,197,325	1,256,188	1,315,050	1,373,913
Cash flow from operations	**2,134,536**	**2,036,714**	**1,973,288**	**1,954,329**	**1,970,810**	**1,987,292**	**2,003,773**	**2,020,255**	**1,975,647**	**1,981,947**	**1,998,429**	**2,014,910**	**2,031,392**	**2,047,873**	**2,024,735**
less investments	(19,940,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)
Net cash flow before financing	**(17,806,364)**	**1,295,814**	**1,232,388**	**1,213,429**	**1,229,910**	**1,246,392**	**1,262,873**	**1,279,355**	**1,234,747**	**1,241,047**	**1,257,529**	**1,274,010**	**1,290,492**	**1,306,973**	**1,283,835**
Cumulative net cashflow before financing	**(17,806,364)**	**(16,510,549)**	**(15,278,162)**	**(14,064,733)**	**(12,834,823)**	**(11,588,431)**	**(10,325,557)**	**(9,046,203)**	**(7,811,455)**	**(6,570,408)**	**(5,312,879)**	**(4,038,869)**	**(2,748,377)**	**(1,441,404)**	**(157,569)**
Internal Rate of Return (IRR)	8.5%														
Net Present Value (NPV)	1,512,381														
Annuity (at real discount rate)	99,385														
Gross margin	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
EBT profit margin	32%	30%	27%	25%	24%	23%	22%	21%	24%	24%	22%	21%	20%	19%	17%

Annexure A8 - Income Statement and Cash Flow Forecast for 64 ha Existing Wine Grape Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**3,915,300**	**3,789,000**	**3,700,590**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,662,700**	**3,624,810**
less direct costs	(447,591)	(435,358)	(426,723)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)	(423,844)
Gross Profit	**3,467,709**	**3,353,642**	**3,273,867**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,238,856**	**3,200,966**
less overhead costs	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)
EBITDA	**1,328,052**	**1,213,985**	**1,134,210**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,061,308**
less depreciation	(801,250)	(860,113)	(918,975)	(977,838)	(1,036,700)	(1,095,563)	(1,154,425)	(1,213,288)	(1,053,975)	(1,076,475)	(1,135,338)	(1,194,200)	(1,253,063)	(1,311,925)	(1,370,788)
EBIT	**526,802**	**353,872**	**215,235**	**121,361**	**62,498**	**3,636**	**(55,227)**	**(114,089)**	**45,223**	**22,723**	**(36,139)**	**(95,002)**	**(153,864)**	**(212,727)**	**(309,479)**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**526,802**	**353,872**	**215,235**	**121,361**	**62,498**	**3,636**	**(55,227)**	**(114,089)**	**45,223**	**22,723**	**(36,139)**	**(95,002)**	**(153,864)**	**(212,727)**	**(309,479)**
less income tax 28%	(147,504)	(99,084)	(60,266)	(33,981)	(17,500)	(1,018)	-	-	(12,663)	(6,363)	-	-	-	-	-
EAT	379,297	254,788	154,969	87,380	44,999	2,618	(55,227)	(114,089)	32,561	16,361	(36,139)	(95,002)	(153,864)	(212,727)	(309,479)
CASHFLOW STATEMENT															
Net Income	**379,297**	**254,788**	**154,969**	**87,380**	**44,999**	**2,618**	**(55,227)**	**(114,089)**	**32,561**	**16,361**	**(36,139)**	**(95,002)**	**(153,864)**	**(212,727)**	**(309,479)**
plus depreciation	801,250	860,113	918,975	977,838	1,036,700	1,095,563	1,154,425	1,213,288	1,053,975	1,076,475	1,135,338	1,194,200	1,253,063	1,311,925	1,370,788
Cash flow from operations	**1,180,547**	**1,114,900**	**1,073,944**	**1,065,217**	**1,081,699**	**1,098,180**	**1,099,198**	**1,099,198**	**1,086,536**	**1,092,836**	**1,099,198**	**1,099,198**	**1,099,198**	**1,099,198**	**1,061,308**
less investments	(19,940,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)	(740,900)
Net cash flow before financing	**(18,760,353)**	**374,000**	**333,044**	**324,317**	**340,799**	**357,280**	**358,298**	**358,298**	**345,636**	**351,936**	**358,298**	**358,298**	**358,298**	**358,298**	**320,408**
Cumulative net cashflow before financing	**(18,760,353)**	**(18,386,352)**	**(18,053,308)**	**(17,728,991)**	**(17,388,192)**	**(17,030,912)**	**(16,672,614)**	**(16,314,315)**	**(15,968,679)**	**(15,616,744)**	**(15,258,445)**	**(14,900,147)**	**(14,541,849)**	**(14,183,550)**	**(13,863,142)**
Internal Rate of Return (IRR)	0.2%														
Net Present Value (NPV)	(11,567,904)														
Annuity (at real discount rate)	(760,179)														
Gross margin	89%	89%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%
EBT profit margin	13%	9%	6%	3%	2%	0%	-2%	-3%	1%	1%	-1%	-3%	-4%	-6%	-9%

Annexure A9 - Income Statement and Cash Flow Forecast for 50 ha Existing Tomato & Brassica Seed Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**
less direct costs	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)
Gross Profit	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**
less overhead costs	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)
EBITDA	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**550,908**	**550,908**	**550,908**	**550,908**	**550,908**
less depreciation	(433,700)	(465,713)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)	(497,725)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)
EBIT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less income tax 28%	(12,658)	(3,695)	-	-	-	-	-	-	-	-	(5,928)	-	-	-	-
EAT	32,550	9,501	(18,817)	(50,829)	(82,842)	(114,854)	(146,867)	(178,879)	(18,817)	(18,817)	15,243	(10,842)	(42,854)	(74,867)	(106,879)
CASHFLOW STATEMENT															
Net Income	**32,550**	**9,501**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**15,243**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
plus depreciation	433,700	465,713	497,725	529,738	561,750	593,763	625,775	657,788	497,725	497,725	529,738	561,750	593,763	625,775	657,788
Cash flow from operations	**466,250**	**475,214**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**544,981**	**550,908**	**550,908**	**550,908**	**550,908**
less investments	(10,486,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)
Net cash flow before financing	**(10,019,850)**	**219,114**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**288,881**	**294,808**	**294,808**	**294,808**	**294,808**
Cumulative net cashflow before financing	**(10,019,850)**	**(9,800,736)**	**(9,577,928)**	**(9,355,119)**	**(9,132,311)**	**(8,909,503)**	**(8,686,694)**	**(8,463,886)**	**(8,241,077)**	**(8,018,269)**	**(7,729,388)**	**(7,434,580)**	**(7,139,771)**	**(6,844,963)**	**(6,550,154)**
Internal Rate of Return (IRR)	-0.7%														
Net Present Value (NPV)	(6,282,913)														
Annuity (at real discount rate)	(412,879)														
Gross margin	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%
EBT profit margin	1%	0%	0%	-1%	-1%	-2%	-2%	-2%	0%	0%	0%	0%	-1%	-1%	-1%

Annexure B1 – Income Statement and Cash Flow Forecast for 20 ha Citrus Farm Expansion Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	-	1,630,489	3,260,978	4,891,466	6,521,955	7,096,448	7,096,448	7,096,448	7,096,448	7,096,448	7,096,448	7,096,448	7,096,448
less direct costs	(214,562)	(286,083)	(357,604)	(1,125,795)	(1,965,506)	(2,662,176)	(3,072,763)	(3,265,590)	(3,265,590)	(3,265,590)	(3,265,590)	(3,265,590)	(3,265,590)	(3,265,590)	(3,265,590)
Gross Profit	**(214,562)**	**(286,083)**	**(357,604)**	**504,694**	**1,295,471**	**2,229,290**	**3,449,192**	**3,830,857**	**3,830,857**	**3,830,857**	**3,830,857**	**3,830,857**	**3,830,857**	**3,830,857**	**3,830,857**
less overhead costs	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)	(455,135)
EBITDA	**(669,698)**	**(741,219)**	**(812,739)**	**49,559**	**840,336**	**1,774,155**	**2,994,057**	**3,375,722**	**3,375,722**	**3,375,722**	**3,375,722**	**3,375,722**	**3,375,722**	**3,375,722**	**3,375,722**
less depreciation	(343,888)	(359,150)	(374,413)	(389,675)	(404,938)	(420,200)	(435,463)	(450,725)	(298,100)	(298,100)	(313,363)	(328,625)	(343,888)	(359,150)	(374,413)
EBIT	**(1,013,585)**	**(1,100,369)**	**(1,187,152)**	**(340,116)**	**435,399**	**1,353,955**	**2,558,594**	**2,924,997**	**3,077,622**	**3,077,622**	**3,062,360**	**3,047,097**	**3,031,835**	**3,016,572**	**3,001,310**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(1,013,585)**	**(1,100,369)**	**(1,187,152)**	**(340,116)**	**435,399**	**1,353,955**	**2,558,594**	**2,924,997**	**3,077,622**	**3,077,622**	**3,062,360**	**3,047,097**	**3,031,835**	**3,016,572**	**3,001,310**
less income tax 28%	-	-	-	-	(121,912)	(379,107)	(716,406)	(818,999)	(861,734)	(861,734)	(857,461)	(853,187)	(848,914)	(844,640)	(840,367)
EAT	(1,013,585)	(1,100,369)	(1,187,152)	(340,116)	313,487	974,848	1,842,188	2,105,998	2,215,888	2,215,888	2,204,899	2,193,910	2,182,921	2,171,932	2,160,943
CASHFLOW STATEMENT															
Net Income	**(1,013,585)**	**(1,100,369)**	**(1,187,152)**	**(340,116)**	**313,487**	**974,848**	**1,842,188**	**2,105,998**	**2,215,888**	**2,215,888**	**2,204,899**	**2,193,910**	**2,182,921**	**2,171,932**	**2,160,943**
plus depreciation	343,888	359,150	374,413	389,675	404,938	420,200	435,463	450,725	298,100	298,100	313,363	328,625	343,888	359,150	374,413
Cash flow from operations	**(669,698)**	**(741,219)**	**(812,739)**	**49,559**	**718,424**	**1,395,048**	**2,277,651**	**2,556,723**	**2,513,988**	**2,513,988**	**2,518,261**	**2,522,535**	**2,526,808**	**2,531,082**	**2,535,355**
less investments	(8,863,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)	(122,100)
Net cash flow before financing	**(9,532,798)**	**(863,319)**	**(934,839)**	**(72,541)**	**596,324**	**1,272,948**	**2,155,551**	**2,434,623**	**2,391,888**	**2,391,888**	**2,396,161**	**2,400,435**	**2,404,708**	**2,408,982**	**2,413,255**
Cumulative net cashflow before financing	**(9,532,798)**	**(10,396,116)**	**(11,330,956)**	**(11,403,497)**	**(10,807,172)**	**(9,534,225)**	**(7,378,674)**	**(4,944,051)**	**(2,552,163)**	**(160,276)**	**2,235,886**	**4,636,321**	**7,041,029**	**9,450,011**	**11,863,267**
Internal Rate of Return (IRR)	13.1%														
Net Present Value (NPV)	12,627,707														
Annuity (at real discount rate)	829,824														
Gross margin	N/A	N/A	N/A	31%	40%	46%	53%	54%	54%	54%	54%	54%	54%	54%	54%
EBT profit margin	N/A	N/A	N/A	-21%	13%	28%	39%	41%	43%	43%	43%	43%	43%	43%	42%

Annexure B2 – Income Statement and Cash Flow Forecast for 20 ha Table Grape Farm Expansion Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**-**	**-**	**2,818,704**	**6,576,977**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**	**9,395,681**
less direct costs	(264,792)	(397,187)	(1,646,763)	(3,489,393)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)
Gross Profit	**(264,792)**	**(397,187)**	**1,171,941**	**3,087,584**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**
less overhead costs	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)	(1,043,761)
EBITDA	**(1,308,552)**	**(1,440,948)**	**128,180**	**2,043,823**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**	**3,745,347**
less depreciation	(335,125)	(348,313)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)	(361,500)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)
EBIT	**(1,643,677)**	**(1,789,261)**	**(233,320)**	**1,669,136**	**3,357,472**	**3,344,285**	**3,331,097**	**3,317,910**	**3,383,847**	**3,383,847**	**3,370,660**	**3,357,472**	**3,344,285**	**3,331,097**	**3,317,910**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(1,643,677)**	**(1,789,261)**	**(233,320)**	**1,669,136**	**3,357,472**	**3,344,285**	**3,331,097**	**3,317,910**	**3,383,847**	**3,383,847**	**3,370,660**	**3,357,472**	**3,344,285**	**3,331,097**	**3,317,910**
less income tax 28%	-	-	-	(467,358)	(940,092)	(936,400)	(932,707)	(929,015)	(947,477)	(947,477)	(943,785)	(940,092)	(936,400)	(932,707)	(929,015)
EAT	(1,643,677)	(1,789,261)	(233,320)	1,201,778	2,417,380	2,407,885	2,398,390	2,388,895	2,436,370	2,436,370	2,426,875	2,417,380	2,407,885	2,398,390	2,388,895
CASHFLOW STATEMENT															
Net Income	**(1,643,677)**	**(1,789,261)**	**(233,320)**	**1,201,778**	**2,417,380**	**2,407,885**	**2,398,390**	**2,388,895**	**2,436,370**	**2,436,370**	**2,426,875**	**2,417,380**	**2,407,885**	**2,398,390**	**2,388,895**
plus depreciation	335,125	348,313	361,500	374,688	387,875	401,063	414,250	427,438	361,500	361,500	374,688	387,875	401,063	414,250	427,438
Cash flow from operations	**(1,308,552)**	**(1,440,948)**	**128,180**	**1,576,465**	**2,805,255**	**2,808,948**	**2,812,640**	**2,816,333**	**2,797,870**	**2,797,870**	**2,801,563**	**2,805,255**	**2,808,948**	**2,812,640**	**2,816,333**
less investments	(10,000,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)
Net cash flow before financing	**(11,309,052)**	**(1,546,448)**	**22,680**	**1,470,965**	**2,699,755**	**2,703,448**	**2,707,140**	**2,710,833**	**2,692,370**	**2,692,370**	**2,696,063**	**2,699,755**	**2,703,448**	**2,707,140**	**2,710,833**
Cumulative net cashflow before financing	**(11,309,052)**	**(12,855,501)**	**(12,832,821)**	**(11,361,855)**	**(8,662,100)**	**(5,958,653)**	**(3,251,513)**	**(540,680)**	**2,151,690**	**4,844,060**	**7,540,123**	**10,239,878**	**12,943,326**	**15,650,466**	**18,361,298**
Internal Rate of Return (IRR)	17.3%														
Net Present Value (NPV)	14,896,707														
Annuity (at real discount rate)	978,930														
Gross margin	N/A	N/A	42%	47%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-8%	25%	36%	36%	35%	35%	36%	36%	36%	36%	36%	35%	35%

Annexure B3 - Income Statement and Cash Flow Forecast for 20 ha Table Grape Farm Expansion Zone 3 (Trawal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	2,818,704	6,576,977	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681	9,395,681
less direct costs	(264,792)	(397,187)	(1,646,763)	(3,489,393)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)
Gross Profit	**(264,792)**	**(397,187)**	**1,171,941**	**3,087,584**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**	**4,789,108**
less overhead costs	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)
EBITDA	**(1,349,539)**	**(1,481,935)**	**87,193**	**2,002,836**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**	**3,704,360**
less depreciation	(335,125)	(348,313)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)	(361,500)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)
EBIT	**(1,684,664)**	**(1,830,248)**	**(274,307)**	**1,628,149**	**3,316,485**	**3,303,298**	**3,290,110**	**3,276,923**	**3,342,860**	**3,342,860**	**3,329,673**	**3,316,485**	**3,303,298**	**3,290,110**	**3,276,923**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(1,684,664)**	**(1,830,248)**	**(274,307)**	**1,628,149**	**3,316,485**	**3,303,298**	**3,290,110**	**3,276,923**	**3,342,860**	**3,342,860**	**3,329,673**	**3,316,485**	**3,303,298**	**3,290,110**	**3,276,923**
less income tax 28%	-	-	-	(455,882)	(928,616)	(924,923)	(921,231)	(917,538)	(936,001)	(936,001)	(932,308)	(928,616)	(924,923)	(921,231)	(917,538)
EAT	(1,684,664)	(1,830,248)	(274,307)	1,172,267	2,387,869	2,378,374	2,368,879	2,359,384	2,406,859	2,406,859	2,397,364	2,387,869	2,378,374	2,368,879	2,359,384
CASHFLOW STATEMENT															
Net Income	**(1,684,664)**	**(1,830,248)**	**(274,307)**	**1,172,267**	**2,387,869**	**2,378,374**	**2,368,879**	**2,359,384**	**2,406,859**	**2,406,859**	**2,397,364**	**2,387,869**	**2,378,374**	**2,368,879**	**2,359,384**
plus depreciation	335,125	348,313	361,500	374,688	387,875	401,063	414,250	427,438	361,500	361,500	374,688	387,875	401,063	414,250	427,438
Cash flow from operations	**(1,349,539)**	**(1,481,935)**	**87,193**	**1,546,955**	**2,775,744**	**2,779,437**	**2,783,129**	**2,786,822**	**2,768,359**	**2,768,359**	**2,772,052**	**2,775,744**	**2,779,437**	**2,783,129**	**2,786,822**
less investments	(9,800,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)
Net cash flow before financing	**(11,150,039)**	**(1,587,435)**	**(18,307)**	**1,441,455**	**2,670,244**	**2,673,937**	**2,677,629**	**2,681,322**	**2,662,859**	**2,662,859**	**2,666,552**	**2,670,244**	**2,673,937**	**2,677,629**	**2,681,322**
Cumulative net cashflow before financing	**(11,150,039)**	**(12,737,475)**	**(12,755,782)**	**(11,314,327)**	**(8,644,082)**	**(5,970,146)**	**(3,292,516)**	**(611,194)**	**2,051,665**	**4,714,525**	**7,381,077**	**10,051,321**	**12,725,258**	**15,402,888**	**18,084,210**
Internal Rate of Return (IRR)	17.2%														
Net Present Value (NPV)	14,615,824														
Annuity (at real discount rate)	960,472														
Gross margin	N/A	N/A	42%	47%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-10%	25%	35%	35%	35%	35%	36%	36%	35%	35%	35%	35%	35%

Annexure B4 - Income Statement and Cash Flow Forecast for 20 ha Table Grape Farm Expansion Zone 3 (Vredendal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	2,635,256	6,148,931	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187	8,784,187
less direct costs	(264,792)	(397,187)	(1,646,763)	(3,489,393)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)	(4,606,573)
Gross Profit	**(264,792)**	**(397,187)**	**988,493**	**2,659,538**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**	**4,177,614**
less overhead costs	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)	(1,084,748)
EBITDA	**(1,349,539)**	**(1,481,935)**	**(96,255)**	**1,574,790**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**	**3,092,866**
less depreciation	(335,125)	(348,313)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)	(361,500)	(361,500)	(374,688)	(387,875)	(401,063)	(414,250)	(427,438)
EBIT	**(1,684,664)**	**(1,830,248)**	**(457,755)**	**1,200,103**	**2,704,991**	**2,691,803**	**2,678,616**	**2,665,428**	**2,731,366**	**2,731,366**	**2,718,178**	**2,704,991**	**2,691,803**	**2,678,616**	**2,665,428**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(1,684,664)**	**(1,830,248)**	**(457,755)**	**1,200,103**	**2,704,991**	**2,691,803**	**2,678,616**	**2,665,428**	**2,731,366**	**2,731,366**	**2,718,178**	**2,704,991**	**2,691,803**	**2,678,616**	**2,665,428**
less income tax 28%	-	-	-	(336,029)	(757,397)	(753,705)	(750,012)	(746,320)	(764,782)	(764,782)	(761,090)	(757,397)	(753,705)	(750,012)	(746,320)
EAT	(1,684,664)	(1,830,248)	(457,755)	864,074	1,947,593	1,938,098	1,928,603	1,919,108	1,966,583	1,966,583	1,957,088	1,947,593	1,938,098	1,928,603	1,919,108
CASHFLOW STATEMENT															
Net Income	**(1,684,664)**	**(1,830,248)**	**(457,755)**	**864,074**	**1,947,593**	**1,938,098**	**1,928,603**	**1,919,108**	**1,966,583**	**1,966,583**	**1,957,088**	**1,947,593**	**1,938,098**	**1,928,603**	**1,919,108**
plus depreciation	335,125	348,313	361,500	374,688	387,875	401,063	414,250	427,438	361,500	361,500	374,688	387,875	401,063	414,250	427,438
Cash flow from operations	**(1,349,539)**	**(1,481,935)**	**(96,255)**	**1,238,761**	**2,335,468**	**2,339,161**	**2,342,853**	**2,346,546**	**2,328,083**	**2,328,083**	**2,331,776**	**2,335,468**	**2,339,161**	**2,342,853**	**2,346,546**
less investments	(9,400,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)	(105,500)
Net cash flow before financing	**(10,750,039)**	**(1,587,435)**	**(201,755)**	**1,133,261**	**2,229,968**	**2,233,661**	**2,237,353**	**2,241,046**	**2,222,583**	**2,222,583**	**2,226,276**	**2,229,968**	**2,233,661**	**2,237,353**	**2,241,046**
Cumulative net cashflow before financing	**(10,750,039)**	**(12,337,475)**	**(12,539,230)**	**(11,405,969)**	**(9,176,000)**	**(6,942,339)**	**(4,704,986)**	**(2,463,940)**	**(241,356)**	**1,981,227**	**4,207,503**	**6,437,471**	**8,671,132**	**10,908,486**	**13,149,532**
Internal Rate of Return (IRR)	14.6%														
Net Present Value (NPV)	10,249,515														
Annuity (at real discount rate)	673,542														
Gross margin	N/A	N/A	38%	43%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
EBT profit margin	N/A	N/A	-17%	20%	31%	31%	30%	30%	31%	31%	31%	31%	31%	30%	30%

Annexure B5 - Income Statement and Cash Flow Forecast for 20 ha Potato & Wheat Farm Expansion Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**	**1,537,280**
less direct costs	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(951,642)	(813,826)	(813,826)	(813,826)	(813,826)	(813,826)
Gross Profit	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**585,638**	**723,454**	**723,454**	**723,454**	**723,454**	**723,454**
less overhead costs	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)	(194,360)
EBITDA	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**391,278**	**529,094**	**529,094**	**529,094**	**529,094**	**529,094**
less depreciation	(78,825)	(89,013)	(99,200)	(109,388)	(119,575)	(129,763)	(139,950)	(150,138)	(99,200)	(99,200)	(109,388)	(119,575)	(129,763)	(139,950)	(150,138)
EBIT	**312,453**	**302,266**	**292,078**	**281,891**	**271,703**	**261,516**	**251,328**	**241,141**	**292,078**	**292,078**	**419,707**	**409,519**	**399,332**	**389,144**	**378,957**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**312,453**	**302,266**	**292,078**	**281,891**	**271,703**	**261,516**	**251,328**	**241,141**	**292,078**	**292,078**	**419,707**	**409,519**	**399,332**	**389,144**	**378,957**
less income tax 28%	(87,487)	(84,634)	(81,782)	(78,929)	(76,077)	(73,224)	(70,372)	(67,519)	(81,782)	(81,782)	(117,518)	(114,665)	(111,813)	(108,960)	(106,108)
EAT	224,966	217,631	210,296	202,961	195,626	188,291	180,956	173,621	210,296	210,296	302,189	294,854	287,519	280,184	272,849
CASHFLOW STATEMENT															
Net Income	**224,966**	**217,631**	**210,296**	**202,961**	**195,626**	**188,291**	**180,956**	**173,621**	**210,296**	**210,296**	**302,189**	**294,854**	**287,519**	**280,184**	**272,849**
plus depreciation	78,825	89,013	99,200	109,388	119,575	129,763	139,950	150,138	99,200	99,200	109,388	119,575	129,763	139,950	150,138
Cash flow from operations	**303,791**	**306,644**	**309,496**	**312,349**	**315,201**	**318,054**	**320,906**	**323,759**	**309,496**	**309,496**	**411,576**	**414,429**	**417,281**	**420,134**	**422,986**
less investments	(2,769,000)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)
Net cash flow before financing	**(2,465,209)**	**225,144**	**227,996**	**230,849**	**233,701**	**236,554**	**239,406**	**242,259**	**227,996**	**227,996**	**330,076**	**332,929**	**335,781**	**338,634**	**341,486**
Cumulative net cashflow before financing	**(2,465,209)**	**(2,240,065)**	**(2,012,068)**	**(1,781,219)**	**(1,547,518)**	**(1,310,964)**	**(1,071,558)**	**(829,299)**	**(601,303)**	**(373,306)**	**(43,230)**	**289,699**	**625,480**	**964,114**	**1,305,600**
Internal Rate of Return (IRR)	13.8%														
Net Present Value (NPV)	1,403,583														
Annuity (at real discount rate)	92,236														
Gross margin	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	47%	47%	47%	47%	47%
EBT profit margin	20%	20%	19%	18%	18%	17%	16%	16%	19%	19%	27%	27%	26%	25%	25%

Annexure B6 - Income Statement and Cash Flow Forecast for 20 ha Raisin Farm Expansion Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	550,275	1,283,975	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250	1,834,250
less direct costs	(29,460)	(44,190)	(117,840)	(235,679)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)	(294,599)
Gross Profit	(29,460)	(44,190)	432,435	1,048,296	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651	1,539,651
less overhead costs	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)
EBITDA	(421,559)	(436,289)	40,336	656,196	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552	1,147,552
less depreciation	(321,000)	(334,750)	(348,500)	(362,250)	(376,000)	(389,750)	(403,500)	(417,250)	(348,500)	(348,500)	(362,250)	(376,000)	(389,750)	(403,500)	(417,250)
EBIT	(742,559)	(771,039)	(308,164)	293,946	771,552	757,802	744,052	730,302	799,052	799,052	785,302	771,552	757,802	744,052	730,302
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	(742,559)	(771,039)	(308,164)	293,946	771,552	757,802	744,052	730,302	799,052	799,052	785,302	771,552	757,802	744,052	730,302
less income tax 28%	-	-	-	(82,305)	(216,034)	(212,184)	(208,334)	(204,484)	(223,734)	(223,734)	(219,884)	(216,034)	(212,184)	(208,334)	(204,484)
EAT	(742,559)	(771,039)	(308,164)	211,641	555,517	545,617	535,717	525,817	575,317	575,317	565,417	555,517	545,617	535,717	525,817
CASHFLOW STATEMENT															
Net Income	(742,559)	(771,039)	(308,164)	211,641	555,517	545,617	535,717	525,817	575,317	575,317	565,417	555,517	545,617	535,717	525,817
plus depreciation	321,000	334,750	348,500	362,250	376,000	389,750	403,500	417,250	348,500	348,500	362,250	376,000	389,750	403,500	417,250
Cash flow from operations	(421,559)	(436,289)	40,336	573,891	931,517	935,367	939,217	943,067	923,817	923,817	927,667	931,517	935,367	939,217	943,067
less investments	(9,607,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)	(110,000)
Net cash flow before financing	(10,028,559)	(546,289)	(69,664)	463,891	821,517	825,367	829,217	833,067	813,817	813,817	817,667	821,517	825,367	829,217	833,067
Cumulative net cashflow before financing	(10,028,559)	(10,574,849)	(10,644,513)	(10,180,621)	(9,359,104)	(8,533,737)	(7,704,520)	(6,871,453)	(6,057,636)	(5,243,819)	(4,426,151)	(3,604,634)	(2,779,267)	(1,950,050)	(1,116,983)
Internal Rate of Return (IRR)	5.1%														
Net Present Value (NPV)	(1,741,765)														
Annuity (at real discount rate)	(114,459)														
Gross margin	N/A	N/A	79%	82%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
EBT profit margin	N/A	N/A	-56%	23%	42%	41%	41%	40%	44%	44%	43%	42%	41%	41%	40%

Annexure B7 - Income Statement and Cash Flow Forecast for 20 ha Wine Grape Farm Expansion Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	378,900	884,100	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000	1,263,000
less direct costs	(14,392)	(21,588)	(57,568)	(115,136)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)	(143,920)
Gross Profit	**(14,392)**	**(21,588)**	**321,332**	**768,964**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**	**1,119,080**
less overhead costs	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)	(392,100)
EBITDA	**(406,492)**	**(413,688)**	**(70,768)**	**376,864**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**	**726,980**
less depreciation	(324,150)	(338,425)	(352,700)	(366,975)	(381,250)	(395,525)	(409,800)	(424,075)	(352,700)	(352,700)	(366,975)	(381,250)	(395,525)	(409,800)	(424,075)
EBIT	**(730,642)**	**(752,113)**	**(423,468)**	**9,889**	**345,730**	**331,455**	**317,180**	**302,905**	**374,280**	**374,280**	**360,005**	**345,730**	**331,455**	**317,180**	**302,905**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(730,642)**	**(752,113)**	**(423,468)**	**9,889**	**345,730**	**331,455**	**317,180**	**302,905**	**374,280**	**374,280**	**360,005**	**345,730**	**331,455**	**317,180**	**302,905**
less income tax 28%	-	-	-	(2,769)	(96,805)	(92,808)	(88,811)	(84,814)	(104,799)	(104,799)	(100,802)	(96,805)	(92,808)	(88,811)	(84,814)
EAT	(730,642)	(752,113)	(423,468)	7,120	248,926	238,648	228,370	218,092	269,482	269,482	259,204	248,926	238,648	228,370	218,092
CASHFLOW STATEMENT															
Net Income	**(730,642)**	**(752,113)**	**(423,468)**	**7,120**	**248,926**	**238,648**	**228,370**	**218,092**	**269,482**	**269,482**	**259,204**	**248,926**	**238,648**	**228,370**	**218,092**
plus depreciation	324,150	338,425	352,700	366,975	381,250	395,525	409,800	424,075	352,700	352,700	366,975	381,250	395,525	409,800	424,075
Cash flow from operations	**(406,492)**	**(413,688)**	**(70,768)**	**374,095**	**630,176**	**634,173**	**638,170**	**642,167**	**622,182**	**622,182**	**626,179**	**630,176**	**634,173**	**638,170**	**642,167**
less investments	(8,696,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)	(114,200)
Net cash flow before financing	**(9,102,692)**	**(527,888)**	**(184,968)**	**259,895**	**515,976**	**519,973**	**523,970**	**527,967**	**507,982**	**507,982**	**511,979**	**515,976**	**519,973**	**523,970**	**527,967**
Cumulative net cashflow before financing	**(9,102,692)**	**(9,630,579)**	**(9,815,547)**	**(9,555,651)**	**(9,039,675)**	**(8,519,702)**	**(7,995,732)**	**(7,467,765)**	**(6,959,783)**	**(6,451,801)**	**(5,939,823)**	**(5,423,847)**	**(4,903,874)**	**(4,379,904)**	**(3,851,937)**
Internal Rate of Return (IRR)	1.6%														
Net Present Value (NPV)	(4,250,712)														
Annuity (at real discount rate)	(279,333)														
Gross margin	N/A	N/A	85%	87%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%
EBT profit margin	N/A	N/A	-112%	1%	27%	26%	25%	24%	30%	30%	29%	27%	26%	25%	24%

Annexure B8 - Income Statement and Cash Flow Forecast for 20 ha Tomato & Brassica Seed Farm Expansion Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**	**3,027,000**
less direct costs	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,157,772)	(2,128,972)	(2,128,972)	(2,128,972)	(2,128,972)	(2,128,972)
Gross Profit	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**869,228**	**898,028**	**898,028**	**898,028**	**898,028**	**898,028**
less overhead costs	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)	(336,256)
EBITDA	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**532,972**	**561,772**	**561,772**	**561,772**	**561,772**	**561,772**
less depreciation	(95,625)	(105,813)	(116,000)	(126,188)	(136,375)	(146,563)	(156,750)	(166,938)	(116,000)	(116,000)	(126,188)	(136,375)	(146,563)	(156,750)	(166,938)
EBIT	**437,347**	**427,160**	**416,972**	**406,785**	**396,597**	**386,410**	**376,222**	**366,035**	**416,972**	**416,972**	**435,585**	**425,397**	**415,210**	**405,022**	**394,835**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**437,347**	**427,160**	**416,972**	**406,785**	**396,597**	**386,410**	**376,222**	**366,035**	**416,972**	**416,972**	**435,585**	**425,397**	**415,210**	**405,022**	**394,835**
less income tax 28%	(122,457)	(119,605)	(116,752)	(113,900)	(111,047)	(108,195)	(105,342)	(102,490)	(116,752)	(116,752)	(121,964)	(119,111)	(116,259)	(113,406)	(110,554)
EAT	314,890	307,555	300,220	292,885	285,550	278,215	270,880	263,545	300,220	300,220	313,621	306,286	298,951	291,616	284,281
CASHFLOW STATEMENT															
Net Income	**314,890**	**307,555**	**300,220**	**292,885**	**285,550**	**278,215**	**270,880**	**263,545**	**300,220**	**300,220**	**313,621**	**306,286**	**298,951**	**291,616**	**284,281**
plus depreciation	95,625	105,813	116,000	126,188	136,375	146,563	156,750	166,938	116,000	116,000	126,188	136,375	146,563	156,750	166,938
Cash flow from operations	**410,515**	**413,368**	**416,220**	**419,073**	**421,925**	**424,778**	**427,630**	**430,483**	**416,220**	**416,220**	**439,809**	**442,661**	**445,514**	**448,366**	**451,219**
less investments	(5,493,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)	(81,500)
Net cash flow before financing	**(5,082,985)**	**331,868**	**334,720**	**337,573**	**340,425**	**343,278**	**346,130**	**348,983**	**334,720**	**334,720**	**358,309**	**361,161**	**364,014**	**366,866**	**369,719**
Cumulative net cashflow before financing	**(5,082,985)**	**(4,751,117)**	**(4,416,397)**	**(4,078,825)**	**(3,738,399)**	**(3,395,122)**	**(3,048,992)**	**(2,700,009)**	**(2,365,289)**	**(2,030,569)**	**(1,672,260)**	**(1,311,099)**	**(947,086)**	**(580,220)**	**(210,501)**
Internal Rate of Return (IRR)	9.0%														
Net Present Value (NPV)	558,610														
Annuity (at real discount rate)	36,709														
Gross margin	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%
EBT profit margin	14%	14%	14%	13%	13%	13%	12%	12%	14%	14%	14%	14%	14%	13%	13%

Annexure C1 – Income Statement and Cash Flow Forecast for 90 ha New Citrus Farm Zone 1

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	-	2,862,640	8,587,921	15,906,551	23,225,181	28,680,287	31,272,754	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224
less direct costs	(376,206)	(877,814)	(1,340,294)	(2,882,897)	(5,772,143)	(9,224,384)	(11,994,771)	(13,738,151)	(14,479,664)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)
Gross Profit	**(376,206)**	**(877,814)**	**(1,340,294)**	**(20,257)**	**2,815,778**	**6,682,167**	**11,230,410**	**14,942,136**	**16,793,090**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**
less overhead costs	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)
EBITDA	**(4,399,633)**	**(4,901,240)**	**(5,363,720)**	**(4,043,683)**	**(1,207,649)**	**2,658,741**	**7,206,983**	**10,918,709**	**12,769,663**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**
less depreciation	(1,347,700)	(1,663,775)	(1,878,600)	(1,958,425)	(2,038,250)	(2,118,075)	(2,197,900)	(2,277,725)	(1,479,475)	(1,479,475)	(1,559,300)	(1,639,125)	(1,718,950)	(1,798,775)	(1,878,600)
EBIT	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**540,666**	**5,009,083**	**8,640,984**	**11,290,188**	**11,688,447**	**11,608,622**	**11,528,797**	**11,448,972**	**11,369,147**	**11,289,322**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**540,666**	**5,009,083**	**8,640,984**	**11,290,188**	**11,688,447**	**11,608,622**	**11,528,797**	**11,448,972**	**11,369,147**	**11,289,322**
less income tax 28%	-	-	-	-	-	(151,386)	(1,402,543)	(2,419,476)	(3,161,253)	(3,272,765)	(3,250,414)	(3,228,063)	(3,205,712)	(3,183,361)	(3,161,010)
EAT	(5,747,333)	(6,565,015)	(7,242,320)	(6,002,108)	(3,245,899)	389,279	3,606,540	6,221,509	8,128,935	8,415,682	8,358,208	8,300,734	8,243,260	8,185,786	8,128,312
CASHFLOW STATEMENT															
Net Income	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**389,279**	**3,606,540**	**6,221,509**	**8,128,935**	**8,415,682**	**8,358,208**	**8,300,734**	**8,243,260**	**8,185,786**	**8,128,312**
plus depreciation	1,347,700	1,663,775	1,878,600	1,958,425	2,038,250	2,118,075	2,197,900	2,277,725	1,479,475	1,479,475	1,559,300	1,639,125	1,718,950	1,798,775	1,878,600
Cash flow from operations	**(4,399,633)**	**(4,901,240)**	**(5,363,720)**	**(4,043,683)**	**(1,207,649)**	**2,507,354**	**5,804,440**	**8,499,234**	**9,608,410**	**9,895,157**	**9,917,508**	**9,939,859**	**9,962,210**	**9,984,561**	**10,006,912**
less investments	(48,122,100)	(5,363,600)	(3,338,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)
Net cash flow before financing	**(52,521,733)**	**(10,264,840)**	**(8,702,320)**	**(4,682,283)**	**(1,846,249)**	**1,868,754**	**5,165,840**	**7,860,634**	**8,969,810**	**9,256,557**	**9,278,908**	**9,301,259**	**9,323,610**	**9,345,961**	**9,368,312**
Cumulative net cashflow before financing	**(52,521,733)**	**(62,786,573)**	**(71,488,893)**	**(76,171,177)**	**(78,017,426)**	**(76,148,672)**	**(70,982,832)**	**(63,122,198)**	**(54,152,388)**	**(44,895,831)**	**(35,616,922)**	**(26,315,663)**	**(16,992,053)**	**(7,646,092)**	**1,722,220**
Internal Rate of Return (IRR)	2.4%														
Net Present Value (NPV)	(9,862,623)														
Annuity (at real discount rate)	(648,118)														
Gross margin	N/A	N/A	N/A	-1%	33%	42%	48%	52%	54%	54%	54%	54%	54%	54%	54%
EBT profit margin	N/A	N/A	N/A	-210%	-38%	3%	22%	30%	36%	37%	36%	36%	36%	36%	35%

Annexure C2 – Income Statement and Cash Flow Forecast for 90 ha New Citrus Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	-	2 862 640	8 587 921	15 906 551	23 225 181	28 680 287	31 272 754	31 872 224	31 872 224	31 872 224	31 872 224	31 872 224	31 872 224
less direct costs	(376 206)	(877 814)	(1 340 294)	(2 882 897)	(5 772 143)	(9 224 384)	(11 994 771)	(13 738 151)	(14 479 664)	(14 680 875)	(14 680 875)	(14 680 875)	(14 680 875)	(14 680 875)	(14 680 875)
Gross Profit	**(376 206)**	**(877 814)**	**(1 340 294)**	**(20 257)**	**2 815 778**	**6 682 167**	**11 230 410**	**14 942 136**	**16 793 090**	**17 191 349**	**17 191 349**	**17 191 349**	**17 191 349**	**17 191 349**	**17 191 349**
less overhead costs	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)	(4 066 098)
EBITDA	**(4 442 304)**	**(4 943 912)**	**(5 406 392)**	**(4 086 355)**	**(1 250 320)**	**2 616 069**	**7 164 312**	**10 876 038**	**12 726 992**	**13 125 251**	**13 125 251**	**13 125 251**	**13 125 251**	**13 125 251**	**13 125 251**
less depreciation	(1 347 700)	(1 663 775)	(1 878 600)	(1 958 425)	(2 038 250)	(2 118 075)	(2 197 900)	(2 277 725)	(1 479 475)	(1 479 475)	(1 559 300)	(1 639 125)	(1 718 950)	(1 798 775)	(1 878 600)
EBIT	**(5 790 004)**	**(6 607 687)**	**(7 284 992)**	**(6 044 780)**	**(3 288 570)**	**497 994**	**4 966 412**	**8 598 313**	**11 247 517**	**11 645 776**	**11 565 951**	**11 486 126**	**11 406 301**	**11 326 476**	**11 246 651**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5 790 004)**	**(6 607 687)**	**(7 284 992)**	**(6 044 780)**	**(3 288 570)**	**497 994**	**4 966 412**	**8 598 313**	**11 247 517**	**11 645 776**	**11 565 951**	**11 486 126**	**11 406 301**	**11 326 476**	**11 246 651**
less income tax 28%	-	-	-	-	-	(139 438)	(1 390 595)	(2 407 528)	(3 149 305)	(3 260 817)	(3 238 466)	(3 216 115)	(3 193 764)	(3 171 413)	(3 149 062)
EAT	(5 790 004)	(6 607 687)	(7 284 992)	(6 044 780)	(3 288 570)	358 556	3 575 817	6 190 785	8 098 212	8 384 959	8 327 485	8 270 011	8 212 537	8 155 063	8 097 589
CASHFLOW STATEMENT															
Net Income	**(5 790 004)**	**(6 607 687)**	**(7 284 992)**	**(6 044 780)**	**(3 288 570)**	**358 556**	**3 575 817**	**6 190 785**	**8 098 212**	**8 384 959**	**8 327 485**	**8 270 011**	**8 212 537**	**8 155 063**	**8 097 589**
plus depreciation	1 347 700	1 663 775	1 878 600	1 958 425	2 038 250	2 118 075	2 197 900	2 277 725	1 479 475	1 479 475	1 559 300	1 639 125	1 718 950	1 798 775	1 878 600
Cash flow from operations	**(4 442 304)**	**(4 943 912)**	**(5 406 392)**	**(4 086 355)**	**(1 250 320)**	**2 476 631**	**5 773 717**	**8 468 510**	**9 577 687**	**9 864 434**	**9 886 785**	**9 909 136**	**9 931 487**	**9 953 838**	**9 976 189**
less investments	(35 934 600)	(5 363 600)	(3 338 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)	(638 600)
Net cash flow before financing	**(40 376 904)**	**(10 307 512)**	**(8 744 992)**	**(4 724 955)**	**(1 888 920)**	**1 838 031**	**5 135 117**	**7 829 910**	**8 939 087**	**9 225 834**	**9 248 185**	**9 270 536**	**9 292 887**	**9 315 238**	**9 337 589**
Cumulative net cashflow before financing	**(40 376 904)**	**(50 684 415)**	**(59 429 407)**	**(64 154 362)**	**(66 043 282)**	**(64 205 251)**	**(59 070 135)**	**(51 240 224)**	**(42 301 137)**	**(33 075 304)**	**(23 827 119)**	**(14 556 583)**	**(5 263 697)**	**4 051 541**	**13 389 130**

Internal Rate of Return (IRR)	4.6%														
Net Present Value (NPV)	1 851 156														
Annuity (at real discount rate)	121 648														
Gross margin	N/A	N/A	N/A	-1%	33%	42%	48%	52%	54%	54%	54%	54%	54%	54%	54%
EBT profit margin	N/A	N/A	N/A	-211%	-38%	3%	21%	30%	36%	37%	36%	36%	36%	36%	35%

Annexure C3 - Income Statement and Cash Flow Forecast for 50 ha New Table Grape Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	3 523 381	11 744 602	19 965 823	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203	23 489 203
less direct costs	(330 989)	(827 474)	(2 554 939)	(6 420 195)	(10 119 957)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)	(11 516 433)
Gross Profit	**(330 989)**	**(827 474)**	**968 442**	**5 324 406**	**9 845 866**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**	**11 972 771**
less overhead costs	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)	(3 678 100)
EBITDA	**(4 009 089)**	**(4 505 573)**	**(2 709 658)**	**1 646 307**	**6 167 766**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**	**8 294 671**
less depreciation	(899 425)	(1 225 600)	(1 276 775)	(1 327 950)	(1 379 125)	(1 430 300)	(1 481 475)	(1 532 650)	(1 276 775)	(1 276 775)	(1 327 950)	(1 379 125)	(1 430 300)	(1 481 475)	(1 532 650)
EBIT	**(4 908 514)**	**(5 731 173)**	**(3 986 433)**	**318 357**	**4 788 641**	**6 864 371**	**6 813 196**	**6 762 021**	**7 017 896**	**7 017 896**	**6 966 721**	**6 915 546**	**6 864 371**	**6 813 196**	**6 762 021**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(4 908 514)**	**(5 731 173)**	**(3 986 433)**	**318 357**	**4 788 641**	**6 864 371**	**6 813 196**	**6 762 021**	**7 017 896**	**7 017 896**	**6 966 721**	**6 915 546**	**6 864 371**	**6 813 196**	**6 762 021**
less income tax 28%	-	-	-	(89 140)	(1 340 819)	(1 922 024)	(1 907 695)	(1 893 366)	(1 965 011)	(1 965 011)	(1 950 682)	(1 936 353)	(1 922 024)	(1 907 695)	(1 893 366)
EAT	(4 908 514)	(5 731 173)	(3 986 433)	229 217	3 447 821	4 942 347	4 905 501	4 868 655	5 052 885	5 052 885	5 016 039	4 979 193	4 942 347	4 905 501	4 868 655
CASHFLOW STATEMENT															
Net Income	**(4 908 514)**	**(5 731 173)**	**(3 986 433)**	**229 217**	**3 447 821**	**4 942 347**	**4 905 501**	**4 868 655**	**5 052 885**	**5 052 885**	**5 016 039**	**4 979 193**	**4 942 347**	**4 905 501**	**4 868 655**
plus depreciation	899 425	1 225 600	1 276 775	1 327 950	1 379 125	1 430 300	1 481 475	1 532 650	1 276 775	1 276 775	1 327 950	1 379 125	1 430 300	1 481 475	1 532 650
Cash flow from operations	**(4 009 089)**	**(4 505 573)**	**(2 709 658)**	**1 557 167**	**4 826 946**	**6 372 647**	**6 386 976**	**6 401 305**	**6 329 660**	**6 329 660**	**6 343 989**	**6 358 318**	**6 372 647**	**6 386 976**	**6 401 305**
less investments	(33 180 400)	(5 909 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)	(409 400)
Net cash flow before financing	**(37 189 489)**	**(10 414 973)**	**(3 119 058)**	**1 147 767**	**4 417 546**	**5 963 247**	**5 977 576**	**5 991 905**	**5 920 260**	**5 920 260**	**5 934 589**	**5 948 918**	**5 963 247**	**5 977 576**	**5 991 905**
Cumulative net cashflow before financing	**(37 189 489)**	**(47 604 462)**	**(50 723 520)**	**(49 575 753)**	**(45 158 207)**	**(39 194 960)**	**(33 217 384)**	**(27 225 479)**	**(21 305 219)**	**(15 384 959)**	**(9 450 370)**	**(3 501 452)**	**2 461 795**	**8 439 371**	**14 431 277**
Internal Rate of Return (IRR)	8.7%														
Net Present Value (NPV)	8 464 726														
Annuity (at real discount rate)	556 255														
Gross margin	N/A	N/A	27%	45%	49%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-113%	3%	24%	29%	29%	29%	30%	30%	30%	29%	29%	29%	29%

Annexure C4 - Income Statement and Cash Flow Forecast for 50 ha New Table Grape Farm Zone 3 (Trawal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	3,523,381	11,744,602	19,965,823	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203
less direct costs	(330,989)	(827,474)	(2,554,939)	(6,420,195)	(10,119,957)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)
Gross Profit	**(330,989)**	**(827,474)**	**968,442**	**5,324,406**	**9,845,866**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**
less overhead costs	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)
EBITDA	**(4,111,557)**	**(4,608,041)**	**(2,812,125)**	**1,543,839**	**6,065,298**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**
less depreciation	(899,425)	(1,225,600)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)	(1,276,775)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)
EBIT	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**215,889**	**4,686,173**	**6,761,903**	**6,710,728**	**6,659,553**	**6,915,428**	**6,915,428**	**6,864,253**	**6,813,078**	**6,761,903**	**6,710,728**	**6,659,553**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**215,889**	**4,686,173**	**6,761,903**	**6,710,728**	**6,659,553**	**6,915,428**	**6,915,428**	**6,864,253**	**6,813,078**	**6,761,903**	**6,710,728**	**6,659,553**
less income tax 28%	-	-	-	(60,449)	(1,312,129)	(1,893,333)	(1,879,004)	(1,864,675)	(1,936,320)	(1,936,320)	(1,921,991)	(1,907,662)	(1,893,333)	(1,879,004)	(1,864,675)
EAT	(5,010,982)	(5,833,641)	(4,088,900)	155,440	3,374,045	4,868,570	4,831,724	4,794,878	4,979,108	4,979,108	4,942,262	4,905,416	4,868,570	4,831,724	4,794,878
CASHFLOW STATEMENT															
Net Income	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**155,440**	**3,374,045**	**4,868,570**	**4,831,724**	**4,794,878**	**4,979,108**	**4,979,108**	**4,942,262**	**4,905,416**	**4,868,570**	**4,831,724**	**4,794,878**
plus depreciation	899,425	1,225,600	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650	1,276,775	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650
Cash flow from operations	**(4,111,557)**	**(4,608,041)**	**(2,812,125)**	**1,483,390**	**4,753,170**	**6,298,870**	**6,313,199**	**6,327,528**	**6,255,883**	**6,255,883**	**6,270,212**	**6,284,541**	**6,298,870**	**6,313,199**	**6,327,528**
less investments	(32,680,400)	(5,909,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)
Net cash flow before financing	**(36,791,957)**	**(10,517,441)**	**(3,221,525)**	**1,073,990**	**4,343,770**	**5,889,470**	**5,903,799**	**5,918,128**	**5,846,483**	**5,846,483**	**5,860,812**	**5,875,141**	**5,889,470**	**5,903,799**	**5,918,128**
Cumulative net cashflow before financing	**(36,791,957)**	**(47,309,397)**	**(50,530,923)**	**(49,456,932)**	**(45,113,163)**	**(39,223,692)**	**(33,319,893)**	**(27,401,764)**	**(21,555,281)**	**(15,708,797)**	**(9,847,985)**	**(3,972,843)**	**1,916,627**	**7,820,426**	**13,738,555**
Internal Rate of Return (IRR)	8.5%														
Net Present Value (NPV)	7,762,517														
Annuity (at real discount rate)	510,110														
Gross margin	N/A	N/A	27%	45%	49%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-116%	2%	23%	29%	29%	28%	29%	29%	29%	29%	29%	29%	28%

Annexure C5 - Income Statement and Cash Flow Forecast for 50 ha New Table Grape Farm Zone 3 (Vredendal)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	3,294,070	10,980,234	18,666,397	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467	21,960,467
less direct costs	(330,989)	(827,474)	(2,554,939)	(6,420,195)	(10,119,957)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)
Gross Profit	**(330,989)**	**(827,474)**	**739,132**	**4,560,038**	**8,546,440**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**	**10,444,034**
less overhead costs	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)
EBITDA	**(4,111,557)**	**(4,608,041)**	**(3,041,436)**	**779,471**	**4,765,873**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**	**6,663,467**
less depreciation	(899,425)	(1,225,600)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)	(1,276,775)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)
EBIT	**(5,010,982)**	**(5,833,641)**	**(4,318,211)**	**(548,479)**	**3,386,748**	**5,233,167**	**5,181,992**	**5,130,817**	**5,386,692**	**5,386,692**	**5,335,517**	**5,284,342**	**5,233,167**	**5,181,992**	**5,130,817**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,010,982)**	**(5,833,641)**	**(4,318,211)**	**(548,479)**	**3,386,748**	**5,233,167**	**5,181,992**	**5,130,817**	**5,386,692**	**5,386,692**	**5,335,517**	**5,284,342**	**5,233,167**	**5,181,992**	**5,130,817**
less income tax 28%	-	-	-	-	(948,289)	(1,465,287)	(1,450,958)	(1,436,629)	(1,508,274)	(1,508,274)	(1,493,945)	(1,479,616)	(1,465,287)	(1,450,958)	(1,436,629)
EAT	(5,010,982)	(5,833,641)	(4,318,211)	(548,479)	2,438,458	3,767,880	3,731,034	3,694,188	3,878,418	3,878,418	3,841,572	3,804,726	3,767,880	3,731,034	3,694,188
CASHFLOW STATEMENT															
Net Income	**(5,010,982)**	**(5,833,641)**	**(4,318,211)**	**(548,479)**	**2,438,458**	**3,767,880**	**3,731,034**	**3,694,188**	**3,878,418**	**3,878,418**	**3,841,572**	**3,804,726**	**3,767,880**	**3,731,034**	**3,694,188**
plus depreciation	899,425	1,225,600	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650	1,276,775	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650
Cash flow from operations	**(4,111,557)**	**(4,608,041)**	**(3,041,436)**	**779,471**	**3,817,583**	**5,198,180**	**5,212,509**	**5,226,838**	**5,155,193**	**5,155,193**	**5,169,522**	**5,183,851**	**5,198,180**	**5,212,509**	**5,226,838**
less investments	(31,680,400)	(5,909,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)
Net cash flow before financing	**(35,791,957)**	**(10,517,441)**	**(3,450,836)**	**370,071**	**3,408,183**	**4,788,780**	**4,803,109**	**4,817,438**	**4,745,793**	**4,745,793**	**4,760,122**	**4,774,451**	**4,788,780**	**4,803,109**	**4,817,438**
Cumulative net cashflow before financing	**(35,791,957)**	**(46,309,397)**	**(49,760,233)**	**(49,390,162)**	**(45,981,979)**	**(41,193,198)**	**(36,390,089)**	**(31,572,651)**	**(26,826,857)**	**(22,081,064)**	**(17,320,941)**	**(12,546,490)**	**(7,757,710)**	**(2,954,600)**	**1,862,838**
Internal Rate of Return (IRR)	6.3%														
Net Present Value (NPV)	(2,478,262)														
Annuity (at real discount rate)	(162,858)														
Gross margin	N/A	N/A	22%	42%	46%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
EBT profit margin	N/A	N/A	-131%	-5%	18%	24%	24%	23%	25%	25%	24%	24%	24%	24%	23%

Annexure C6 - Income Statement and Cash Flow Forecast for 90 ha New Potato & Wheat Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**
less direct costs	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)
Gross Profit	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**
less overhead costs	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)
EBITDA	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**
less depreciation	(550,550)	(604,363)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)	(658,175)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)
EBIT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less income tax 28%	(67,529)	(52,462)	(37,394)	(22,327)	(7,259)	-	-	-	(37,394)	(37,394)	(176,681)	(161,613)	(146,546)	(131,478)	(116,411)
EAT	173,647	134,902	96,157	57,412	18,667	(27,886)	(81,699)	(135,511)	96,157	96,157	454,322	415,577	376,832	338,087	299,342
CASHFLOW STATEMENT															
Net Income	**173,647**	**134,902**	**96,157**	**57,412**	**18,667**	**(27,886)**	**(81,699)**	**(135,511)**	**96,157**	**96,157**	**454,322**	**415,577**	**376,832**	**338,087**	**299,342**
plus depreciation	550,550	604,363	658,175	711,988	765,800	819,613	873,425	927,238	658,175	658,175	711,988	765,800	819,613	873,425	927,238
Cash flow from operations	**724,197**	**739,264**	**754,332**	**769,399**	**784,467**	**791,726**	**791,726**	**791,726**	**754,332**	**754,332**	**1,166,309**	**1,181,377**	**1,196,444**	**1,211,512**	**1,226,579**
less investments	(26,254,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)
Net cash flow before financing	**(25,530,303)**	**308,764**	**323,832**	**338,899**	**353,967**	**361,226**	**361,226**	**361,226**	**323,832**	**323,832**	**735,809**	**750,877**	**765,944**	**781,012**	**796,079**
Cumulative net cashflow before financing	**(25,530,303)**	**(25,221,539)**	**(24,897,707)**	**(24,558,807)**	**(24,204,840)**	**(23,843,614)**	**(23,482,387)**	**(23,121,161)**	**(22,797,329)**	**(22,473,497)**	**(21,737,688)**	**(20,986,811)**	**(20,220,867)**	**(19,439,855)**	**(18,643,776)**
Internal Rate of Return (IRR)	1.0%														
Net Present Value (NPV)	(15,543,029)														
Annuity (at real discount rate)	(1,021,403)														
Gross margin	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	46%	46%	46%	46%	46%
EBT profit margin	4%	3%	2%	1%	0%	0%	-1%	-2%	2%	2%	9%	9%	8%	7%	6%

Annexure C7 - Income Statement and Cash Flow Forecast for 64 ha New Raisin Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	880,440	2,934,800	4,989,160	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600	5,869,600
less direct costs	(46,438)	(116,094)	(255,407)	(557,252)	(835,878)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)
Gross Profit	**(46,438)**	**(116,094)**	**625,033**	**2,377,548**	**4,153,282**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**
less overhead costs	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)
EBITDA	**(2,186,095)**	**(2,255,751)**	**(1,514,625)**	**237,891**	**2,013,624**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**
less depreciation	(778,675)	(1,175,038)	(1,211,400)	(1,247,763)	(1,284,125)	(1,320,488)	(1,356,850)	(1,393,213)	(1,211,400)	(1,211,400)	(1,247,763)	(1,284,125)	(1,320,488)	(1,356,850)	(1,393,213)
EBIT	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**729,499**	**1,480,702**	**1,444,339**	**1,407,977**	**1,589,789**	**1,589,789**	**1,553,427**	**1,517,064**	**1,480,702**	**1,444,339**	**1,407,977**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**729,499**	**1,480,702**	**1,444,339**	**1,407,977**	**1,589,789**	**1,589,789**	**1,553,427**	**1,517,064**	**1,480,702**	**1,444,339**	**1,407,977**
less income tax 28%	-	-	-	-	(204,260)	(414,596)	(404,415)	(394,233)	(445,141)	(445,141)	(434,959)	(424,778)	(414,596)	(404,415)	(394,233)
EAT	(2,964,770)	(3,430,789)	(2,726,025)	(1,009,872)	525,240	1,066,105	1,039,924	1,013,743	1,144,648	1,144,648	1,118,467	1,092,286	1,066,105	1,039,924	1,013,743
CASHFLOW STATEMENT															
Net Income	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**525,240**	**1,066,105**	**1,039,924**	**1,013,743**	**1,144,648**	**1,144,648**	**1,118,467**	**1,092,286**	**1,066,105**	**1,039,924**	**1,013,743**
plus depreciation	778,675	1,175,038	1,211,400	1,247,763	1,284,125	1,320,488	1,356,850	1,393,213	1,211,400	1,211,400	1,247,763	1,284,125	1,320,488	1,356,850	1,393,213
Cash flow from operations	**(2,186,095)**	**(2,255,751)**	**(1,514,625)**	**237,891**	**1,809,365**	**2,386,593**	**2,396,774**	**2,406,956**	**2,356,048**	**2,356,048**	**2,366,230**	**2,376,411**	**2,386,593**	**2,396,774**	**2,406,956**
less investments	(27,056,900)	(7,490,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)
Net cash flow before financing	**(29,242,995)**	**(9,746,651)**	**(1,805,525)**	**(53,009)**	**1,518,465**	**2,095,693**	**2,105,874**	**2,116,056**	**2,065,148**	**2,065,148**	**2,075,330**	**2,085,511**	**2,095,693**	**2,105,874**	**2,116,056**
Cumulative net cashflow before financing	**(29,242,995)**	**(38,989,646)**	**(40,795,171)**	**(40,848,180)**	**(39,329,716)**	**(37,234,023)**	**(35,128,149)**	**(33,012,093)**	**(30,946,945)**	**(28,881,797)**	**(26,806,467)**	**(24,720,956)**	**(22,625,263)**	**(20,519,389)**	**(18,403,334)**

Internal Rate of Return (IRR)	1.2%														
Net Present Value (NPV)	(19,113,340)														
Annuity (at real discount rate)	(1,256,024)														
Gross margin	N/A	N/A	71%	81%	83%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
EBT profit margin	N/A	N/A	-310%	-34%	15%	25%	25%	24%	27%	27%	26%	26%	25%	25%	24%

Annexure C8 - Income Statement and Cash Flow Forecast for 64 ha New Wine Grape Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**-**	**-**	**606,240**	**2,020,800**	**3,435,360**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**
less direct costs	(23,027)	(57,568)	(126,650)	(276,326)	(414,490)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)
Gross Profit	**(23,027)**	**(57,568)**	**479,590**	**1,744,474**	**3,020,870**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**
less overhead costs	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)
EBITDA	**(2,162,684)**	**(2,197,225)**	**(1,660,067)**	**(395,184)**	**881,213**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**
less depreciation	(775,550)	(1,171,913)	(1,208,275)	(1,244,638)	(1,281,000)	(1,317,363)	(1,353,725)	(1,390,088)	(1,208,275)	(1,208,275)	(1,244,638)	(1,281,000)	(1,317,363)	(1,353,725)	(1,390,088)
EBIT	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**124,036**	**87,674**	**51,311**	**233,124**	**233,124**	**196,761**	**160,399**	**124,036**	**87,674**	**51,311**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**124,036**	**87,674**	**51,311**	**233,124**	**233,124**	**196,761**	**160,399**	**124,036**	**87,674**	**51,311**
less income tax 28%	-	-	-	-	-	(34,730)	(24,549)	(14,367)	(65,275)	(65,275)	(55,093)	(44,912)	(34,730)	(24,549)	(14,367)
EAT	(2,938,234)	(3,369,138)	(2,868,342)	(1,639,821)	(399,787)	89,306	63,125	36,944	167,849	167,849	141,668	115,487	89,306	63,125	36,944
CASHFLOW STATEMENT															
Net Income	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**89,306**	**63,125**	**36,944**	**167,849**	**167,849**	**141,668**	**115,487**	**89,306**	**63,125**	**36,944**
plus depreciation	775,550	1,171,913	1,208,275	1,244,638	1,281,000	1,317,363	1,353,725	1,390,088	1,208,275	1,208,275	1,244,638	1,281,000	1,317,363	1,353,725	1,390,088
Cash flow from operations	**(2,162,684)**	**(2,197,225)**	**(1,660,067)**	**(395,184)**	**881,213**	**1,406,669**	**1,416,850**	**1,427,032**	**1,376,124**	**1,376,124**	**1,386,306**	**1,396,487**	**1,406,669**	**1,416,850**	**1,427,032**
less investments	(26,931,900)	(7,490,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)
Net cash flow before financing	**(29,094,584)**	**(9,688,125)**	**(1,950,967)**	**(686,084)**	**590,313**	**1,115,769**	**1,125,950**	**1,136,132**	**1,085,224**	**1,085,224**	**1,095,406**	**1,105,587**	**1,115,769**	**1,125,950**	**1,136,132**
Cumulative net cashflow before financing	**(29,094,584)**	**(38,782,710)**	**(40,733,677)**	**(41,419,760)**	**(40,829,447)**	**(39,713,679)**	**(38,587,729)**	**(37,451,597)**	**(36,366,373)**	**(35,281,149)**	**(34,185,743)**	**(33,080,156)**	**(31,964,388)**	**(30,838,437)**	**(29,702,306)**
Internal Rate of Return (IRR)	-2.3%														
Net Present Value (NPV)	(28,586,866)														
Annuity (at real discount rate)	(1,878,572)														
Gross margin	N/A	N/A	79%	86%	88%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%
EBT profit margin	N/A	N/A	-473%	-81%	-12%	3%	2%	1%	6%	6%	5%	4%	3%	2%	1%

Annexure C9 - Income Statement and Cash Flow Forecast for 50 ha New Tomato & Brassica Seed Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**
less direct costs	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)
Gross Profit	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**
less overhead costs	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)
EBITDA	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**550,908**	**550,908**	**550,908**	**550,908**	**550,908**
less depreciation	(433,700)	(465,713)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)	(497,725)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)
EBIT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less income tax 28%	(12,658)	(3,695)	-	-	-	-	-	-	-	-	(5,928)	-	-	-	-
EAT	32,550	9,501	(18,817)	(50,829)	(82,842)	(114,854)	(146,867)	(178,879)	(18,817)	(18,817)	15,243	(10,842)	(42,854)	(74,867)	(106,879)
CASHFLOW STATEMENT															
Net Income	**32,550**	**9,501**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**15,243**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
plus depreciation	433,700	465,713	497,725	529,738	561,750	593,763	625,775	657,788	497,725	497,725	529,738	561,750	593,763	625,775	657,788
Cash flow from operations	**466,250**	**475,214**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**544,981**	**550,908**	**550,908**	**550,908**	**550,908**
less investments	(19,654,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)
Net cash flow before financing	**(19,187,850)**	**219,114**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**288,881**	**294,808**	**294,808**	**294,808**	**294,808**
Cumulative net cashflow before financing	**(19,187,850)**	**(18,968,736)**	**(18,745,928)**	**(18,523,119)**	**(18,300,311)**	**(18,077,503)**	**(17,854,694)**	**(17,631,886)**	**(17,409,077)**	**(17,186,269)**	**(16,897,388)**	**(16,602,580)**	**(16,307,771)**	**(16,012,963)**	**(15,718,154)**
Internal Rate of Return (IRR)	-0.3%														
Net Present Value (NPV)	(13,129,435)														
Annuity (at real discount rate)	(862,795)														
Gross margin	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%
EBT profit margin	1%	0%	0%	-1%	-1%	-2%	-2%	-2%	0%	0%	0%	0%	-1%	-1%	-1%

Annexure D1 – Income Statement and Cash Flow Forecast for 90 ha New Black-Owned Citrus Farm Zone 1

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	-	2,862,640	8,587,921	15,906,551	23,225,181	28,680,287	31,272,754	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224
less direct costs	(376,206)	(877,814)	(1,340,294)	(2,882,897)	(5,772,143)	(9,224,384)	(11,994,771)	(13,738,151)	(14,479,664)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)
Gross Profit	**(376,206)**	**(877,814)**	**(1,340,294)**	**(20,257)**	**2,815,778**	**6,682,167**	**11,230,410**	**14,942,136**	**16,793,090**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**
less overhead costs	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)	(4,023,427)
EBITDA	**(4,399,633)**	**(4,901,240)**	**(5,363,720)**	**(4,043,683)**	**(1,207,649)**	**2,658,741**	**7,206,983**	**10,918,709**	**12,769,663**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**	**13,167,922**
less depreciation	(1,347,700)	(1,663,775)	(1,878,600)	(1,958,425)	(2,038,250)	(2,118,075)	(2,197,900)	(2,277,725)	(1,479,475)	(1,479,475)	(1,559,300)	(1,639,125)	(1,718,950)	(1,798,775)	(1,878,600)
EBIT	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**540,666**	**5,009,083**	**8,640,984**	**11,290,188**	**11,688,447**	**11,608,622**	**11,528,797**	**11,448,972**	**11,369,147**	**11,289,322**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**540,666**	**5,009,083**	**8,640,984**	**11,290,188**	**11,688,447**	**11,608,622**	**11,528,797**	**11,448,972**	**11,369,147**	**11,289,322**
less income tax 28%	-	-	-	-	-	(151,386)	(1,402,543)	(2,419,476)	(3,161,253)	(3,272,765)	(3,250,414)	(3,228,063)	(3,205,712)	(3,183,361)	(3,161,010)
EAT	(5,747,333)	(6,565,015)	(7,242,320)	(6,002,108)	(3,245,899)	389,279	3,606,540	6,221,509	8,128,935	8,415,682	8,358,208	8,300,734	8,243,260	8,185,786	8,128,312
CASHFLOW STATEMENT															
Net Income	**(5,747,333)**	**(6,565,015)**	**(7,242,320)**	**(6,002,108)**	**(3,245,899)**	**389,279**	**3,606,540**	**6,221,509**	**8,128,935**	**8,415,682**	**8,358,208**	**8,300,734**	**8,243,260**	**8,185,786**	**8,128,312**
plus depreciation	1,347,700	1,663,775	1,878,600	1,958,425	2,038,250	2,118,075	2,197,900	2,277,725	1,479,475	1,479,475	1,559,300	1,639,125	1,718,950	1,798,775	1,878,600
Cash flow from operations	**(4,399,633)**	**(4,901,240)**	**(5,363,720)**	**(4,043,683)**	**(1,207,649)**	**2,507,354**	**5,804,440**	**8,499,234**	**9,608,410**	**9,895,157**	**9,917,508**	**9,939,859**	**9,962,210**	**9,984,561**	**10,006,912**
less investments	(30,122,100)	(5,363,600)	(3,338,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)
Net cash flow before financing	**(34,521,733)**	**(10,264,840)**	**(8,702,320)**	**(4,682,283)**	**(1,846,249)**	**1,868,754**	**5,165,840**	**7,860,634**	**8,969,810**	**9,256,557**	**9,278,908**	**9,301,259**	**9,323,610**	**9,345,961**	**9,368,312**
Cumulative net cashflow before financing	**(34,521,733)**	**(44,786,573)**	**(53,488,893)**	**(58,171,177)**	**(60,017,426)**	**(58,148,672)**	**(52,982,832)**	**(45,122,198)**	**(36,152,388)**	**(26,895,831)**	**(17,616,922)**	**(8,315,663)**	**1,007,947**	**10,353,908**	**19,722,220**
Internal Rate of Return (IRR)	6.1%														
Net Present Value (NPV)	8,137,377														
Annuity (at real discount rate)	534,744														
Gross margin	N/A	N/A	N/A	-1%	33%	42%	48%	52%	54%	54%	54%	54%	54%	54%	54%
EBT profit margin	N/A	N/A	N/A	-210%	-38%	3%	22%	30%	36%	37%	36%	36%	36%	36%	35%

Annexure D2 – Income Statement and Cash Flow Forecast for 90 ha New Black-Owned Citrus Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	-	2,862,640	8,587,921	15,906,551	23,225,181	28,680,287	31,272,754	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224	31,872,224
less direct costs	(376,206)	(877,814)	(1,340,294)	(2,882,897)	(5,772,143)	(9,224,384)	(11,994,771)	(13,738,151)	(14,479,664)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)	(14,680,875)
Gross Profit	**(376,206)**	**(877,814)**	**(1,340,294)**	**(20,257)**	**2,815,778**	**6,682,167**	**11,230,410**	**14,942,136**	**16,793,090**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**	**17,191,349**
less overhead costs	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)	(4,066,098)
EBITDA	**(4,442,304)**	**(4,943,912)**	**(5,406,392)**	**(4,086,355)**	**(1,250,320)**	**2,616,069**	**7,164,312**	**10,876,038**	**12,726,992**	**13,125,251**	**13,125,251**	**13,125,251**	**13,125,251**	**13,125,251**	**13,125,251**
less depreciation	(1,347,700)	(1,663,775)	(1,878,600)	(1,958,425)	(2,038,250)	(2,118,075)	(2,197,900)	(2,277,725)	(1,479,475)	(1,479,475)	(1,559,300)	(1,639,125)	(1,718,950)	(1,798,775)	(1,878,600)
EBIT	**(5,790,004)**	**(6,607,687)**	**(7,284,992)**	**(6,044,780)**	**(3,288,570)**	**497,994**	**4,966,412**	**8,598,313**	**11,247,517**	**11,645,776**	**11,565,951**	**11,486,126**	**11,406,301**	**11,326,476**	**11,246,651**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,790,004)**	**(6,607,687)**	**(7,284,992)**	**(6,044,780)**	**(3,288,570)**	**497,994**	**4,966,412**	**8,598,313**	**11,247,517**	**11,645,776**	**11,565,951**	**11,486,126**	**11,406,301**	**11,326,476**	**11,246,651**
less income tax 28%	-	-	-	-	-	(139,438)	(1,390,595)	(2,407,528)	(3,149,305)	(3,260,817)	(3,238,466)	(3,216,115)	(3,193,764)	(3,171,413)	(3,149,062)
EAT	(5,790,004)	(6,607,687)	(7,284,992)	(6,044,780)	(3,288,570)	358,556	3,575,817	6,190,785	8,098,212	8,384,959	8,327,485	8,270,011	8,212,537	8,155,063	8,097,589
CASHFLOW STATEMENT															
Net Income	**(5,790,004)**	**(6,607,687)**	**(7,284,992)**	**(6,044,780)**	**(3,288,570)**	**358,556**	**3,575,817**	**6,190,785**	**8,098,212**	**8,384,959**	**8,327,485**	**8,270,011**	**8,212,537**	**8,155,063**	**8,097,589**
plus depreciation	1,347,700	1,663,775	1,878,600	1,958,425	2,038,250	2,118,075	2,197,900	2,277,725	1,479,475	1,479,475	1,559,300	1,639,125	1,718,950	1,798,775	1,878,600
Cash flow from operations	**(4,442,304)**	**(4,943,912)**	**(5,406,392)**	**(4,086,355)**	**(1,250,320)**	**2,476,631**	**5,773,717**	**8,468,510**	**9,577,687**	**9,864,434**	**9,886,785**	**9,909,136**	**9,931,487**	**9,953,838**	**9,976,189**
less investments	(22,434,600)	(5,363,600)	(3,338,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)	(638,600)
Net cash flow before financing	**(26,876,904)**	**(10,307,512)**	**(8,744,992)**	**(4,724,955)**	**(1,888,920)**	**1,838,031**	**5,135,117**	**7,829,910**	**8,939,087**	**9,225,834**	**9,248,185**	**9,270,536**	**9,292,887**	**9,315,238**	**9,337,589**
Cumulative net cashflow before financing	**(26,876,904)**	**(37,184,415)**	**(45,929,407)**	**(50,654,362)**	**(52,543,282)**	**(50,705,251)**	**(45,570,135)**	**(37,740,224)**	**(28,801,137)**	**(19,575,304)**	**(10,327,119)**	**(1,056,583)**	**8,236,303**	**17,551,541**	**26,889,130**

Internal Rate of Return (IRR)	8.0%														
Net Present Value (NPV)	15,351,156														
Annuity (at real discount rate)	1,008,794														
Gross margin	N/A	N/A	N/A	-1%	33%	42%	48%	52%	54%	54%	54%	54%	54%	54%	54%
EBT profit margin	N/A	N/A	N/A	-211%	-38%	3%	21%	30%	36%	37%	36%	36%	36%	36%	35%

Annexure D3 - Income Statement and Cash Flow Forecast for 50 ha New Black-Owned Table Grape Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	3,523,381	11,744,602	19,965,823	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203
less direct costs	(330,989)	(827,474)	(2,554,939)	(6,420,195)	(10,119,957)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)
Gross Profit	**(330,989)**	**(827,474)**	**968,442**	**5,324,406**	**9,845,866**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**
less overhead costs	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)	(3,678,100)
EBITDA	**(4,009,089)**	**(4,505,573)**	**(2,709,658)**	**1,646,307**	**6,167,766**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**	**8,294,671**
less depreciation	(899,425)	(1,225,600)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)	(1,276,775)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)
EBIT	**(4,908,514)**	**(5,731,173)**	**(3,986,433)**	**318,357**	**4,788,641**	**6,864,371**	**6,813,196**	**6,762,021**	**7,017,896**	**7,017,896**	**6,966,721**	**6,915,546**	**6,864,371**	**6,813,196**	**6,762,021**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(4,908,514)**	**(5,731,173)**	**(3,986,433)**	**318,357**	**4,788,641**	**6,864,371**	**6,813,196**	**6,762,021**	**7,017,896**	**7,017,896**	**6,966,721**	**6,915,546**	**6,864,371**	**6,813,196**	**6,762,021**
less income tax 28%	-	-	-	(89,140)	(1,340,819)	(1,922,024)	(1,907,695)	(1,893,366)	(1,965,011)	(1,965,011)	(1,950,682)	(1,936,353)	(1,922,024)	(1,907,695)	(1,893,366)
EAT	(4,908,514)	(5,731,173)	(3,986,433)	229,217	3,447,821	4,942,347	4,905,501	4,868,655	5,052,885	5,052,885	5,016,039	4,979,193	4,942,347	4,905,501	4,868,655
CASHFLOW STATEMENT															
Net Income	**(4,908,514)**	**(5,731,173)**	**(3,986,433)**	**229,217**	**3,447,821**	**4,942,347**	**4,905,501**	**4,868,655**	**5,052,885**	**5,052,885**	**5,016,039**	**4,979,193**	**4,942,347**	**4,905,501**	**4,868,655**
plus depreciation	899,425	1,225,600	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650	1,276,775	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650
Cash flow from operations	**(4,009,089)**	**(4,505,573)**	**(2,709,658)**	**1,557,167**	**4,826,946**	**6,372,647**	**6,386,976**	**6,401,305**	**6,329,660**	**6,329,660**	**6,343,989**	**6,358,318**	**6,372,647**	**6,386,976**	**6,401,305**
less investments	(25,680,400)	(5,909,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)
Net cash flow before financing	**(29,689,489)**	**(10,414,973)**	**(3,119,058)**	**1,147,767**	**4,417,546**	**5,963,247**	**5,977,576**	**5,991,905**	**5,920,260**	**5,920,260**	**5,934,589**	**5,948,918**	**5,963,247**	**5,977,576**	**5,991,905**
Cumulative net cashflow before financing	**(29,689,489)**	**(40,104,462)**	**(43,223,520)**	**(42,075,753)**	**(37,658,207)**	**(31,694,960)**	**(25,717,384)**	**(19,725,479)**	**(13,805,219)**	**(7,884,959)**	**(1,950,370)**	**3,998,548**	**9,961,795**	**15,939,371**	**21,931,277**
Internal Rate of Return (IRR)	10.2%														
Net Present Value (NPV)	14,065,611														
Annuity (at real discount rate)	924,315														
Gross margin	N/A	N/A	27%	45%	49%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-113%	3%	24%	29%	29%	29%	30%	30%	30%	29%	29%	29%	29%

Annexure D4 - Income Statement and Cash Flow Forecast for 50 ha New Black-Owned Table Grape Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	-	-	3,523,381	11,744,602	19,965,823	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203	23,489,203
less direct costs	(330,989)	(827,474)	(2,554,939)	(6,420,195)	(10,119,957)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)	(11,516,433)
Gross Profit	**(330,989)**	**(827,474)**	**968,442**	**5,324,406**	**9,845,866**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**	**11,972,771**
less overhead costs	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)	(3,780,567)
EBITDA	**(4,111,557)**	**(4,608,041)**	**(2,812,125)**	**1,543,839**	**6,065,298**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**	**8,192,203**
less depreciation	(899,425)	(1,225,600)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)	(1,276,775)	(1,276,775)	(1,327,950)	(1,379,125)	(1,430,300)	(1,481,475)	(1,532,650)
EBIT	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**215,889**	**4,686,173**	**6,761,903**	**6,710,728**	**6,659,553**	**6,915,428**	**6,915,428**	**6,864,253**	**6,813,078**	**6,761,903**	**6,710,728**	**6,659,553**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**215,889**	**4,686,173**	**6,761,903**	**6,710,728**	**6,659,553**	**6,915,428**	**6,915,428**	**6,864,253**	**6,813,078**	**6,761,903**	**6,710,728**	**6,659,553**
less income tax 28%	-	-	-	(60,449)	(1,312,129)	(1,893,333)	(1,879,004)	(1,864,675)	(1,936,320)	(1,936,320)	(1,921,991)	(1,907,662)	(1,893,333)	(1,879,004)	(1,864,675)
EAT	(5,010,982)	(5,833,641)	(4,088,900)	155,440	3,374,045	4,868,570	4,831,724	4,794,878	4,979,108	4,979,108	4,942,262	4,905,416	4,868,570	4,831,724	4,794,878
CASHFLOW STATEMENT															
Net Income	**(5,010,982)**	**(5,833,641)**	**(4,088,900)**	**155,440**	**3,374,045**	**4,868,570**	**4,831,724**	**4,794,878**	**4,979,108**	**4,979,108**	**4,942,262**	**4,905,416**	**4,868,570**	**4,831,724**	**4,794,878**
plus depreciation	899,425	1,225,600	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650	1,276,775	1,276,775	1,327,950	1,379,125	1,430,300	1,481,475	1,532,650
Cash flow from operations	**(4,111,557)**	**(4,608,041)**	**(2,812,125)**	**1,483,390**	**4,753,170**	**6,298,870**	**6,313,199**	**6,327,528**	**6,255,883**	**6,255,883**	**6,270,212**	**6,284,541**	**6,298,870**	**6,313,199**	**6,327,528**
less investments	(25,680,400)	(5,909,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)	(409,400)
Net cash flow before financing	**(29,791,957)**	**(10,517,441)**	**(3,221,525)**	**1,073,990**	**4,343,770**	**5,889,470**	**5,903,799**	**5,918,128**	**5,846,483**	**5,846,483**	**5,860,812**	**5,875,141**	**5,889,470**	**5,903,799**	**5,918,128**
Cumulative net cashflow before financing	**(29,791,957)**	**(40,309,397)**	**(43,530,923)**	**(42,456,932)**	**(38,113,163)**	**(32,223,692)**	**(26,319,893)**	**(20,401,764)**	**(14,555,281)**	**(8,708,797)**	**(2,847,985)**	**3,027,157**	**8,916,627**	**14,820,426**	**20,738,555**
Internal Rate of Return (IRR)	9.9%														
Net Present Value (NPV)	12,990,011														
Annuity (at real discount rate)	853,632														
Gross margin	N/A	N/A	27%	45%	49%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
EBT profit margin	N/A	N/A	-116%	2%	23%	29%	29%	28%	29%	29%	29%	29%	29%	29%	28%

Annexure D5 - Income Statement and Cash Flow Forecast for 50 ha New Black-Owned Potato & Wheat Farm Zone 2

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**	**6,725,120**
less direct costs	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(4,195,259)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)	(3,643,996)
Gross Profit	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**2,529,861**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**	**3,081,124**
less overhead costs	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)	(1,738,134)
EBITDA	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**791,726**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**	**1,342,990**
less depreciation	(550,550)	(604,363)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)	(658,175)	(658,175)	(711,988)	(765,800)	(819,613)	(873,425)	(927,238)
EBIT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**241,176**	**187,364**	**133,551**	**79,739**	**25,926**	**(27,886)**	**(81,699)**	**(135,511)**	**133,551**	**133,551**	**631,002**	**577,190**	**523,377**	**469,565**	**415,752**
less income tax 28%	(67,529)	(52,462)	(37,394)	(22,327)	(7,259)	-	-	-	(37,394)	(37,394)	(176,681)	(161,613)	(146,546)	(131,478)	(116,411)
EAT	173,647	134,902	96,157	57,412	18,667	(27,886)	(81,699)	(135,511)	96,157	96,157	454,322	415,577	376,832	338,087	299,342
CASHFLOW STATEMENT															
Net Income	**173,647**	**134,902**	**96,157**	**57,412**	**18,667**	**(27,886)**	**(81,699)**	**(135,511)**	**96,157**	**96,157**	**454,322**	**415,577**	**376,832**	**338,087**	**299,342**
plus depreciation	550,550	604,363	658,175	711,988	765,800	819,613	873,425	927,238	658,175	658,175	711,988	765,800	819,613	873,425	927,238
Cash flow from operations	**724,197**	**739,264**	**754,332**	**769,399**	**784,467**	**791,726**	**791,726**	**791,726**	**754,332**	**754,332**	**1,166,309**	**1,181,377**	**1,196,444**	**1,211,512**	**1,226,579**
less investments	(15,654,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)	(430,500)
Net cash flow before financing	**(14,930,303)**	**308,764**	**323,832**	**338,899**	**353,967**	**361,226**	**361,226**	**361,226**	**323,832**	**323,832**	**735,809**	**750,877**	**765,944**	**781,012**	**796,079**
Cumulative net cashflow before financing	**(14,930,303)**	**(14,621,539)**	**(14,297,707)**	**(13,958,807)**	**(13,604,840)**	**(13,243,614)**	**(12,882,387)**	**(12,521,161)**	**(12,197,329)**	**(11,873,497)**	**(11,137,688)**	**(10,386,811)**	**(9,620,867)**	**(8,839,855)**	**(8,043,776)**
Internal Rate of Return (IRR)	1.7%														
Net Present Value (NPV)	(7,627,111)														
Annuity (at real discount rate)	(501,212)														
Gross margin	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	46%	46%	46%	46%	46%
EBT profit margin	4%	3%	2%	1%	0%	0%	-1%	-2%	2%	2%	9%	9%	8%	7%	6%

Annexure D6 - Income Statement and Cash Flow Forecast for 64 ha New Black-Owned Raisin Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**-**	**-**	**880,440**	**2,934,800**	**4,989,160**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**	**5,869,600**
less direct costs	(46,438)	(116,094)	(255,407)	(557,252)	(835,878)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)	(928,754)
Gross Profit	**(46,438)**	**(116,094)**	**625,033**	**2,377,548**	**4,153,282**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**	**4,940,846**
less overhead costs	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)
EBITDA	**(2,186,095)**	**(2,255,751)**	**(1,514,625)**	**237,891**	**2,013,624**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**	**2,801,189**
less depreciation	(778,675)	(1,175,038)	(1,211,400)	(1,247,763)	(1,284,125)	(1,320,488)	(1,356,850)	(1,393,213)	(1,211,400)	(1,211,400)	(1,247,763)	(1,284,125)	(1,320,488)	(1,356,850)	(1,393,213)
EBIT	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**729,499**	**1,480,702**	**1,444,339**	**1,407,977**	**1,589,789**	**1,589,789**	**1,553,427**	**1,517,064**	**1,480,702**	**1,444,339**	**1,407,977**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**729,499**	**1,480,702**	**1,444,339**	**1,407,977**	**1,589,789**	**1,589,789**	**1,553,427**	**1,517,064**	**1,480,702**	**1,444,339**	**1,407,977**
less income tax 28%	-	-	-	-	(204,260)	(414,596)	(404,415)	(394,233)	(445,141)	(445,141)	(434,959)	(424,778)	(414,596)	(404,415)	(394,233)
EAT	(2,964,770)	(3,430,789)	(2,726,025)	(1,009,872)	525,240	1,066,105	1,039,924	1,013,743	1,144,648	1,144,648	1,118,467	1,092,286	1,066,105	1,039,924	1,013,743
CASHFLOW STATEMENT															
Net Income	**(2,964,770)**	**(3,430,789)**	**(2,726,025)**	**(1,009,872)**	**525,240**	**1,066,105**	**1,039,924**	**1,013,743**	**1,144,648**	**1,144,648**	**1,118,467**	**1,092,286**	**1,066,105**	**1,039,924**	**1,013,743**
plus depreciation	778,675	1,175,038	1,211,400	1,247,763	1,284,125	1,320,488	1,356,850	1,393,213	1,211,400	1,211,400	1,247,763	1,284,125	1,320,488	1,356,850	1,393,213
Cash flow from operations	**(2,186,095)**	**(2,255,751)**	**(1,514,625)**	**237,891**	**1,809,365**	**2,386,593**	**2,396,774**	**2,406,956**	**2,356,048**	**2,356,048**	**2,366,230**	**2,376,411**	**2,386,593**	**2,396,774**	**2,406,956**
less investments	(19,376,900)	(7,490,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)
Net cash flow before financing	**(21,562,995)**	**(9,746,651)**	**(1,805,525)**	**(53,009)**	**1,518,465**	**2,095,693**	**2,105,874**	**2,116,056**	**2,065,148**	**2,065,148**	**2,075,330**	**2,085,511**	**2,095,693**	**2,105,874**	**2,116,056**
Cumulative net cashflow before financing	**(21,562,995)**	**(31,309,646)**	**(33,115,171)**	**(33,168,180)**	**(31,649,716)**	**(29,554,023)**	**(27,448,149)**	**(25,332,093)**	**(23,266,945)**	**(21,201,797)**	**(19,126,467)**	**(17,040,956)**	**(14,945,263)**	**(12,839,389)**	**(10,723,334)**

Internal Rate of Return (IRR)	1.5%														
Net Present Value (NPV)	(13,378,033)														
Annuity (at real discount rate)	(879,131)														
Gross margin	N/A	N/A	71%	81%	83%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
EBT profit margin	N/A	N/A	-310%	-34%	15%	25%	25%	24%	27%	27%	26%	26%	25%	25%	24%

Annexure D7 - Income Statement and Cash Flow Forecast for 64 ha New Black-Owned Wine Grape Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**-**	**-**	**606,240**	**2,020,800**	**3,435,360**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**	**4,041,600**
less direct costs	(23,027)	(57,568)	(126,650)	(276,326)	(414,490)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)	(460,544)
Gross Profit	**(23,027)**	**(57,568)**	**479,590**	**1,744,474**	**3,020,870**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**	**3,581,056**
less overhead costs	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)	(2,139,657)
EBITDA	**(2,162,684)**	**(2,197,225)**	**(1,660,067)**	**(395,184)**	**881,213**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**	**1,441,399**
less depreciation	(775,550)	(1,171,913)	(1,208,275)	(1,244,638)	(1,281,000)	(1,317,363)	(1,353,725)	(1,390,088)	(1,208,275)	(1,208,275)	(1,244,638)	(1,281,000)	(1,317,363)	(1,353,725)	(1,390,088)
EBIT	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**124,036**	**87,674**	**51,311**	**233,124**	**233,124**	**196,761**	**160,399**	**124,036**	**87,674**	**51,311**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**124,036**	**87,674**	**51,311**	**233,124**	**233,124**	**196,761**	**160,399**	**124,036**	**87,674**	**51,311**
less income tax 28%	-	-	-	-	-	(34,730)	(24,549)	(14,367)	(65,275)	(65,275)	(55,093)	(44,912)	(34,730)	(24,549)	(14,367)
EAT	(2,938,234)	(3,369,138)	(2,868,342)	(1,639,821)	(399,787)	89,306	63,125	36,944	167,849	167,849	141,668	115,487	89,306	63,125	36,944
CASHFLOW STATEMENT															
Net Income	**(2,938,234)**	**(3,369,138)**	**(2,868,342)**	**(1,639,821)**	**(399,787)**	**89,306**	**63,125**	**36,944**	**167,849**	**167,849**	**141,668**	**115,487**	**89,306**	**63,125**	**36,944**
plus depreciation	775,550	1,171,913	1,208,275	1,244,638	1,281,000	1,317,363	1,353,725	1,390,088	1,208,275	1,208,275	1,244,638	1,281,000	1,317,363	1,353,725	1,390,088
Cash flow from operations	**(2,162,684)**	**(2,197,225)**	**(1,660,067)**	**(395,184)**	**881,213**	**1,406,669**	**1,416,850**	**1,427,032**	**1,376,124**	**1,376,124**	**1,386,306**	**1,396,487**	**1,406,669**	**1,416,850**	**1,427,032**
less investments	(19,251,900)	(7,490,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)	(290,900)
Net cash flow before financing	**(21,414,584)**	**(9,688,125)**	**(1,950,967)**	**(686,084)**	**590,313**	**1,115,769**	**1,125,950**	**1,136,132**	**1,085,224**	**1,085,224**	**1,095,406**	**1,105,587**	**1,115,769**	**1,125,950**	**1,136,132**
Cumulative net cashflow before financing	**(21,414,584)**	**(31,102,710)**	**(33,053,677)**	**(33,739,760)**	**(33,149,447)**	**(32,033,679)**	**(30,907,729)**	**(29,771,597)**	**(28,686,373)**	**(27,601,149)**	**(26,505,743)**	**(25,400,156)**	**(24,284,388)**	**(23,158,437)**	**(22,022,306)**
Internal Rate of Return (IRR)	-3.0%														
Net Present Value (NPV)	(22,851,559)														
Annuity (at real discount rate)	(1,501,679)														
Gross margin	N/A	N/A	79%	86%	88%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%
EBT profit margin	N/A	N/A	-473%	-81%	-12%	3%	2%	1%	6%	6%	5%	4%	3%	2%	1%

Annexure D8 - Income Statement and Cash Flow Forecast for 50 ha New Black-Owned Tomato & Brassica Seed Farm Zone 3

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**	**7,567,500**
less direct costs	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,394,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)	(5,322,430)
Gross Profit	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,173,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**	**2,245,070**
less overhead costs	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)	(1,694,162)
EBITDA	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**550,908**	**550,908**	**550,908**	**550,908**	**550,908**
less depreciation	(433,700)	(465,713)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)	(497,725)	(497,725)	(529,738)	(561,750)	(593,763)	(625,775)	(657,788)
EBIT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**45,208**	**13,196**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**21,171**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
less income tax 28%	(12,658)	(3,695)	-	-	-	-	-	-	-	-	(5,928)	-	-	-	-
EAT	32,550	9,501	(18,817)	(50,829)	(82,842)	(114,854)	(146,867)	(178,879)	(18,817)	(18,817)	15,243	(10,842)	(42,854)	(74,867)	(106,879)
CASHFLOW STATEMENT															
Net Income	**32,550**	**9,501**	**(18,817)**	**(50,829)**	**(82,842)**	**(114,854)**	**(146,867)**	**(178,879)**	**(18,817)**	**(18,817)**	**15,243**	**(10,842)**	**(42,854)**	**(74,867)**	**(106,879)**
plus depreciation	433,700	465,713	497,725	529,738	561,750	593,763	625,775	657,788	497,725	497,725	529,738	561,750	593,763	625,775	657,788
Cash flow from operations	**466,250**	**475,214**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**478,908**	**544,981**	**550,908**	**550,908**	**550,908**	**550,908**
less investments	(13,054,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)	(256,100)
Net cash flow before financing	**(12,587,850)**	**219,114**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**222,808**	**288,881**	**294,808**	**294,808**	**294,808**	**294,808**
Cumulative net cashflow before financing	**(12,587,850)**	**(12,368,736)**	**(12,145,928)**	**(11,923,119)**	**(11,700,311)**	**(11,477,503)**	**(11,254,694)**	**(11,031,886)**	**(10,809,077)**	**(10,586,269)**	**(10,297,388)**	**(10,002,580)**	**(9,707,771)**	**(9,412,963)**	**(9,118,154)**
Internal Rate of Return (IRR)	-0.5%														
Net Present Value (NPV)	(8,200,656)														
Annuity (at real discount rate)	(538,902)														
Gross margin	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%
EBT profit margin	1%	0%	0%	-1%	-1%	-2%	-2%	-2%	0%	0%	0%	0%	-1%	-1%	-1%

Annexure E – Financial Viability of a Small-Scale Tomato & Brassica Seed Farm in Ebenhaezer

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INCOME STATEMENT															
Sales	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**	**518 850**
less direct costs	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(362 546)	(319 346)	(319 346)	(319 346)	(319 346)	(319 346)
Gross Profit	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**156 304**	**199 504**	**199 504**	**199 504**	**199 504**	**199 504**
less overhead costs	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)	(55 776)
EBITDA	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**143 728**	**143 728**	**143 728**	**143 728**	**143 728**
less depreciation	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)	(3 600)
EBIT	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**140 128**	**140 128**	**140 128**	**140 128**	**140 128**
less interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**140 128**	**140 128**	**140 128**	**140 128**	**140 128**
EAT	96 928	96 928	96 928	96 928	96 928	96 928	96 928	96 928	96 928	96 928	140 128	140 128	140 128	140 128	140 128
CASHFLOW STATEMENT															
Net Income	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**96 928**	**140 128**	**140 128**	**140 128**	**140 128**	**140 128**
plus depreciation	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600	3 600
Cash flow from operations	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**143 728**	**143 728**	**143 728**	**143 728**	**143 728**
less investments	(120 000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net cash flow before financing	**(19 472)**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**100 528**	**143 728**	**143 728**	**143 728**	**143 728**	**143 728**
Cumulative net cashflow before financing	**(19 472)**	**81 056**	**181 583**	**282 111**	**382 639**	**483 167**	**583 694**	**684 222**	**784 750**	**885 278**	**1 029 006**	**1 172 733**	**1 316 461**	**1 460 189**	**1 603 917**
plus grants	120 000														
Cash flow shortfall/surplus	100 528	100 528	100 528	100 528	100 528	100 528	100 528	100 528	100 528	100 528	143 728	143 728	143 728	143 728	143 728
Cumulative cash flow shortfall /surplus	**100 528**	**201 056**	**301 583**	**402 111**	**502 639**	**603 167**	**703 694**	**804 222**	**904 750**	**1 005 278**	**1 149 006**	**1 292 733**	**1 436 461**	**1 580 189**	**1 723 917**
Internal Rate of Return (IRR)	516.3%														
Net Present Value (NPV)	1 044 644														
Annuity (at real discount rate)	68 648														
Gross margin	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	38%	38%	38%	38%	38%
EBT profit margin	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	27%	27%	27%	27%	27%
Farmer monthly net cash income	8 377														

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