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DIAGNOSTIC STUDY REPORT

ON

GLENBROOK MIXED FARMING CLUSTER

COMPILED

BY

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CHAPTER - 1
INTRODUCTION

1.1 Introduction

The cluster is located in Glenbrook, Chris Hani District, Eastern Cape. It consists of **13 farms** - 0 commercial farmers, 3 semi-commercial (all of them cooperatives) and 10 subsistence farmers, selling only to the local market. Only the semi commercial farms are grouped in cooperatives - however, collaboration between cooperatives is a farily new concept.

The cluster produces a broad range of **products**, including vegetables (potatoes, cabbage, tomatoes, beetroot and carrots, butternuts, peas, beans), maize, hazelnuts, and broilers. The subsistence farmers mainly produce for household consumption and only see small quantities on the informal local markets. The 3 semi commercial farms have a formal market with local retailers.

There is also lifestock in the area, but not owned by the farmer, but heardsmen meanly rearing sheep, cows and goats, producing whool for the BKB, a processing company. There are about 312 heardsmen in the cluster who own 34,907 sheep, out of which they produce 565 bales per year.

All the land is communal land from the chiefs (for free - no payment). No-one acquired a farm from land reform.

The diagnostic study still needs to be expanded but at this stage it seems that the formation of **3 networks**, around **sheep wool production, butternuts, and potatoes & cabbage**, seems feasible as there is a certain mass (production volume) around those products and they are already a bit further commercialized (not only for household consumption).

The first Hazelnut plantation was also planted in Glenbrook and forms part of the Mitrock Community development **Pilot** and **Trial** project to produce Hazelnuts for the Itallian Confectionary Giant, Ferrero Rocher Chocolates, with the assistance of Eastern Cape Development Corporation and Alternafruit. The first Hazelnut plantation of 24 ha was planted in May 2009. The 24 ha plantation with 16 500 trees , already is the largest in Africa, is part of Ferrero's new Agricultural development for South Africa to create a supply of high quality nuts for their sought after products.

Ongoing scientific evaluation of the performance of these trees will be done over the next 4 years in collaboration with the Mitrock group . Ferrero has signed a off-take agreement with Mitrock CC wich is a promise that the chocolate maker will buy its produce after the harvest.

1.2 Methodology

The information used in this diagnostic study is mainly derived from first hand information obtained through discussions with farmers and support institution. The secondary data like information regarding National Scenario was collected through website of Department Agriculture & Fisheries.

On receipt of information / data, the same was segregated; grouped & analyzed and diagnostic study report has been prepared.

CHAPTER - 2

GLOBAL AND NATIONAL SCENARIO

2.1 Global Scenario and National Scenario of Hazelnuts.

There are currently no hazelnuts in South Africa and Ferrero had to import trees from Italy and South America to start the Queenstown pilot. The trees were kept in quarantine for two years while soil preparation and analysis was conducted. Irrigation was set up and the area was fenced before planting commenced. The community received part-time jobs from this phase.

Agri sudafrica head of hazelnut development in South Africa, Tommaso De Gregorio explains that the province needs to plant at least 3 000ha of hazelnut for Ferrero to establish a processing plant here.

“Ferrero has also established a nursery in Springvallei farm in Franklin, KwaZulu/Natal some 23km from Kokstad to ensure future supply of plants. It is a 512 ha farm of which 150ha are arable. The remaining land is important for water catchment and is rented back as grazing land,” says De Gregorio.

With an annual turnover of 6 billion euros in 2006/2007 and 25 000 employees Ferrero has also spread its operations into Argentina, Chile, Ukraine, Georgia and Australia. The company has already planted 3 000 ha in Chile of its best hazelnut varieties with encouraging results. Local farmers in these countries have planted a further 7 000 ha with hazelnut plants purchased from the Ferrero nursery.

“Chile’s agronomic and climatic conditions are similar to South Africa,” adds De Gregorio. In Georgia 4 000 ha were purchased by Ferrero in a very productive hazelnut area and 2 000 ha have already been planted.

De Gregorio explains that South Africa has suitable climate conditions together with interesting

business conditions, financial support and infrastructure to develop new initiatives. Hazelnut production “has a high impact on the local economy in employment, income and knowledge transfer.” She says South Africa is in competition with other Southern Hemisphere countries such as Chile, Argentina, New Zealand and Australia in Hazelnut production. The country has the potential to grow alternative crop types.

2.2 The Global Scenario for Vegetables:

As export is not envisaged within the next 5 years and competition from importers is not being faced for the mentioned product groups, the focus will be only on national scenario.

2.3.National Scenario

Vegetables

The production of the vegetables since last 7 years has seen no major change. While Tomatoes have shown gradual growth, the production of Cabbage, Potatoes and pumpkins showed checkered growth. The poor cultivation techniques in majority of the areas and frequent floods in some of the regions are some of the reasons why there is no considerable growth of vegetables. The following table Quantity of important Vegetables Sold in Major Markets of South Africa:

Product	2004	2005	2006	2007	2008	2009	2010[2]
	1 000 t						
Potatoes	900,1	895,2	954,1	934,0	964,5	845,7	935,8
Tomatoes	240,4	255,8	251,8	247,1	258,0	252,3	258,9
Cabbages	145,1	129,3	117,8	107,0	114,7	102,3	113,3
Onions	285,5	283,0	287,0	255,4	298,5	287,8	311,1
Pumpkins	68,1	64,8	61,5	59,0	57,1	51,5	50,4
Carrots	91,4	89,4	88,0	86,4	96,7	91,5	85,0
Gem squashes	25,3	23,4	22,6	21,6	20,8	22,1	20,6
Sweet potatoes	28,8	26,5	20,0	20,9	21,6	26,7	32,1
Cauliflower	13,4	11,8	10,1	9,5	10,5	9,0	8,6
Green beans	14,4	14,5	13,4	12,6	10,8	12,4	12,9
Hubbard squashes	34,2	37,9	34,6	31,3	29,4	26,0	22,0
Beetroot	34,9	36,4	33,9	35,7	34,6	37,8	35,0
Cucumbers	12,7	12,6	13,0	13,7	14,3	14,0	25,5
Lettuce	28,0	28,3	28,1	26,6	29,9	26,6	26,4
Green peas	0,4	0,5	0,3	0,3	0,4	0,3	0,3
Green mealies and sweetcorn	2,9	3,9	3,5	3,5	3,9	3,9	3,7
Marrows	0,3	0,3	1,0	1,5	1,4	1,8	1,3
Turnips	0,8	0,7	0,7	0,7	0,7	0,6	0,6
Butternut squashes	67,8	80,4	74,6	76,6	79,2	77,6	91,2
Other	60,3	68,1	63,5	68,6	74,4	76,2	59,3
Total	2 054,8	2 062,8	2 079,5	2 012,0	2 121,4	1 966,1	2 094,0

(Source : http://www.daff.gov.za/publications/publications.asp?category=Statistical+information)

Eggs:

The Production and human consumption of eggs in the country has shown limited growth since last decade with the exception of 2010 which is because of adverse climatic conditions. However the per capita consumption of the eggs has grown from 7.09 KG per year in 2000-01 to 9.22 KG per Year in the Year 2008-09. The details of the production and Human Consumption of the eggs is given as below:

Table: Production & Consumption of Eggs

Year	Production of eggs	Human consumption of eggs	
		Total	*Per capita*
	1 000 t	1 000 t	kg/year

2000/01	329	310	7,09
2001/02	330	308	6,92
2002/03	340	313	6,88
2003/04	328	305	6,57
2004/05	348	329	7,06
2005/06	375	357	7,61
2006/07	412	392	8,26
2007/08	438	416	8,70
2008/09	473	449	9,22
2009/10[1]	450	424	8,60

The above tables indicate that there no considerable growth in vegetable and egg production at national level though the demand is growing every year. Thus there is a tremendous scope for the cluster to reach national markets provided quality is maintained and production levels are improved.

CHAPTER – 3

PROFILE OF THE CLUSTER

3.1 Location

Good farming area --> insert map

The cluster area stretches over 100 ha (the farms are very close to each other in a nest - only the broiler farm is a bit further - 5 km away)

There is a dam called Glenbrook in the mountains, which sheep herdsmen should be using in the future to wash their wool and not continue transporting it to Port Elisabeth for this process.

The whole are counts about 1,593 households. Those who do not have farms have backyard farming and few livestock. Some live on social grants (about 80%).

3.3 Vital Statistics of the cluster

NAME OF FARM	TOTAL HA	ARABLE LAND	PRODUCTS	PERMANENT WORKERS	Export	National market	Local market	TURNOVER, R
Semi-Commercial (3)	100 ha	65 ha	broilers, cabbage, potatoes, butternuts, carrots, beetroot, hazelnut (only one farm)	20	No	No	Yes	3/4 mn
Subsistence (10)	50 ha (5 each)	30ha	cabbage, potatoes, butternuts, carrots, beetroot, peas, beans	15	No	No	Yes	1/4 min
Herdsmen			Sheep, cattle, goats					
TOTAL				35				2 Mn

	# of farms	Ha planted for this product	Harvest per season (heads, kg, bundles, etc.)	Household consumption	local market	Export	Turnover	
Cabbage	13			20%	80%	No		
Tomatoes						No		
Peas						No		
Beans						No		
Beetroot						No		
Butternuts	3					No		
Potatoes	13					No		
Broiler	1			No	Yes	No		

Pomegranates	1	12		No	YES	YES		Not in production yet
Hazelnut	1	12		No	No	yes		Not in production yet.
Sheep whool								

Products with critical mass and most commercial include: sheep/whool, potatoes, cabbage and butternuts.

3.4 History & Turning Points of the cluster

Farming started for subsistence reasons and to make a livelihood. It is a tribal tradition - people were farmers and herdsmen from their tribal background. In 2000, a project started to form cooperatives out of which the semi commercial farms emerged (6, 12, and 15 farmers in the cooperatives). The agricultural officers and local municipalities initiated this project because they wanted to create jobs.The region is a very poor one with about 75% unemployment. Literacy level of the people is very poor and there is a lot of theft in the area (particularly affecting vegetables and livestock).The climatic conditions are very good for farming.

In 2009, a project started by Alternafruit and Ferrero Group to plant hazelnut trees in one cooperative. The first harvest is expected in 2014. There are plans to plant more trees - including pomegranate and fig trees on other farms.

CHAPTER - 4

TECHNOLOGY & PROCESS

4.1 Production Process and flow Diagram

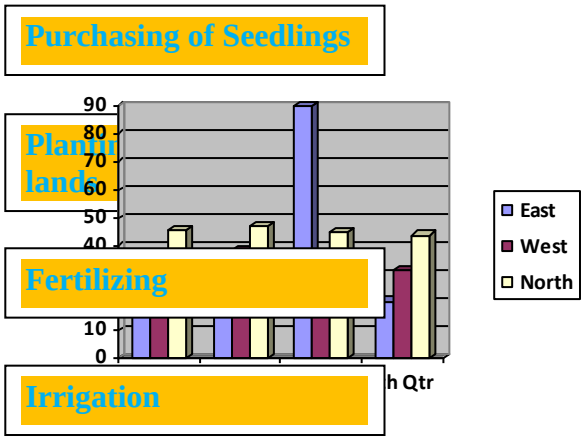
The production process starts with land preparation. This is done using a tractor. The local municipality provided the group with a tractor about 4 years ago. The tractor is not very reliable and they constant problems getting access to a mechanic. After the soil preparation they will start weeding and use pest control. Weeding is done by hand or basic

garden tools. Pest Control is done either by hand or using spray cans.

After that planting of the seedlings or seeds are done. Seedlings and raw materials are bought from suppliers in Queenstown. They also serve as good advisors on what to plant and what to use when diseases occur. They are reliable and always aware of new products.

Harvesting is done by hands and from time to time casual labourers are made use of. At these stages the vegetables are pack in boxes and bags and sold to informal markets. The delivery is done through a truck that belongs to one of the principal members. A hiring fee of R500.00 per load are charged. During harvesting time the truck is used at least twice a week. When preparing and planting the vegetables we make use of the truck at least once a week. The truck is reliable and also close to the other members as the owner lives within the community. No storage of the products is required as they are sold directly to the different markets from the time it is harvested.

4.2 Production Process for Butternuts, Cabbage :



Harvest

Sorting /Grading

Packing

Storage

Retail/Markets

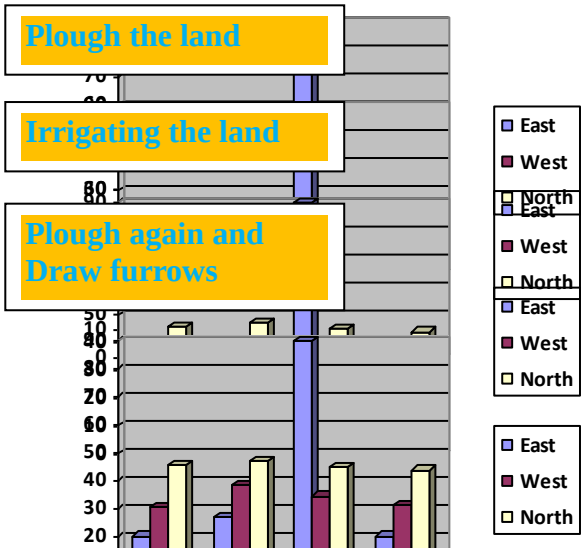
Potatoes:

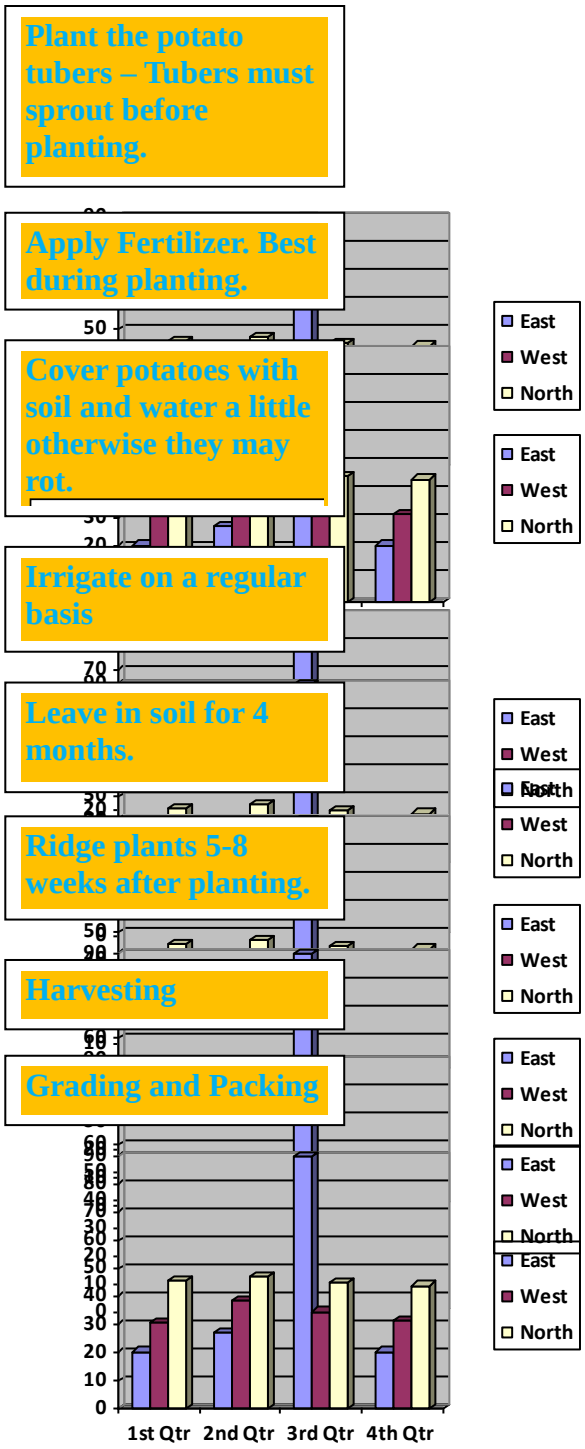
Taking Soil samples

Plough the land

Irrigating the land

Plough again and Draw furrows





Sheep wool:

DAFF gives males for breeding and improve wool quality

Sheep keeping and feeding (pallets from Queenstown + grazing)

Veterinary – DAFF vet in the cluster (very good)

Taking wool with scissors

Wool put in bins

DAFF hires a truck to bring the wool to Port Elizabeth for washing

BKB sells after washing

Checks to farmers --> get cash in bank (after 7 days)

Individual slaughtering without abattoirs

Meat sold in local market

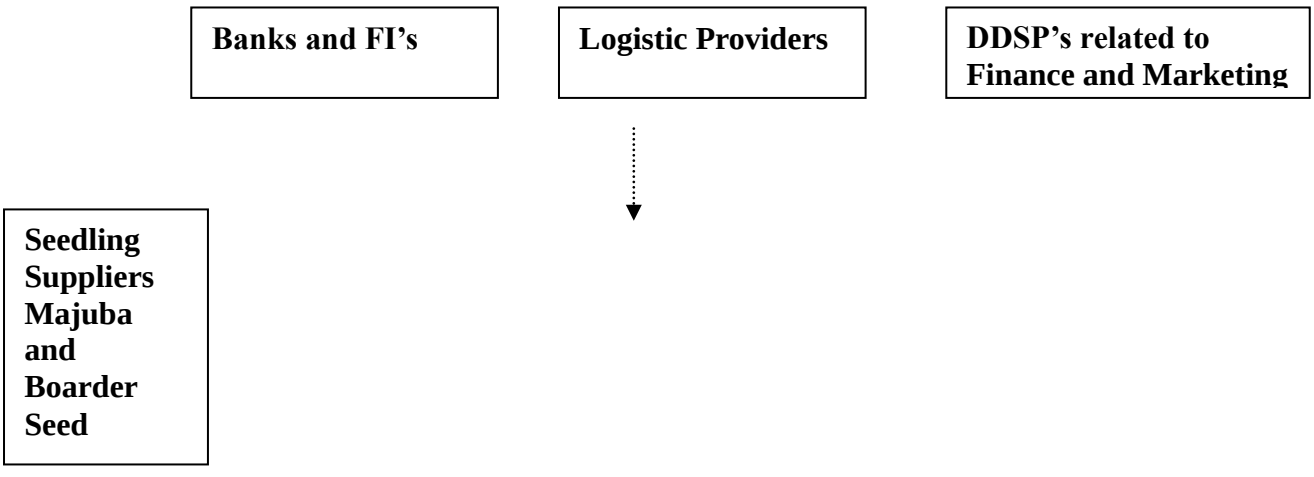
CHAPTER - 5

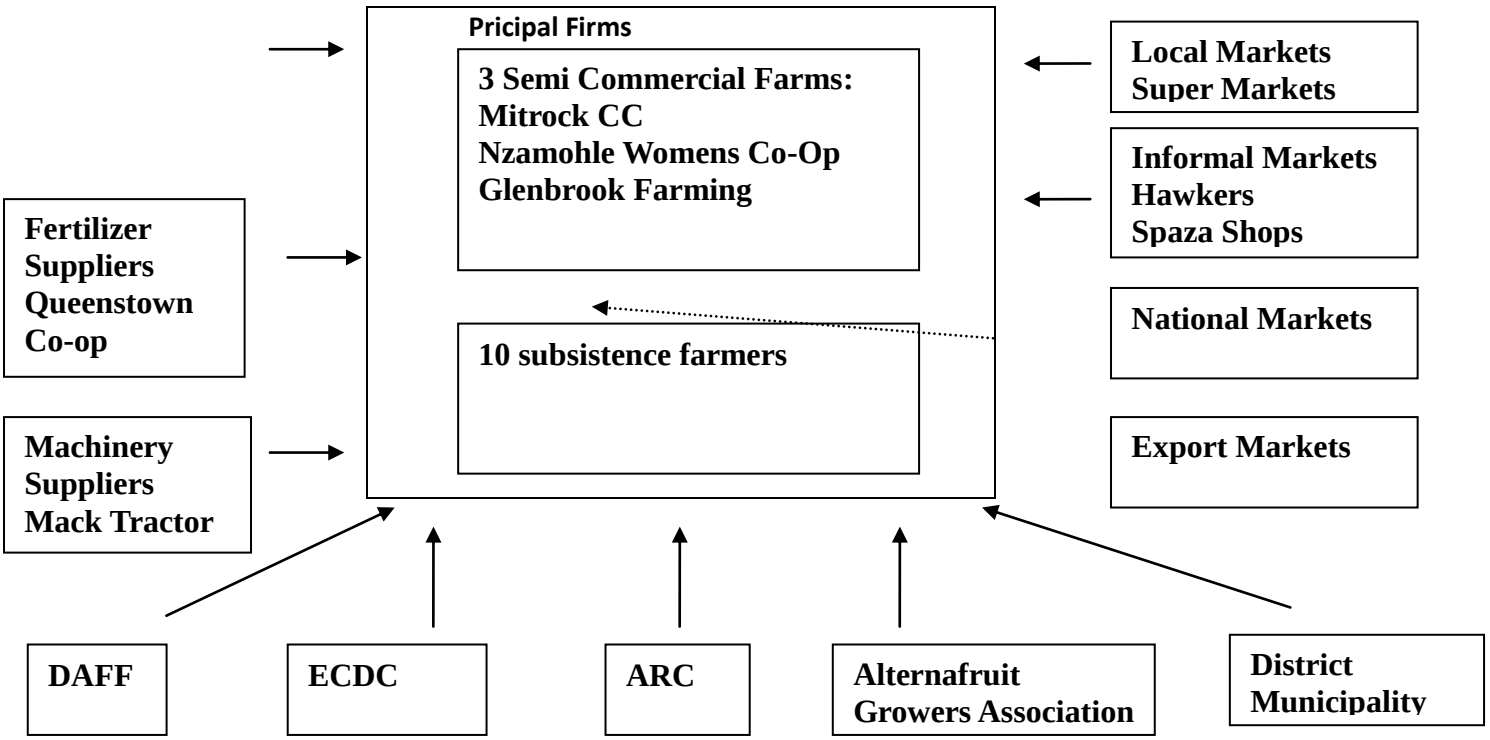
BENCH MARK CLUSTER / Farm

Will be investigated at a later stage – we need to see, which farm is good in the key products and compare

CHAPTER - 6

CLUSTER MAP AND CORE CLUSTER ACTORS





Key
Strong linkage: ——→
Poor linkage ·····→
Absence of Any Arrow : No Linkage

- **PRINCIPAL FARMS (INCL. COMMERCIAL):**

13 – 3 semi commercial, 10 subsistence + herdsman

Distribution of principal farms

Type of Farms	Export	National	Local	Total
Semi Commercial	0		3	3
Subsistence	0	0	10	10

- **Support Firms/ Backward Linkages**

All the support firms like suppliers of chickens, seedlings, feed and fertiliser are located outside the cluster area (Queenstown, which creates problems with transport and causes delays.)

Majuba and Boarder seedlings supply us with raw material. Queenstown Co-Op supply us with fertilizer and chemical material. Mac Tractor

Type of Firms	Number
Raw material suppliers	2
Fertiliser Supplier	1
Machinery & Equipment Supplier	1
Any other	
Total	4

Forward Linkages (market)

We have no clear programs for marketing. Our marketing for the hazelnuts and pomegranates are done by Alternafruit , but is not yet in production

6.5 Support Institutions

DAFF:Department of Agriculture , Forestry and Fisheries.

Sometimes they give seedlings, fertilizers, grants – but not a constant supply. Training on food processing, agri business skills, beef management and livestock management.

Extension officers:

4 officers available to the cluster and 2 vets – all from DAFF. Give advice on how to manage the farm and how to produce better production. Pest control, soil sampling (not at all farms).

Eastern Cape Development Corporation

ECDC's primary objective is to plan, finance, co-ordinate and facilitate economic development

Alternafruit- they supplied required seedlings (hazelnuts and pomegranates) helping them with technical support.

SA Agri Academy offers practical market access training to SMEs in the agricultural sector. It is assisted by various local and international partners to facilitate national, international and inter-regional market access.

Skills development programs such as Food safety , global gab, Consumer behaviour and trends and marketing courses are offered

Type of BDS Providers	Public	Private
Marketing		2
Quality	1	2
Finance	1	
Any other		2
Technology	1	2
Skills Development		1

Banks:

only for bank accounts – no loans. No farms are indebted anywhere.

CHAPTER - 7

ANALYSIS OF BUSINESS OPERATION

7.1 Backward Integration

Seedling: the suppliers are three: Majuba (seedlings), and Boarder Seeds (seeds) in Queenstown. Delays. Farmers all hire a car to drive to Queenstown for purchases – this is doen individually – there is no joint purchase. Sometimes the DAFF agricultural officer can do the transport for free.

They offer good quality products. 65,000 seedling per day would qualify for a discount. Individually, semi commercial farms buy 30,000 per day. So the first discount step would be easily achieved.

Feed for sheep (pallets, maize, lucern): They buy at Saqwithi in queenstown. At the moment all 312 heardsmen go to Queenstown by local transport individually to buy the feed and carry it back by local transport by hand. Because they cannot transport big quantities, they have to go more often. There are no joint storage facilities in the cluster – they store feed individually on their premises.

Fertilizer: They buy individually from cooperatives in Queenstown – those are being bought together with the seedlings in one go. There is no scope for discounts because the joint amount would still be too small.

Chemicals: They buy individually from cooperatives in Queenstown – those are being bought together with the seedlings in one go. There is no scope for discounts because the joint amount would still be too small.

Machinery / Equipment: Equipment is boig bought at Majuba in Queenstown – spates, hoe, fork spates, sissors.

Veterinary: Available in the cluster from Daff and it is a free service. But slow when it comes to vaccinations.

7.2 Technology

The cluster has only one tractor given by the district municipality for free with a planter and a plough. This is being shared with 13 farms. There are frequent breakdowns. For repairs there is a need to drive the tractor to Queenstown to the engineer.

7.3 Market

The butternuts are being sold in local fresh produce markets. The whool is being sold to PE.
The vegetables are being sold in local fresh produce markets.
There are three grades for vegetables and butternuts and A is being sold there – the rest A&B grades are being sold in local villages.

Potatoes	**A, 10 cage one pocket**	**B one pocket**	**C one pocket**	
R	R 20.00	R 15.00	R 10.00	
Cabbage	**Head Grad A**	**Head Grade B**	**C**	
R	3.5	2.5	2	
Butternut	**A, 10 kg**	**B 10 kg**	**C 10 kg**	
R	35	25	15	

7.4 Business management / entrepreneurship skills of the cluster

Not all of the 13 farmers are literate (about 40% do not know well how to read and write). Only some of them have received any training on how to operate business and financial management. There is no record keeping on farms (only two farms – the one of the CDA is doing it and the farm working with broilers is also doing great record keeping and could be a benchmark in this regard). Out of 13 farms, about 6 have a bank account – the nearest bank is also in Queenstown (45 minutes by public transport).

7.5 Social dynamics

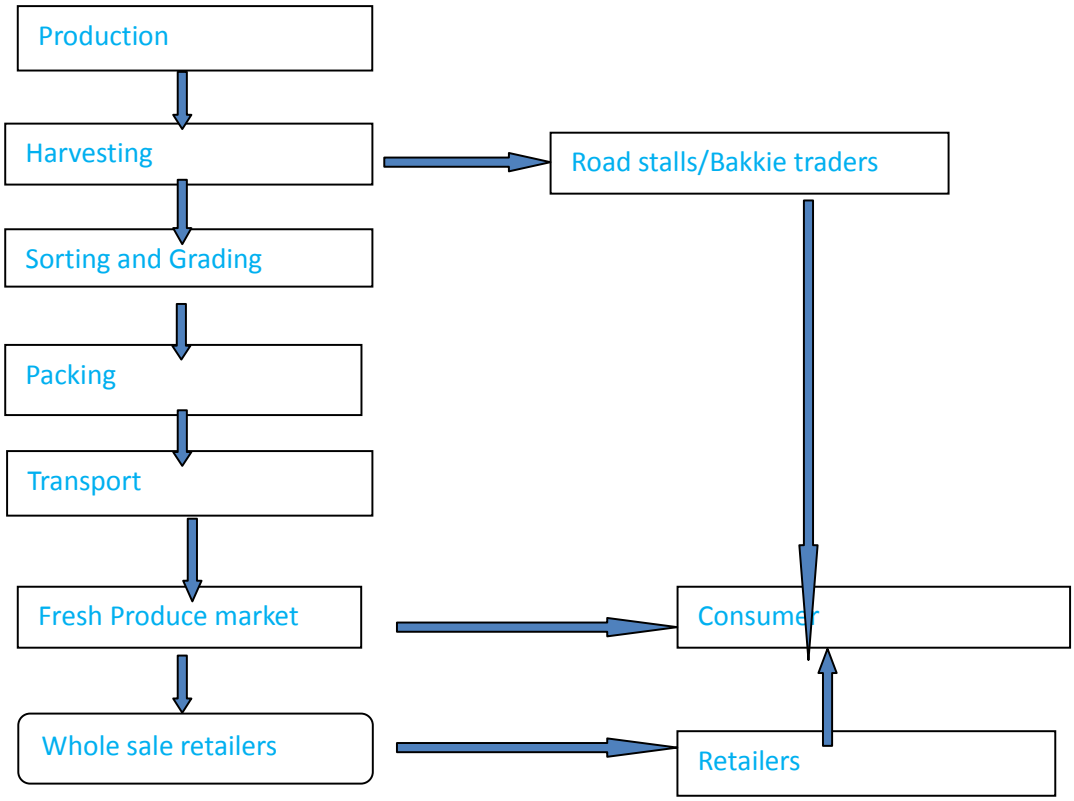
Alternafruit (NGO), SIPHILA (NGO takes care of people who are HIV positive).

7.6 Role of Associations

There are no associations of relevance to the cluster members.

7.7 Value chain analysis

Cabbage Value Chain



CHAPTER - 8

SWOT ANALYSIS

For Butternuts:

STRENGTHS	WEAKNESS

• Good suitable fertile land • Enough water available (dam) • Risk taking farmers (good business attitude) • Good quality • Equipment and labour available	• Hardly any cooperation between farmers • Only one season in summer • Farm lands are not fenced (livestock destroying crops) • Marketing Strategy • Bad Roads • Lack of access to latest technology • Lack of telecommunication • High Illiteracy Rate • Only one delivery van .
OPPORTUNITIES	**THREATS**
• Markets not saturated and willing to consume more (fresh fruit market) • Plant more once land is fenced • Support from Alternafruit and Eastern Cape Development Co –orporation • Well established Markets • Well established research institutions	• Frequent floods and storms (destruction up to 80% when it happens) • High fuel prices

For Vegetables (Potatoes, Cabbage):

STRENGTHS	**WEAKNESS**
• Good suitable fertile land • Enough water available (dam) • Risk taking farmers (good business attitude) • Good quality • Three seasons for potatoes and cabbage also throughout the year	• Hardly any cooperation between farmers • Farm lands are not fenced (livestock destroying crops) • For potatoes the manual fork spates (digging) is not adequate because too many get destroyed and it leads to bad quality • Poor Roads • Lack of access to latest technology • Lack of telecommunication. • Very High Illiteracy rate .

	• Bad Roads • Only one delivery van .
OPPORTUNITIES	**THREATS**
• Markets not saturated and willing to consume more (fresh fruit market) • Plant more once land is fenced	• Frequent floods and storms (destruction up to 80% when it happens) • Cabbage is affected by insects • High Fuel Pries

For Sheep Whool:

STRENGTHS	**WEAKNESS**
• Good sheep species • Good mass	• No proper vaccination because DAFF structure is too slow (too dependent) • No value added • No cooperation • No fencing • Poor Roads • Lack of access to latest technology • Lack of telecommunication. • Very High Illiteracy rate . • Only one delivery van .
OPPORTUNITIES	**THREATS**

• Own washing facility could be installed because a dam is close by (by selling washed wool, price could increase to up to 40%)	• Theft

ChAPTER – 9

KEY ISSUES/CHALLENGES OBSERVED IN THE CLUSTER

9.1 Poor Production levels:

The production levels are very limited due to the lack of the following:

- Awareness on better cultivation

- Poor production techniques
- Limited skills – high illiteracy
- Poor entrepreneurial capabilities.

9.2 Financial services:

The farmers have no collateral and therefore cannot go to the banks for finance. Many of the farmers are illiterate and are unaware on how to apply for finance and grants.

9.3 Business Development Services

The Farmers have links with business development service providers like Alternafruit ECDC and SAAA that can assist them with Accounting, Marketing , Quality Food safety and Market Access.

9.4 Farmers Union and Commodity Association

Very little interaction with Union's and Commodity Associations**.**

9.5 Input Issues

The poor technology , the fact that they don't have transport of their own , poor machinery caused a great hinder for the smooth flowing of the production process

9.6 Post Harvest Issues

The fact that they don't have a truck of their own , they don't have packing facilities , processing room and cold storage plays a negative role in the quality of the product and their consistency in delivering the product to the markets and shops. This can also lead to the product not being consistently available and of a good quality.

9.7 Knowledge level issues.

They have a very high illiteracy level in the cluster therefore poor communications skills. They have low knowledge levels in field production process. This is couples by inadequate skilled labour force.

Summary of needed skills identified in Cluster

- Farm management skills

- Computer skills
- General record keeping
- General financial management and accounting
- Food safety
- Consumer Trends
- Deasese and pest control
- Soil fertility and water management.

CHAPTER – 10
CLUSTER VISION & STRATEGY

10.1 Cluster Vision

Increase job creation (20-30% increase), increase production through fenced land to 15-30%. Increase income through value addition on wool and better quality on vegetables. Increase sales to fresh fruit market.

10.2 Short term targets

- joint bulk purchase
- form networks in the cluster with regular meetings and information exchange
- assist each other during harvesting and planting seasons
- Joint marketing
- Teaching other farmers
- In 1 year, every farmer will be able to write his/her name a signature.

10.3 Long term Targets

- wool washing facility shared by all heardsmen
- Fenced land by all cluster farms
- Increase production volumes and sales to fresh produce market
- Form local association.

Action Plan

					Contribution			
S No	Activity	Time line	Implementer/ BDSPs	Total Budget	Stakeholder	Donor	Others	Expected outcome
I. Trust Building								
1	Awareness Workshop on Cluster Development (Half Day)		SAAA/ CDA	11500		11500	0	Created a common understanding among stakeholders.
2	Exposure visit to a fresh produce market at Johannesburg (One Day)		DAFF/ CDA/ SAAA	20 000		20000	0	Created an understanding of the marketing process and procedure besides building up trust
II. Capacity Building								
3	Training on record keeping – stock control		SAAA	7000		7000	0	To improve accounting practices. 1day
4	Market Access Development Program		SAAA	50 000		50 000	0	Food Safety , Global Gap , Consumer Trends and awareness.
5	General Computer Course- 2 day		SAAA	35 000		35 000	0	Word/Excel/Outlook

6	Workshop on financial management (2 Days)		SAAA/	17700	0	17700	3500	Created an understanding for farms on financial issues and bank products
7	Training on machinery maintenance (2 Days)		BDSP	2650		2650	0	Created awareness on workshop maintenance
8	Learn tour to a commercial farm (1 Day)		CDA	2000		2000	0	Created a benchmark for cluster members
9	Training on Pest and Disease Management (2 Days)		SAAA/Alternafruit	20 000	0	20 000	0	Created awareness on management of pest and diseases
10	Training programme on Post Harvest Handling of produce (1 Day)		SAAA/ Alternafruit.	20 000	0	20 000	0	The handling of the harvested produce understood
11	Workshop of water & soil fertility management (2 Days)		Alternafruit/ ARC/ DAFF	20 000	0	20 000	0	Soil & Fertility management understood
III. Finance								

12	Organising a Bankers & FIs Meet (1 Day) 3 programmes		CDA	25000		25000	0	Improved awareness with banks and FIs
IV. Marketing								
13	Organising a one day Buyer – Seller Meets (3 Programmes)		CDA	15 000		15000	0	Improved direct linkages with the buyers
14	Interface with packing experts		BDSP	7500	0	7500	0	Understood different types of packaging
V. Associations								
15	Interactive meets with commodity associations & national farmers unions(3 Nos)		CDA	3000	1500	1500	0	Improved linkages with commodity associations and national unions
VI. Infrastructure								

16	Organise consultative meeting for establishment of common facilities for storage, maintenance workshop, packing and cold chain		CDA	1000	1000			Decision reached for formation of common facilities
VII. Others								
20	Establishment of resource centre with cluster website		BDSP/ Cluster Association	20000	2000	10000	8000	Resource centre along with website established
Total				**277350**	**4500**	**264850**	**8000**	