RURAL AGRICULTURAL LAND POTENTIAL ASSESSMENT AND AGRIBUSINESS POLICY FOR ETHEKWINI

AGRICULTURAL DEVELOPMENT FRAMEWORK PLAN FOR THE SOUTHERN AGRICULTURAL REGION

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1 INTRODUCTION

1.1 THE AGRICULTURAL PROJECT OF THE RURAL ABM OFFICE

The Rural Area-Based Management (ABM) Office of eThekwini Municipality has been driving the development of an agricultural development strategy for the rural areas of eThekwini. The programme has included three phases:

1. Analysis of the agricultural status quo, focussing on:
   • Land potential
   • Existing infrastructure to support agriculture (roads, rail, electricity)
   • Current agricultural activities and projects (commercial, emerging and subsistence level)
   • Current stakeholders, role-players and support services
   • Existing policies and legislation impacting on agricultural development
2. Development of an Agricultural Policy for Rural eThekwini (those areas falling under the Rural ABM Office)
3. Development of Agricultural Framework Plans and Spatial Development Plans for the two Agricultural Regions that make up the Rural ABM area.

The status quo confirmed the potential for agricultural development and served as the basis for the development of the Agricultural Policy and the Agricultural Development Frameworks for the two Agricultural Regions.

1.2 AGRICULTURAL POLICY FOR RURAL ETHEKWINI

The Agricultural Policy has centred around six themes:
• The Focus of Agricultural Development, identifying strategic focus areas for agricultural development in rural eThekwini;
• Institutional Structuring, focussing on the roles and responsibilities of stakeholders and the creation of an institutional structure for coordination and delivery;
• Land Issues, including a focus on Land Ownership, Land Planning and Development, and Land Rates;
• Support Services, focussing specifically on Extension Services, Research, Input Suppliers and other Service Providers;
• The Environment, providing guidance specifically on integrating the conservation of the environment and the promotion of agricultural production; and
• The Production Focus, identifying specific agri-enterprises (primary production and agri-processing) to be promoted and supported, relating to both the subsistence and commercial sectors.

1.3 ETHEKWINI AGRICULTURE AND ENVIRONMENTAL COORDINATING FORUM
The Agricultural Policy for rural eThekwini proposed the formation of an Agricultural Stakeholder Forum. This concept has been taken forward and expanded to include the urban portions of eThekwini, as well as to focus on some non-agricultural aspects of rural development. The ‘eThekwini Agriculture and Environmental Coordinating Forum’ will be referred to from hereon in this document as the Coordinating Forum. The Greater Durban Community Foundation (GDCF) is providing the secretariat service for the Forum during the initiation phase.

Agricultural / rural development stakeholders have been characterized as primary or secondary, based on the centrality of agricultural/rural development to their mandate and/or the necessity of their ongoing participation in the coordination process. While it is foreseen that all stakeholders should be incorporated into the coordination process at some level, only the primary stakeholders will attend the Coordinating Forum meetings on a regular basis. Secondary stakeholders will attend on an issue basis as and when it is required. They will also be invited to attend annual plenary conferences and other forums that will allow for policy development and debate, monitoring progress, tabling turnkey projects, etc.

It is also anticipated that chambers representing specific sectors such as civil society groups (CBOs and NGOs) and business and grant-making organizations/companies will be formed. The chambers will vote representatives onto the Forum. Working groups will be established by the Forum to address specific needs that arise. They will consist of organizations that are particularly relevant to the issue at hand, including organizations that are not part of the Forum.

One of the roles of the Coordinating Forum will be to monitor and evaluate rural development/agricultural projects, especially those supported by the Municipality.

1.4 INTERNAL COORDINATING MODEL FOR ETHEKWINI

The Rural ABM Office is working with other line departments to develop a model (an internal institutional arrangement) that will inform the manner in which such departments cooperate to implement strategies and to deliver on various projects requiring municipal support.

1.5 PURPOSE OF THE AGRICULTURAL DEVELOPMENT FRAMEWORK (ADF)

The purpose of the Agricultural Development Framework Plans for the two Agricultural Regions within rural eThekwini is to:

- Guide agricultural development in the area
- Provide guidance on which agricultural activities are suitable for which areas
- Make recommendations about activities to be supported by the municipality.
1.6 RELATIONSHIP BETWEEN THE RURAL ABM REGIONS AND THE AGRICULTURAL REGIONS

The KwaZulu-Natal Department of Agriculture and Environmental Affairs (KZNDAEA) has a district that follows the boundaries of Durban Metro. It has further divided this district into two sub-regions. This division is along the N3, with the area north of the N3 known as Durban North and the area to the south known as Durban South (Figure 1). Since some municipal wards stretch across the N3, they have been allocated to the North or South depending on where the majority of the ward lies. A District Task Team-North and a District Task Team-South are responsible for planning activities in each of the regions. Each of the regions also has a District Farmers’ Association, which has farmers associations affiliated to it. These regions will be adopted as the Agricultural Regions for eThekwini because steps have already been taken by KZNDAEA to set up institutional structures within each of them.

In addition to this division, the Rural ABM Office has also defined four sub-regions for administrative purposes. The boundaries of these regions are shown in Figure 2. Specific reference will be made to the Rural ABM (RABM) regions where relevant.

Where the RABM regions fall within both the Northern and Southern Agricultural Regions, they have been given an N or S, respectively. RABM 4 comprises three separate areas, and these have been called RABM 4a, 4b and 4c, respectively.
Figure 1: Map of eThekwini showing KwaZulu-Natal Department of Agriculture and Environmental Affair’s two Durban regions (North and South).
Figure 2: Map of eThekwini showing the four Rural ABM Regions that have been defined for administrative purposes.
2 THE AGRICULTURAL PLAN

While some of the strategies defined in this document will relate specifically to the Southern Agricultural Region, a number of strategies relate to both the Northern and Southern regions. These are referred to as cross cutting strategies and they generally need to be implemented at a higher level (driven by either the Coordinating Forum or the Rural ABM Office). These strategies will have supporting activities that will take place at the level of the Agricultural Working Groups (AWGs) operating within each Agricultural Region.

The cross cutting strategies are summarised below:

• Cross-cutting Strategy 1: Implement communication campaign (agriculture and the environment)
• Cross-cutting Strategy 2: Provide information and guide approaches and training
• Cross-cutting Strategy 3: Identify and attract service providers and input suppliers
• Cross-cutting Strategy 4: Promote the establishment of general infrastructure
• Cross-cutting Strategy 5: Promote the establishment of agriculture-specific infrastructure
• Cross-cutting Strategy 6: Improve access to land (redistribution) and tenure security

The following strategies are specific to the Southern Agricultural Region:

Strategy 1: Establish appropriate support for agricultural production
• Component 1 – Establish Agricultural Working Group
• Component 2 – Develop Agricultural Hubs
• Component 3 – Identify and Attract Service Providers and Input Suppliers
• Component 4 – Establish Market Linkages.

Strategy 2: Promote and direct agricultural production
• Component 1 - Make Product Specific Information Available
• Component 2 - Promote Specific Production Opportunities and Practices.

Strategy 3: Improve conditions for agricultural development
• Component 1 – Identify and Address General Infrastructure Needs
• Component 2 – Identify and Address Agriculture-Specific Infrastructure Needs
• Component 3 – Identify and Monitor Land Reform Projects.
Figure 3: Outline of the Agricultural Development Plan for eThekwini.
## CROSS-CUTTING STRATEGIES FOR ETHEKWINI

### CROSS-CUTTING STRATEGY 1:

**Implement communication campaign (agriculture & the environment)**

### THE STATUS QUO

**Promote agriculture:**
There is limited recognition within eThekwini of the potential role that agriculture can fulfil in improving rural food security, income generation and job creation. This is evident at all levels. Planning activities, ranging from the municipal policy level (i.e. the Integrated Development Plan) to local area development plans, continue to focus on housing, infrastructural development in rural areas, and non-agricultural forms of economic development such as arts and crafts, tourism etc.

At a grass roots level it would also appear that the value of land and the potential to generate income from the land available in rural areas through agriculture is not being exploited. This relates to a range of factors, amongst others: households being in the poverty trap (i.e. not having the resources in terms of time, money and labour to devote to agricultural activity), lack of access to support and the lack of access to markets.

Despite the above examples of constraints, successful agricultural enterprises do exist within rural eThekwini. Examples of successful enterprises include a large number of small market garden operations producing for local markets, fruit and vegetable farmers, poultry farming, piggeries and tunnel farming. A number of medicinal plant enterprises have been established but most of the current *muthi* enterprises rely on harvested material.

**Promote environmental awareness:**
Currently, many agricultural activities are not environmentally sustainable in the long-term. If agricultural development is to be sustainable, then environmental awareness is essential. People need to be aware of possible negative impacts and take steps to mitigate them.

### THE APPROACH

**Promote agriculture and environmental awareness:**
A Unicity-wide agricultural information programme aimed at developing an interest in agriculture (subsistence and commercial), and explaining the need for environmental awareness, is proposed. Such an information programme will be focussed on various levels, viz. the policy/decision-makers (e.g. Councillors, Amakhosi and Senior Officials), a business and commercial level and, most importantly, the grass roots level.

The purpose and approach to communicating on each of the above levels will be as follows:

*Policy/decision-makers:* The information programme will be aimed primarily at building an appreciation with decision-makers as to the role which agriculture can fulfil in rural development in general and economic development specifically. This will primarily be achieved through communicating success stories, as well as factual information relating to rural agriculture, specifically to Council structures (Council, EXCO and Portfolio Committees).

*Business and commercial level:* The information programme will be aimed at making business decision-makers aware of the opportunities relating to the agricultural sector, specifically those related to the establishment of agricultural hubs in key nodes. Business opportunities relating to key products will also be
Communicated. This communication will primarily be achieved through Business Chambers as well as through the media.

**Grass roots level:** At a grass roots level the information programme will be aimed at (1) creating an awareness of the potential opportunities which the agricultural sector presents (2) how current agricultural activities can be optimised (whether these are subsistence or commercial activities) and (3) the need for long-term environmental sustainability.

Communicating the above to communities will require the development of an information programme making use of a variety of tools, including the media, street theatre programmes, agricultural shows, workshops, brochures etc. Extension Officers supporting staff need a good understanding of issues. Special events, such as agricultural shows, should be conducted in association with activities at the agricultural hubs.

### THE RESPONSIBILITY

It is proposed that the various stakeholders in the Coordinating Forum for agriculture take joint responsibility for the information programme. A range of forums relating to the various stakeholders can be used to launch such an information programme.

### THE PLAN (COST AND TIME)

An agricultural information programme should receive immediate priority. It is proposed that an amount of R200 000 be allocated for this for the first financial year and that the funding requirements be re-considered on an annual basis from there on.

Continued support of agricultural shows as a means of promoting agriculture should be considered. Budget requirements to be determined.
CROSS-CUTTING STRATEGY 2:
Provide information and guide approaches & training

THE STATUS QUO

Product-specific information:
Communities/emerging farmers are often drawn into projects without a full understanding of the impact, particularly the financial impact that such farming activities are likely to have on their lives. For example, communities are encouraged to become involved in woodlot projects, not always understanding that income will only be derived from the project after year seven. For a large percentage of agricultural projects, income is only derived annually and must then also be split between a large number of beneficiaries. The lack of available information makes it impossible for communities, emerging farmers and other decision-makers to make really informed choices on which agricultural products will deliver the best possible return on capital and human resource investment.

Maintenance of databases (producer information):
There is a need to have eThekwini-wide information available for agricultural stakeholders in terms of subsistence activities, projects, producer/commodity organisations and commercial enterprises that can offer mentorship and marketing opportunities. It is also necessary to have records of best-practice examples and success stories that can be used for cross-visits and to promote interest in agriculture.

Models/approaches:
The success of many activities receiving municipal support is dependent on the approach taken. This is especially important in terms of approaches taken when working with groups of farmers. Opportunities offered by functioning in groups include reduced cost of inputs and improved marketing of produce. This also includes approaches whereby farmer groups structure themselves (legal or other entities).

Agricultural training:
Needs assessments in rural communities have identified agricultural training as requiring prioritisation. Short and long term training needs to be addressed. Learnerships\(^1\) offer opportunities (qualifications, practical experience and potential employment) that should be explored.

THE APPROACH

Product-specific information:
It is viewed as essential that product specific information on which decision-making can be based is made widely accessible in a simple format that can be understood by both technical planners, as well as by the small scale farmers on all levels. The eThekwini Rural Agricultural Policy indicates factors that should be considered when a proposal for support is assessed. Included in this are environmental and financial

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\(^1\) Learnerships: one-year qualifications, similar to apprenticeships, involving structured workplace learning (practical experience), as well as structured institutional learning (theoretical content)
sustainability. All proposed activities should address these factors and indicate that they are meeting the requirements as stipulated in the policy.

As a starting point, a basic document has been developed that allows for the comparison of a number of enterprises on the basis of critical factors determining location, economic viability and technical considerations (See Appendix 1 for a summary of the information). In the full document, assumptions have been stated for each enterprise and the figures shown in Appendix 1 should not be taken as final – anyone proposing a new project would have to rework the economic analyses based on the specific set of conditions. Workshops at a grass roots level, aimed at empowering small farmers to make their own choices, are essential. Factors that are included in the tables are: Critical factors determining location, expected returns in relation to number of beneficiaries (in the table reference is made to the size of a unit generating R12000 annual gross margin), Capital investment requirement, Time until first income realised, Perishability of the produce, Suitable settlement patterns, Frequency of re-establishment, Peak working capital requirement and First gross margin (when and amount). It should also be noted that only a limited number of enterprises are include in the document. The further and continued development of this tool is deemed as essential.

**Maintenance of databases:**
Databases of information pertaining to producers (commercial and subsistence farmers, projects, commodity organisations, etc) should be compiled and updated on a regular basis. A record of successful projects (and best practice examples) should also be kept.

**Models/approaches:**
Existing models should be identified or new ones developed. These models should provide guidance for groups to structure themselves, for stakeholders working with farmers groups and alternative approaches for marketing produce.

**Agricultural training:**
A number of different government (provincial and local) departments and NGOs are currently providing training to farmers in eThekwini. Training materials and courses need to be developed to support the approach that eThekwini is taking (sustainable agricultural development).

Existing training/demonstration gardens will be used for training or new ones will be established in unserviced areas in association with the agricultural hubs. The gardens created at any of the hubs should be owned and managed by local communities with input from local NGOs and KZNDAEA. They should be used to provide practical hands-on training in sustainable farming methodologies and should target farmers, KZNDAEA extension staff, NGO/ CBO field staff and municipal officials.

Efforts should be made to engage the Primary Agriculture Education and Training Seta (PAETA) in order to identify potential partners for learnerships.

**THE RESPONSIBILITY**

**Product-specific information:**
The Rural ABM office has initiated the process of developing a basic decision-making tool through the "Rural Agricultural Land Potential Assessment and Agribusiness Policy Programme". It is recommended that this basic tool be further developed drawing on the skills and expertise of all stakeholders in agriculture in rural
Importantly, the tool needs to remain relatively simple and easy for all agricultural stakeholders to understand. The Coordinating Forum will assist in making recommendations regarding proposed production focuses at a Unicity level.

**Maintenance of databases:**
The Coordinating Forum / Rural ABM Office is responsible for maintaining databases. Inputs will be obtained from the Agricultural Working Groups. A survey of subsistence activities should be conducted to identify current levels of production as well as needs to be addressed.

**Models/approaches:**
The Coordinating Forum / Rural ABM Office will be responsible for drawing on the knowledge of NGOs and other experts working within eThekwini and further afield to identify sound approaches for working with groups of farmers.

**Agricultural training:**
The Forum should prioritise training needs and identify sources of funding to support it. The Coordinating Forum should invite a PAETA representative to attend one of the monthly meetings and inform them of opportunities and of the way forward.

The Coordinating Forum should identify the location for a demonstration/training garden pilot project and a local NGO should be appointed to give support.

### THE PLAN (COST AND TIME)

**Product-specific information:**
It is suggested that R50 000 be allocated for the further development of the decision-making tool.

It is suggested that R70 000 per assessment is made available for in-depth feasibility studies (two per year) for specific enterprises. The choice of enterprises to be investigated should be determined through consultative processes.

**Compile and maintain database:**
The stakeholders should feed information through to the coordinating forum and a system should be put in place to allow for this (R40 000).

**Determine models/approaches**
The Coordinating Forum should appoint an NGO to investigate possible approaches/models for farmers to structure themselves, for stakeholders to work with farmers and for marketing produce and should make such information available to the Agricultural Working Groups (R100 000).

**Agricultural training:**
An annual budget of R100 000 (eThekwini or KZNDAEA) per garden should be allocated to the establishment and support of demonstration/training gardens at agricultural hubs in areas where no training facility is available. The development of training material will be addressed if necessary. Detail will relate to training needs identified and currently available material (Budget to be determined).
## CROSS-CUTTING STRATEGY 3:
### Identify and attract service providers and input suppliers

### THE STATUS QUO

Service providers and input suppliers are generally located some distance from the rural parts of eThekwin, which makes them difficult to access for emerging and subsistence farmers. This also impacts on the financial sustainability of agricultural production in eThekwin. The setting up of agricultural hubs will have a major impact on making such services and inputs accessible. A key challenge in the establishment of successful agricultural hubs will be its ability to attract service providers and input suppliers.\(^2\)

### THE APPROACH

A municipality wide initiative to get service providers and input suppliers involved in the agricultural hubs should be launched. The setting up of the agricultural hubs should then also be done in close consultation with such service providers and input suppliers.

Central to the success of getting such involvement will be the availability of accurate information on the type and extent of agricultural enterprises in the various areas. This will allow, at least initially, for the targeted involvement of service providers and input suppliers.

It is suggested that bi-lateral discussions between the city and the industry (if an industry organisation does not exist, possibly through the Business Chamber) be initiated to facilitate the involvement of service providers and input suppliers in the agricultural hubs. Financial institutions should be encouraged to support small-scale agricultural enterprises and linkages should be facilitated. It is essential that farmers are aware of opportunities that exist as well as the requirements of these institutions.

### THE RESPONSIBILITY

The Economic Development Department of eThekwin, together with the KwaZulu-Natal Department of Agriculture and Environmental Affairs, should take responsibility for initiating discussions with input suppliers and service providers at a municipal level.

### THE PLAN (COST AND TIME)

Following initial assessments it may be deemed necessary to appoint a business consultant to formally facilitate the process of getting service providers and input suppliers involved in this process. A budget of R150 000 is proposed for this purpose.

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\(^2\) **Input suppliers** for agriculture in the rural areas of eThekwin include suppliers of livestock feed, veterinary supplies, fertilisers (organic or chemical), agricultural chemicals, (herbicides/pesticides, etc.), and planting material. Agricultural **service providers** include suppliers of machinery and implements, providers of irrigation technology and equipment/infrastructure, marketing consultants (assisting with the export of agricultural produce), agricultural consultants (services include drawing up business plans, land-use planning and specialist advice), veterinary services (including private veterinarians and state veterinary services), transportation agents/freight (especially important for the cane industry), training institutions and financial support institutions.
## CROSS-CUTTING STRATEGY 4: Promote the establishment of general infrastructure

### THE STATUS QUO

The unavailability of appropriate infrastructure in the rural areas of eThekwini continues to impact negatively on the development of the agricultural sector, as is the case with other economic sectors.

### THE APPROACH

General infrastructure essential to the effective development of the agricultural sector includes:

- **Road access:** A focus specifically on the maintenance and upgrading of primary routes.
- **Electricity:** Access to electricity is in many cases a pre-requisite for agricultural development, e.g. electric pumps. The provision of access to electricity will therefore improve opportunities for agricultural development.
- **Market facilities:** Facilities are to be created within rural nodes that will allow for the development of a centralised fresh produce market.

### THE RESPONSIBILITY

Coordination of rural infrastructure provision will remain the responsibility of the Rural ABM, through specifically their interaction and close relations with the various line departments.

### THE PLAN (COST AND TIME)

These will be ongoing activities of the various line departments undertaken in terms of clear strategic, co-ordinated and integrated business plans.
**CROSS-CUTTING STRATEGY 5:**

*Promote the establishment of agriculture-specific infrastructure*

## THE STATUS QUO

In terms of agricultural infrastructure, access to water remains one of the most critical factors for consideration in establishing the agricultural sector in rural eThekwini. A general lack of infrastructure to support agriculture is characteristic of rural areas.

## THE APPROACH

With a focus on water, two key aspects need to be considered:

**Water Harvesting:**
Especially for home gardens - the provision of water tanks to harvest water off roofs and hold grey water would meet much of these needs.

**Irrigation Potential:**
It is recommended that a detailed assessment of the irrigation potential of land within rural eThekwini be considered.

Other agricultural infrastructure to be (assessed and) provided if necessary include:

- Dipping facilities and crush pens for treating animals, branding, etc.
- Sale facilities if livestock owners are having difficulty in disposing of animals (may be taking place directly from homesteads).

Structures that can serve as agri-processing facilities or markets also require consideration. These could be associated with the proposed agricultural hubs.

## THE RESPONSIBILITY

The Coordinating Forum will advise the relevant implementing agencies of needs that do exist. KZNDAEA staff to interact with subsistence and emerging farmers to identify infrastructural needs. Specific agriculture-related infrastructure needs should be communicated to the Rural ABM / Coordinating Forum by the Agricultural Working Groups (or other ABM related structures).

## THE PLAN (COST AND TIME)

It is recommended that KZNDAEA undertake an assessment aimed at establishing the priority needs of rural farmers. Funds are available through KZNDAEA to provide this infrastructure.

It is also necessary to identify new ways to improve access to water for agricultural production in the rural areas – literature review of existing material (research need identified in policy) and relating to eThekwini (GIS-based) – R100 000 should be made available for this.
### CROSS-CUTTING STRATEGY 6:

**Improve access to land (redistribution) and tenure security**

#### THE STATUS QUO

Although it is often suggested that communal land ownership, as is the current tenure form on Ingonyama Trust Land, is not conducive to commercial production, the understanding of this relationship is limited. It is, however, often suggested that the lack of tenure security limits the extent to which people are willing to invest and therefore to develop commercial activities. The difficulty in securing financing for developments on Ingonyama Trust Land with a ‘Permission to Occupy’, is also well documented. Even though short and long-term leases can now be issued on Ingonyama Trust Land, security of tenure remains an issue, specifically for financial institutions.

The Communal Land Rights Act published in 2004 sets out to address tenure security issues on communally owned land and make specific recommendations regarding the administration thereof. Implementation of this Act has not been initiated as yet.

Due to the relatively low agricultural potential of Ingonyama Trust land (considering specifically aspects such as topography, rainfall etc) it is further anticipated that an effective agricultural development strategy will require that additional land for the establishment of emerging farmers be identified.

#### THE APPROACH

**Improved land tenure:**
A first priority would be to launch a pilot project in terms of the requirements of the Communal Land Rights Act. This will require the setting up of a local land administration committee and the development of approaches to administrate the land. The impact of new approaches to land administration on both commercial and subsistence agriculture should be one of the central issues to be assessed through such a pilot project. The involvement of agricultural specialists in such a pilot project will therefore be essential.

As the majority of Ingonyama Trust land areas are populated at a range of densities it would be important that alternative models for managing agricultural development in more densely populated areas be developed.

**Improved access to land:**
Noting the limited potential of Ingonyama Trust Land, there is a need to identify additional higher potential land in commercial areas for establishment of emerging farmers. Pilot land redistribution projects accommodating individuals and groups currently residing on Ingonyama Trust land should be identified and implemented.
THE RESPONSIBILITY

The Coordinating Forum / Rural ABM should facilitate and monitor the process. In all land tenure and redistribution related issues it would be imperative that the Department of Land Affairs provide guidance and take the lead. The Department of Agriculture and Environmental Affairs will fulfil a strong supporting role in such activities. eThekwini Line Departments will contribute on specific requests.

THE PLAN (COST AND TIME)

As a starting point, the relationship between traditional land ownership and agricultural production needs to be better understood (a research need identified in the policy – R100 000 budget requirement).

Pilot projects for the implementation of the Communal Land Rights Act should be identified as a matter of priority. The budget for such pilot projects will be dependent on the full scope of work and guidance in this regard will be required from the Department of Land Affairs (who it is anticipated will also take responsibility for the funding of such pilot projects).

Land redistribution activities will be funded through mechanisms already established by national government. Land redistribution activities should be ongoing in line with government policies and targets.

Besides the specific broad strategies that need to be applied on an eThekwini wide basis, there are also various activities that need higher level support (Coordinating Forum or eThekwini Municipality) although they will be the responsibility of the Agricultural Working Group operating in the particular Agricultural Region.

Strategy components that will specifically require high level support (Coordinating Forum and/or Rural ABM Office), while actually being the responsibility of the Agricultural Working Group are:

- The establishment of the Agricultural Working Groups
- The formation of agricultural hubs
- The establishment of market linkages
- The promotion of specific production opportunities.
4 SOUTHERN AGRICULTURAL REGION: POPULATION AND PLANNING

This section places future agricultural development in the southern agricultural region in context by considering aspects such as the people residing in the area and current spatial and settlement development characteristics. Through considering these factors, valuable guidance is provided in planning for the future implementation of agriculture in this region. This section of the document is illustrated with a range of maps (Figures 4 to 7). For the purposes of the discussions that follow, RABM 4a will be called the Umbumbulu area, while RABM 4b will be called the Umnini area. When reference is made to the whole of the southern portion of RABM 4 (4b and 4c), this area will be referred to as the Umnini/Umkomaas area.

4.1 THE PEOPLE

This section draws on 2001 Census statistics to develop a better understanding of the people of the southern area as a resource for local economic development. The statistics provided reflect information for the total population of the Southern Agricultural Region based on grouping together the statistics of relevant place and sub-place names.

4.1.1 Population

Census 2001 places the population of the Southern Agricultural Region at 180 471 of which 53% are female. The male/female ratio should always be considered in planning future agricultural development activities. Agricultural projects to be identified should take due cognisance of the large number of women within the area and specifically their needs in terms of employment creation.

4.1.2 Levels of Employment

The table below reflects the levels of employment in the Southern Agricultural Region. Three categories are distinguished between, viz. the employed, the unemployed and “other”. The “other” category includes people in the workforce age group who fall into one of the following categories:

- Scholar or student
- Home-maker or housewife
- Pensioner, retired or too old to work
- Unable to work due to illness or disability
- Seasonal worker not working at present
- Does not choose to work
- Could not find work

When the “other” category is excluded the number of people in the unemployed category still outnumbers the employed by 3:1, i.e. unemployment levels in the region of 75%. If only 24583
people of a total of 180 471 are employed, this implies that about 7 people are dependent on the income generated by one employed person.

**Table 1:** Employment status of the Southern Agricultural Region workforce (15 to 64 yr)

<table>
<thead>
<tr>
<th>EMPLOYMENT CATEGORY</th>
<th>NO OF PEOPLE</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>24583</td>
<td>22.1</td>
</tr>
<tr>
<td>Unemployed</td>
<td>39240</td>
<td>35.2</td>
</tr>
<tr>
<td>Other (not working)</td>
<td>47640</td>
<td>42.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>111463</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**4.1.3 Income Levels**

Table 2 below reflects the annual and monthly household income levels in the Southern Agricultural Region.

**Table 2:** Annual (and monthly) household income levels

<table>
<thead>
<tr>
<th>INCOME CATEGORY</th>
<th>NO OF HOUSEHOLDS PER CATEGORY</th>
<th>% HOUSEHOLDS PER CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>No income</td>
<td>9972</td>
<td>28.5</td>
</tr>
<tr>
<td>R 1 to R 9 600 (R 1 to R 800 per month)</td>
<td>9597</td>
<td>27.5</td>
</tr>
<tr>
<td>R 9 601 to R 19 200 (R 801 to R 1 600 p.m.)</td>
<td>6212</td>
<td>17.8</td>
</tr>
<tr>
<td>R 19 201 to R 76 800 (R 1 601 to R 6 400 p.m.)</td>
<td>7779</td>
<td>22.3</td>
</tr>
<tr>
<td>R 76 801 and above (R 6 401 p.m. and above)</td>
<td>1404</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>TOTAL HOUSEHOLDS</strong></td>
<td><strong>34964</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Census 2001

It is noted from the above data that nearly 75% of households in the area had a monthly income below R1 600 per month. The majority of households in the traditional settlement areas will therefore qualify for government housing subsidies. R1 600 per month is viewed as being substantially below the household subsistence level, i.e. the basic income required by an average family to maintain a reasonable level of health and hygiene.

Table 3 below reflects the industry sectors in which the employed workforce is employed. A number of sectors make an important contribution to the employment of the workforce. Manufacturing, Private Households, Agriculture, Wholesale and Retail Trade as well as Community Services all make a contribution of between 10% and 20% to employment. Despite the low levels of employment this suggests that a broad range of opportunities is accessible for the households of the Southern Agricultural Region.

Considering that the area is rural in nature and borders on a number of commercial agriculture areas, the 6.3% employed in this sector appears low. Further investigation would be required in order to ascertain the main areas of agricultural employment.
Table 3: Industry Sectors of the Employed

<table>
<thead>
<tr>
<th>INDUSTRY SECTOR Employed In</th>
<th>NO OF PEOPLE</th>
<th>% OF EMPLOYED WORKFORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, hunting; forestry and fishing</td>
<td>1556</td>
<td>6.3</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>40</td>
<td>0.2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6695</td>
<td>27.3</td>
</tr>
<tr>
<td>Electricity; gas and water supply</td>
<td>158</td>
<td>0.6</td>
</tr>
<tr>
<td>Construction</td>
<td>1196</td>
<td>4.9</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>3748</td>
<td>15.3</td>
</tr>
<tr>
<td>Transport; storage and communication</td>
<td>1009</td>
<td>4.1</td>
</tr>
<tr>
<td>Financial, insurance, real estate &amp; business services</td>
<td>1332</td>
<td>5.4</td>
</tr>
<tr>
<td>Community, social and personal services</td>
<td>3399</td>
<td>13.8</td>
</tr>
<tr>
<td>Other and not adequately defined</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Private Households</td>
<td>2946</td>
<td>12.0</td>
</tr>
<tr>
<td>Undetermined</td>
<td>2490</td>
<td>10.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>24569</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Census 2001

4.2 SPATIAL AND SETTLEMENT DEVELOPMENT

Much of the Southern Agricultural Region, particularly the Umbumbulu and Umnini areas, formed part of KwaZulu, a homeland established in terms of apartheid policies. The area is therefore a so-called traditional settlement area in which most landownership currently vests in the Ingonyama Trust. The density of dwellings, which give an indication of population density, is shown in Figure 9. It is clear that settlement densities are greatest within the traditional settlement areas.

Through the demarcation process leading up to the 2000 Local Government elections, much of the Umbumbulu area, that had previously formed part of the Ilembe Regional Council, was incorporated into the eThekwini Municipal boundaries.

A number of different planning initiatives are underway in the Southern Agricultural Region.

4.3 EXISTING PLANNING GUIDELINES

A number of different planning initiatives are underway in the Southern Agricultural Region. Such planning guidelines that have been prepared will impact on future planning for agriculture in the Southern Agricultural Region. These guidelines include:

- The eThekwini Rural Development Framework (prepared by Iyer Rothaug & Linda masinga)
- The Local Area Plans for Umbumbulu (prepared by Iyer Rothaug) and Umnini (UDIDI)
- Rural Investment Nodal Plans for Umbulu and Umnini (Sivest 2004)
- Urban Design Framework Plans for Zwelibomvu and Inwabi were prepared by Urban Explorations, while the plan for Adams was prepared by Peterson.
4.4  NODAL DEVELOPMENT

The Spatial Framework for the eThekwin Rural Development Framework (RDF) prepared in 2003 identifies a number of nodes within the Umbumbulu area that will in future fulfil a service centre role for local and regional communities. Comprehensive strategies relating to spatial development, land tenure, the environment, physical infrastructure provision, social services provision and economic development are included in the Rural Development Framework. Much of the current planning is around the development nodes that have been identified in the RDF. The Rural Investment Nodes located within the Southern Agricultural region are Umgababa and Umbumbulu. The proposed Local Service Nodes are Zwelibomvu, Adams, Umkomaas and Inwabi.

These nodes are intended to be the location for a future vibrant economy, including activities such as the marketing of locally produced goods, the direct selling of local and "imported" products, informal sector activity, the production of goods, the selling of inputs necessary for production, the delivery of related services and more. The nodes are intended to become the location where local people meet to trade between themselves and with people from outside the immediate vicinity.
Figure 4: Map showing roads, towns, main rivers and Rural ABM Regions within the Southern Agricultural Region.
Figure 5: Map showing traditional settlement areas and general location of small-scale cane growers and woodlots within the Southern Agricultural Region.
Figure 6: Portion of eThekwini Rural Development Framework associated with the Southern Agricultural Region. Rural Investment Nodes are located at Umbumbulu and Umgababa, while Local Service Nodes are proposed at Umkomaas, Zwelibomvu (1), Inwabi (2) and Adams (3).
Figure 7: Settlement patterns (location of dwellings) within the traditional settlement areas of the Southern Agricultural Region.
5 SOUTHERN AGRICULTURAL REGION: PHYSICAL CHARACTERISTICS

The information that has been used as a basis for this section was generated by the Bioresource Programme, which was developed by the Natural Resources Section of the KwaZulu-Natal Department of Agriculture and Environmental Affairs. It divides the Southern Agricultural Region into areas of reasonable uniformity (Figure 9) and gives information regarding topography, soils and climate to be expected within each of the Bioresource Units (BRUs). A summary of the information relating to each of the Bioresource units is contained in Table 4.

5.1 CLIMATE

5.1.1 Rainfall

eThekwini falls within a summer rainfall area. Most of the rain falls over the period from October through to March although some does fall in the winter months. Rainfall is highest along the coast (> 1000mm per annum) and declines to <700mm in the west parts (RABM 3S), south of Hammarsdale. Rainfall is fairly high in the vicinity of Hillcrest (800 – 1000mm per annum).

5.1.2 Temperature

Temperature increases generally from west to east. Mean annual temperatures (°C) range from 18°C in the west to 19.7°C in the east. Lowest temperatures are generally experienced in July and warmest temperatures in January. July mean minimum temperatures range from 13.8°C in the west to 16.1°C in the east, while January mean maximum temperatures range from 21.9°C in the west to 22.9°C in the east. Most of the area experiences no frost, but occasional frost occurs to the west in close proximity to Tala Valley and Killarney Isles.

5.1.3 Implications for agriculture

With the exclusion of parts of this region lying to the far west within RABM 2S, where temperatures are fairly high in summer but rainfall is not as high as elsewhere (climatic limitations are said to be severe), the climatic conditions experienced in the Southern Agricultural Region are very favourable for agriculture.

Much of the area (with the exclusion of RABM 2S and RABM 3S) has high rainfall (especially in the eastern parts), warm temperatures and the absence of frost, making this area suitable for subtropical fruit crops such as bananas and macadamias. Dryland sugar cane and timber have been established in areas with favourable climatic conditions (high temperatures and rainfall).

High temperatures do have negative implications for some enterprises. For example, broiler facilities must have good ventilation to overcome the high temperature and humidity.
A wide range of crops can be grown within the Southern Agricultural Region. Some of the potential crops that could be investigated (based on their climatic requirements being met within parts of eThekwini) include the following:
Fruit: Bananas (irrigated), Guavas, Avocados, Lemons, Granadillas, Valencia oranges, Macadamias, Mangoes, Pineapples, Pawpaws.

Flowers: Proteas, Leucodendrons.

Pastures: Stargrass.

Crops: Carrots (sown in August), Chinese cabbage, Coffee, Cowpeas, Dhall, Dry beans, Lentils, Okra, Pumpkin, Sesame, Sorghum, Soyabees, Sugar cane, Maize, Sunflowers, Tomatoes.

Fibre: Flax, Sisal.

Fuel: Jatropha.

Herbs/spices: Basil, Dill, Mustard, Nutmeg, Paprika, Sage, Mint, Basil, Vetiver, Thyme, Turmeric.

Timber: Wattle, Eucalyptus.

Essential oils: Camphor, Lemon verbena, Lavender.

5.2 TOPOGRAPHY

Much of the central and western parts of the Southern Agricultural Region is characterised by broken terrain with steep slopes. Very little of the region comprises flat terrain, but to the east and south of Umbumbulu town, the incidence of rolling terrain increases, and the slopes are less steep.

Other flat areas are generally restricted to river valleys and are frequently located within the D*Moss footprint. This potential clash between agriculture and the environment needs to be managed carefully.

Slope has implications in terms of the type of agricultural activities that can be practiced. Annual cropping should not take place on land with slopes greater than 12%. Slopes of 12 – 40% should only be used for the cultivation of crops that do not require annual land preparation. Cane, timber and perennial pastures are suitable for such areas. Land with slopes greater than 40% should not be cultivated at all. For this reason, much of the areas that are categorised as rolling are actually more suitable for cane, timber, bananas, etc, than for annual crops such as maize and dry beans.

5.3 VEGETATION

The natural vegetation consists largely of bushland thicket, bushland and bushed grassland. There are some areas portions of grassland and restricted areas where natural forests are found. The prevailing vegetation type affects the carrying capacity of the area, which is its ability to support livestock. Recommended carrying capacities for most of the Region are in the vicinity of 3 hectares per animal unit (au). The very steep area to the south west of the Shongweni Dam, which is characterised by bushland thicket, has the lowest carrying capacity (5.4ha/AU). An animal unit is defined as a steer weighing 450kg. As veld condition decreases (due to mismanagement), the carrying capacity of the area will decline.
5.4 SOILS

The soil erosion hazard rating is very high for most of the area. This is the result of a number of inter-related factors: high rainfall, broken topography and the erosive nature of the soils.

Soils that are classified as having a high potential for being cropped annually (deep, well drained soils with slopes <12%) are generally limited within the Southern Agricultural Region. Approximately 20% of the privately owned land between the N3 and the traditional settlement areas is suitable for annual cropping. Similar percentages of suitable soils are located in the vicinity of the Umbumbulu town.

Some parts of the Southern Agricultural Region have no high potential arable lands due to the nature of the topography (steep slopes) and/or the soil properties (sandy, shallow and/or having moderate to poor drainage). It is essential that any proposed project site be surveyed to determine its suitability for cultivation.

5.5 WATER

The main rivers flowing through the Southern Agricultural Region are the Mlazi, on which the Shongweni Dam is located, the Lovu, the Nungwane, which is a tributary of the Lovu, the Mkomazi and the Mbokodweni, which enter the ocean at Karridene and Umbogintwini, respectively. These are fed by a network of smaller tributaries that also provide a source of water for rural dwellers. The Shongweni, Nungwane and Umgababa Dams also offer opportunities for this area.

The D’MOSS footprint covers most of the river systems as these are seen as fragile ecosystems that should be protected. The establishment of agricultural enterprises within these areas, that can make use of the opportunities for irrigation, must be assessed on a case-by-case basis by the Environmental Management Department of eThekwini.

The opportunities offered by rivers and dams are affected by the topography of the surrounding areas. Cultivation of flood plains is generally not recommended.

5.6 LAND POTENTIAL

The Southern Agricultural region has been classified according to land potential (Figure 10), which is a function of terrain, soils and climate.

The areas shown as green (light and dark) in Figure 10 are classified as high potential. In both these areas, climatic limitations are slight or do not exist and less limiting terrain is encountered (terrain is rolling as opposed to broken with steep slopes). Soils, however, differ in the two areas. Inland (dark green), approximately 20% of the soils are said to be suitable for annual cropping (deep, well-drained and slopes <12%), while the areas shown as light green are classified as high...
potential but actually have limited amounts of land suitable for annual cropping (there is a high incidence of shallow soils).

The grey areas in the north-west of the Southern Agricultural Region have reduced mean annual rainfall and broken terrain. Together, these factors result in the area having very low agricultural potential. This area has almost no soils that are actually suitable for annual cropping due to the general nature of the topography (broken and steep terrain) and the soil characteristics (shallow, sandy or having moderate to poor drainage).

The central parts of the Agricultural Region (shown in pink) are classified as medium land potential. The restrictions are mainly due to the topography (steep and broken terrain).

Figure 8: Variation in mean annual precipitation (rainfall) across the Southern Agricultural Region.
Figure 9: Bioresource Units located within the Southern Agricultural Region.
### Table 4: Summary of Bioresource Unit data for the Southern Agricultural Region (Fig. 9 shows location of the BRUs)

<table>
<thead>
<tr>
<th>BRU code</th>
<th>Name of BRU</th>
<th>Soil erosion hazard rating</th>
<th>Terrain</th>
<th>Vegetation</th>
<th>% Soils only suitable for cane, perennial pastures and timber</th>
<th>% Arable soils with slopes &lt; 12% suitable for annual cropping</th>
<th>% Shallow soils</th>
<th>% Sandy soils</th>
<th>% Moderate to poorly drained soils</th>
<th>Annual Rainfall (mm)</th>
<th>Mean annual temperature (°C)</th>
<th>Incidence of frost</th>
<th>Climatic limitations</th>
<th>Carrying capacity (Ha/AU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sb5</td>
<td>Tala Valley</td>
<td>Very high</td>
<td>Rolling</td>
<td>Bushland thicket/ bushland</td>
<td>10.8</td>
<td>14.2</td>
<td>62</td>
<td>40.2</td>
<td>63.3</td>
<td>646</td>
<td>18.3</td>
<td>Occasional</td>
<td>mod - severe</td>
<td>3</td>
</tr>
<tr>
<td>TUa4</td>
<td>Ntshongweni</td>
<td>Very high</td>
<td>Valley</td>
<td>Bushland thicket</td>
<td>13.0</td>
<td>0</td>
<td>67.1</td>
<td>83.7</td>
<td>74.8</td>
<td>731</td>
<td>19.2</td>
<td>None</td>
<td>severe</td>
<td>5.4</td>
</tr>
<tr>
<td>TUb11</td>
<td>Killarney Isles</td>
<td>High</td>
<td>Rolling/broken</td>
<td>Bushland thicket/ bushed grassland</td>
<td>36.0</td>
<td>12.4</td>
<td>69.4</td>
<td>12.0</td>
<td>54.1</td>
<td>713</td>
<td>18.4</td>
<td>Occasional</td>
<td>mod - severe</td>
<td>3</td>
</tr>
<tr>
<td>Vb15</td>
<td>Cato Ridge</td>
<td>Very high</td>
<td>Rolling/broken</td>
<td>Grassland / bushed grassland</td>
<td>26.1</td>
<td>19.8</td>
<td>49.6</td>
<td>26.5</td>
<td>62.8</td>
<td>767</td>
<td>18.0</td>
<td>Occasional</td>
<td>mod 2.8</td>
<td></td>
</tr>
<tr>
<td>VWb4</td>
<td>Spring Valley</td>
<td>Very high</td>
<td>Rolling/broken</td>
<td>Grassland</td>
<td>34.5</td>
<td>1.1</td>
<td>42.4</td>
<td>83.2</td>
<td>82.8</td>
<td>788</td>
<td>18.4</td>
<td>None</td>
<td>mod 2.8</td>
<td></td>
</tr>
<tr>
<td>Wa5</td>
<td>KwaNdaya</td>
<td>Very high</td>
<td>Broken</td>
<td>Bushed grassland / bushland</td>
<td>21.7</td>
<td>3.7</td>
<td>83</td>
<td>38.3</td>
<td>73.9</td>
<td>836</td>
<td>19.7</td>
<td>None</td>
<td>slight</td>
<td>3</td>
</tr>
<tr>
<td>Wa8</td>
<td>Mariannhill</td>
<td>Very high</td>
<td>Mainly broken</td>
<td>Bushed grassland</td>
<td>25.7</td>
<td>6.7</td>
<td>54.3</td>
<td>42.1</td>
<td>69.3</td>
<td>842</td>
<td>19.8</td>
<td>None</td>
<td>slight</td>
<td>3</td>
</tr>
<tr>
<td>Wb15</td>
<td>KwaNongidi</td>
<td>Very high</td>
<td>Broken</td>
<td>Grassland / bushed grassland</td>
<td>64.8</td>
<td>1.6</td>
<td>45.8</td>
<td>34.0</td>
<td>60.3</td>
<td>834</td>
<td>18.9</td>
<td>None</td>
<td>slight</td>
<td>2.5</td>
</tr>
<tr>
<td>Wb16</td>
<td>Drummond</td>
<td>High</td>
<td>Broken/rolling</td>
<td>Bushed grassland</td>
<td>19.8</td>
<td>26.2</td>
<td>36.7</td>
<td>37.9</td>
<td>50.7</td>
<td>823</td>
<td>18.6</td>
<td>None</td>
<td>slight</td>
<td>2.5</td>
</tr>
<tr>
<td>Ya12</td>
<td>South Coast</td>
<td>Very high</td>
<td>Mainly broken</td>
<td>Bushed grassland / bushland thicket</td>
<td>30.9</td>
<td>3.44</td>
<td>58</td>
<td>24.1</td>
<td>67.6</td>
<td>996</td>
<td>19.7</td>
<td>None</td>
<td>slight</td>
<td>3</td>
</tr>
<tr>
<td>Ya13</td>
<td>Durban</td>
<td>Very high</td>
<td>Rolling</td>
<td>Bushed grassland / forest</td>
<td>27.3</td>
<td>6.5</td>
<td>37.0</td>
<td>42.4</td>
<td>54.5</td>
<td>939</td>
<td>20.2</td>
<td>None</td>
<td>none - slight</td>
<td>3</td>
</tr>
<tr>
<td>Yb11</td>
<td>Mbumbula</td>
<td>High</td>
<td>Rolling/broken</td>
<td>Grassland / bushclump grassland / forest</td>
<td>37.2</td>
<td>23.9</td>
<td>37.5</td>
<td>12.4</td>
<td>42.8</td>
<td>956</td>
<td>18.6</td>
<td>None</td>
<td>mod 2.5</td>
<td></td>
</tr>
</tbody>
</table>

---

3 Ecotopes with slopes 12-40%, non-rocky
Figure 10: Land potential of the Southern Agricultural Region (a function of terrain, soils and climate).
6 THE AGRICULTURAL STATUS QUO

6.1 WHO IS INVOLVED IN AGRICULTURE?

A range of subsistence, emerging and large-scale commercial farmers are located within the Southern Agricultural Region. In the traditional settlement areas, most farming is of a subsistence nature, with the exclusion of the small cane growers.

Large-scale commercial farming operations (mainly cane) are generally restricted to the area along the N3 in the north, as well as in the southern parts (north of Umnini and in the vicinity of Umkomaas).

6.2 WHAT AGRICULTURAL PRODUCTION IS CURRENTLY TAKING PLACE?

Commercial activities comprise mainly sugar cane, but some eucalyptus plantations belonging to SAPPI, as well as a number of private pig and poultry enterprises also exist.

Commercial activities within traditional settlement areas are generally limited to small-scale sugar cane production and timber woodlots (gum). Cane farmers (approximately 160) are located mainly in the southern parts of the Agricultural Region (See Figure 5 for their general location). Average land sizes range from 0.5 to 1.5 ha, although some larger growers with lands in excess of 50 ha do exist. Cane from the small growers mainly supplies the Illovo Mill at Sezela. The woodlots, which vary from 0.1 to 2 hectares in size, were mainly established through the SAPPI small grower scheme and supply the SAPPI Saiccor Mill at Umkomaas.

Subsistence agricultural activities include both cropping and keeping livestock. Small areas of maize, drybeans and amadumbe are commonly grown to supplement household needs. Some households also grow vegetables, while a limited number also have fruit trees for household consumption (papaya, bananas, citrus and mangoes).

Livestock farming is generally not as common as cropping activities and is done mainly on a subsistence/small-scale basis, but also includes a limited number of commercial enterprises (broilers and piggeries). Herd sizes of 2 to 8 are common for cattle owners and flocks ranging from 1 to 10 are common for goats. Many households have indigenous chickens, which are used mainly for home consumption, but also sold locally. Due to the lack of fencing, goats and cattle are commonly tethered to prevent them from damaging crops.

Agricultural projects include community gardens and poultry projects supported by KZNDAEA and Department of Social Welfare, a piggery (Siyaphambili Piggery) at Umbumbulu that is funded by Department of Health via an NGO (Embo Masakhane), a pilot Biodiesel project that is funded by KZNDAEA, Magabheni Waste Water, which is funded by Economic Development Unit of eThekwini Municipality and a number of muthi projects. An aquaculture project is also in the planning stages.
6.3 WHAT AGRICULTURAL SUPPORT IS AVAILABLE?

Agricultural support services within the Southern Agricultural Region are fairly limited. The KwaZulu-Natal Department of Agriculture and Environmental Affairs (KZNDAEA), with a Regional Office in Durban and a District Office in Umbumbulu, provides an extension service. The Agricultural Development Technicians (ADTs) offer extension support to local farmers and to a number of agricultural projects, mainly broilers and community gardens.

A number of non-governmental organizations (NGOs) are also involved with agriculture in the area. Embo Masakhane is involved with a number of projects in the vicinity of Umbumbulu, while the Greater Durban Community Foundation is involved with a number of projects that were funded by Toyota in the Folweni area. The National Productivity Institute is also active in the area.

There is very limited private sector involvement in the rural parts of the Southern Agricultural Region. Many agricultural inputs are purchased from towns lying outside the Region. For example, feed for poultry projects at Umbumbulu is purchased in Pietermaritzburg from NatalAgri or one of the feed companies such as Meadow Feeds, while day old broiler chicks are obtained from National Chicks at Umlaas Road. Some inputs are also purchased from Eston. Farmers in the south may also make use of input suppliers located at Umzinto. Sunshine seedlings at Park Rennie is another useful agricultural supplier. The distances that farmers must travel to obtain agricultural inputs has very serious implications in terms of profitability of projects (high transport costs reduce profits).

6.4 SWOT ANALYSIS FOR THE SOUTHERN AGRICULTURAL REGION

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relating to current production</td>
<td>Small cane growers located in Umbumbulu and Umnini areas</td>
</tr>
<tr>
<td></td>
<td>Gum woodlots located in Umnini and Umbumbulu areas</td>
</tr>
<tr>
<td></td>
<td>A number of co-operative agricultural enterprises/projects, e.g. piggery, poultry, community gardens, muthi, Magabeni Waste Water Project</td>
</tr>
<tr>
<td></td>
<td>Active agricultural community at Umbumbulu and Umnini (mainly subsistence/household production – bananas, mangoes, livestock, amadumbe)</td>
</tr>
<tr>
<td>Relating to bio-physical characteristics</td>
<td>General undeveloped nature of land (or low density development of land)</td>
</tr>
<tr>
<td></td>
<td>High rainfall, especially the eastern areas</td>
</tr>
<tr>
<td></td>
<td>Much land suitable for cane and timber</td>
</tr>
</tbody>
</table>
### WEAKNESSES

| Relating to physical development | Area is located some distance from the Dube Tradeport which would have created major opportunities for the production of perishable goods |
| Relating to marketing and support | Access to agricultural support services (public and private sector) and agricultural inputs is extremely limited – no office in the Umnini area (Umnini-based farmers do have better access to urban commercial facilities than Umbumbulu) |
| | Limited range of commercial farming activities within the Umnini-Umkomaas area and nothing in the Umbumbulu area |
| | In Umbumbulu the road network is not conducive to the transport of agricultural goods. Although access to main routes in the Umnini area is better, rural access roads are still limiting. |
| | Cost of transport for obtaining inputs and marketing produce |
| | No established local market place for produce |
| Relating to existing agriculture & agribusiness development | Absence of agri-processing in the Umbumbulu area, while in the Umnini / Umkomaas area it is limited to cane and timber. |
Current focus of commercial activities on monoculture (sugar cane and timber) and the negative impact of these on the environment

**Relating to bio-physical characteristics**

- Limited access to water due to topography and lack of infrastructure, specifically in the north western parts of the Umbumbulu area.
- Limited land available per household, i.e. opportunities for large scale commercial agriculture is limited

### OPPORTUNITIES

<table>
<thead>
<tr>
<th>Relating to location</th>
<th>The Sezela and Eston Sugar Mills in relatively close proximity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location in relation to major manufacturing area, harbour and international airport in the South Durban Basin</td>
</tr>
<tr>
<td></td>
<td>Location of the SAPPI-SAICCOR plant to the south (providing a market for timber)</td>
</tr>
<tr>
<td></td>
<td>Location on the MR21, which offers an alternative route for holidaymakers visiting the South Coast.</td>
</tr>
<tr>
<td></td>
<td>Location of the Umnini/Umkomaas area on the N2 offers a range of opportunities for marketing agricultural produce to holiday and other traffic.</td>
</tr>
<tr>
<td></td>
<td>Nungwane and Ntshongweni Dams offer irrigation opportunities in the north and Umgaba Dam offers some opportunities in Umnini (Also Magabheni Purification Works)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relating to markets</th>
<th>Municipal Farmers Market at Isipingo and Municipal Fresh Produce Market at Clairwood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location in relation to major urban areas, e.g. Lovu and Umlazi, Magabheni</td>
</tr>
<tr>
<td></td>
<td>Organic pack-house to be established at Umbumbulu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relating to the availability of funding</th>
<th>Funding available for agricultural development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Funding available for other forms of development</td>
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</table>

<table>
<thead>
<tr>
<th>Relating to availability of land</th>
<th>Opportunities for land redistribution in commercial farming land around Umnini could be investigated</th>
</tr>
</thead>
</table>

| Relating to policy and institutions | The new rural policy promotes greater importance being afforded the development of the agricultural sector |
Land redistribution programme supports and create opportunities for the development of small scale agriculture

Increasing focus of national government on land redistribution, small scale agricultural development, entrepreneurship development and co-operative establishment

<table>
<thead>
<tr>
<th>Relating to general issues</th>
<th>Improved household food production would make a substantial contribution to community health</th>
</tr>
</thead>
</table>

### THREATS

#### Relating to the market
- Lack of ability to compete with large scale established commercial farmers
- The importation of cheaper agriculture produce
- Relative proximity to urban areas makes it easy for people to purchase produce in urban markets

#### Relating to the environment
- Potential land utilisation conflicts between areas suitable for agriculture and areas with conservation potential
- People living in urban and peri-urban areas who keep cattle in rural areas contribute to overgrazing

#### Relating to land
- Lack of appropriate tenure security supporting agricultural production
- Continued densification of residential areas in rural environment

#### Relating to availability of funding
- Bureaucratic procedures makes it difficult for rural communities to access agricultural development funding
- Extremely limited support for rural communities to access funding

#### Relating to other general issues
- HIV/AIDS and the impact thereof specifically on the productivity of rural people
7 THE AGRICULTURAL PLAN FOR THE SOUTHERN AGRICULTURAL REGION

7.1 DEVELOPMENT OF THE AGRICULTURAL PLAN

This Plan for the Southern Agricultural Region is intended to provide stakeholders in agricultural development with a starting point for coordinated agricultural development in the Southern Agricultural Region. It has been developed on the basis of:

- A desktop assessment of agricultural potential in the area
- Site visits to the area; and importantly
- With due cognisance of the Rural Agricultural Policy for eThekwini.

7.2 THE OBJECTIVES FOR AGRICULTURAL DEVELOPMENT

The objectives for agricultural development in rural eThekwini, and therefore the objectives for this plan for the Southern Agricultural Region, are:

- The improvement of rural food security - this can be achieved through subsistence household production and has implications for community health (HIV/AIDS)
- The establishment of a small-scale commercial agricultural sector - this will be achieved by promoting agriculture and providing an environment in which both successful subsistence producers and new small-scale commercial producers can thrive
- The intensification and diversification of agricultural production in rural eThekwini - a move away from monoculture to make use of its advantages in terms of location (large urban areas, urban infrastructure (roads, rail and airports) and climate
- The establishment of an agribusiness sector (more diversified agri-processing as well as businesses supporting agricultural enterprises other than cane and timber)
- Promotion of land reform initiatives as per national government objectives, with a specific focus on land tenure upgrade and redistribution.

7.3 PRINCIPLES TO BE PROMOTED

The following principles guided the development of this plan:

- Sustainable agricultural development
- Agriculture is an integral part of the rural economy
- Agricultural development is a process (not a quick fix)
- Land reform (tenure reform, redistribution and restitution) needs to be addressed.

7.4 THE STRATEGIES

Figure 11 outlines the specific strategies and respective components that are proposed to support agricultural development within the Southern Agricultural Region.
**Figure 11:** Outline of strategies and their respective components for the Southern Agricultural Development Framework.
7.4.1 Strategy 1: Establish appropriate support for agricultural production

This strategy is aimed at ensuring that appropriate support for agricultural production is in place within the Southern Agricultural Region. The support envisaged will contribute to the coordination of agricultural development, and therefore more effective delivery and implementation, the provision of services, the supply of inputs and gaining access to markets. The Core Components of this strategy are:

- Component 1 – Establish Agricultural Working Group
- Component 2 – Develop Agricultural Hubs
- Component 3 – Identify and Attract Service Providers and Input Suppliers
- Component 4 – Establish Market Linkages

Each of the proposed Components is discussed in more detail below.

<table>
<thead>
<tr>
<th>STRATEGY 1: ESTABLISH APPROPRIATE SUPPORT FOR AGRICULTURAL PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Component 1: Establish Agricultural Working Group</strong></td>
</tr>
<tr>
<td><strong>THE STATUS QUO</strong></td>
</tr>
<tr>
<td>A number of roleplayers are currently involved in agricultural development in the Southern Agricultural Region however there is limited formal coordination of activities. Organisations currently active include the extension service of the KwaZulu-Natal Department of Agriculture and Environmental Affairs (KZNDAEA), eThekwini, District Farmers’ Association, KZN Department of Social Welfare, community based organisations (CBOs) and non governmental organisations (NGOs). The KZNDAEA has established District Task Teams for the North and South.</td>
</tr>
<tr>
<td><strong>THE APPROACH</strong></td>
</tr>
<tr>
<td>The establishment of a single forum (Agricultural Working Group) focussing on the coordination of agricultural development activities in the Southern Agricultural Region is proposed. It is viewed as the responsibility of the various agricultural stakeholders to decide on the format that such a forum will take.</td>
</tr>
<tr>
<td></td>
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<tr>
<td>It is suggested that an agricultural NGO be appointed to assist in strengthening the forum, providing both initial facilitation support as well as ongoing management support for a period of six months.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>The basis for the future work of the regional Agricultural Working Group for the region will be the eThekwini Rural Agricultural Policy and the Agricultural Development Framework (i.e. this document). The latter will be updated and amended as required by the forum.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>It may be worth strengthening the existing institutional structure established by KZNDAEA (District Task Team) and get clarity about its role. Clearly identified roles and responsibilities need to be identified for</td>
</tr>
</tbody>
</table>
members of the group. Representation should be widened to include, not only farmers’ associations, but also NGOs and CBOs, service providers as well as any other stakeholders that could make a significant contribution to agriculture in the region.

THE RESPONSIBILITY

The Coordinating Forum / Rural ABM Office should be responsible for facilitating the appointment of an NGO to establish/strengthen and manage the Agricultural Working Group. All stakeholders will be responsible for the continued operation of the agricultural working group.

THE PLAN (COST AND TIME)

A budget of R75 000 (excl VAT) is proposed for the facilitation required in setting up the Agricultural Working Group. It is suggested that the process of setting up the forum be initiated as soon as possible (i.e. 2005/2006 financial year).

STRATEGY 1: ESTABLISH APPROPRIATE SUPPORT FOR AGRICULTURAL PRODUCTION

Component 2: Develop agricultural hubs

THE STATUS QUO

Although a range of agricultural activities currently takes place within the rural parts (traditional settlement areas) of the Southern Agricultural Region, there exists no concentration of agricultural service providers and input suppliers in close proximity. As the extent of such service providers and input suppliers is also limited within eThekwini itself, farmers either have to travel to suppliers within the urban core, or must to travel substantial distances to towns such as Eston and Pietermaritzburg in order to obtain basic inputs such as seed, feed and fertilizer. The cost of transporting goods to the production area is often prohibitive and makes potentially viable agricultural enterprises unsustainable.

THE APPROACH

It is proposed that a facility or space be provided within a well-located rural investment node where service providers and input suppliers are encouraged to make services and inputs available to farmers. This facility can either operate on a full-time or periodic basis and could be in the form of a fully commercial entity or, on the other hand, it could initially be as basic as regular farmers’ days. Such a hub should initially be established at Umbumbulu. It could at later stage possibly be expanded to Umgababa or to one or more of the local service nodes.

THE RESPONSIBILITY

The Agricultural Working Group (AWG) should plan and direct the establishment of the hub. The KZN Department of Agriculture and Environmental Affairs, agricultural NGOs operating within the area and the eThekwini Municipality (various departments) should fulfil a strong support role in establishing such a hub. Ideally the establishment and ongoing management of the hub will present a business opportunity for a local entrepreneur.
The AWG should also be involved in identifying service providers and input suppliers required to meet the needs of the farmers within the Southern Agricultural Region.

### THE PLAN (COST AND TIME)

The establishment of such an agricultural hub should be one of the first issues to be considered by the AWG. The cost involved would be dependent on the approach adopted by the forum, but it is suggested that specifically capital costs should initially be minimised through the use of existing facilities. The Rural ABM Office should make R50 000 available to the AWG to establish the facility (making use of existing structures). The AWG may motivate for additional funds if it is found to be necessary.

### STRATEGY 1: ESTABLISH APPROPRIATE SUPPORT FOR AGRICULTURAL PRODUCTION

#### Component 3: Identify and Attract Service Providers and Input Suppliers

### THE STATUS QUO

There is a general lack of agricultural service providers and input suppliers within the rural parts of the Southern Agricultural Region. Farmers must travel considerable distances to purchase goods, which increases production costs considerably.

### THE APPROACH

Input suppliers and service providers, relevant to the agricultural activities taking place in the area must be identified and informed of the agricultural hub. They must be encouraged to make their services available at the hub.

### THE RESPONSIBILITY

The KZNDEA staff and other members of the Agricultural Working Group must identify needs as well as service providers who could meet those needs. Information should also be fed through to the Coordinating Forum.

### THE PLAN (COST AND TIME)

Since the project is being supported at a higher level (cross cutting strategy), no budget will be allocated at this level unless the Coordinating Forum / Rural ABM Office decides to allow the AWGs to facilitate the process.
<table>
<thead>
<tr>
<th>STRATEGY 1: ESTABLISH APPROPRIATE SUPPORT FOR AGRICULTURAL PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 4: Establish market linkages</td>
</tr>
</tbody>
</table>

**THE STATUS QUO**

Over and above production related challenges, the sustainability of agriculture in the rural parts of the Southern Agricultural Region is further impacted on by the inability of local producers to access markets. The distance to markets and the resulting cost to transport produce, combined with the small and uncoordinated quantities produced, often makes the marketing of produce unprofitable.

Further to this, the lack of access to cash (linked to access to financial institutions), the absence of informal markets in nodes and the absence of a rural middle class limits the potential for marketing produce locally in rural areas.

**THE APPROACH**

A range of interventions for facilitating access to markets is proposed. These interventions should be implemented following a programmed approach. The proposed interventions include:

- Promoting the establishment of organised farmer groups with a focus on the collective marketing of agricultural produce
- Establishing organised periodic markets at the nodes (possibly coordinated with events such as pension payment days etc)
- Establishing direct linkages between rural producers and municipal markets (some initiatives in this regard are already underway)
- Specifically creating market opportunities for agricultural produce in major neighbouring urban concentrations such as Umhlanga, Hillcrest and Phoenix.

**THE RESPONSIBILITY**

A starting point in pursuing the above interventions would be for local rural producers to cooperate in terms of the marketing of produce (in various locations). The eThekwini Municipality has an integral role to fulfil on the one hand in ensuring that spaces/places for the marketing of agricultural produce are available and, on the other hand, to assist local entrepreneurs in the management of such markets (if a more formal route to the establishment of market places is envisaged).

**THE PLAN (COST AND TIME)**

A more detailed Agricultural Produce Marketing Plan for the Agricultural Region should be developed. An appropriate agricultural NGO can potentially be appointed for the purpose. A budget of R150 000 for a six-month market access facilitation process is proposed. The construction of strategically located markets for agricultural produce should be promoted through nodal development plans and the allocation of capital budgets. Funding for the establishment and initial management of such markets could be sourced from the eThekwini Economic Development Department.
7.4.2 **Strategy 2: Promote and direct agricultural production**

The aim of this strategy is to promote agricultural production in the rural areas of the Southern Agricultural Region. This strategy is based on the understanding (reflected in the eThekwini Rural Agricultural Policy) that:

- Agriculture is part of an integrated rural development strategy that includes, but is not limited to economic, social, infrastructure and institutional development.
- Agriculture has an important role to fulfil in the development of the municipality as a whole. This includes an acknowledgement of the role of agriculture in terms of both rural livelihoods and economic development.

The key components of the strategy include:

- Component 1 - Make product specific information available
- Component 2 - Promote Specific Production Opportunities.

### STRATEGY 2: PROMOTE AND DIRECT AGRICULTURAL PRODUCTION

#### Component 1: Make product specific information available

**THE STATUS QUO**

There is a general lack of information available to farmers to assist them make decisions about what activities to engage in. Farmers need to be given information that allows them to make sound decisions regarding choice and scale of enterprise.

**THE APPROACH**

Simple decision-making documents that are prepared for eThekwini should be workshopped with farmer groups. They should obtain an understanding of the factors that should be considered when choosing an enterprise.

**THE RESPONSIBILITY**

KZNDAEA staff should arrange the workshops. Service providers should be appointed to facilitate the workshops.

**THE PLAN (COST AND TIME)**

An amount of R30 000 should be made available to facilitate a number of such workshops in the Southern Agricultural Region.
### STRATEGY 2: PROMOTE AND DIRECT AGRICULTURAL PRODUCTION

**Component 2: Promote Specific Production Opportunities (Specific To Areas) And Sustainable Practices**

### THE STATUS QUO

**Agricultural enterprises:**
Besides cane, broilers and community gardens, there is currently no specific production focus for agricultural development in the Southern Agricultural Region. If a specific focus were promoted, this would make it easier for extension officers and other service providers to support the activities of small farmers. It is anticipated that a greater focus in agricultural production activities will improve the quality of the extension support service provided, as well as support the development of strong marketing channels (including creating opportunities for joint marketing). It is easier for service providers to support the activities of small-scale farmers if their activities are focussed on a limited number of enterprises. This is particularly important if diversification is to be encouraged.

**Agricultural practices:**
Many agricultural practices (over-grazing, cultivation of steep slopes, etc) are not environmentally sustainable in the long-term. Farmers need to be made aware of the effects of such practices as well as being made aware of alternative/better approaches.

### THE APPROACH

Specific agricultural opportunities that it is suggested could be focussed on in the Southern Agricultural Region are listed and motivated for below. Consider the economic returns and other information/requirements as indicated in ANNEXURE 1.

**Primary production:**
- Optimise existing woodlots but do not establish more (large tracts of land required, extended time until harvest, environmental issues)
- Optimise existing sugar cane. Where quota is obtainable, and sites are in areas already serviced by transport contractors, support the establishment of additional land. Consider environmental issues including the need for applications to cultivate virgin land. Consider the advantages of block farming instead of farmers operating individually.
- Where topography, soils and availability of water allows, support establishment of vegetable enterprises for food security and commercial purposes.
- In more rural areas where annual cropping is not possible, consider an enterprise such as leucodendrums (cut flower filler), which are fairly hardy and easy to transport.
- Support existing livestock owners (cattle and goats) with improved nutrition and health but consider the numbers of animals (and associated hectares) required to generate income and the cost of establishing such an enterprise.
- Support piggeries if the cost of transporting feed as well as cost of taking pigs to abattoir is not prohibitive (requires costing) and the number of people in groups is limited.
- Support broilers if the cost of feed (including transport) is not prohibitive and a strict marketing plan is in place. Participant numbers must be limited.
- Support the establishment of sub-tropical orchard crops – will require source of water and...
suitable soils. People must be aware of time until first income (ensure a complementary crop to provide income and cover maintenance costs). Consider high establishment costs.

- Consider tunnels, where water is available, a market exists for produce (accessible site) but consider the need to limit group sizes or expand the number of tunnels.
- Consider establishing *muthi* plant projects as local markets exist.
- Consider growing essential oils – Liase with KZNDAEA as they are associated with an initiative that plans to establish a number of docking stations for mobile stills. Ensure that the selected plants have a reliable market and that technical support is available.

**Agri-processing facilities:**

- Support the establishment of a processing/ packaging facility - particularly one that can handle organic produce as there are already some organic producers that the KZNDAEA staff members at Umbumbulu are working with.

**Agricultural practices:**

More environmentally sustainable approaches to agricultural production will be promoted. Farmers need to be made aware of steps that can be taken to make their activities more sustainable in the long-term.

**THE RESPONSIBILITY**

At a local level the AWG will be responsible for identifying and promoting suitable enterprises on a continuing basis. The Coordinating Forum will provide direction.

KZNDAEA extension officers will be responsible for raising environmental awareness, which may require further capacitation of field staff (attending Landcare training).

**THE PLAN (COST AND TIME)**

This should be an ongoing activity. It is recommended that production foci be reviewed on an annual basis and that, where applicable, more detailed investigations will be commissioned on a Unicity level.

### 7.4.3 **Strategy 3: Improve conditions for agricultural development**

The aim of this strategy is to ensure that a physical environment conducive to agricultural development is established within the Southern Agricultural Region. The focus is therefore on ensuring that the necessary infrastructure is provided that will support specifically the agricultural activities of emerging farmers and households practicing subsistence agriculture.

At present three key components of this strategy have been identified, including:

- Component 1 – Identify and Address General Infrastructure Needs
- Component 2 – Identify and Address Agriculture-specific Infrastructure Needs
- Component 3 – Identify and Monitor Pilot Land Reform Projects.
### STRATEGY 3: IMPROVE CONDITIONS FOR AGRICULTURAL DEVELOPMENT

#### Component 1: Identify and Address General Infrastructure Needs

<table>
<thead>
<tr>
<th>THE STATUS QUO</th>
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<tbody>
<tr>
<td>The lack of infrastructure (roads, electricity, etc) in the rural parts of the Southern Agricultural Region limits agricultural development. Road networks have a direct impact on agricultural activities, increasing both production and marketing costs. Certain projects may require electricity for driving pumps or for providing refrigeration facilities.</td>
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<table>
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<tr>
<th>THE APPROACH</th>
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<tbody>
<tr>
<td>Identify infrastructure needs that will facilitate agricultural development. The AWG will feed these requirements through to Coordinating Forum, which will in turn ensure inclusion thereof, through the Rural ABM Office, in development plans and line department budgets.</td>
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</table>

<table>
<thead>
<tr>
<th>THE RESPONSIBILITY</th>
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<tbody>
<tr>
<td>The AWG is responsible for identifying needs. The Rural ABM Office / Coordinating Forum is responsible for feeding needs through to the relevant line departments of eThekwini.</td>
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<tr>
<th>THE PLAN (COST AND TIME)</th>
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<tbody>
<tr>
<td>The cost of improving infrastructure will lie with the relevant line department / provincial department.</td>
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### STRATEGY 3: IMPROVE CONDITIONS FOR AGRICULTURAL DEVELOPMENT

#### Component 2: Identify and address agriculture-specific infrastructure needs

<table>
<thead>
<tr>
<th>THE STATUS QUO</th>
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<tbody>
<tr>
<td>The lack of agricultural infrastructure (dipping tanks, sale yards, irrigation infrastructure, etc) within the rural parts of the Southern Agricultural Region limits the potential for agricultural development. The agriculture-specific infrastructure must be improved if agricultural development is to take place.</td>
</tr>
</tbody>
</table>

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<tr>
<th>THE APPROACH</th>
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<tbody>
<tr>
<td>The AWG for the Southern Agricultural Region must identify needs and feed these through to the Coordinating Forum / Rural ABM Office so that funding can be obtained from the appropriate government department and/or funding institutions (where government funding is not readily available).</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>THE RESPONSIBILITY</th>
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<tbody>
<tr>
<td>The AWG must actively identify needs and feed them through to the Coordinating Forum / Rural ABM Office. Extension staff of the KZNDAEA as well as NGO field staff have an important role to play in identifying needs.</td>
</tr>
</tbody>
</table>
THE PLAN (COST AND TIME)
The cost of improving infrastructure will lie with the relevant line department or appropriate provincial government department.

STRATEGY 3: IMPROVE CONDITIONS FOR AGRICULTURAL DEVELOPMENT

Component 3: Identify and monitor pilot land reform projects

THE STATUS QUO
The current tenure system in rural areas is often thought to impact negatively on agricultural development. The nature of the impact has to date not been clearly established. The Communal Land Rights Act (2004) provides an opportunity for exploring the impact of tenure on agricultural production.

In addition to this, the generally low potential of the Ingonyama Trust Land (exacerbated by the high pressure on it) requires that additional land be identified for commercial agricultural production.

THE APPROACH
The need to implement the Communal Land Rights Act (2004) creates opportunities for pilot land tenure reform projects. The AWG should identify areas where implementation of the Act would have an impact on agricultural production.

Due to the relative scarcity of high potential agricultural land within the traditional settlement areas of the Southern Agricultural Region, potential land for redistribution should be pro-actively identified. Such land redistribution will be undertaken within the policy and legal framework of national government.

THE RESPONSIBILITY
The Southern Agricultural Region should form part of an integrated planning process aimed at identifying appropriate opportunities for reform. The AWG should identify communities, groups or individuals with a need for improved tenure and/or access to productive land. On the basis thereof appropriate opportunities then need to be identified and acted upon.

THE PLAN (COST AND TIME)
Implementation of land reform will be funded through Department of Land Affairs programmes. Technical support will be provided by KZNDAEA.
8 SPATIAL PLANNING FOR THE SOUTHERN AGRICULTURAL REGION

The purpose of the Agricultural Spatial Development Plan (ASDP) is to illustrate the factors that will affect agricultural development, particularly in terms of where activities supported by the Municipality should be located.

8.1 BROADER CONTEXT FOR THE SOUTHERN AGRICULTURAL SPATIAL DEVELOPMENT PLAN

Figure 12 places the Southern Agricultural Region within the broader context of eThekwini and other Municipal areas in reasonably close proximity. For example, Pietermaritzburg, Eston and Umzinto are all important towns in terms of being sources of agricultural inputs and equipment.

The map illustrates some existing market opportunities for agricultural produce: urban populations such as Umlazi, Folweni and Magabeni, located in the vicinity of the Southern Agricultural Region, provide important potential markets. The Municipal Fresh Produce Markets at Durban and Pietermaritzburg are also important outlets as are agri-processing facilities such as the sugar mill at Sezela, the Sappi Saiccor plant at Umkomaas and the pig abattoir at Baynesfield.

The map also shows road networks within the Southern Agricultural Region as well as links with towns outside of eThekwini. Road networks affect the accessibility of agricultural enterprises, facilitating the delivery of inputs as well as the sale of produce.

The D’MOSS footprint is included on the map because this represents areas where they may be conflict between environmental management and agricultural production. The D’MOSS footprint comprises those areas shown in green, which generally correspond with river systems and steep, broken topography. The Environmental Management Branch of eThekwini has indicated that any sites falling within the D’MOSS footprint that are being proposed as sites for agricultural development will be evaluated on a case by case basis. Since it is not recommended that agricultural activities that involve any sort of cultivation be established on land that has slopes in excess of 40% (a 40m rise in vertical height over a 100m horizontal distance), much of the land that falls within the D’MOSS footprint is unsuitable for cultivation anyway. Small pockets of flat land located within the D’MOSS footprint might well be suitable for cultivation and should be investigated further. This will involve liaison with the Environmental Management Branch of eThekwini Municipality.

The traditional settlement areas are also shown on the map. These areas, inhabited by previously disadvantaged communities, are the focus for the agricultural development policy.
8.2 SOUTHERN AGRICULTURAL SPATIAL DEVELOPMENT PLAN

This framework illustrates the land potential of the Southern Agricultural Region, particularly in relation to other factors that affect the potential for agricultural development. Such factors include accessibility (which is a function of the road network), irrigation potential (which is a function of the existing dams, rives and streams) and population density. Settlement patterns are shown on the map in yellow while potential densification along the main access routes is shown in green. Such areas will generally be unsuitable for agricultural development unless one considers urban agricultural initiatives.

Development nodes that were identified in the eThekwini Rural Development Framework should be targeted as locations for agricultural hubs where agricultural processing and marketing as well as service providers are to be situated. Both Rural Investment Nodes as well as Local Service Nodes are shown on the map.

Land potential is a function of slope, soils and climate. The Southern Agricultural Region has been divided into three categories: high, moderate and low potential, based on these three factors. Slopes greater than 40% have been shown in red and give an indication of areas unsuitable for cultivation. In such areas, conservation farming practices should be encouraged if people are continuing to plough the land in order to meet their household needs.

Sites that fall within the high potential zone, that are serviced by roads, and which have access to water, should be investigated in more depth to determine whether they have soils that are suitable for supporting intensive agricultural activities.

It is clear that a large proportion of the traditional settlement area has low agricultural potential. This has implications in terms of the need for land redistribution in order to allow emerging farmers access to high potential land.

8.3 APPLICATION OF THE AGRICULTURAL SPATIAL DEVELOPMENT PLAN

While not pin-pointing the exact location of high potential agricultural sites, the SDP does give an indication of where suitable sites are likely to be found. It is essential that a thorough site inspection be carried out where soil characteristics, elevation above water source (which has implications for irrigation) and current land use can be ascertained.

The following guidelines are encompassed in the SDP:
• If an area has good rainfall, the terrain is not broken and there is a good chance of obtaining soils that are suitable for annual cropping, it is characterized as high potential although this can only be confirmed for a particular site by conducting a soil survey where soil type and soil depth can be ascertained.
• If a site falls within a high potential area and has access to water (such as a perennial river/stream), there is a good likelihood of obtaining a site suitable for irrigation. This is however totally dependent on the type of soils present at that site.

• Within areas broadly categorised as having limited potential due to the high incidence of steep slopes, small pockets of land suitable for annual cropping will be encountered and should not be overlooked.

• The success of most agricultural enterprises is dependent on the successful marketing of the produce. The markets (Municipal fresh produce markets (MFPM), processing facilities, urban settlements) indicated in Figure 12 represent some potential outlets.

• For many enterprises, the profitability is largely determined by the cost of the inputs. This cost is dependent on the distance that such goods must be transported.

• Good accessibility is of great advantage to most agricultural enterprises.

• Proposed development nodes are shown in Figure 13. These are nodes where agri-processing facilities and agricultural hubs should be located. The town of Umbumbulu serves as the main development node, having been identified as the site for developing Rural Investment Node. Two local service nodes have also been proposed. The location of potential agricultural development sites should be considered in relation to these nodes.
Figure 12: Broader Context for the ASDF for the Southern Agricultural Spatial Development Plan showing traditional areas, D’MOSS footprint, existing roads, main rivers, position in relation to nearby towns, urban settlement areas, markets and agri-processing facilities.
Figure 13: Southern Agricultural Spatial Development Plan showing steep slopes (>40%), land potential, rivers and streams, settlement patterns, areas of proposed future densification, roads and proposed links, and proposed development.
9 BUDGET REQUIREMENTS FOR AGRICULTURAL DEVELOPMENT

eThekwini Municipality (The Rural ABM Office) will need to make the following capital available to support agricultural development within the Southern Agricultural Region. Table 5 shows the budget allocation for activities that will cover the whole of eThekwini while Table 6 shows the budget requirements specifically for the Southern Agricultural Region.

Table 5: eThekwini-wide budget requirements

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<thead>
<tr>
<th>Cross cutting Strategy</th>
<th>Name of Strategy</th>
<th>Activity</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/C Strategy 1</td>
<td>Communication campaign (agriculture and environment)</td>
<td>Conduct a Unicity wide agricultural information programme to develop interest in Agriculture. Give support to Agricultural Shows as part of campaign</td>
<td>R 200 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To be motivated for</td>
</tr>
<tr>
<td>C/C Strategy 2</td>
<td>Provide information and guide approaches &amp; training</td>
<td>Develop the basic decision-making document Conduct feasibility assessments (2) Compile databases Explore new approaches to working with farmers (including marketing of produce) Establish training gardens in un-serviced areas, to be supported by local NGOs Development of training materials</td>
<td>R 50 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 140 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 40 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 100 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R100 000 / gdn</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To be determined</td>
</tr>
<tr>
<td>C/C Strategy 3</td>
<td>Identify and attract input suppliers and service providers</td>
<td>Pay a consultant to facilitate the process of getting service providers and input suppliers involved in the process.</td>
<td>R 150 000</td>
</tr>
<tr>
<td>C/C Strategy 4</td>
<td>Promote establishment of general infrastructure</td>
<td>Coordinate the provision of infrastructure in the rural areas.</td>
<td>Facilitation only</td>
</tr>
<tr>
<td>C/C Strategy 5</td>
<td>Promote establishment of agriculture specific infrastructure</td>
<td>Facilitate the provision of agriculture specific infrastructure. Research practical ways to improve access to water for agricultural production</td>
<td>Facilitation only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 100 000</td>
</tr>
<tr>
<td>C/C Strategy 6</td>
<td>Improve access to land and tenure security</td>
<td>Coordinate and monitor the process (especially the establishment of pilot projects) Research: understand the impact of traditional ownership on agricultural production</td>
<td>Facilitation only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R 100 000</td>
</tr>
</tbody>
</table>
Table 6: Southern Agricultural Region budget requirements

<table>
<thead>
<tr>
<th>Name of component</th>
<th>Activity</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy 1:</strong> Establish appropriate support for agricultural production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component 1 – Establish Co-ordination Forum</td>
<td>Establish the Agricultural Working Group</td>
<td>R 75 000</td>
</tr>
<tr>
<td>Component 2 – Develop Agricultural Hubs</td>
<td>Establish an Agricultural Hub</td>
<td>R 50 000</td>
</tr>
<tr>
<td>Component 3 – Identify and Attract Service Providers and Input Suppliers</td>
<td>Identify needs and service providers that would meet those needs</td>
<td>Facilitation only</td>
</tr>
<tr>
<td>Component 4 – Establish Market Linkages</td>
<td>Pay consultant/NGO to develop plan for the Southern Agricultural Region.</td>
<td>R 150 000</td>
</tr>
<tr>
<td><strong>Strategy 2:</strong> Promote and direct agricultural production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component 1 – Make Product Specific Information Available</td>
<td>Facilitate workshops with farmers to make information available</td>
<td>R 30 000</td>
</tr>
<tr>
<td>Component 2 - Promote Specific Production Opportunities</td>
<td>Identify and promote suitable enterprises</td>
<td>Facilitation only</td>
</tr>
<tr>
<td><strong>Strategy 3:</strong> Improve conditions for agricultural development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component 1 – Identify general infrastructure needs</td>
<td>Feed general infrastructural needs through to the Coordination Forum</td>
<td>Facilitation only</td>
</tr>
<tr>
<td>Component 2 – Identify agriculture specific infrastructure needs</td>
<td>Feed agricultural infrastructure needs through to the Coordination Forum.</td>
<td>Facilitation only</td>
</tr>
<tr>
<td>Component 3 – Identify land redistribution needs</td>
<td>Feed information regarding communities, individuals needing land for production purposes through to the Coordination Forum.</td>
<td>Facilitation only</td>
</tr>
</tbody>
</table>
ANNEXURE 1
COMPARISON OF A RANGE OF AGRICULTURAL ENTERPRISES

Refer to the complete document (Comparison of a Range of Agricultural Enterprises) prepared by Danette Stipcich (Institute of Natural Resources) for the assumptions on which each of the enterprises listed below is based. It should be noted that the details contained in these tables cannot be assumed for any actual enterprise due to the number of variables encountered and any planned enterprise will require its own assessment of physical and economic feasibility. The figures are presented only to indicate the variation that exists between enterprises. They are highly dependent on market prices and input costs.

**Table 1:** Critical factors determining location, unit size for a R12000 annual gross margin and capital investment required

<table>
<thead>
<tr>
<th>ENTERPRISE</th>
<th>Critical factors determining location</th>
<th>Unit size for R12000 annual gross margin</th>
<th>Capital investment (Low – Very high)</th>
<th>Main contribution to cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed vegetable production</td>
<td>Water for irrigation, access to input suppliers, access to a market (road route).</td>
<td>1 ha</td>
<td>R38 040 (Medium)</td>
<td>Irrigation, fencing</td>
</tr>
<tr>
<td>Dryland maize (grain)</td>
<td>Annual Rainfall (RF) 500 - 700mm, large tracts of land</td>
<td>13.5 ha</td>
<td>R432 250 (Very high)</td>
<td>Tractor</td>
</tr>
<tr>
<td>Dryland maize (green mielies)</td>
<td>RF 500 - 700mm, a reliable market (sell 54 000 heads)</td>
<td>0.5 ha</td>
<td>R12 360 (Low)</td>
<td>Fencing</td>
</tr>
<tr>
<td>Dry beans</td>
<td>RF 700mm, large tracts of land</td>
<td>9 ha</td>
<td>R411 680 (Very high)</td>
<td>Tractor</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>RF 850 - 1500mm, hauling to mill once cut, require a quota allocation from mill</td>
<td>2 ha</td>
<td>R13 320 (Low)</td>
<td>Site conservation</td>
</tr>
<tr>
<td>Bananas</td>
<td>Mean annual temperature (AT) 20 - 25°C, frost-free, water for irrigation, access to the market (road route),</td>
<td>0.5 ha</td>
<td>R51 240 (Medium)</td>
<td>Irrigation, ripening room</td>
</tr>
<tr>
<td>Macadamia nuts</td>
<td>Average monthly minimum temperature (min T) &gt;3°C, max T &lt;29°C, water for irrigation, deep soils</td>
<td>0.5 ha</td>
<td>R97 270 (Medium)</td>
<td>A range of costs</td>
</tr>
<tr>
<td>Broilers</td>
<td>Source of water, reliable market, accessibility for transporting feed</td>
<td>500 birds/batch (approx. 6 batches/year)</td>
<td>R64 280 (Medium)</td>
<td>Building</td>
</tr>
<tr>
<td>Layers</td>
<td>Market for eggs, source of water, electricity for lighting, accessibility for transporting feed and eggs</td>
<td>850 birds</td>
<td>R211 680 (High)</td>
<td>Building, delivery vehicle</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Pigs</td>
<td>Source of water, electricity for infrared lamps, accessibility for transporting feeding and pigs</td>
<td>6 sows</td>
<td>R83 530 (medium)</td>
<td>Building</td>
</tr>
<tr>
<td>Beef</td>
<td>Large tracts of land</td>
<td>20 breeding cows + followers (on 82.5ha veld + pasture)</td>
<td>R153 000 (High)</td>
<td>Breeding stock</td>
</tr>
<tr>
<td>Dairy - purchased + home grown feed (eragrostis, kikuyu, ryegrass, silage)</td>
<td>Water, land size</td>
<td>5 cows (4 in milk) on 1.2ha kikuyu, 0.8ha ryegrass, 0.8ha silage (total 3ha)</td>
<td>R99 000 (Medium)</td>
<td>Breeding stock, Building</td>
</tr>
<tr>
<td>Goats</td>
<td>Large tracts of land</td>
<td>45 boergoat ewes plus followers (89 in total on 39ha veld)</td>
<td>R46 750 (Medium)</td>
<td>Breeding stock</td>
</tr>
<tr>
<td>Tunnel production (Tomatoes)</td>
<td>Source of water, market, electricity for fertigation</td>
<td>1 tunnel (10x30m)</td>
<td>R51 500 (Medium)</td>
<td>Tunnel</td>
</tr>
<tr>
<td>Floriculture (Leucodendrons – a hardy filler)</td>
<td>Water for irrigation, well drained soils preferably on a slope</td>
<td>0.5 ha</td>
<td>R61 060 (Medium)</td>
<td>A range of costs</td>
</tr>
<tr>
<td>Essential oils (Rosemary)</td>
<td>Water for establishment, proximity to a distillation plant, accessibility to allow transportation of 7t plant material</td>
<td>0.5 ha</td>
<td>R147 000 (High)</td>
<td>Distillation plant</td>
</tr>
<tr>
<td>Niche market (Paprika)</td>
<td>Water for irrigation, Mean Temperature 20-30°C</td>
<td>0.5 ha</td>
<td>R39 560 (Medium)</td>
<td>Irrigation, equipment</td>
</tr>
<tr>
<td>Gum</td>
<td>RF 900 - 950 mm, access route, large tracts of land, proximity to a mill</td>
<td>15 ha (1.5 ha established per year)</td>
<td>R32 180 (Medium)</td>
<td>Site establishment</td>
</tr>
<tr>
<td>Wattle</td>
<td>RF 750 - 850 mm, large tracts of land, access route, proximity to a mill</td>
<td>12 ha (1 ha established per year)</td>
<td>R29 120 (Medium)</td>
<td>Site establishment</td>
</tr>
</tbody>
</table>
Table 2: Technical requirement, time until income obtained, perishability and suitability for various settlement zones for the same enterprises

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Technical requirement</th>
<th>Time until income</th>
<th>Perishability of product</th>
<th>Suitability of settlement types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>urban</td>
</tr>
<tr>
<td>Vegetable production (1 ha)</td>
<td>Low</td>
<td>3 months</td>
<td>High</td>
<td>X</td>
</tr>
<tr>
<td>Dryland maize (grain) (13.5 ha)</td>
<td>Low</td>
<td>6 months</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Dryland maize (green mealies) (0.5 ha)</td>
<td>Low</td>
<td>5 months</td>
<td>Medium</td>
<td>X</td>
</tr>
<tr>
<td>Dry beans (9 ha)</td>
<td>Low</td>
<td>5 months</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Sugar cane (2 ha)</td>
<td>Low</td>
<td>14 months</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Bananas (0.5 ha)</td>
<td>Medium/low</td>
<td>12 months</td>
<td>High</td>
<td>X</td>
</tr>
<tr>
<td>Macadamia nuts (0.5 ha)</td>
<td>High</td>
<td>Year 7 - 1st reasonable</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Broilers (500 birds / 6 batches)</td>
<td>Medium/high</td>
<td>6 - 7 weeks</td>
<td>Low (live birds)</td>
<td>X</td>
</tr>
<tr>
<td>Layers (850 birds)</td>
<td>Medium/high</td>
<td>1 week after placing 20 week old pullets</td>
<td>Medium</td>
<td>X</td>
</tr>
<tr>
<td>Pigs (6 sows)</td>
<td>Medium/high</td>
<td>Variable(^4) (7 months)</td>
<td>Medium</td>
<td>X</td>
</tr>
<tr>
<td>Beef (20 breeding cows)</td>
<td>Low</td>
<td>Variable (10 months)</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Dairy (5 cows)</td>
<td>Medium/low</td>
<td>Variable (obtain cows in milk – immediate)</td>
<td>Medium/high</td>
<td>X</td>
</tr>
<tr>
<td>Goats (45 ewes)</td>
<td>Low</td>
<td>Variable (7 months)</td>
<td>Medium/low</td>
<td>X</td>
</tr>
<tr>
<td>Tunnel production Tomatoes (1 tunnel)</td>
<td>High</td>
<td>3 months</td>
<td>High</td>
<td>X</td>
</tr>
<tr>
<td>Floriculture Leucodendrons (0.5 ha)</td>
<td>Medium/low</td>
<td>12 - 18 months</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Essential oils Rosemary (0.5 ha)</td>
<td>Medium/low</td>
<td>12 months</td>
<td>Medium/low</td>
<td>X</td>
</tr>
<tr>
<td>Niche market Paprika (0.5 ha)</td>
<td>Medium/low</td>
<td>5 months</td>
<td>Medium/low</td>
<td>X</td>
</tr>
<tr>
<td>Gum (15 ha)</td>
<td>Low</td>
<td>8 - 10 years</td>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Wattle (12 ha)</td>
<td>Low</td>
<td>10 - 12 years</td>
<td>Low</td>
<td>X</td>
</tr>
</tbody>
</table>

\(^4\) Depends on stage of gestation of animal when purchased
<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Frequency of re-establishment</th>
<th>Peak working capital required (R)$^5$</th>
<th>First positive gross margin</th>
<th>Peak annual gross margin$^6$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Peak annual</td>
<td>Year</td>
<td>Amount</td>
</tr>
<tr>
<td>Vegetable production (1 ha)</td>
<td>Replant regularly</td>
<td>N/A</td>
<td>1</td>
<td>12,694</td>
</tr>
<tr>
<td>Dryland maize (grain) (13.5 ha)</td>
<td>Replant annually</td>
<td>58,698</td>
<td>1</td>
<td>12,177</td>
</tr>
<tr>
<td>Dryland green mielies (0.5 ha)</td>
<td>Replant annually</td>
<td>2,490</td>
<td>1</td>
<td>12,360</td>
</tr>
<tr>
<td>Dry beans (9 ha)</td>
<td>Replant annually</td>
<td>41,553</td>
<td>1</td>
<td>12,477</td>
</tr>
<tr>
<td>Sugar cane (2 ha)</td>
<td>Replant after 10 years</td>
<td>15,040</td>
<td>2</td>
<td>12,064</td>
</tr>
<tr>
<td>Bananas (0.5 ha)</td>
<td>Replant after 10 years</td>
<td>36,768</td>
<td>2</td>
<td>15,872</td>
</tr>
<tr>
<td>Macadamia nuts (0.5 ha)</td>
<td>Replant after 30 years</td>
<td>6,899</td>
<td>7</td>
<td>662</td>
</tr>
<tr>
<td>Broilers (500 birds, 6 batches)</td>
<td>2 months</td>
<td>7,450 (First batch)</td>
<td>8 weeks</td>
<td>2,150 (First batch)</td>
</tr>
<tr>
<td>Layers (850 birds)</td>
<td>Annual replacement</td>
<td>N/A</td>
<td>1</td>
<td>12,119</td>
</tr>
<tr>
<td>Pigs (6 sows)</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>12,898</td>
</tr>
<tr>
<td>Beef (20 breeding cows)</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>12,052</td>
</tr>
<tr>
<td>Dairy (5 cows)</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>13,243</td>
</tr>
<tr>
<td>Goats (45 ewes)</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>12,148</td>
</tr>
<tr>
<td>Tunnel production Tomatoes (1 tunnel)</td>
<td>Replant annually, replace plastic every 3 - 5 yrs</td>
<td>N/A</td>
<td>1</td>
<td>16,078</td>
</tr>
<tr>
<td>Floriculture (Leucodendrons) (0.5 ha)</td>
<td>Replant after 10 years</td>
<td>N/A</td>
<td>3</td>
<td>9,844</td>
</tr>
<tr>
<td>Essential oils (Rosemary) (0.5 ha)</td>
<td>Replant after 6 years</td>
<td>N/A</td>
<td>2</td>
<td>16,464</td>
</tr>
<tr>
<td>Niche market (Paprika) (0.5 ha)</td>
<td>Replant annually</td>
<td>8,680</td>
<td>1</td>
<td>16,820</td>
</tr>
<tr>
<td>Gum (15 ha - 1.5 ha established per year)</td>
<td>Replant after 8 - 10 years</td>
<td>35,490 (For 1.5 ha)</td>
<td>8 - 10 years</td>
<td>12,810 (From 1.5 ha)</td>
</tr>
<tr>
<td>Wattle (12 ha – 1 ha established per year)</td>
<td>Replant after 10 - 12 years</td>
<td>14,320 (For 1 ha)</td>
<td>10 - 12 years</td>
<td>14,080 (From 1 ha)</td>
</tr>
</tbody>
</table>

$^5$ This figure is only given where there is a once off harvest per annum or some years until first harvest

$^6$ This figure is only given where there is an increase in yield over a number of years until a peak is reached