

## CHAPTER FIVE: ASSESSMENT OF ALTERNATIVES

### 5.1 APPROACH TO THE ASSESSMENT OF ALTERNATIVES

As per Guideline 5: Assessment of Alternatives and Impacts (June 2006) the regulations require that alternatives to a proposed activity be considered. Alternatives are different means of meeting the general purpose and need of a proposed activity. This may include the assessment of site alternatives, activity alternatives, process or technology alternatives, temporal alternatives or the no-go alternative.

The regulations indicate that alternatives that are considered in an assessment process be reasonable and feasible. I&APs must also be provided with an opportunity of providing inputs into the process of formulating alternatives. The assessment of alternatives should, as a minimum, include the following:

- The consideration of the no-go alternative as a baseline scenario
- A comparison of the selected alternatives; and
- The providing of reasons for the elimination of an alternative

The following alternatives have been identified for consideration in this assessment:

- “Go” Alternative – Project proposal as outlined in this report with consideration given to the following process alternatives:
  - Layout Alternatives – Agricultural development of the entire study area vs. development of approximately 300 hectares so as to accommodate site constraints based on the outcome of the specialist assessments (topography, watercourses and wetlands; soil suitability and vegetation assessment).
  - Technology Alternatives – A number of potentially suitable windbreak tree species will be considered in the EIA process.
  - Site Alternatives – The proposed site is located on land owned by the applicant, and is situated adjacent to the existing River Bend Citrus farming operations and infrastructure (offices, workshops, storage area). While San Miguel Fruit SA does own other land parcels in the area (see Map 1.1 in Chapter 1), this portion was considered the most productively feasible for expansion at this stage. Site alternatives have therefore not been considered further in this assessment process.
- No-go alternative - No development
- Additional alternatives as identified by I&APs and specialists - to date, no alternatives have been raised by I&APs or specialists

The purpose of this section of the report is to provide clarity on the scope of alternatives that will be considered in the EIA process.

### 5.2 NO-GO OPTION

The No-Go alternative represents the baseline against which all project related impacts are assessed. The no-go option would entail maintaining the current status quo, i.e. the retention of the vegetation on the site as rangeland for stock and / or game. No additional fruit farming infrastructure, or associated employment opportunities would be established. Given that the site has access to water and agricultural infrastructure; and that the soils in the area have generally

been shown to be suitable for citrus cultivation, the site potentially represents a good opportunity for agricultural development. The no-go option would result in the loss of potentially productive agricultural land in an area known for citrus production. The no-go option would result in the loss of capital investment estimated to be approximately R70m and annually employment opportunities estimated to be R0.6m (permanent) and R4.m (temporary). The annually turnover, once the orchards reach maturity age in 5 to 6 years is estimated to be approximately R60m. The no-go option would result in a loss of these economic opportunities for the region.

### **5.3 GO OPTION**

The Go option would include the implementation of the project as outlined in Chapter Two of this Report, the clearing of 263 ha for additional citrus production. The impacts associated with the go option are the converse of the no-go option and while it would result in negative impacts associated with clearing of intact vegetation there are positive impacts associated with capital investment and job creation in the Sundays River Valley Municipality.

The go option has included consideration of the following alternatives:

#### **5.3.1 Layout Alternatives**

The following provides an overview of the layout alternatives considered in this assessment process:

##### **5.3.1.1 300 Hectares Proposed for Citrus Production**

As indicated in Chapter One and Two of this report, the initial application for environmental authorisation indicated the applicant was of the intention to ideally establish a minimum of 300 ha for increased citrus production on the 500 ha that formed part of this assessment process.

However, based on the outcome of the specialist assessments forming part of this assessment process, the biophysical site constraints have identified and recommended that 263 ha is the sustainable area for citrus production.

##### **5.3.1.2 Layout Alternatives**

Based on the recommendation that 263 ha is the sustainable area for citrus production various layouts for citrus production were considered and assessed, based on biophysical site constraints (transformed and degraded areas, maintenance of ecological processes), and technical requirements for construction and operational purposes (e.g. slope, access and soil suitability).

##### ***Layout 1 alternative Northern Portion of the Property (not preferred)***

As per Map 5.1 below, which focuses on the northern most section of the property, various layouts for this area were considered. Map 5.1 below indicates one such alternative considered. This alternative was considered as it would allow for citrus production in transformed and degraded portions on the northern portion of the property. It however would require the removal of portions of intact Sundays Thicket, with the recommendation to utilise this for the rehabilitation of transformed and degraded portions of thicket elsewhere on the site, e.g. along the drainage line in the north eastern corner of the site.

This layout option would however result in fragmentation and isolation of intact portions of Sundays Thicket which would negatively impact on ecological processes, and was thus not considered a

suitable alternative. The northern portion of the property is also in close proximity to the intact portions of Thicket on the slopes of the Zuurberg Mountain and the maintenance of ecological processes in this area was the preferred alternative. This layout alternative was thus not considered further in this assessment process.



Map 5.1 Alternative layout for the northern portion of the property (not preferred)

**Layout 2 alternative Northern Portion of the Property (preferred layout)**

Map 5.2 below indicates the preferred layout for the northern portion of the property. This layout would maintain the intact portions of Sundays Thicket which, if fragmented, would negatively impact on ecological processes. The northern portion of the property is also in close proximity to the intact portions of Thicket on the slopes of the Zuurberg Mountain and the maintenance of ecological processes in this area was the preferred alternative.



Map 5.2: Preferred layout for the northern portion of the property.

**5.3.2 Technology (windbreak) Alternatives**

Both Australian Silky Oak (*Grevillea robusta*) and Beefwood (*Casuarina* sp.) are used as windbreaks in the citrus orchards of the Sundays River Valley since both of these are exotics but are reasonably fast growing. Recently Yellowwood trees (*Podocarpus* sp.) have also been explored as a potential windbreak species; however these trees have lower growth rates than the abovementioned species. Growth rate, growth form, height, water requirements, root development, the availability of samplings, and pricing are all important considerations in the choice of windbreak species. The applicant is also assessing the suitability and feasibility of indigenous alternatives such as *Acacia karoo* and *Acacia xanthophloea*.

**5.4 CONCLUSION AND RECOMMENDATIONS**

The no-go option would result in negative socio-economic impacts associated with the loss of capital investment in the area and employment creation. Positive impacts associated with the go option are maximizing the use of available agricultural land, capital injection into the local economy and positive impacts associated with employment creation.