



Greenhouse Production

Climatic, labour and logistics information relevant to Greenhouse Production in the Eastern Cape

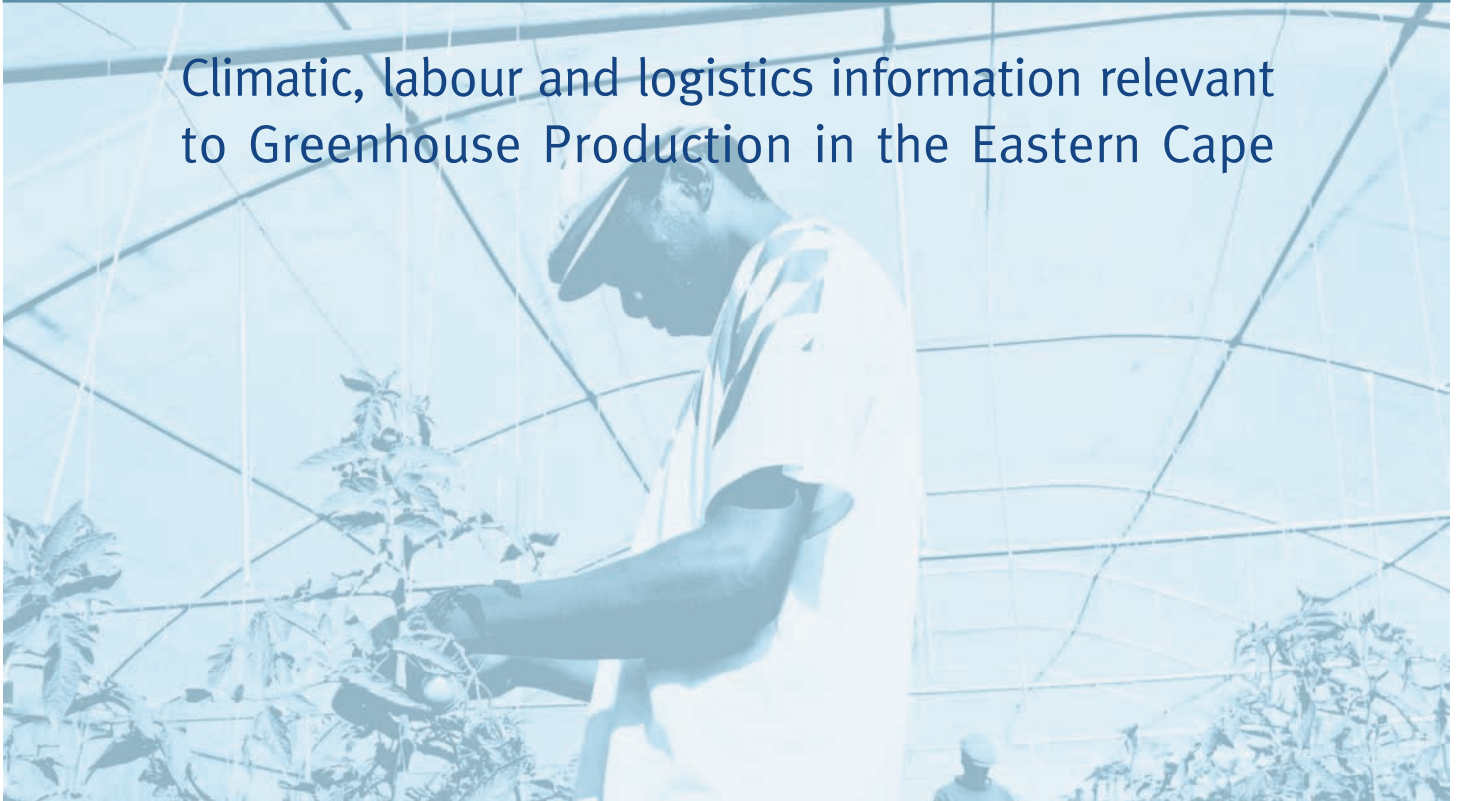


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1. Purpose

The objective of this document is to give a factual overview of labour, climate and logistics issues in the Eastern Cape Province which can be used by a potential investor to do a brief evaluation of the suitability of the location.

The purpose is to encourage the potential investor to do a site visit with the view of doing a full feasibility of a greenhouse production facility in the province.

2. Labour Policy - Agricultural Sector

As recently as December 2002 the South African Government published labour regulations for farm workers. (Basic Conditions of Employment Act, No 75 of 1997. Sectoral 8 Farm Worker Sector). These cover minimum wage, overtime allowances, maximum work hours and leave regulations and generally bring agricultural labour regulations in line with industrial labour. However, the actual values for these items are considerably lower than their industrial counterpart:

- Minimum wage is currently set at R 4.87 / hour.
- Hours of regular work is set at 45 hours per week.
- Overtime rates are set at 1.5 times the basic wage rate.
- Work on Sundays and public holidays is paid at double the regular rate.
- Annual leave is 3 weeks per 12 Months worked or 1 full day for every 17 days worked.

- Sick leave is set at six weeks for every 36 months-cycle worked.
- Family Responsibility Leave is set at 3 days for every 12 months worked.

Due to the high levels of unemployment, particularly in the rural areas of the Eastern Cape Province, there is an increased motivation for all employees to maintain their jobs and to go the extra mile, when necessary. Productivity is generally improving with a gradual increase of living standards being the major incentive.

The government's extensive skills development schemes extend into the agricultural sector where numerous methods of training and educating the generally uneducated rural population, provide financial incentives for employers to uplift their staff.

3. Climate - Eastern Cape Province Coastal Region

The Eastern Cape straddles the transition between three major climatic regions. Although subjected to major movements of air masses extending over hundreds of kilometres, there are many variations in temperature, rainfall, humidity and windiness occurring over very short distances in the Eastern Cape. Altitude, mountain orientation and distance from the Indian Ocean are important variables

acting on the broad characteristics of the prevailing atmospheric conditions. The spatial variations within the coastal belt will therefore provide a large number of "micro-climatic-zones" from which to pick the most suitable for any particular horticulture project. Average figures collected over a varying number of years for five stations are as follows:

Location	Lat	Lon	Alt	Ave Rs megajoules / m ²	Sunshine hours per year	Average Min Temp	Average Max Temp	Average Humidity
Kei Mouth	-32.4	28.09	258		2345	14.4	24	67.4
Wave Crest	-32.4	28.5	121	13.7	-	13.1	21.2	65.6
Welcomewoods	-33	27.5	355	16.1	-	12	25	71
Bisho	-33	27	589	-	2584	12.3	22	-
King Williams Town	-33	27	580	-	-	12.9	24	-

Source: Agricultural Research Council weather stations • Detailed figures available on request • Rita Wentzel Tel +27 21 809-3353



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4. Logistics

Temperature controlled airfreight from the Eastern Cape to European destination (Frankfurt, Paris and Amsterdam).

Cold storage facilities at both provincial airports meet the highest international standards. Both have been certified by the Perishable Product Export Control Board and have been approved for handling storage of perishable products for export. This certification is in line with all relevant international agreements.

Storage capacity at East London airport is currently limited to 40m³, but private operators are available to act as buffer storage for larger shipments or for cooling-down requirements prior to shipment.

A number of international freight forwarders are established with their own warehousing and admin facilities in both cities. They are linked into their national and international networks with facilities at Johannesburg and Cape Town and at the European destinations. Internationally recognised operators such as Schenker and Roehlig-Grinrod are part

of this pool of logistics experts.

SAACargo are operating all on-site airport facilities and are known for their compliance with all relevant international standards, procedures and quality maintenance.

SAA as well as Lufthansa offer freight rates from Eastern Cape through to Europe, while KLM requires the domestic flight to be handled as a separate unit, which results in increased costs. Volumetric weight formula is 6000. Freight rates are available on request. Transit time from Eastern Cape Airport to port of destination via Johannesburg is approximately 16 to 17 hours.

It appears from the above facts that there are sufficient facilities to cater for daily cuttings shipments to Europe. The facilities at the airports are of world class standards.

4.1 East London (ELS)

- Cold storage facilities have roller beds to handle aircraft pallets.
- The cold storage unit has been registered with the Perishable Product Export Control Board and has been approved for handling storage of perishable products for export.
- Airfreight space shortages are experienced during December. Priority will be given to airfreight with allocations on international flights.
- SAA accepts responsibility for the maintenance of prescribed temperature levels during transshipment at JNB. At present no refrigerated freight is forwarded from ELS to CPT.
- Temperature loggers are available on request to monitor the temperature throughout the voyage.
- A private airport-off-site refrigeration facility exists in East London that could be rented on demand. Capacity is 230m³ - divided into five cold-rooms, with the ability to set temperatures and humidity levels individually.

4.2 Port Elizabeth (PLZ)

- Facilities have roller beds to handle aircraft pallets.
- All three cold storage units have been registered with the Perishable Product Export Control Board and have been approved for handling storage of perishable products for export.
- At present no refrigerated freight is forwarded to CPT.
- The daily volume of temperature controlled airfreight from PE to JNB currently varies from 2 to 3 tons of horticultural products such as ferns from Tsitsikama as well as Proteas from various areas.



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Port Elizabeth ctnd.

- Most of the Horticultural products are transported at night to keep the product cool for a longer period.
- At present no temperature controlled airfreight is forwarded to CPT but PLZ has four Boeing 737 passenger aircrafts as well as a Boeing 737 freighter aircraft to CPT at 04h00 in the morning with ample capacity.
- PLZ never experiences shortage of space to JNB and CPT. There are however space problems out of these two hubs from October to March to international destinations as this is the time most fruit products such as grapes, nectarines, melons as well as vegetables and fresh flowers are exported. Measures to secure space are on a contract basis with the Route Manager in JNB who controls the Europe route.
- Cargo space can further be booked with SAA cargo reservations in Port Elizabeth for the destination required and SAA will confirm the space out of PE. Space will be requested from either JNB or CPT by SAA's reservations staff in PLZ.
- An option exists, to store commodities in SAA's fridge facility for a specified period prior to shipment, to cool them down before they are handed in for export. Fresh proteas are one such commodities.

4.3 Cape Town (CPT) and Johannesburg (JNB)

- Cold storage facilities at these two airports comply with all national and international requirements for handling perishable cargo.
- SAA Cargo takes responsibility to transport fresh produce at the correct temperatures, but has no control during flight as aircraft holds are not temperature controlled.
- Temperature loggers are available on request to monitor the temperature throughout the voyage.

Airport	Volume m ³	Temp °C	Maintain preset humidity?	Flight frequency to JNB	Aircraft type
East London	40	0-15	yes	2 / day	737-passenger
				1/ night	727-nightfreighter
Port Elizabeth	156	1-15	yes	6 / day	737-passenger
				2 / night	737-nightfreighter
Cape Town	48	-10	no		737-nightfreighter
				2150	0-15
Johannesburg	4210	0-15	yes	daily to FRA,	B747
				3 / week to CDG,	B747-passenger
				12 tons / flight	B747-freighter



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Airfreight Shipping and forwarding agents at ELS and PLZ with offices at JNB and CPT and at European destinations (Sample only)

Kuehne & Nagel

East London: +27 43 722-3073 • Port Elizabeth: +27 41 585-8325
www.kuehne-nagel.com

Rohlig-Grinrod

East London: +27 43 721-1045 • Port Elizabeth: +27 41 581-6000
www.rohlig.co.za

Schenker

East London: +27 43 731-2239 • Port Elizabeth: +27 41 402-2800
www.schenker.co.za

5. Summary

The logistical linkages to Europe, the climatic conditions and lastly labour rates are believed to be sufficient to increase the net earnings of a company producing young plants in the province and exporting the cuttings.

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