INTRODUCTION


Many of Africa's traditional vegetables, particularly the green leafy vegetables, are weedy, semi-cultivated species that have received very little attention in the way of research, management and inputs. Having reviewed the cultivation and processing trials in the previous two issues of Spotlight on Agriculture, we will now discuss the economic value of these traditional leafy vegetables.

As a reminder, the leafy vegetables mentioned in the previous two issues are known under different local names, such as ekwaka (Oshiwambo), mboga (Rukwangali), tepe (Silozi) for *Amaranthus thunbergii*; ombidi (Oshikwanyama), mpungu (Rukwangali), shishungwa (Silozi) for *Cleome gynandra*; and omutete (Oshiwambo), mutete (Rukwangali), mundambi (Silozi) for *Hibiscus sabdariffa*.

Comparison of different gross margins for cultivation on 1/4 ha.

<table>
<thead>
<tr>
<th>Selling price for fresh cleaned leaves</th>
<th>At N$7/kg</th>
<th>At N$8/kg</th>
<th>At N$12/kg (incl. processing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rain-fed</td>
<td>Gross</td>
<td>Gross</td>
<td>Gross</td>
</tr>
<tr>
<td></td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
</tr>
<tr>
<td>Rain-fed</td>
<td>887.5</td>
<td>1682</td>
<td>2987.5</td>
</tr>
<tr>
<td>Irrigated (electric)</td>
<td>627.5</td>
<td>1602.5</td>
<td>2727.5</td>
</tr>
<tr>
<td>Irrigated (solar)</td>
<td>277.5</td>
<td>1252.5</td>
<td>2377.5</td>
</tr>
<tr>
<td>Urban area</td>
<td>-234.5</td>
<td>740.5</td>
<td>&lt; 600*</td>
</tr>
</tbody>
</table>

* Including water consumption for washing and sorting.

These margins are for one income cycle of approximately two months. The rain-fed cultivation would be limited to two cycles, while the drip irrigation could expect as many as three cycles (cold weather would reduce production beyond this period). Furthermore, a four-day drought might cause failure of a crop cultivated under rain-fed conditions only.

In accordance with the prior findings of the final Marketing and Processing report, as well as the cultivation trials, *Amaranthus thunbergii* seems to be the favourite candidate for making a profitable venture for an SME.
Processing/preservation trials should be conducted close to the cultivation and harvesting areas, to minimize the problems of quality deterioration during handling, packaging and transport.

- Cleaned and processed traditional vegetables have good consumer acceptance and can attain margins much higher (up to double) than those sold on the informal markets.

- Simple processing methods, such as blanching and deep-freezing, will give the best margins and keep most of the texture, appearance, organoleptic characteristics and nutrients, and these will last for at least three to four months.

However, neither *Hibiscus sabdariffa* (which is the easiest to cultivate) nor *Cleome gynandra* (which is still preferred as an additive to an *Amaranthus thunbergii* processed mix) will be neglected in any forthcoming programme. The scenario below will be applicable to all three indigenous/traditional leafy vegetables.

The following viable options are possible for traditional green leafy vegetables:
Option 1: See the TGLV (Traditional Green Leafy Vegetables) as a catch crop only, and base the processing on this supply;
Option 2: See TGLV as a crop to cultivate under rain-fed conditions;
Option 3: See TGLV as a crop to cultivate under drip irrigation.

**GENERAL RECOMMENDATIONS**

### Potential strengths and weaknesses of TGLV as a “catch crop”

**(Potential) strengths**
- Sole input would be the payment for delivery at approximately N$20/4 kg/day/adult.

**(Potential) weaknesses**
- Limited quality control
- Limited control of assured quantity to be expected per cycle (risk of over- and under-supply)
- Additional work to select, clean and trim during processing
- Limited durability (need for deep-freezing and/or advanced processing, blanching, etc, in order to be able to supply all year round and secure a higher price).

### Potential strengths and weaknesses of TGLV cultivated as a rain-fed crop

**(Potential) strengths**
- Lower inputs and highest gross margin per cycle

**(Potential) weaknesses**
- Vulnerable to drought spell, which might cause complete crop failure
- Limited to 3 months

### Potential strengths and weaknesses of TGLV cultivated under drip irrigation (electrical pump)

**(Potential) strengths**
- Good gross margins per cycle
- Can produce for 6 months

**(Potential) weaknesses**
- Higher start-up capital needed
- Existing power supply required
- More trained labour needed

### Potential strengths and weaknesses of TGLV cultivated under drip irrigation (solar pump)

**(Potential) strengths**
- Good gross margins per cycle
- Can produce for 6 months
- No need for power supply
- Running costs lower than for above

**(Potential) weaknesses**
- Very high start-up capital
- More trained labour needed

### Potential strengths and weaknesses of TGLV cultivated under drip irrigation (urban area)

**(Potential) strengths**
- Can produce for 6 months
- Close to the market

**(Potential) weaknesses**
- Low gross margins
- High water costs
- More trained labour needed
- High town council fees for setting up business

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