Importance of avocado

- Main economic activities
  - Crop and livestock production

Main agricultural enterprises

- Kandara: avocado, coffee, banana, maize, beans, macadamia nuts, dairy farming
- Marani: maize, beans, banana, coffee, tea, finger millet, avocado, dairy

Ranking of enterprises by gender and site

- Avocado ranked by 1st by men and 2nd by women among the three most important enterprise agricultural in Kandara because it has high commercial value.
- In Marani, however, avocado was ranked among the least important enterprise in 3 of the 4 FGDs. Maize and beans was ranked as the most important.

Ranking criterion by gender

- Men: Based on commercial value, particularly in Kandara
- Women: Based on services derived from the Enterprise-food security e.g. maize & beans, banana are for food and income
Importance of avocado cont’d

- Avocado accounts for a sizeable proportion of total and crop income in Kandara and Marani.
- Avocado’s contribution to income is more significant in Kandara than in Marani because of the differences in the value and market orientation of the varieties cultivated in the two sites.
- In Kandara, avocado accounts for a relatively higher proportion of crop income in male than in female headed households, reflecting the relative importance of the crop in male headed households in Kandara.

<table>
<thead>
<tr>
<th></th>
<th>Kandara Male (n=65)</th>
<th>Kandara Female (n=35)</th>
<th>Kandara Total (N=100)</th>
<th>Marani Male (n=62)</th>
<th>Marani Female (n=38)</th>
<th>Marani Total (N=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total income (KES)</td>
<td>262108</td>
<td>128003</td>
<td>215172</td>
<td>143690</td>
<td>105526</td>
<td>129188</td>
</tr>
<tr>
<td>% Livestock</td>
<td>21</td>
<td>25</td>
<td>22</td>
<td>13</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>% Off-farm</td>
<td>27</td>
<td>18</td>
<td>24</td>
<td>31</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>% Crops</td>
<td>52</td>
<td>57</td>
<td>54</td>
<td>56</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>% avocado in total income</td>
<td>13</td>
<td>10</td>
<td>12</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>% Avocado in crop income</td>
<td>25</td>
<td>19</td>
<td>23</td>
<td>11</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>
Avocado is highly commercialized
• A significant proportion of the avocado produced is marketed in Kandara and Marani

Figure 2. Proportion of produced sold
Figure 3. Avocado Value Chain Map for Marani
Choice of buyers

- Brokers offer instant payments,
- meet harvesting and grading costs
- Provide transport from the farm gate
- Grade and provide information on
- prices at the farm gate unlike exporters
- The exporter offers better prices, but payments are delayed and terms of the contract are unclear

Consumers are preferred because they offer better prices than other buyers. Small traders unlike large traders are reliable and buy fruits in bulk at the farm gate. Large scale traders are seasonal and transact with the farmers during off seasons.
Gross margins for producers by buyer type

**Kandara**

![Graph showing gross margins for Kandara producers]

**Marani**

![Graph showing gross margins for Marani producers]

Fig. 6: Gross margins for Kandara producers

Fig. 7. Gross margins for Marani producers
Women’s participation in production

- Where the value chain is well developed and the returns from the enterprise are high as in Kandara, women dominate the production stage, but more men tend to own the fields, make decisions on sales of fruits of premium quality such as grade 1 and control revenues.
- However, joint decision making on sales of fruits of inferior quality and control of proceeds tend to be more prevalent than sole decision making by men and women in male headed households.

### Table 2. Responsibility for Avocado Production, Sales and Revenue, by Gender of Household Head

<table>
<thead>
<tr>
<th></th>
<th>Kandara</th>
<th>Marani</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (n=65)</td>
<td>Female (n=35)</td>
</tr>
<tr>
<td>Production (%)</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>Man</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>woman</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Both man and woman</td>
<td>48</td>
<td>0</td>
</tr>
<tr>
<td>Control of revenue (%)</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Man</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>woman</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Both man and woman</td>
<td>60</td>
<td>0</td>
</tr>
</tbody>
</table>
Women’s participation in production

Figure 8. Decision making on Sales, by Grade of Avocado and Gender of the Manager
Table 3. Women's Participation in Stages of the Avocado Value Chain

<table>
<thead>
<tr>
<th>Value chain Stages</th>
<th>Kandara</th>
<th>Marani</th>
</tr>
</thead>
</table>
| Supply of germplasm | Men dominate activities that require physical strength like top working of old trees.  
In private institutional nurseries women constitute the majority of the employees. They are employed to do routine tasks that need keenness such as preparing potting media, filling the tubes, sorting, cleaning and planting seeds, grafting and untying healed grafts while men are engaged in skilful and managerial positions as well as tasks that require physical strength.  
Individual nurseries are generally operated by male managers and grafting is mainly done by men | Superior quality germplasm is not given priority as the seedlings grow by themselves.  
Women who operate food kiosks stock and sell seeds to the nursery operators to be used in raising rootstocks.  
Individual nursery operators are mainly men and most of the workers employed to do grafting are young men. Women do not take part in grafting as in Kandara because they lack the skills. |
| Production | More women (51%) than men (49%) manage the fruits, but men own and control resources and revenue.  
Women provide labour while men provide capital for purchasing inputs and attend training on certification standards such as Global Gap  
Men make decisions when avocado of premium quality and large sums of money are involved. Women decide on the rejected avocado, which can only be sold to consumers and retail traders in the local markets.  
- Women in female-headed households are fully involved since they assume full responsibility of avocado trees upon the death of their husbands  
- Married women whose husbands have more lucrative sources of income are involved at a higher degree than those whose husbands rely on proceeds from avocado | Avocado is completely neglected and left for the women if the returns are low  
Where large volumes of sales and sums of money are involved;  
- Female-headed households are fully involved since they assume full responsibility of avocado trees upon the death of their husbands  
- Married women, whose husbands have more lucrative sources of income such as tea, coffee and off-farm income, are involved at a higher degree than those whose husbands rely on proceeds from avocado. |
<table>
<thead>
<tr>
<th>Value chain stages</th>
<th>Kandara</th>
<th>Marani</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorting and grading</td>
<td>Professional graders are mainly men who have been trained to do grading for farmers at a fee. Women lack the skills.</td>
<td>Men are rarely involved since avocado is of low commercial value and is rarely graded. Women sort avocado to remove spoilt ones.</td>
</tr>
<tr>
<td>Small scale trading</td>
<td>Majority are women. Local trading is time consuming and needs patience, which men lack</td>
<td>Dominated by women</td>
</tr>
<tr>
<td>Large scale trading</td>
<td>Large traders, who are mainly men, sell to exporters and processors based in Nairobi, Thika and Limuru. A few women are involved because they face higher entry barriers than men. • Women have limited access to assets, capital, market information and transportation. • High level marketing is also competitive and requires time, which women cannot manage as they have to split their time between domestic chores and productive activities.</td>
<td>Large scale trading is not common. A few large traders, mainly women occasionally buy fruits from small scale traders and transport to distant markets like Nairobi and Sirare in Tanzania.</td>
</tr>
<tr>
<td>International marketing</td>
<td>Men predominate this node of the chain because they have access to resources such as cold storage facilities, communication equipment, business skills, time, processing facilities as well as information. The majority of the suppliers are men. Women are hired to sort and pack while grading is done by machines which are operated by men.</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Women's Participation in Stages of the Avocado Value Chain
Constraints facing avocado farmers

Kandara

- High incidence of pests and diseases
- High cost of inputs (pesticides)
- Erratic weather patterns
- Limited access to agronomic advice
- Delayed payments by export firms
- Disorganized markets
- Delay by the buyer to collect the produce, which reduces the quality of the fruits
- Inadequate skills for picking and grading fruits. This increases the number of rejects by buyers
- Brokers, traders and exporters offer poor prices for avocado
- Unfavourable contractual arrangements
  - Unspecified pricing and grading mechanisms used by the export companies
- Poor leadership has led to disintegration of most groups in the region
Constraints facing avocado producers
Cont’d

Marani

- Lack of awareness of varieties demanded in the market
- High incidence of pests and diseases
- Flower abortion due to poor nutrition
- Limited access to agronomic advice
- Limited knowledge of where to obtain improved seedlings
- Erratic weather patterns
- Lack of organised market for avocado
- High cost of transport
- Low prices for the fruits
- Limited market opportunities for the produce
Table 4. Constraints facing other chain actors

<table>
<thead>
<tr>
<th>Traders</th>
<th>Processors</th>
<th>Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stringent quality standards imposed by exporters</td>
<td>• Stringent quality standards</td>
<td>• Stringent certification standards</td>
</tr>
<tr>
<td>• Poor feeder roads</td>
<td>• High operational costs</td>
<td>• High operational costs due to high freight charges</td>
</tr>
<tr>
<td>• Inadequate post-harvest handling techniques and storage facilities</td>
<td>• Underutilization because of shortage of raw materials (fruits) during off-season</td>
<td>• Delay in shipping logistics results in post-harvest losses</td>
</tr>
<tr>
<td>• Deterioration in the quality of fruits because of premature harvesting</td>
<td>• Competition for raw materials between processors and exporters of fresh fruits</td>
<td>• Deterioration in the quality of fruits</td>
</tr>
<tr>
<td>• Uncertainty about prices</td>
<td></td>
<td>• Inadequate supply of Hass variety</td>
</tr>
<tr>
<td>• Barriers to entry in certain domestic markets due to cartels</td>
<td></td>
<td>• Poor infrastructure (feeder roads)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• High cost of bulking</td>
</tr>
</tbody>
</table>
Opportunities for Kandara producers

• Favourable climate for avocado production
• Unmet demand for fresh avocado and processed products in the international and domestic market
• Possibility of major exporters sub-contracting out-growers on better terms
• Availability of regulatory bodies e.g. HCDA, FPEAK
• Well established grass root institutions such as farmer groups and AGAK that coordinates the groups
• Availability of institutions that provide clean planting material
# Strategies for Kandara

<table>
<thead>
<tr>
<th>SO strategies</th>
<th>OW strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on improving quantity and quality of the products at the farm-gate to tap into opportunities such as premium prices, better contracts and the growing demand for processed products such as extra virgin oil.</td>
<td>Farmer groups can pool resources and hire services such as spraying, picking, and grading. Buyers can use existing groups to provide interlinked services to the farmers at a fee. This could improve women’s participation in the export market</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WT strategies</th>
<th>ST strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement of women and adult children in the training on certification standards. Joint decision making is already taking place and can be exploited to increase women’s involvement.</td>
<td>Facilitation of producers to obtain certification standards and adopt traceability system. This will reduce free rider problem, improve the quality of fruits, curb mistrust between farmers and AGAK and strengthen farmer groups.</td>
</tr>
</tbody>
</table>
Benefits of collective marketing

- Collective marketing is likely to have positive effects on producer prices
- Certification and traceability system may reduce free rider problem and improve producer prices

<table>
<thead>
<tr>
<th></th>
<th>Grp. Mkting</th>
<th>Ind. Mkting</th>
<th>ttest</th>
<th>Cert. grp.</th>
<th>Non. Cert. grp</th>
<th>ttest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuerte</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average price</td>
<td>2.09</td>
<td>1.245.038***</td>
<td>2.21</td>
<td>1.43039***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exporter price</td>
<td>3.16</td>
<td>1.33881***</td>
<td>3.23</td>
<td>2.75 NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average GM</td>
<td>1.02</td>
<td>0.63 NS</td>
<td>0.72</td>
<td>0.8 NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exporter GM</td>
<td>2.04</td>
<td>1.08 NS</td>
<td>2.33</td>
<td>1.52 NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hass</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average price</td>
<td>3.48</td>
<td>2.365.266***</td>
<td>3.48</td>
<td>2.732.277**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exporter price</td>
<td>3.99</td>
<td>2.582.69**</td>
<td>3.9</td>
<td>3.87 NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average GM</td>
<td>1.35</td>
<td>1.97 NS</td>
<td>2.07</td>
<td>1.1 NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exporter GM</td>
<td>1.53</td>
<td>2.2 NS</td>
<td>2.23</td>
<td>1.77 NS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GM- Gross margin in KES per fruit
Grp. Mkting- group marketing, Ind. Mkting- individual marketing; Cert. grp.- certified group
Benefits of collective marketing

Despite anecdotal evidence showing that collective action may be beneficial to the producers, the tendency to practice side-selling is prevalent among women in female headed households.

- Women are vulnerable because they lack:
  - labour and skills for picking and grading;
  - resources required to produce fruits that meet stringent quality standards;
  - alternative income generating activities to cushion them against consumption shocks, hence they need instant payments.

Fig. 9. Choice of buyer by group membership
Opportunities for Marani

• Favourable climate for avocado production
• Unmet demand for fresh avocado and processed products in the international and domestic markets
• Proximity to Kisumu airport and border towns
• Availability of regulatory bodies e.g. HCDA, FPEAK
• Existing non-agricultural and few agricultural groups in which avocado activities can be embedded
• Availability of institutions that provide clean planting material
• Availability of low back grafted avocado suitable for land scarce areas
• There are initiatives to promote the production of export avocado variety (Hass)
Strategies for Marani

**SO strategies**
Focus on improving adoption of high value avocado varieties to tap into existing opportunities in the international, regional and domestic market.

**OW strategies**
Strengthen existing groups and use them as a platform to create awareness on availability of high value avocado varieties that are suitable for land scarce areas. Training on certification standards can be effected through these groups.
Facilitating women’s participation in the export avocado value chain requires multipronged strategies:

- Women in female headed households- alleviation of constraints that limit their participation in the export end of the chain- interlinked services like credit, spraying picking, grading and expedited payments by the export company
- Women in male-headed households- involve them in training on certification standards and good agricultural practices to improve quantity and quality of fruits for export

In the domestic chain where the crop is of low commercial value, women predominate.

- However, changing from local to export variety seems inevitable.
- This change might alter women’s position in the value chain.
- Institutions promoting exotic avocado should take advantage of women’s experience in managing avocado and embed the activities in the existing groups
- Joint decision making that is already being practiced in sharing of proceeds can be exploited
Collective marketing may have positive benefits on producer prices, but unclear terms of the contract negate the benefits of group marketing:

- Traceability system may reduce free rider problem and improve cohesiveness of the groups

Contractual arrangements are likely to help structure markets and provide producers with market options that offer better prices, but the arrangements need to be accompanied by clear terms and conditions:

- Issues regarding grading and pricing mechanisms as well as mechanisms governing the terms of the contract need to be clearly defined in the contract and understood by the buyer and the seller.
THANK YOU