Big Bets for Kenyan Food Security in a Time of COVID

Focus on Irrigation, Financial Services & Farmer Engagement

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BIG BETS FOR KENYAN FOOD SECURITY

Agenda

• Welcome and Introductions
• Introductory Presentation
• Panel Discussion
• Audience Virtual Q&A
• What’s Next & Wrap-Up
Introducing our Speaker & Panelists

INTRODUCTORY SPEAKER

• Michael Tweed, Dalberg Advisors

PANEL

• Dr. Hamadi Iddi Boga, Principal Secretary of the State Department for Agricultural Research, Ministry of Agriculture, Kenya
• Vinay Vutukuru, Head, Agriculture Portfolio, World Bank, Kenya
• Lauren Hendricks, CEO, Equity Group Foundation International
• Martha Haile, VP of Africa, WeFarm
• Samir Ibrahim, CEO, SunCulture
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Why should we consider a ‘big bet’ on irrigation and a modern solar water pump?

**They increase levels of irrigation**

- Better yields
- Opportunity to plant in off-season
- Greater resilience
- Can grow higher value crops

**They are typically better than current irrigation options**

- More environmentally friendly than diesel pumps
- Lower total lifetime cost of alternatives
- Can be ‘smart’, so controlled and monitored remotely (to check for over-usage of water)
- Control is in the hands of the farmer (he makes the purchase decision)
However, we expect uptake of irrigation and solar water pump technology will be slow, unless policy interventions are made.

1. A 50% smart subsidy to the farmer for purchase of a pump
2. A risk sharing agreement to incentivise financial institutions to partner
3. An awareness and education campaign through government and non-government channels
4. Support to increase the level of water access
Several policy interventions have been modelled to project the uptake of irrigation with SWPs over time.

Number of households with a solar water pumps in Kenya under each policy intervention (no of HHs)

- **Policy intervention 1** - Subsidies
- **Policy intervention 2** - Credit financing
- **Policy intervention 3** - Market awareness
- **Policy intervention 4** - Financing access to water

The total addressable market will increase over time as income levels increase.

Those that address the affordability constraint are likely to have the greatest impact.

Source: Dalberg analysis
Combined policy interventions will have an even greater impact

Cumulative uptake of SWPs under combined policy interventions (no. of HHs)

Under the combined policy interventions, around **1.1 Million additional hectares** will be irrigated by 2030 compared to 165k currently irrigated (3% of Kenya’s arable land)

Source: Dalberg analysis
2030 projected irrigation with SWP uptake by county, with interventions

Aggregated impact in terms of yield per county under combined policy interventions 1,2,3,4 (MT)

Source: Dalberg analysis
The uptake of irrigation and SWPs will contribute to the Big 4 Agenda’s priorities in terms of food security

Projected annual food production due to combined policy interventions (Million MT)

<table>
<thead>
<tr>
<th>Current food production</th>
<th>Projected food production in 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+78%</td>
</tr>
<tr>
<td></td>
<td>42</td>
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<td></td>
<td></td>
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<tr>
<td>Food production (Million MT)</td>
<td></td>
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</table>

Food production will increase 78%, supporting the aim of a 50% of reduction in the number of food insecure Kenyans

Increase of the agricultural part of GDP under combined policy interventions (%)

<table>
<thead>
<tr>
<th>2020</th>
<th>2030</th>
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<tbody>
<tr>
<td>26%</td>
<td>35%</td>
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</table>

Agriculture as % of GDP

- 2020: 74%
- 2030: 65%

This will represent a 35% increase in the proportion of agriculture in Kenya GDP in 10 years.

Source: Dalberg analysis, FAO Stat, World Bank development indicators.
The uptake of SWPs will also contribute to the Big 4 Agenda and to the National Water Master Plan 2030

Increase in small-holder farmers income (USD)

- Average income per SHF: 2,527
- Irrigation yield increase: 673
- Increase of income due to the switch to higher value crop: 3,800
- Total income per SHF after purchase of SWP: 7,000

Increase of land irrigated under combined policy interventions (Thousands of Ha)

<table>
<thead>
<tr>
<th></th>
<th>Projected land irrigated</th>
<th>Projected land irrigated due to SWPs</th>
<th>Current land irrigated</th>
<th>Current land irrigated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased</td>
<td>7,000</td>
<td>1,265</td>
<td>1,100</td>
<td>165</td>
</tr>
<tr>
<td>Land irrigated</td>
<td>2,527</td>
<td>968</td>
<td>803</td>
<td>165</td>
</tr>
<tr>
<td>Current</td>
<td></td>
<td>1,100</td>
<td></td>
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</tr>
</tbody>
</table>

The income increase will exceed the objective of 34% increase of SHF income

The land irrigated will exceed the projected land irrigated in the National Water Master Plan

Source: Dalberg analysis, FAO (2015), The economic lives of small-holder farmers. Assumption of 0.7 Ha average land in a farm under irrigation.
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Using Zoom chat function
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What’s Next & Wrap-Up

Find the paper through:
1. Mercy Corps AgriFin website (mercycorpsagrifin.org or here).
2. 2-pager summary of the paper is here.

Reach out to Mercy Corps AgriFin if you would like to get involved in our COVID-19 and Desert Locust response efforts in Kenya, Ethiopia, Tanzania and Nigeria.