

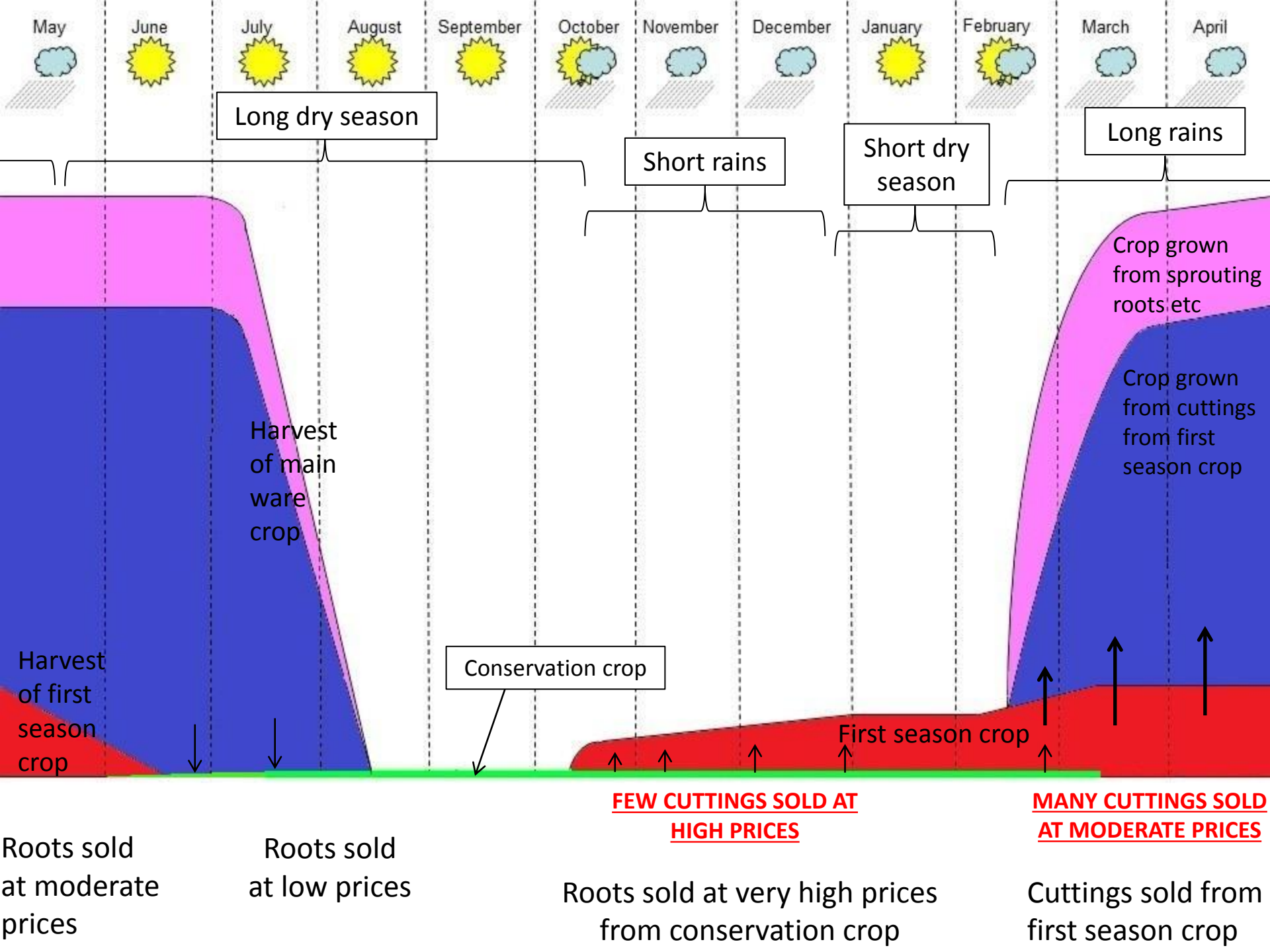
Meeting planting material requirements of smallholders through commercializing the informal seed system

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THE LONG DRY SEASON

During the long dry season, there is one option for keeping planting material:

- Multipliers who own land in a lowland area and/or where it is possible to water it conserve a crop





That most farmers [maybe 99.9%] don't have access to areas that are swampy or can be watered means that they lack planting materials at the start of the rains.

This creates DEMAND.

This demand creates **sales opportunities**





The core idea was to use this informal system to sell planting material of new varieties to smallholders . This would provide sustainability, rather than a project-based seed system in which projects buy planting material of the new varieties from project multipliers and give it to smallholder farmers.

The idea evolved into one in which the informal seed system would also be improved by:

- Links to research stations so that further new varieties could be accessed.
- Increased productivity of the informal system by training multipliers in the use of fertilizer.
- Improved profitability of the informal system by studying the actors in the value chain and recommending improvements.
- Improved health of planting material by providing training in phytosanitation.

The new Gates-funded project:

Commercializing clean sweetpotato
seed production in areas with a long
dry season

Partners

- The Natural Resources Institute, UK
- Lake Zone Agricultural Research & Development Institute Ukiriguru, Tanzania
- Eco Agri Consultancy Services
- Tanzania Sokoine University of Agriculture, Tanzania
- University of Gulu, Uganda
- Ngetta Zonal Agricultural Research & Development Institute, Uganda



So far:

- Multipliers identified in sites in both Uganda (Gulu & Arua) and in Tanzania (Lake Zone & Gairo).
- Multipliers are very aggregated around water sources – makes it easy to supply & train them.
- The planting material selling 'chain' has been studied in Uganda.
- 8 variety trials set up with multipliers in Uganda.
- 9 fertilizer trials set up with multipliers in Tanzania.

Sweetpotato Vine Season

a). Production

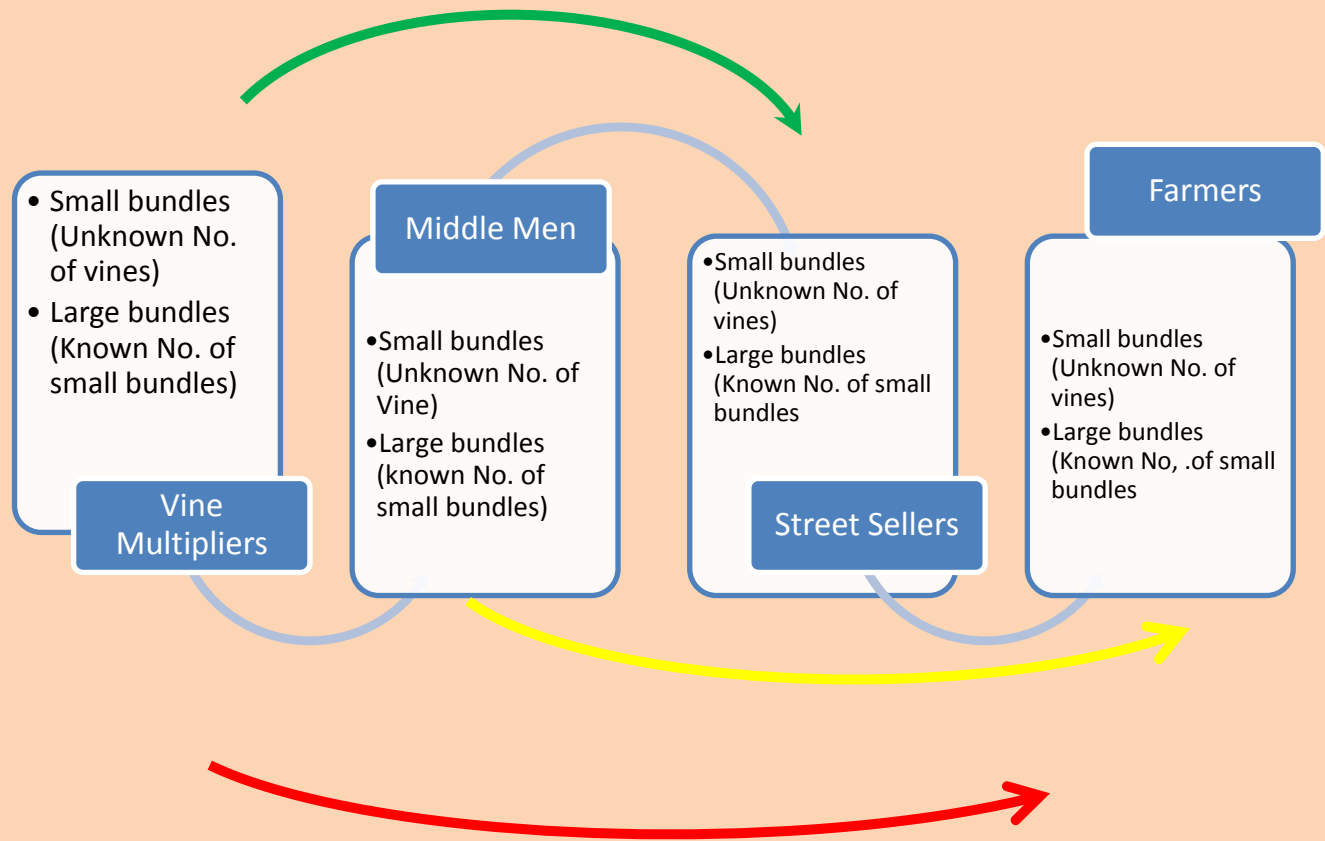
From

- November-March for dry season
- March-August during the wet season

b).Marketing

From

- May-September



Treatment 1: New varieties

NASPOT 1, NASPOT 8, NASPOT 10,
NASPOT 11, NEW DIMBUKA and any
others from Kibaha, Namulonge etc

<u>Treatment</u> <u>1</u>	<u>Context</u>	<u>Long term</u> <u>change</u>	<u>Ways of</u> <u>achieving it</u>	<u>Assumptions</u>
Distribution of high yielding varieties to informal vine multipliers	Multipliers are largely excluded from the formal system	Widespread sale of new varieties by multipliers to other farmers	Plant demonstration plots in multipliers fields	New varieties yield more than landraces and have no other major disadvantages
	Multipliers lack access to modern varieties	Customers get higher yields	Provide multipliers with small packs of vines of the new varieties	Multipliers will multiply higher yielding varieties because they sell the same varieties as they grow for their own use
	Multipliers make money by selling vines but also roots	Multipliers get better prices for planting material		New varieties yield as much planting material as original landraces
		Multipliers linked to research	Take multipliers on field visits to research stations	Multipliers may be willing to accept slight reductions in the amount of planting material that improved varieties may produce

Treatment 2: N Fertilizer

N fertilizer has been shown to increase
the production of vines in Africa
(Namanda) and in USA [old literature]

<u>Treatment</u> <u>2A</u>	<u>Context</u>	<u>Long term</u> <u>change</u>	<u>Ways of</u> <u>achieving it</u>	<u>Assumptions</u>
Fertilizer/ manure applied to dry season crop	<p>Lack of planting material for farmers</p> <p>Dry season/ lack of water</p> <p>Multipliers sell roots as well as vines</p> <p>Very high vine prices</p> <p>Concerns about use of wetlands</p>	<p>More planting material for smallholders</p> <p>Lower vine prices</p>	<p>Demon- stration trials during the long dry season</p> <p>Small packs of fertilizer given to multipliers at start of the dry season</p>	<p>Fertilizer achieves a <u>worthwhile</u> increase in the yield of vines</p> <p>Price of vines will go down if supply increases</p> <p>Fertilizer will not adversely affect root harvest</p> <p>Fertilizer does not adversely affect yield of future crops</p> <p>Little fertilizer will leach into the water system</p>

<u>Treatment</u> <u>2B</u>	<u>Context</u>	<u>Long term</u> <u>change</u>	<u>Ways of</u> <u>achieving it</u>	<u>Assumptions</u>
Fertilizer applied to short rains crop	<p>Lack of planting material for farmers</p> <p>Sales of roots as well as vines</p> <p>High prices [but lower than after dry season]</p>	<p>More planting material for smallholders</p> <p>Lower vine prices</p>	<p>Demonstration trials during the short rains</p> <p>Small packs of fertilizer given to multipliers at start of the short rains</p>	<p>Price of vines will go down if supply increases</p> <p>Fertilizer will not adversely affect root harvest</p> <p>Fertilizer achieves a worthwhile increase in the yield of vines</p> <p>Fertilizer does not adversely affect yield of future crops</p>

Treatment 3: Clean planting material

Selecting clean planting material, roguing, use of resistant varieties & general phytosanitation have all been shown to reduce the spread of SPVD. Use of various forms of certification and virus-free planting material are also being introduced.

<u>Treatment</u> <u>3</u>	<u>Context</u>	<u>Long term</u> <u>change</u>	<u>Ways of</u> <u>achieving it</u>	<u>Assumptions</u>
Selecting healthy planting material	Multipliers do not understand virus diseases	Healthier planting material for smallholders	Training multipliers in the recognition of diseases, especially viral diseases	Customers value disease-free vines
Roguing out virus diseased plants	Some multipliers do not recognize virus symptoms	Greater and more consistent yields	Training multipliers in how diseases spread	Multipliers value providing customers with healthy planting material
Using resistant varieties				Farmers get better yields from disease-free planting material
Generally improved phytosanitation				

Treatment 4: A more effective marketing system

Marketing vines includes:

- Production by multipliers
- Transporting and trading
- Selling

Sometimes multipliers do everything but it is also common for the vines to be sold to traders who may themselves sell the vines or may sell them on to sellers

<u>Treatment</u>	<u>Context</u>	<u>Long term change</u>	<u>Ways of achieving it</u>	<u>Assumptions</u>
A more efficient & more commercial marketing system	<p>An informal seed system</p> <p>No or few big actors</p> <p>Both simple and complex trading arrangements (multipliers, sellers and/or traders)</p> <p>Trading over both short and long (>100km) distances</p> <p>There may be 'hidden' obstacles to businesses becoming bigger</p>	<p>A way of trading vines which is both more commercial and also more responsive to consumer needs</p>	<p>Studying the seed system 'value chain' in order to understand both it and the actors in it better</p> <p>Training</p> <p>?????????????? Better multiplier management</p> <p>Improved, perhaps bigger middlemen</p> <p>Branding</p> <p>Improved labelling</p> <p>Quality guarantees ????????????????</p>	<p>The current seed system is not the best way of doing business</p> <p>The actors can be organized in a more efficient structure</p> <p>Selling can be more customer orientated</p>