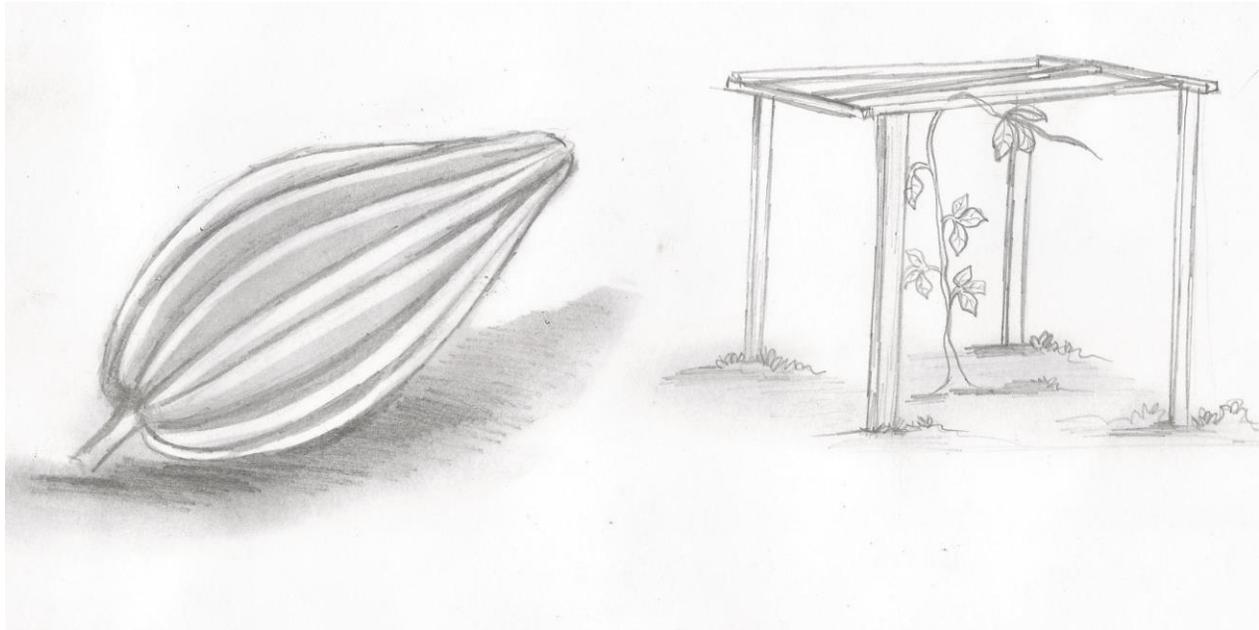


— **SMALLHOLDERS STEP-BY-STEP SERIES** —



DRY SEASON VEGETABLE PRODUCTION AS AN ENTERPRISE

TRAINING PAMPHLET

DEVELOPED BY THE

 **SMALLHOLDERS FOUNDATION**

".....for small farmers to overcome poverty"

**VERSION 1
REGULARLY UPDATED
MAY, 2013**

FORWARD

Nigeria has great potential to become an agricultural powerhouse. 70% of our great landmass is suitable for agriculture, yet only 30% of the land is currently used for cultivation. Nigeria's diverse climate, from the tropical areas in the South to arid zones in the North, allow the cultivation of virtually all agricultural products grown in the tropical and semitropical regions of the world. There is thus abundant opportunity for growth and expansion.

The agricultural sector contributes 70% of labor force, 80% of consumed food, but only 40% of gross domestic product (GDP). 90% of agricultural production is produced by smallholders with the average farm size in the South reaching about 0.5ha and in the North 4ha. Subsistence smallholder farming thus continues to dominate the sector.

Dry season vegetable production is one of the numerous approaches which will successfully transform Nigeria's subsistence vegetable farming into a high value vegetable production.

This training pamphlet which is part of our "easy to read and understand" Smallholders Step-by-Step Series is to:

- Equip farmers with "quick-win" skills to establish a good vegetable farm,
- Equip farmers with "quick-win" financial knowledge to run a profitable vegetable farm,
- Encourage non-farmers to establish viable vegetable farms easily.

I will like to acknowledge the immense contribution of Mr. Chukwudi Precious, Programs Officer of The Smallholders Foundation. Chukwudi's focus is re-engaging smallholder farmers to gradually move up the ladder from subsistence agriculture to a more commercial agriculture.

Nnaemeka C. Ikegwuonu,
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Vegetables are rich and efficient source of essential vitamins A and C. It serves as a source of healthy delicacy as the leafy is combined with fruit vegetables and other ingredients in the preparation of soups used in eating different kinds of foods. Some common vegetables found in our region are: Pumpkin, Water Leaf, Amaranthus, Okra, Tomatoes, Lettuce and Cabbage etc.

The importance of adding vegetable in our diet are thus:

- ❖ They contain vitamins and minerals needed for the well-being and good development of individual,
- ❖ They help in balancing our diet since the greater proportion of our diet composed of starch/carbohydrate,
- ❖ They are a source of roughage that helps bowl run easily and prevent constipation,
- ❖ They help neutralize the acid secreted in the digestive systems.

Steps in establishing a good vegetable farm

The steps used in preparing a suitable vegetable farm are divided into two stages namely:

- ❖ The pre-planting stage
- ❖ The post-planting stage

The pre-planting stage

Site preparation - Select sites on a good fertile soil that is well drained away from tall canopy trees which could shade the plants. We normally recommend sandy loam soils.

Step 1: Select sandy soils preferable at homestead areas

Land preparation - Clear land and remove the debris. Make beds 1.5m in width with any convenient length. We recommend a land area of 0.5ha or 1.0ha for good economic returns especially for Pumpkin.

Step 2: Make beds of 1.5m wide with any convenient length

The post-planting stage

Planting - Plant 2-3 pumpkin seeds per hole at 1.0m apart and 0.03-0.08m deep. Mark out 0.25m from the edges of the bed before lining.

Step 3: Plant on beds 2-3 seeds/hole at 1m apart

Watering - Always water soil adequately and do not allow the roots to dry out. Use watering cans to water in the morning and evenings especially during the dry season.



Use watering cans to water in the morning and in the evenings

Step 4: Do not allow roots to dry out water regularly

Mulching - This is recommended during the dry season to help conserve the available moisture that can escape through evaporation. It is advisable that you use earth related materials to mulch as it will eventually turn into compost manure.

Step 5: Mulch the beds in dry seasons using earth related materials

Fertilizer application - Apply compost/farm yard manure when planted and 1-2 months after growth starts. Nitrogen is a major mineral nutrient required. 50-60kg/ha is recommended for fertilizer application.

Step 6: Apply compost/farm yard manure when planting and 1-2months after growth starts

Weeding - Always weed the farm 2-3weeks after planting to remove nutrient competitions but is advisable to leaf grasses that are micorrhizea.

Step 7: Weed 2-3 weeks after planting

Pest control - Vegetables are normally attacked by insect pest which are more prevalent during the dry season. Apply insecticides e.g. Deceis at 3-5litres/ha. Please read expiring date and instructions carefully before applying.



Apply insecticides carefully or get an expert to do it for you.

Step 8 - Apply insecticides where necessary

Staking - The vines are normally staked using forked sticks to erect it in a platform. The sticks should be about 1.0m high along the bed. Ropes are used to train the vines to the platform.



Always stake your vegetables using sticks

Step 9 - Stake the vines to prevent them from crawling on the ground

Harvesting and Seed Savings - Young and fresh leaves are harvested, cooked and eaten or sold. The fruits mature 75-100days and are left in the field until vines dry off. Pumpkins seeds can be cooked and eaten also. Mature pods can be reserved in a very cool dry place until the seeds are required during next season. Alternatively remove seeds from pumpkin, dry up and store in cool dry place away from insects.

Step 10 - Harvest young and fresh leaves for food and market. Save seeds for next season

Definitions of some key words

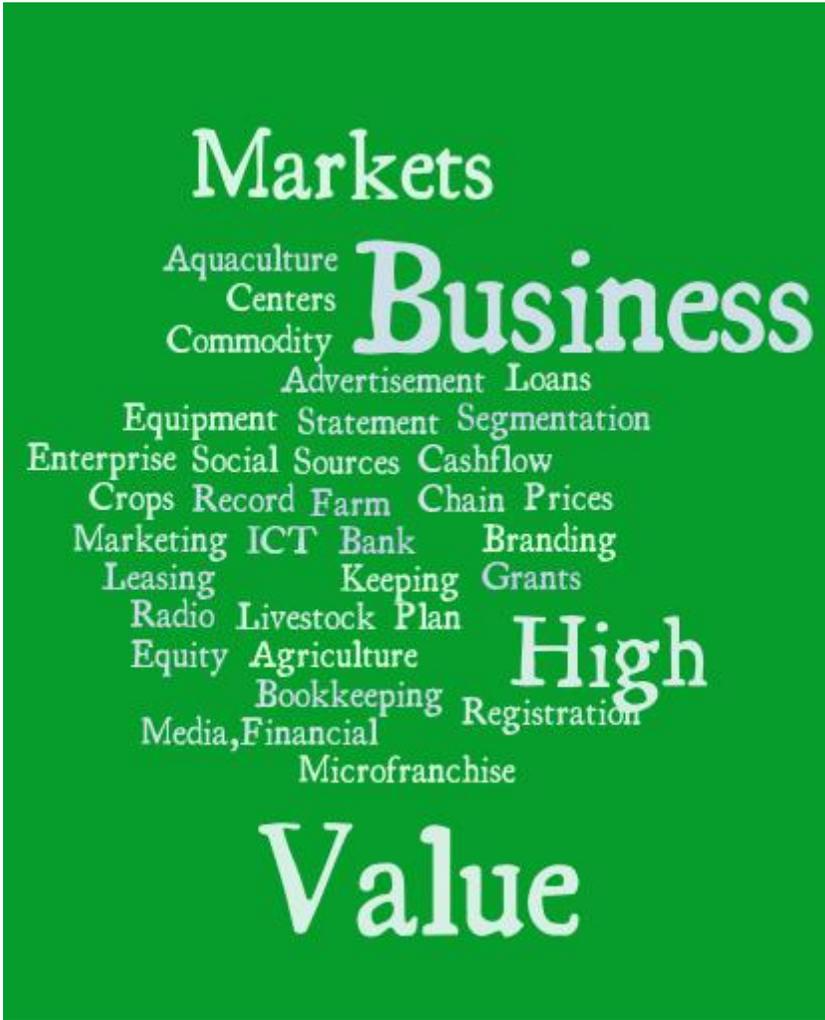
- ❖ Pre-planting - Activities done before planting
- ❖ Post planting - Activities done after planting
- ❖ Mulching - The process of preventing the leaves from direct sunshine
- ❖ Weeding - The act of removing unwanted plants growing up in the farm land

Tentative costs for 1ha dry season vegetable farm

<i>ITEM</i>	<i>QTY</i>	<i>UNIT</i>	<i>UNIT PRICE(₱)</i>	<i>VALUE (₱)</i>
Cost				
Planting material	200	Pods	180	36,000
Fertilizer	2	Bags	3500	7,000
Earth-related materials	-	Mdys	-	0
Agrochemical	3	Liter	5000	15,000
Land preparation	40	md.	1000	40,000
Application of Agrochemical	2	Mdys	1400	2,800
Application of fertilizer	15	Mdys	750	11,250
Watering	8	Mdys	400	3,200
Weeding	18	Mdys	850	15,300
Stakes	-	L/S	-	
Staking	18	Mdys	750	13,500
Harvesting	10	Mdys	400	4,000
Total Cost				148,050
Income:				
Vegetable(leaves)	850	Kg	280	238,000
Pods	300	Pods	180	54,000
Total Income				292,000
Profit				143,950

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3. **NFRA & FAO (2008):** Farm Management Advisory Services – Upstream and Downstream modular Enterprises Advisory Handbook.



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