

Delivery of Project's Output by

Godwin Atser, Alfred Dixon, Friday Ekeleme, Moses Okwusi,
Grace Sokoya and Mary Agada

Annual Review and Work Planning Meeting, IITA-Ibadan, 19-20 March 2018



Presentation Outline

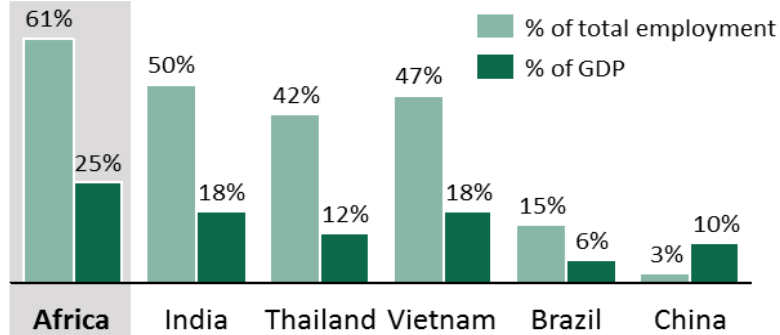
- Context
- Approaches used
- Progress made in 2017
- Going forward/Recommendation

Context

Agriculture remains a major source of income in Africa; however, untapped potential has resulted in persistent poverty and deteriorating food security

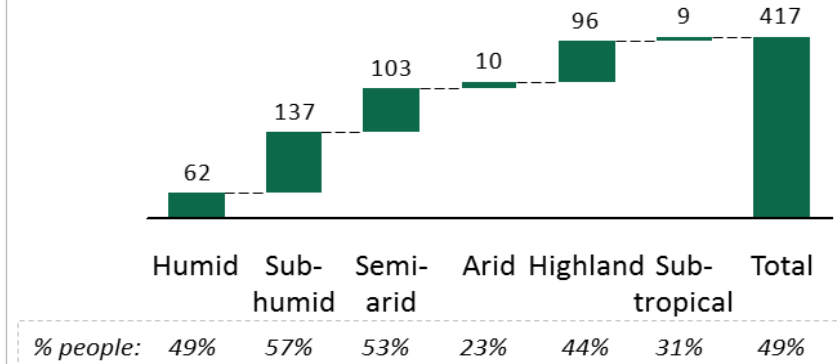
Gap between employment and income...

Agriculture as a share of employment and GDP; % 2014



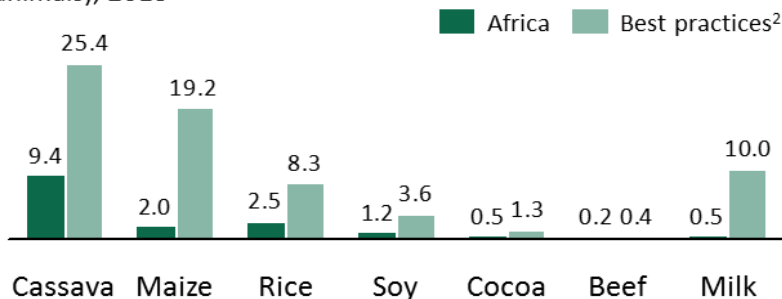
...resulting in widespread poverty.

Millions of Africans living on less than \$1.25/day; 2014



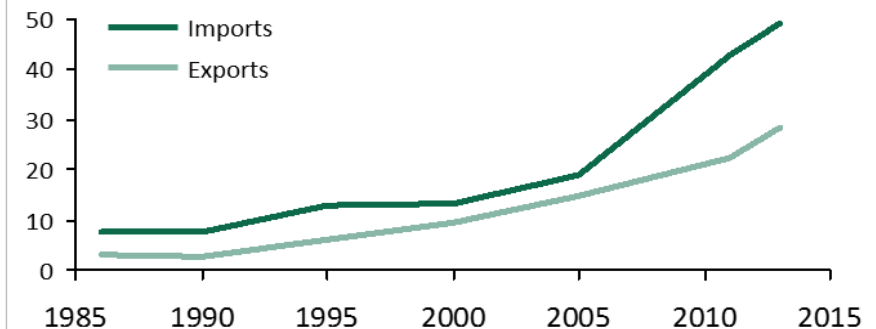
Relatively low productivity...

Average yields across Africa versus best practice²; mT/(hectares or animals), 2013



...and rapidly rising imports.

Imports vs exports³; billion USD



Cassava Weed Management Project

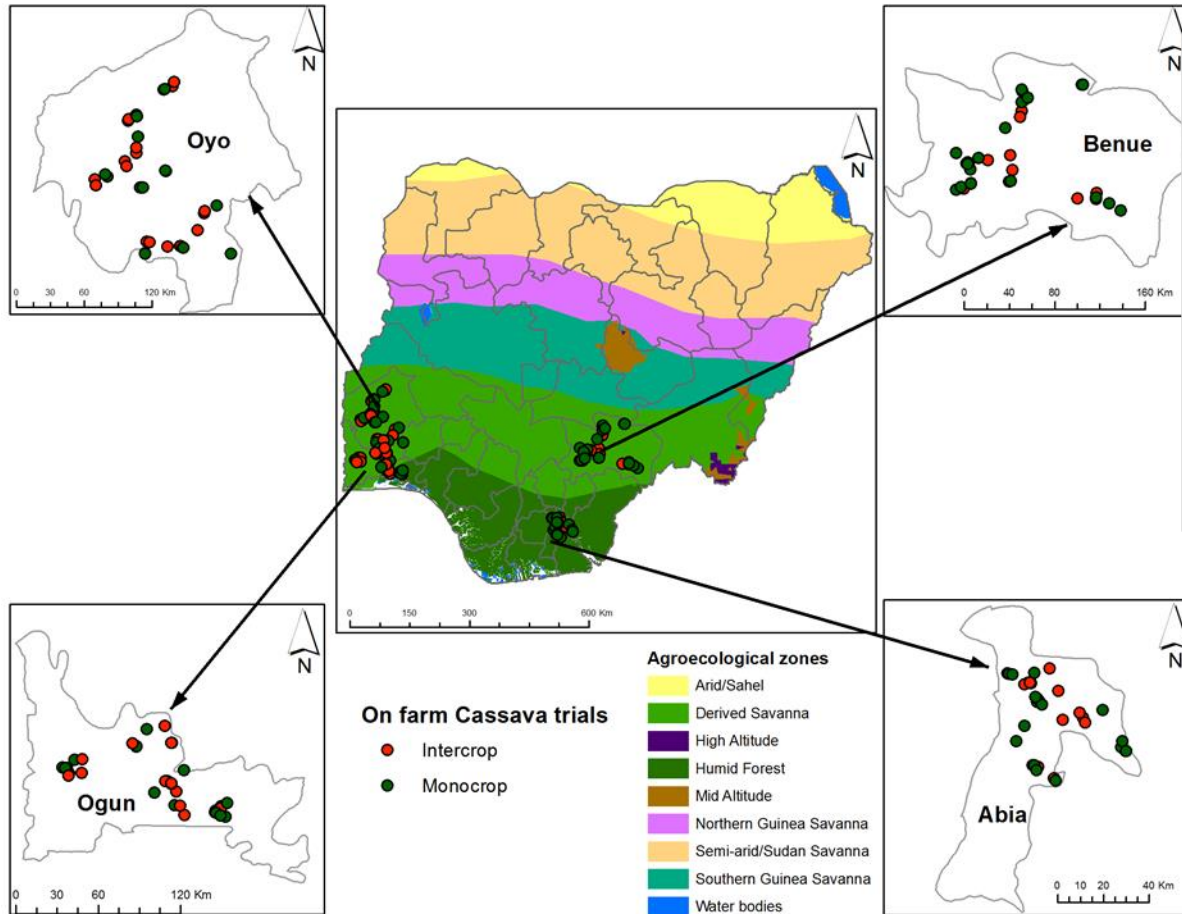


Implementing partners

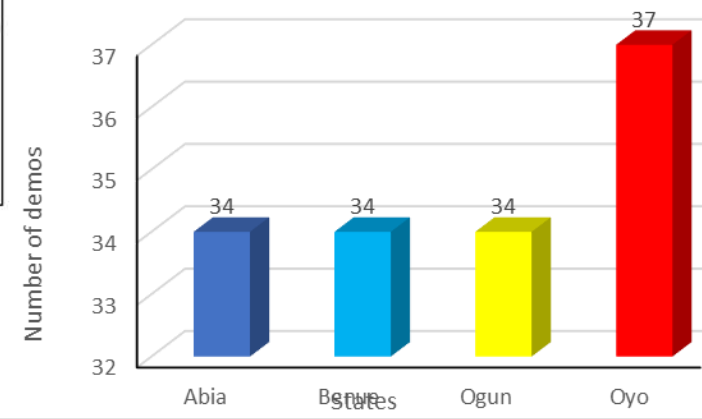
Weed control demo

Farmer practice

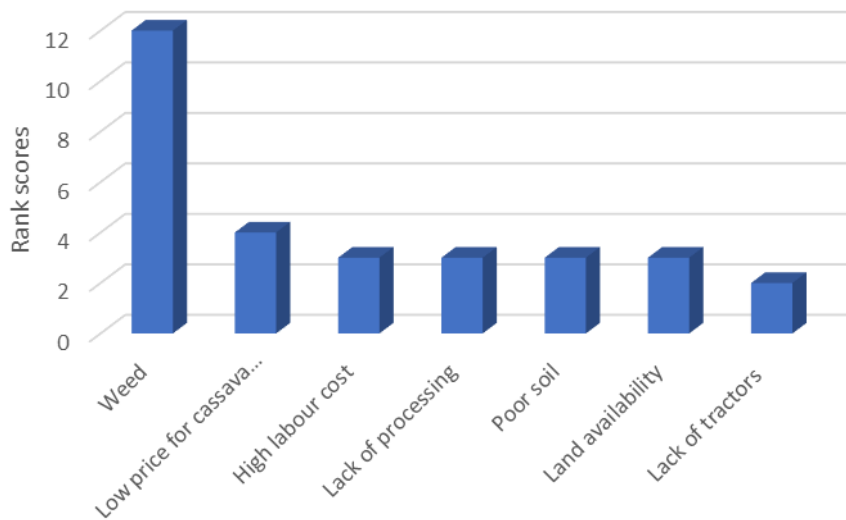
Locations of onfarm demos



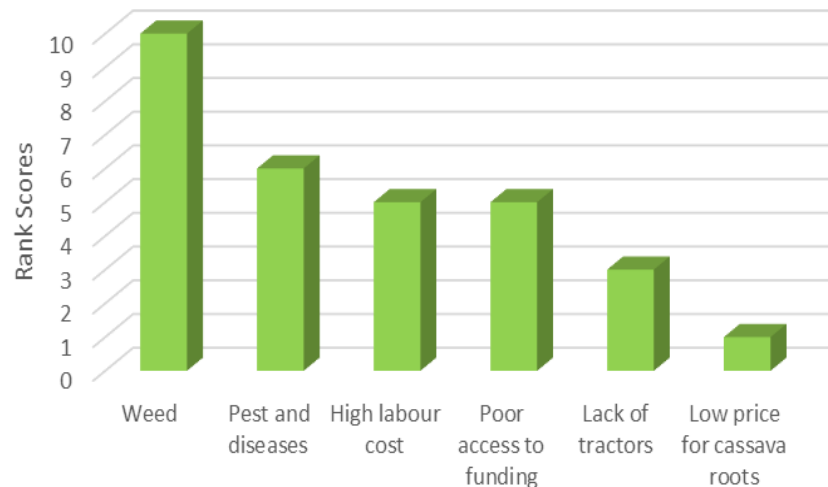
Distribution of 2017 onfarm demos



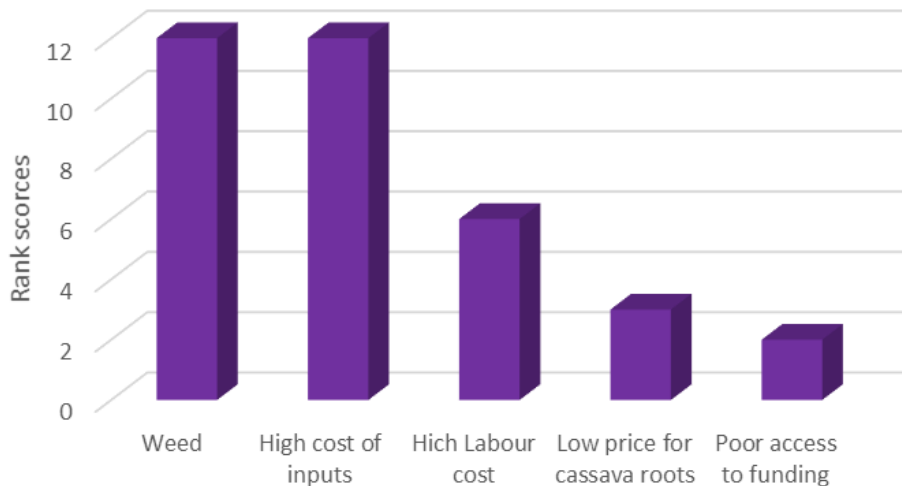
Constraints in Abia



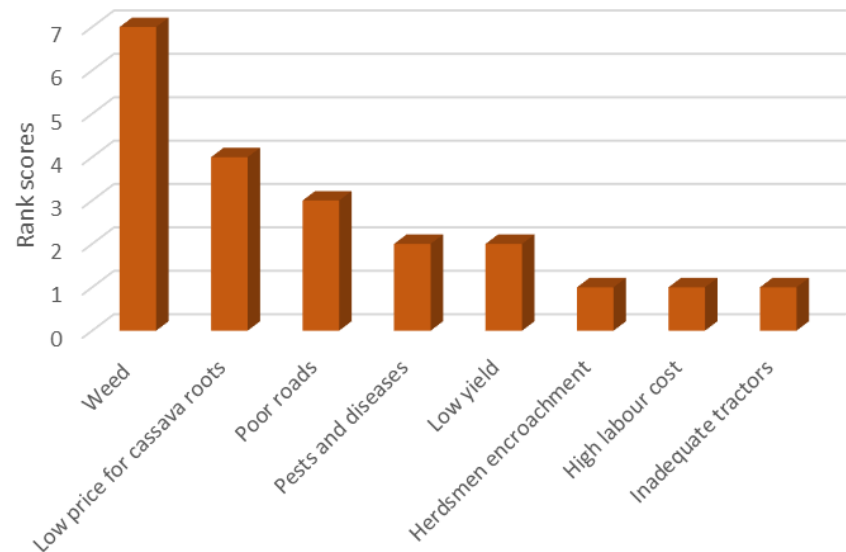
Constraints in Ogun



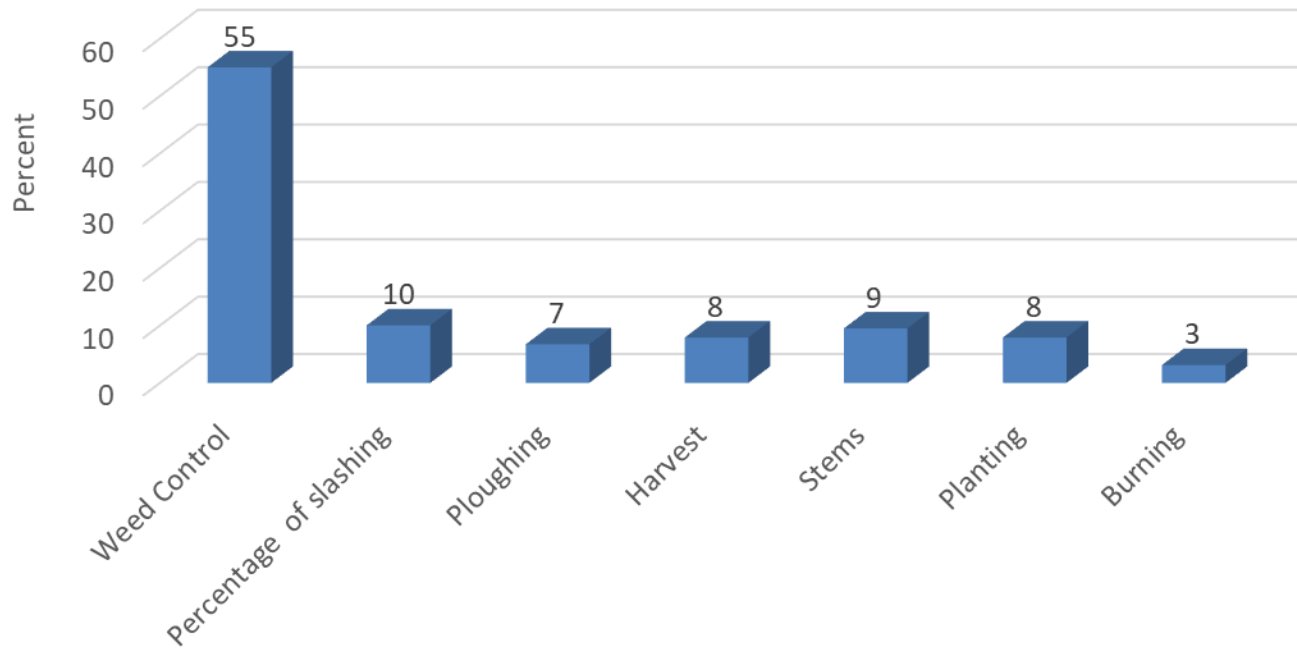
Constraints in Benue



Constraints in Oyo

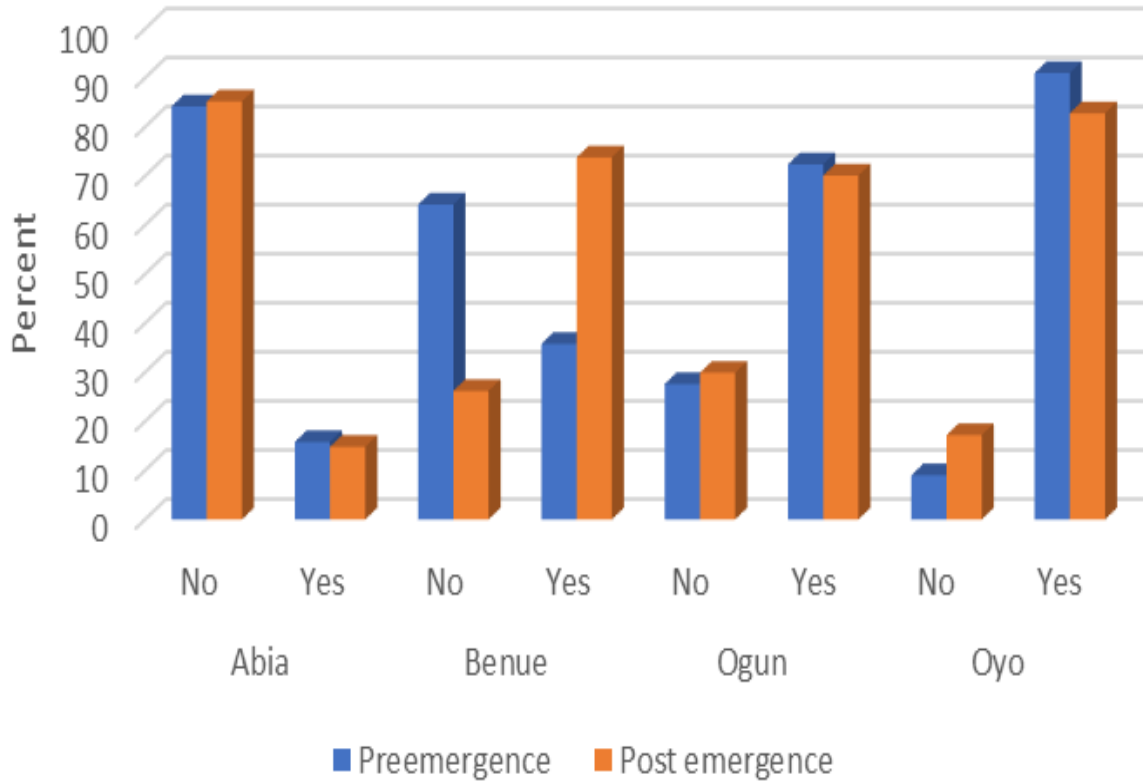


Cost of farm operations as a percentage of labour budget in Oyo state



Common weed control methods

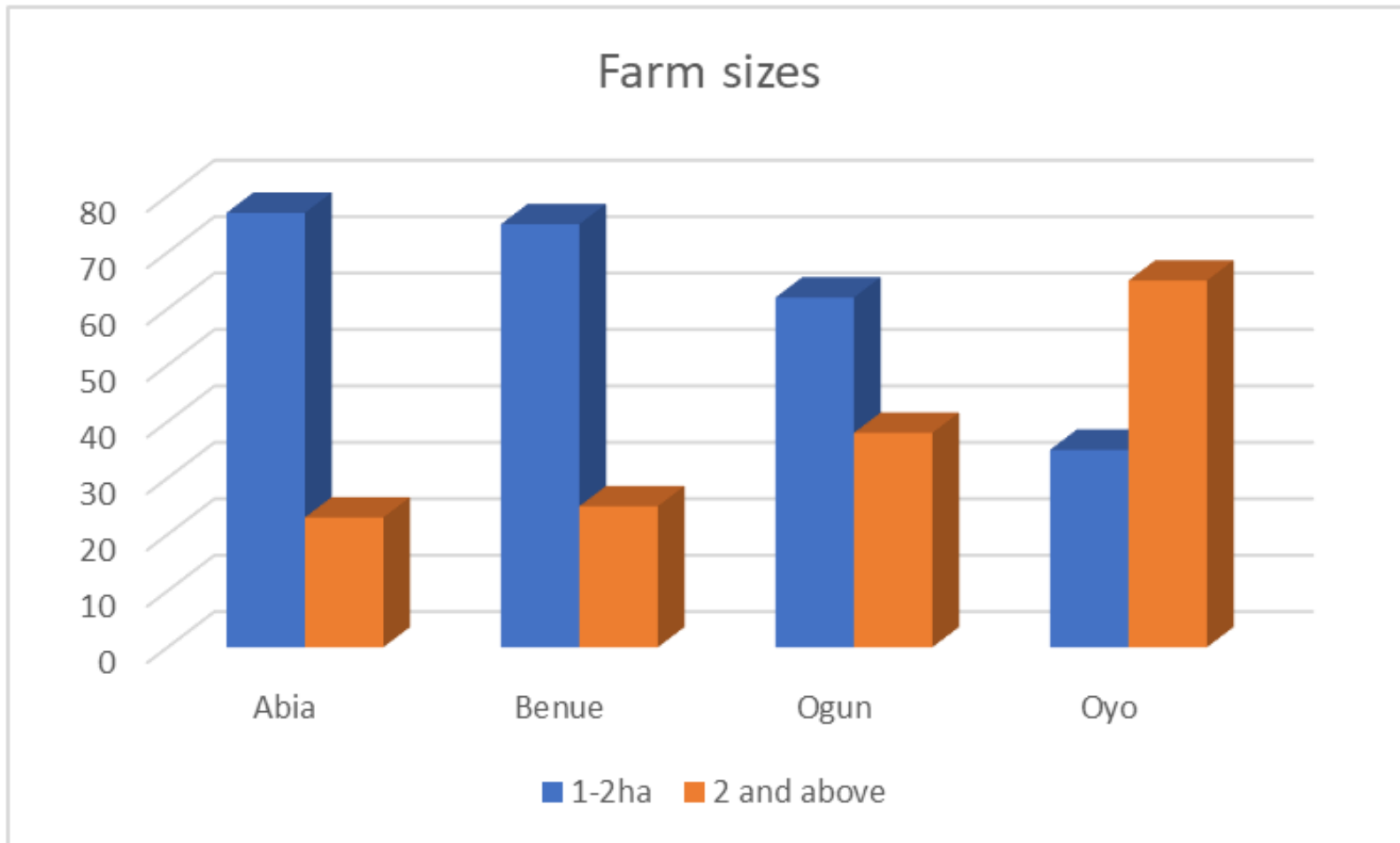
Use of herbicides



Where are herbicides bought and how are they sprayed



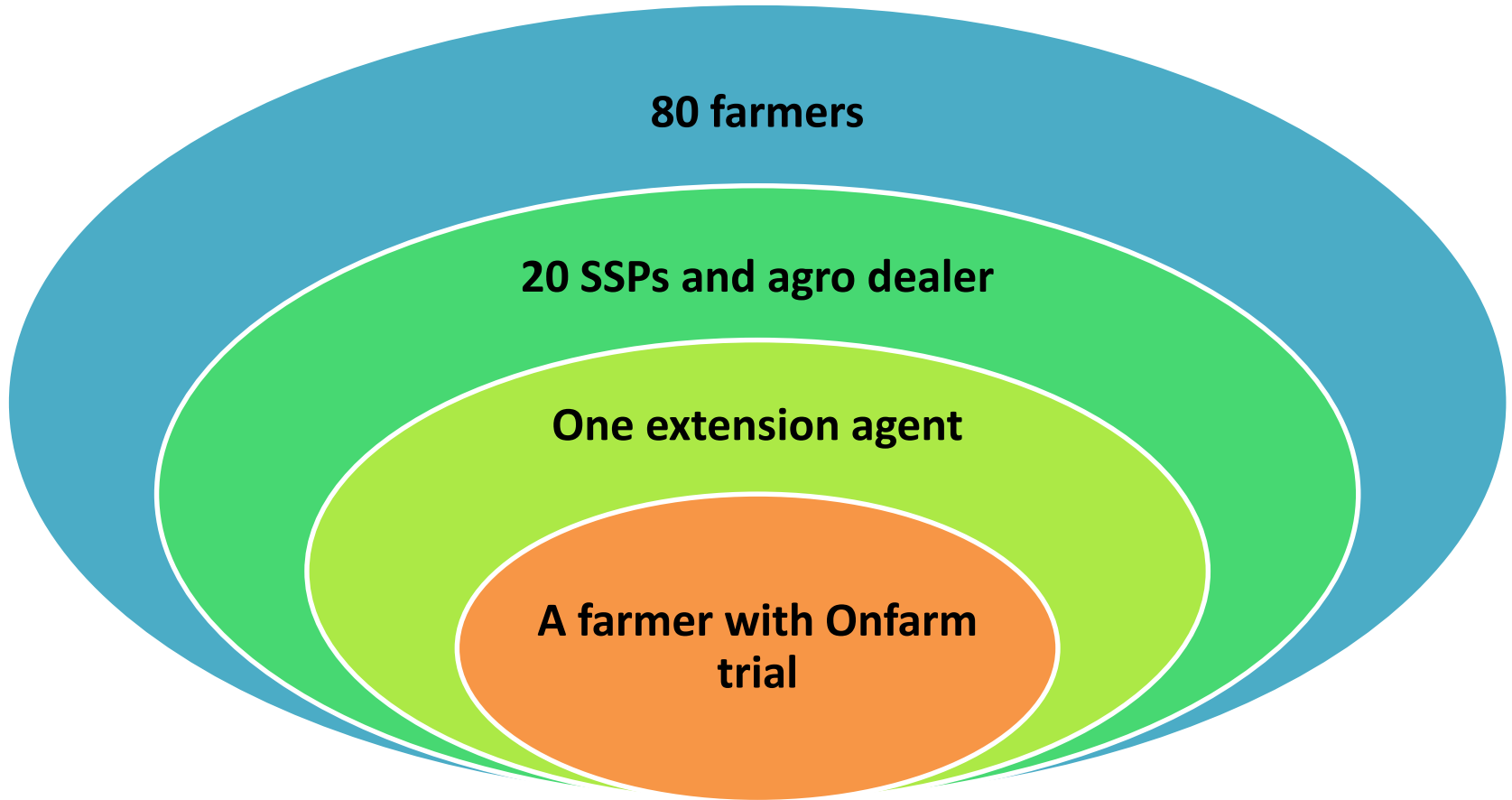
Farm sizes across the agroecological zones



Project Goal:

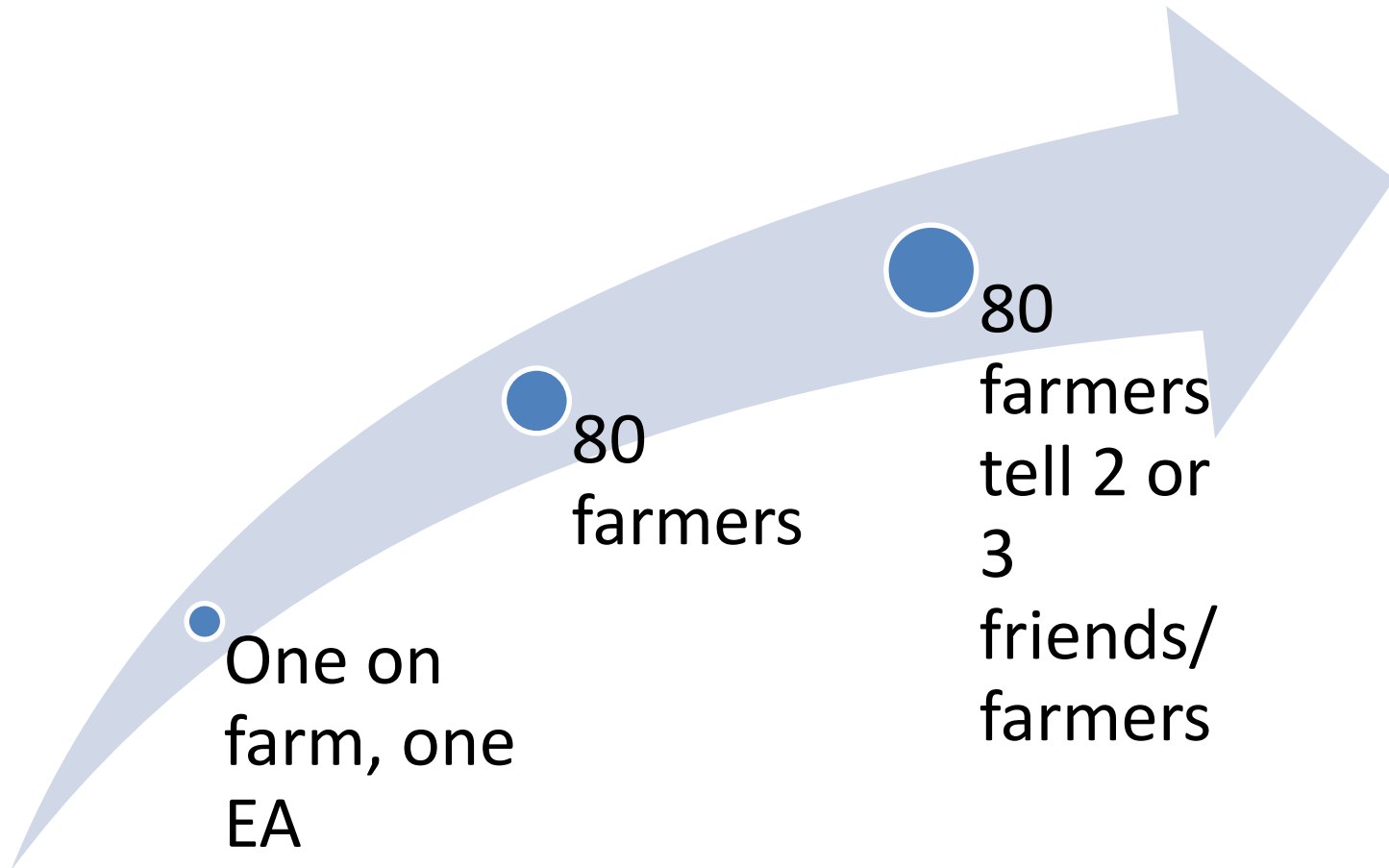
To reach 125,000 farmers
with improved weed control
options

Approach 1: 197 demos established = 8749 farmers



Onfarm approach

Projected reach per site on onfarm demos



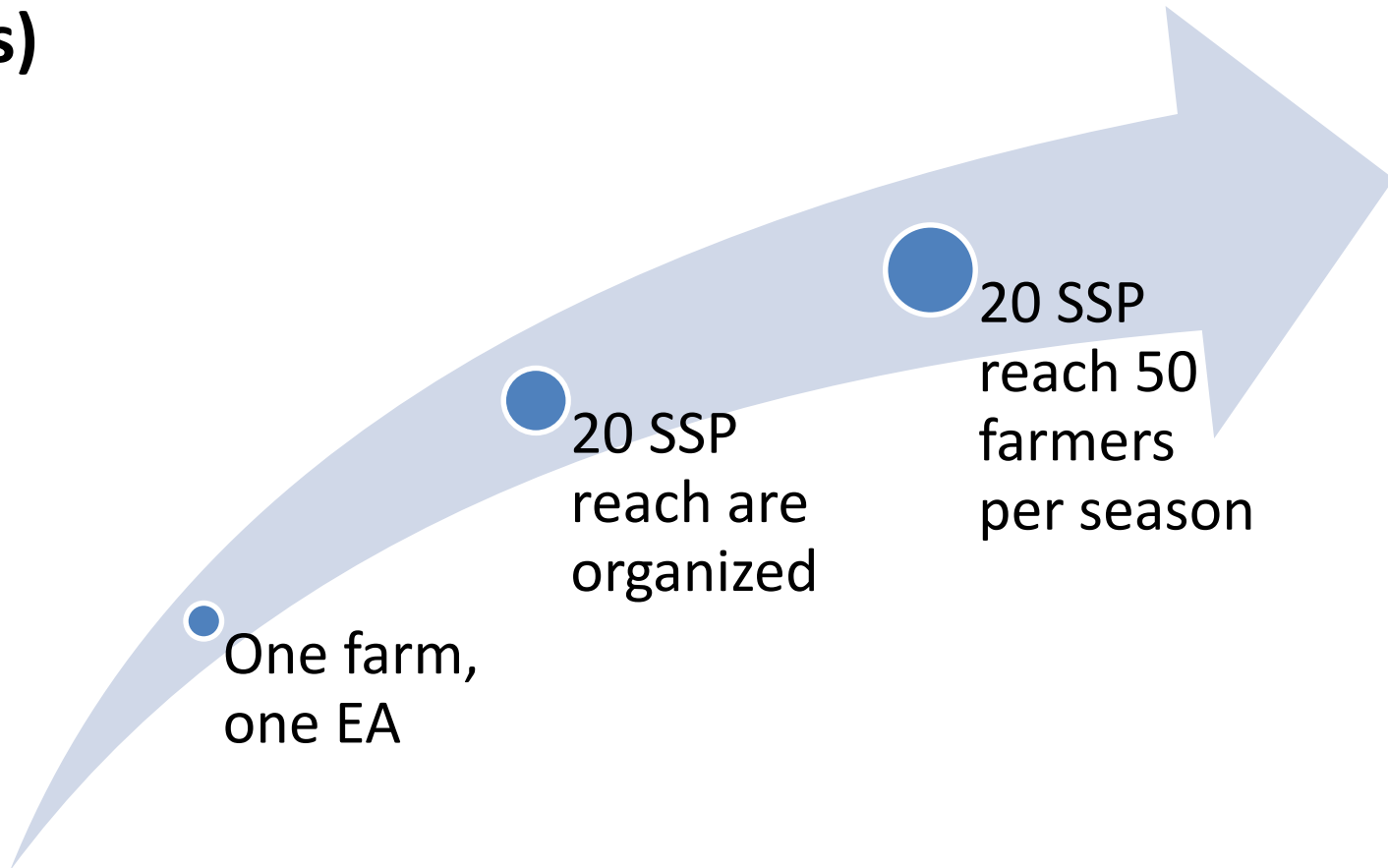
Community entrance and signing of MoU with farmers



Farmer Field Days



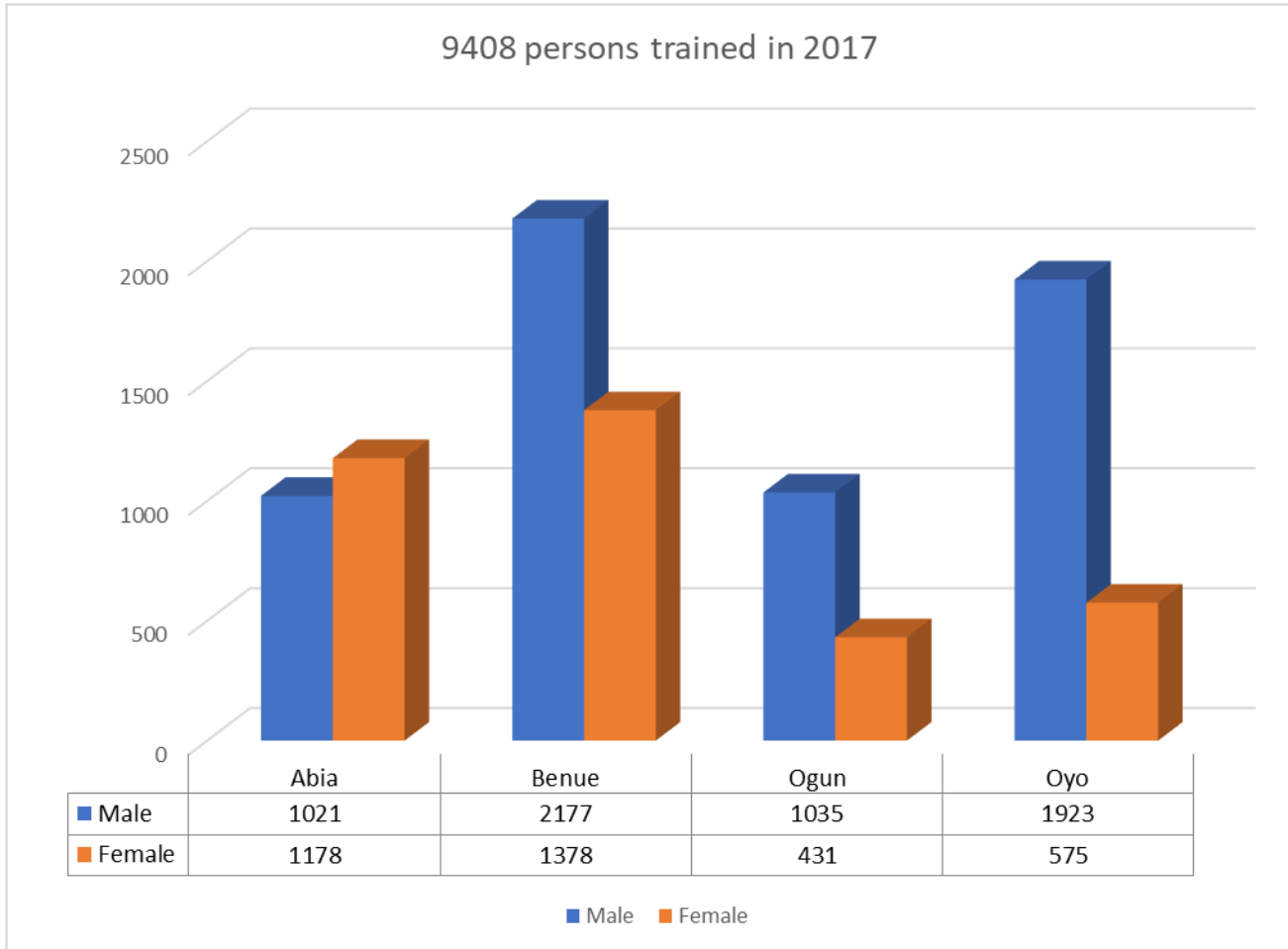
Projected reach per site via Spray Service Providers (SSPs)



Trained 659 SSPs with NAFDAC: Abia had 105 participants, Benue had 101 participants, Ogun had 122 participants, and Oyo had 331



Cassava Weed Management Project



Farmer Field Schools

- General Target= 2560 per zone are trained
- Target per EA= 320 farmers/SSPs
- Communities per EA= $16 \times 8 = 128$ FFS/state
- Number of visits to achieve 320= 16×4 modules= 64 times
- Duration of training= 8 months
- Visits per week= 2 times
- Communication Focal Person visits the training 16 times (At least visit each of the two trainings per EA)
- **Target 10240 persons reach**



Training module

Topics:

1. Land Preparation and Best Agronomic Practices.
2. Herbicides Application and Calibration
3. Safe Use of Herbicides
4. Record Keeping, Entrepreneurship, Participation and Gender

Pre and post test

M& E Tools developed



Materials produced for outreach

6 Steps to Cassava Weed Management

- Select a site that is fertile with the presence of biological activity such as worm casts.
- Slash the vegetative cover and allow for regrowth after a week interval. If using a tractor, carry out the first plough and allow regrowth after 14 days.
- Apply glyphosate to deal with perennials such as *Imperata cylindrica* (Spear grass), *Panicum maximum* (guinea grass), *Cyperus rotundus* (nutgrass) etc. Wait for 14 days to allow total kill by glyphosate at label rate.
- After first plough, harrow or make ridges or mounds.
- Plant cassava at 1m x 0.8m and apply pre-emergence such as Lagon at 1.25L/Ha or Primextra Gold at 4L/Ha.
- Visit your farm regularly. Replace cuttings that fail to sprout after 15-21 days. Once weeds cover 30 percent of your field and they are at 4-6 leaf stage, apply a post-emergence. In a grass dominated field, apply Fusilade forte at 3L/Ha. Glyphosate may be applied directly to weeds under cassava canopy with a shield when cassava is 8 weeks old and above.

Caution: The use of glyphosate as a post-emergence requires extreme care. Ensure that it is not sprayed on top of the cassava canopy.

Two Thousand and Eighteen Calendar

Q1	JANUARY	Q2	FEBRUARY	Q3	MARCH	Q4	APRIL	Q1	MAY	Q2	JUNE
1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

SAFE USE OF HERBICIDES

HERBICIDES ASSIST IN WEED CONTROL BUT THEY NEED TO BE HANDLED WITH CARE SO THEY DO NOT HARM THE ENVIRONMENT, PLANTS, AND APPLICATORS.

Here are some safety tips.

- Do not eat, drink, or smoke during spraying of herbicides.
- Wear appropriate personal protective equipment (mask, gloves, overall, and rain boots).
- People without personal protective equipment should stay away from spraying.
- Spray in the direction of the wind. You can toss ash to know the direction of wind.
- Spray only when the wind is not strong and there is no indication of rain.
- Herbicides should be applied by only trained personnel. Children should not play with or touch herbicides. They must stay away.
- Maintain the sprayer and the nozzles to ensure optimum performance of the sprayer.
- Before application, read the label on herbicides to know the correct dosage.
- Use only herbicides approved by the National Agency for Food and Drug Administration and Control (NAFDAC).
- Destroy and bury empty containers of herbicides in the farms far away from water points.
- After spraying, do not wash the sprayer in nearby stream or places of water supply. Wash the sprayer in the farm.
- Do not use empty containers to convey water, salt, or vegetable. Discard them.
- After spraying, take your bath, change, and wash your clothes before eating.
- In case you don't feel comfortable after spraying, visit the nearest hospital with the container of the herbicides used.

THE ABC OF WEED MANAGEMENT IN CASSAVA PRODUCTION IN NIGERIA

A training manual

800

10800

Calendar: 10000
Village Board: 80
Flyers: 3600



Implementing partners

Village Board (80)



3000



Researchers employ SAH technology to speed up multiplication of cassava planting materials

Dr Kidiako said this explains in part why it takes long for new improved varieties to be disseminated at scale to farmers. With this technology, these constraints will be addressed and it will be easier for farmers to have easy access to new varieties once we develop them, he explained.

But besides addressing the constraints of slow and low multiplication rates in cassava seed system, the SAH technology also produces clean planting materials that are disease free. The cost of production of the plants is lower, says Sam when compared to other culture, Dr Kidiako said.

The SAH technology in cassava is a branch of the project building an Economically Sustainable Integrated Seed System for Cassava (ESISC).

Research Director, Project Director of ESISC explained that since the technology, which is adopted from Argentina, is adapted and perfected in Nigeria by the Project, it is expected to have a significant impact on the quality of early generation seed business to small farmers and the cassava sector as a whole.

The ESISC project is also working with National Agricultural Seed Council (NASC) and Food for United Kingdom to improve the quality certification system in Nigeria.

3000



Implementing partners

Printing materials made

S/No	Titles	Qty
1	Almanac	10000
2	Booklet on Herbicides Application and Safe Use (PhotoGuide)	4000
3	Flyers on 6 Steps on Weed Management in Cassava Production	3600
4	Village Board	80
5	Posters	800
6	T-Shirts	350
7	Caps	200
8	Newsletter	600
	Total	19630

S/No	Social media platform	Number of persons reached
1	Twitter	1311
2	Facebook	903
3	Facebook Group	408
4	LinkedIn	3157
5	SlideShare	10,410 views
6	YouTube	5808
7	WhatsApp/Telegram	400
8	Website	8409
9	Electronic Bulletin	3000
	Total	33806

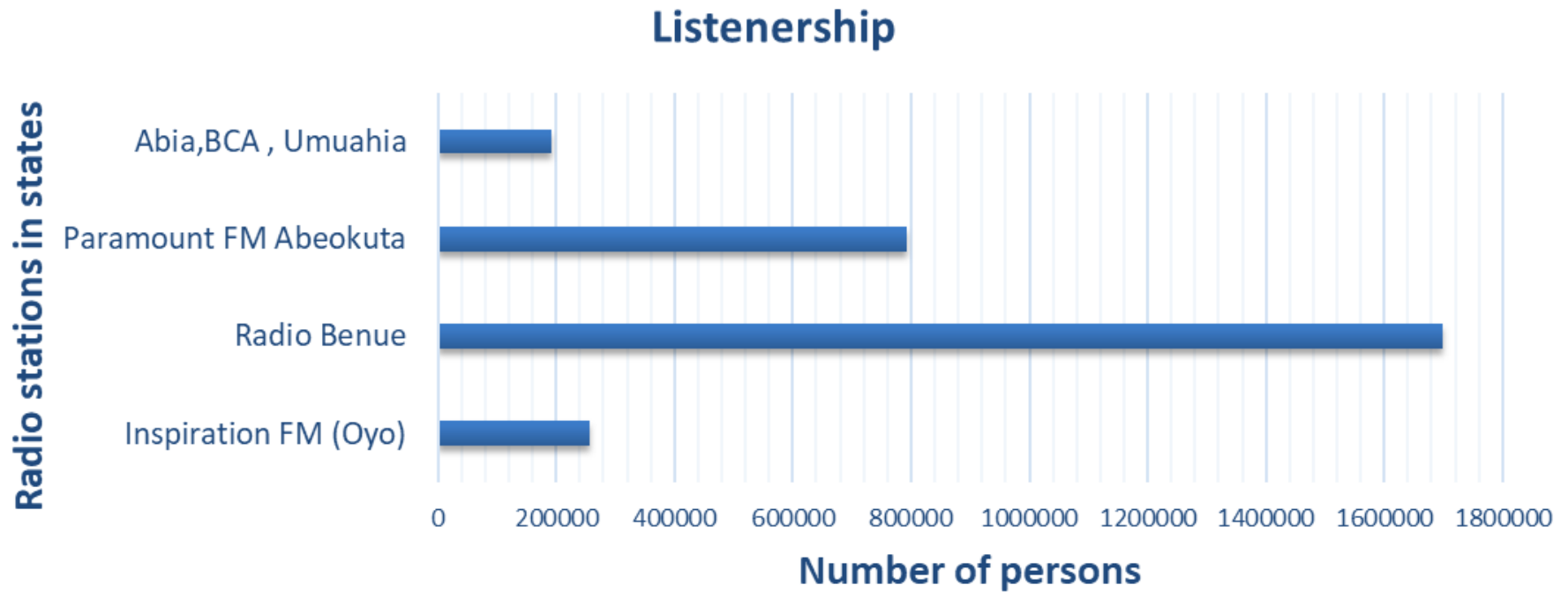
Educational Documentary on Channels TV, which is viewed by more than 20 million viewers



Number of persons reached

S/No	Channel	Number
1	Training/field Days	9408
2	Social Media	33806
3	Newspapers	87,000
4	Print materials	19630
5	Television	20 million views

Reach via Radio



How to reach 2.9 million people

Source: Media Planning Services



Implementing partners

Advocacy on improved weed control in cassava



Going forward

1. Partnership is key (Government, Private Sector etc) to reach millions of farmers
2. We need to think about safety
3. Training is key
4. This project can generate the needed employment in communities through SSPs
5. We can double the national productivity of cassava, and create better livelihoods for our farmers.

Note the greatest disservice is to have this innovation and do nothing to pass it across to farmers

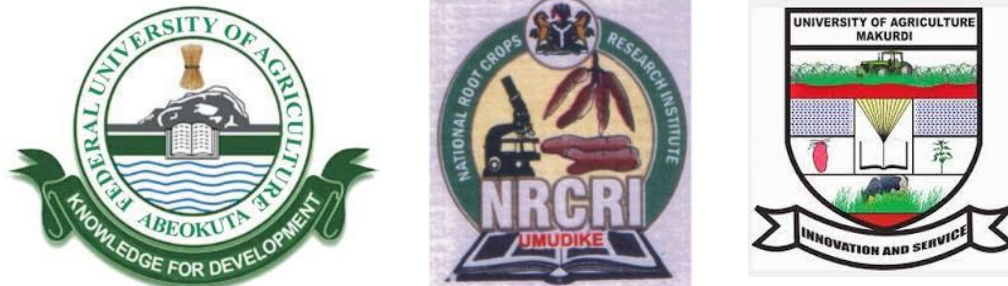


Acknowledgement

Principal Investigator:



Implementing Partners:



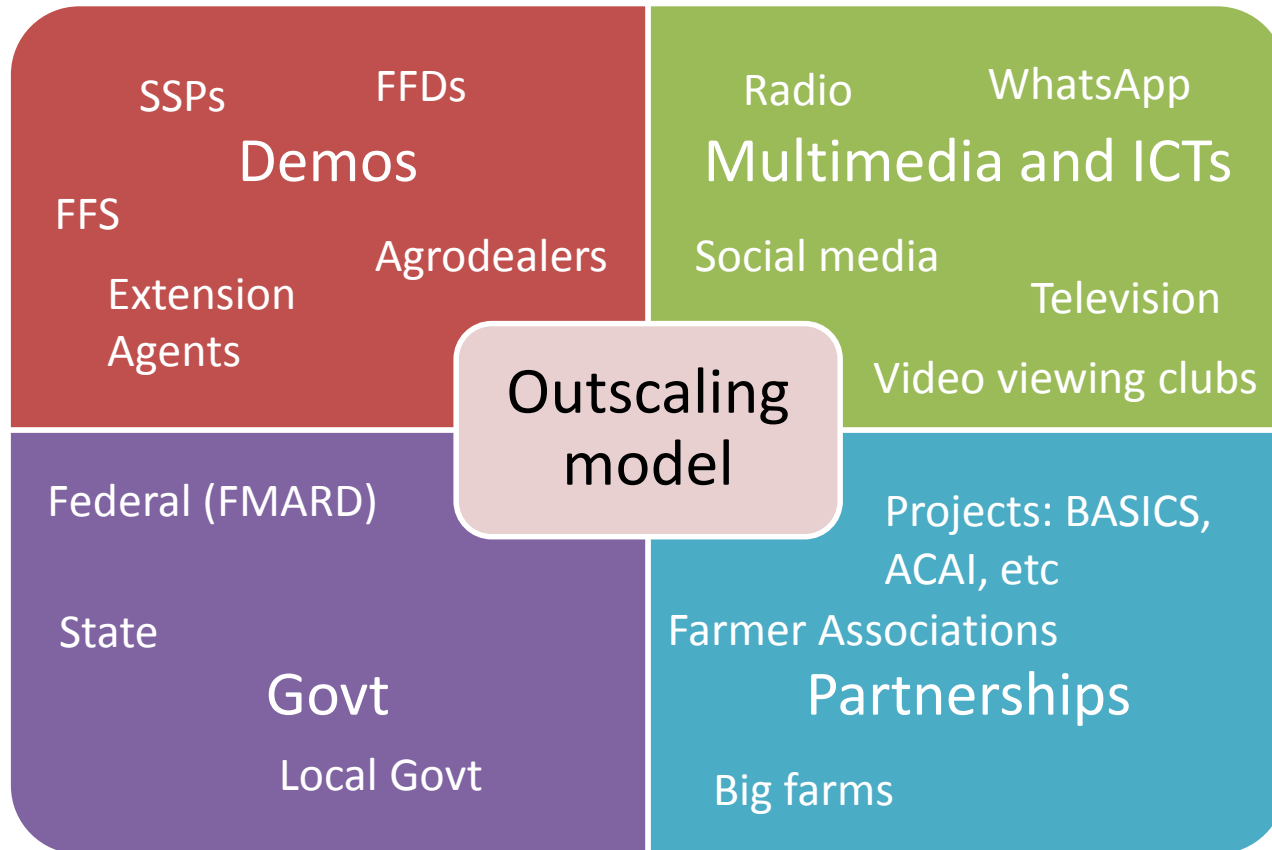
ADPs
FMARD

Funds from:

BILL & MELINDA
GATES *foundation*



Implementing partners





Newspaper circulation of selected newspapers in Nigeria demonstrating the coverage of cassava weed management project's articles.

NEWSPAPER	CIRCULATION
The Punch	85,000
Vanguard	120,000
ThisDay	100,000
The New Telegraph	100,000
The Sun	140,000

Economic Analysis

Total cost of cassava production (TCCP) was determined as:

$$TCCP = \sum_{i=1}^n x_i = x_1 + x_2 + x_3 + \dots + x_n$$

Where:

x_1 = Cost of preemergence

x_2 = Cost of Postemergence

x_3 = Cost of Spray Service providers

x_4 = Cost of pre-land preparation herbicides

x_5 = Cost of blanket application with glyphosate

x_6 = Cost of hoe weeding

x_7 = Cost of weeding with Mantis

x_8 = Cost of slashing

x_9 = Cost of burning

x_{10} = Cost of ploughing

x_{11} = Cost of stems

x_{12} = Cost of planting

x_{13} = Cost of Harvest



Total Revenue (TR)

Total revenue (TR) was calculated by using a base price of N10000 per tonne for cassava roots and N300 per bundle for cassava stems. The

$$TR = \sum_{i=1} y_i = y_1 + y_2$$

Where:

y_1 = Revenue from stems

y_2 = Revenue from cassava roots

Benefit of weed control methods

Benefit of weed control was determined by taking the difference between Total Revenue (TR) and Total Cost of Cassava Production (TCCP)

$$\text{Benefit} = TR - \text{TCCP}$$

- **Objective 4.**
- **4.1 Involve farmers and other stakeholders in the research to develop improved weed management practices in cassava and**
- **4.2 Empower extension services, primarily the ADPs but also NGOs, agro-dealers, and spray service providers, to provide farmers with the knowledge they need to improve weed management practices.**

