Preliminary results of Marando Bora Project end line survey in Tanzania Lake Region

Kirimi Sindi, Julius Okello, Kelvin Shikuku, Florence Nakazi
Presentation at SPHI meeting at Kumasi, Ghana
October 7-11, 2013

Outline

- Marando Bora outline
- Basic statistics of the respondents
- Sweetpotato production
- Knowledge
- Nutrition

Introduction

- Since its inception in 2009, the Marando Bora project expanded to cover five regions of Tanzania from the original two
  - Mara, Mwanza, Geita, Shinyanga ,and Kagera.
- The project has worked with 88 DVMS (sweetpotato seed multipliers)
- The project gave vines to about 110,000 households in around 3 seasons
- In the regions and zones, two models of sweetpotato seed system dissemination
  - Decentralized vine multipliers (DVM) applied voucher method
  - Mass dissemination (MD) system which used the existing community based organizations for vine dissemination in centralized locations

Survey design

- Ideally it is good to go back to the same households and interview them in a follow-up survey

- However, the project implementations had changed from the initial survey design under which the first survey was conducted to have DVM and MASS distribution strategies

- Therefore more partners came on board as
  - BRAC RUDDO, TAHEA, KIMKUMAKA (DVM model)
  - MRHP, MFEC, and DOS (MASS model)

Areas covered

- Care was taken to cover all the areas that were in the first survey so has to ensure that we have covered households in the baseline

- We covered new areas
  - Tarime, Rorya, Maswa, Chato, Bukombe, Muleba some in MASS and others in DVM models

Categorization of the households interviewed (N=732)

	Number	%
Model		
MASS	118	16
DVM	614	84
Treatment		
Intervened	455	62
Control	277	38
If the households were in the baseline or not		
Baseline	434	59
New households	298	41

Some Summary Statistics

Characteristic		
Gender of the household head	Women 30%	Men 70%
Average household size (people)	8	
Education (years)	6	
Average Age of the household head (years)	47	
Involved in agriculture as main occupation	95%	
Average household Farm size (acres)	3.52	
Average income of the household (Tshs)	213,707	US $ 134
Average distance to the market (minutes)	13.55	
Average distance to the vine source (minutes)	35.12	
Membership in a group	56%	
Had received credit	47%	
Percentage of respondents who knew a DVM	53%	
The average acreage under sweetpotato (acres)	0.9	

Categorization on the hh by wealth index

Category	Quintiles					
	1	2	3	4	5	Total
			(%)			
Not in baseline	0	2	**52**	**28**	**18**	100
Baseline	**11.3**	**24.4**	**56.9**	7.1	0.2	100
DVM model	8	**17.8**	**54.1**	**14.7**	5.5	100
MASS	0	3.4	**59.3**	**19.5**	**17.8**	100

There is some differences between the DVM and MASS dissemination households and baseline and new households added

Have you heard of Marando Bora Project?
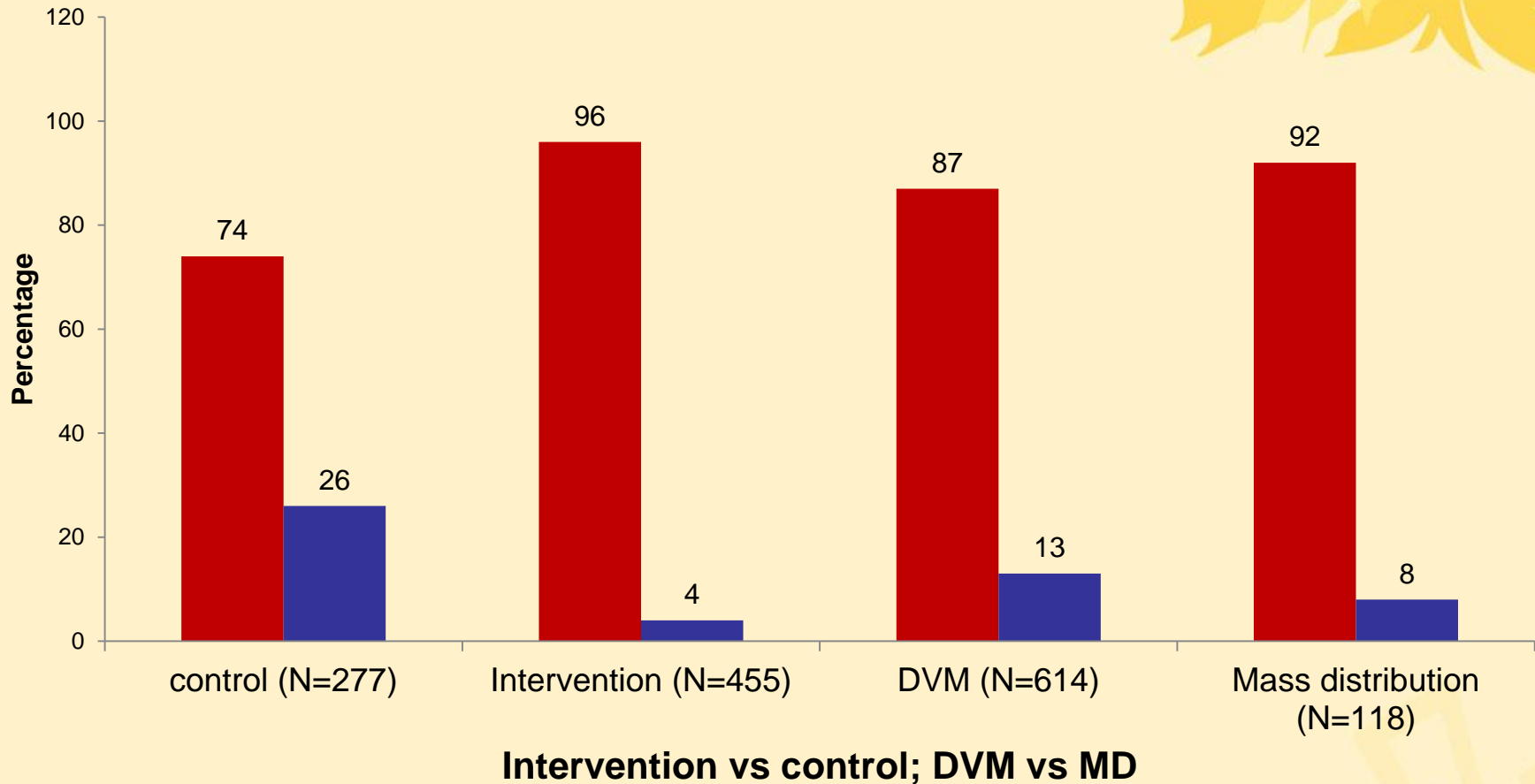
The Marando Bora Project seems to have been well known

What Marando Bora project meant to the households

1&2

SASHA
Sweetpotato Action for
Security and Health in Africa

■ Quality vines
■ Quality disease-free vines
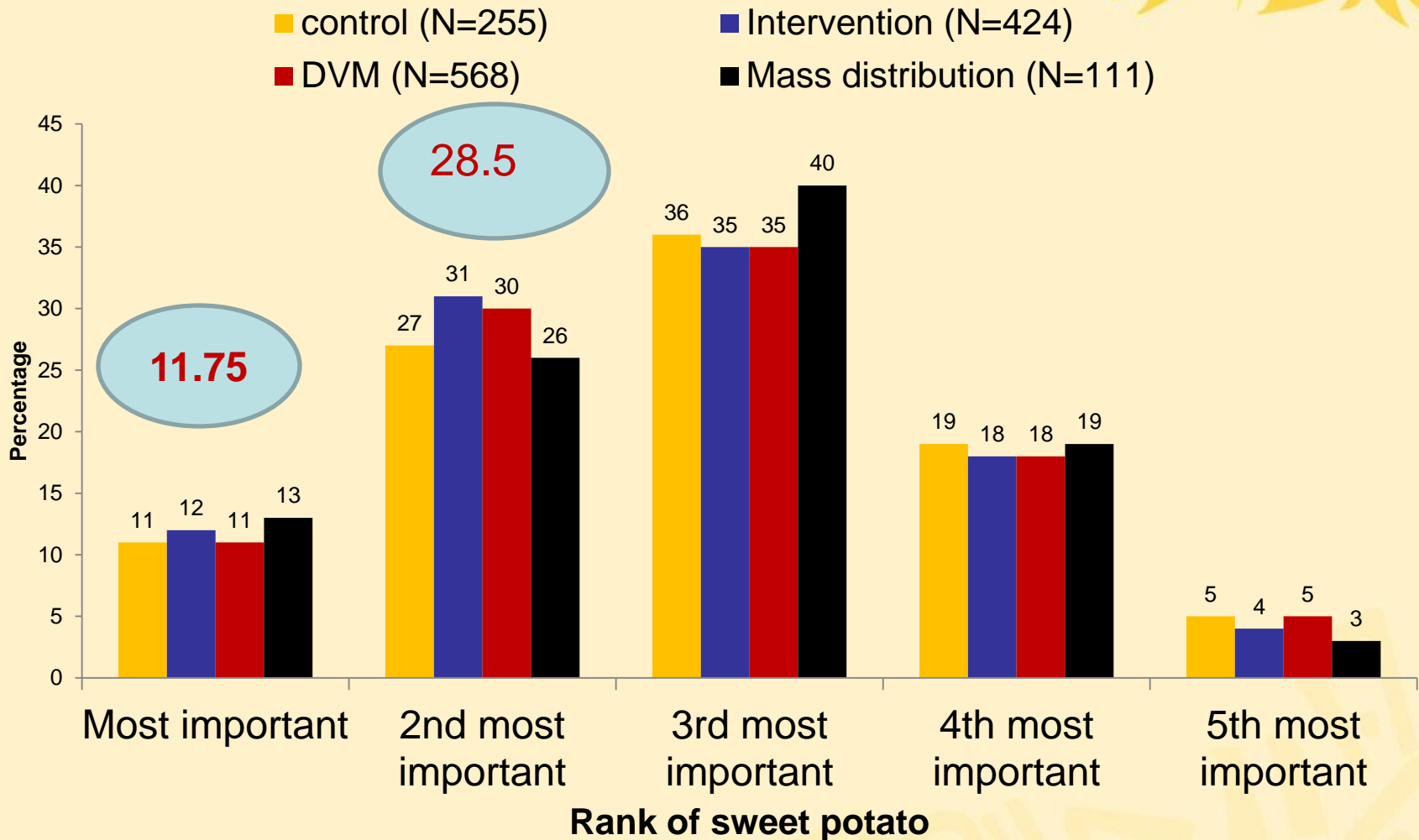■ Improved vines with high yields
■ improved Vit A rich vines
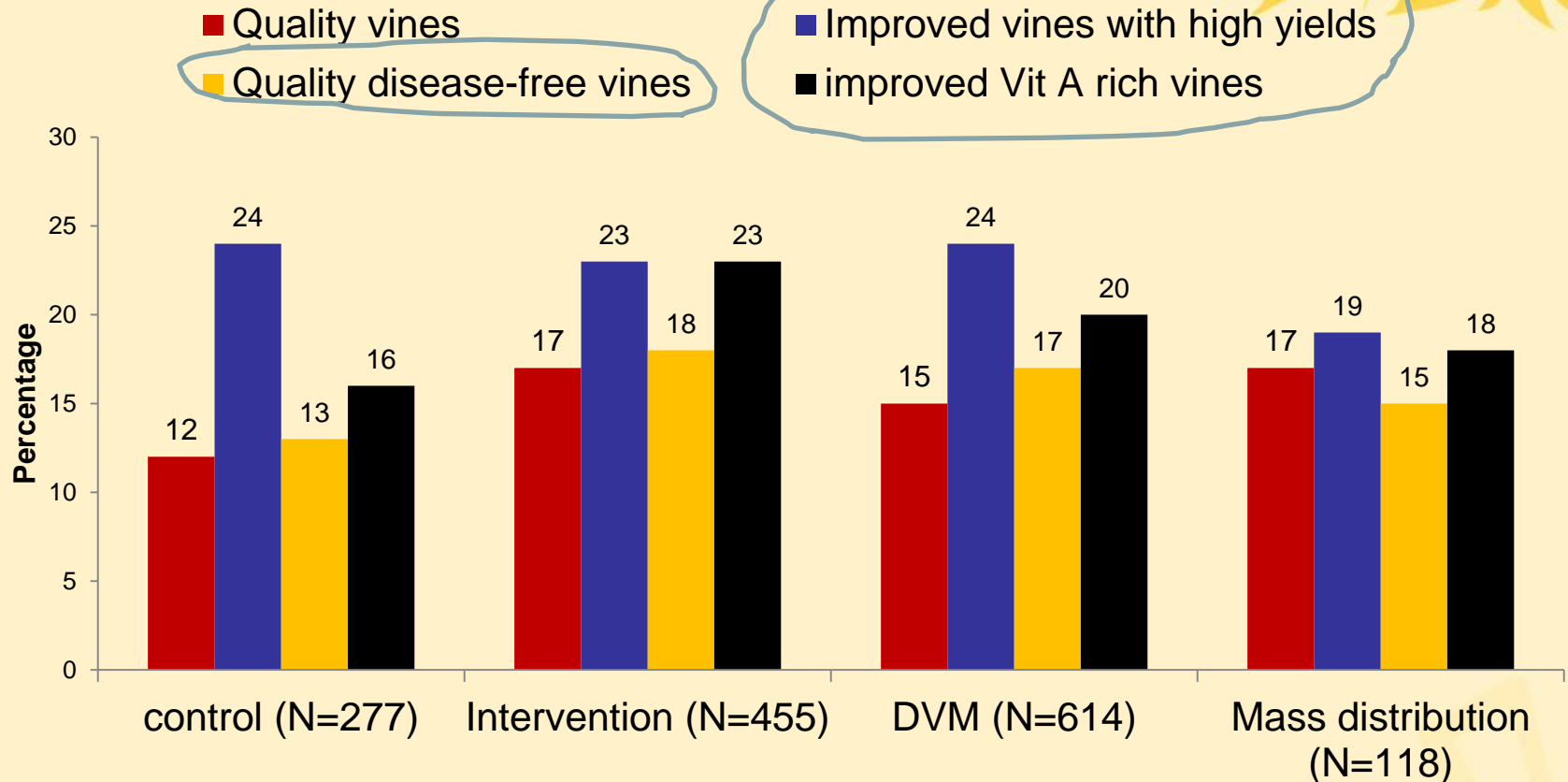
Interventin vs control; DVM vs MD

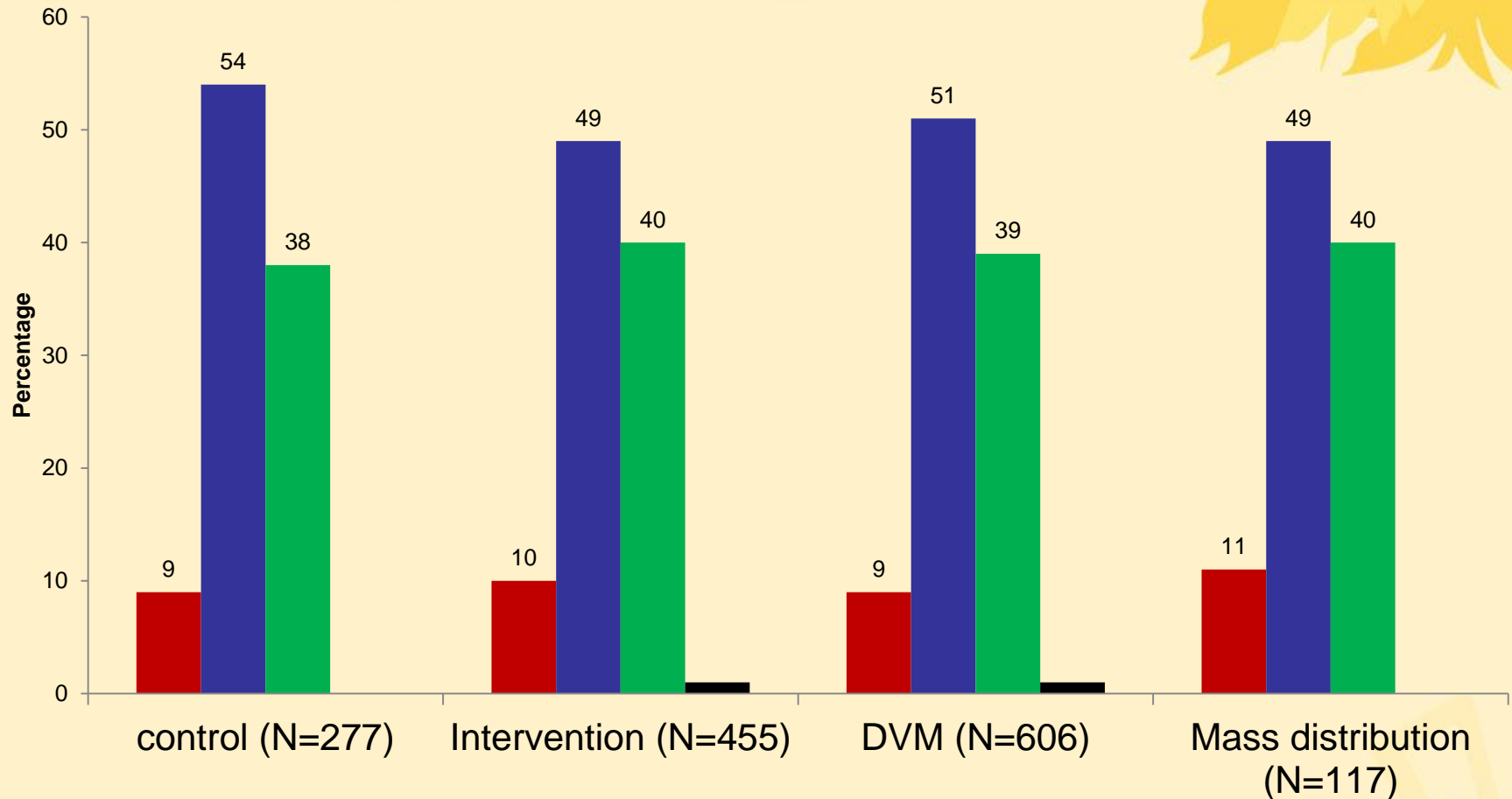Most of the households associated the project with positive things about sweetpotato including the control areas

Rank of sweetpotato
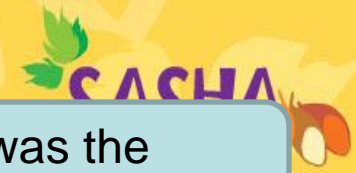
In the baseline 9% said it was the most important and 27% said it was the second most important crop hence there is improvement

Who decides how much of sweetpotato to grow?

The decision on how much to grow is made by the woman or both man and woman hence we need to focus on both decision makers to make an impact

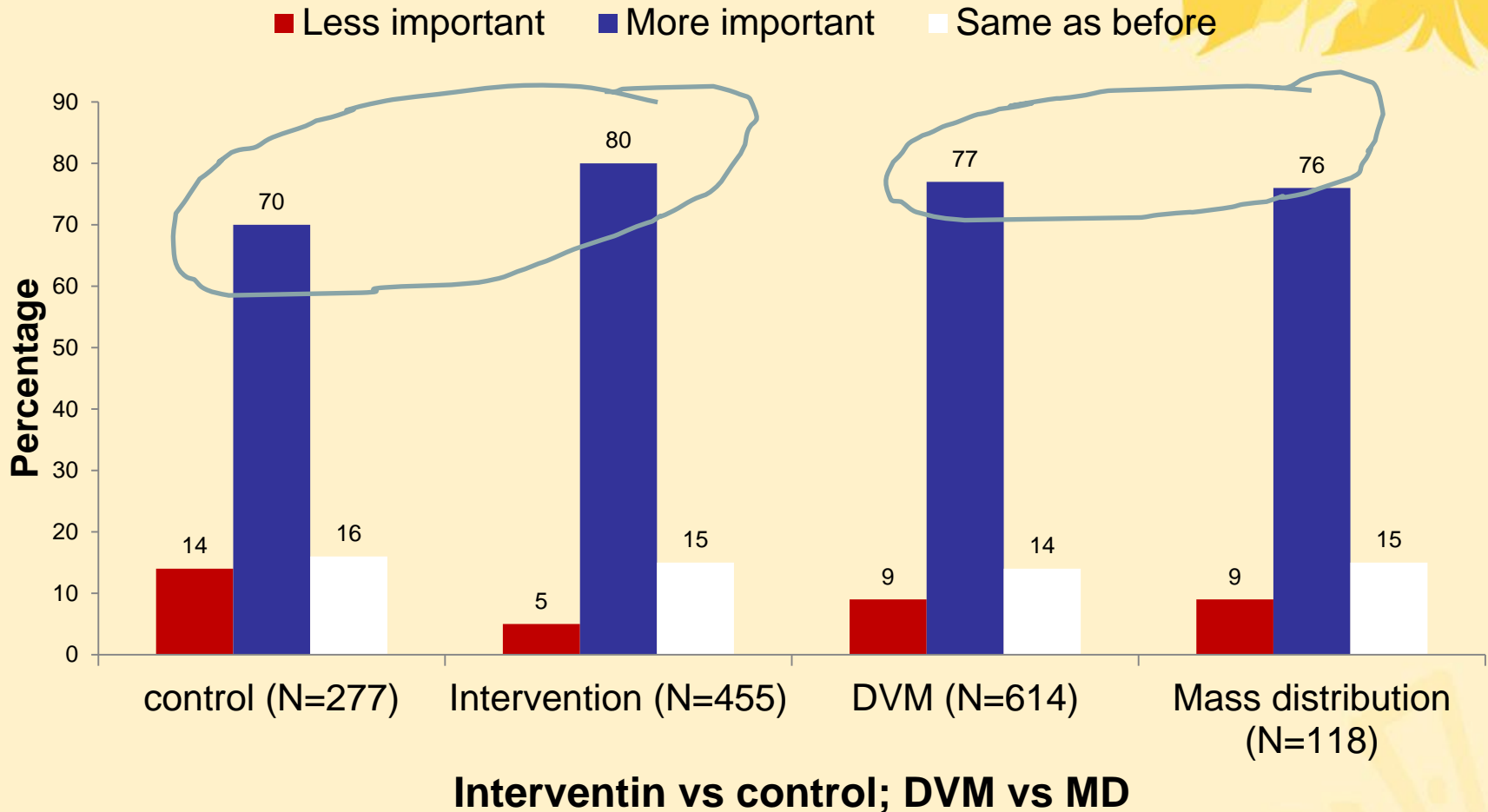# % of the hh that produced and sold sweetpotato
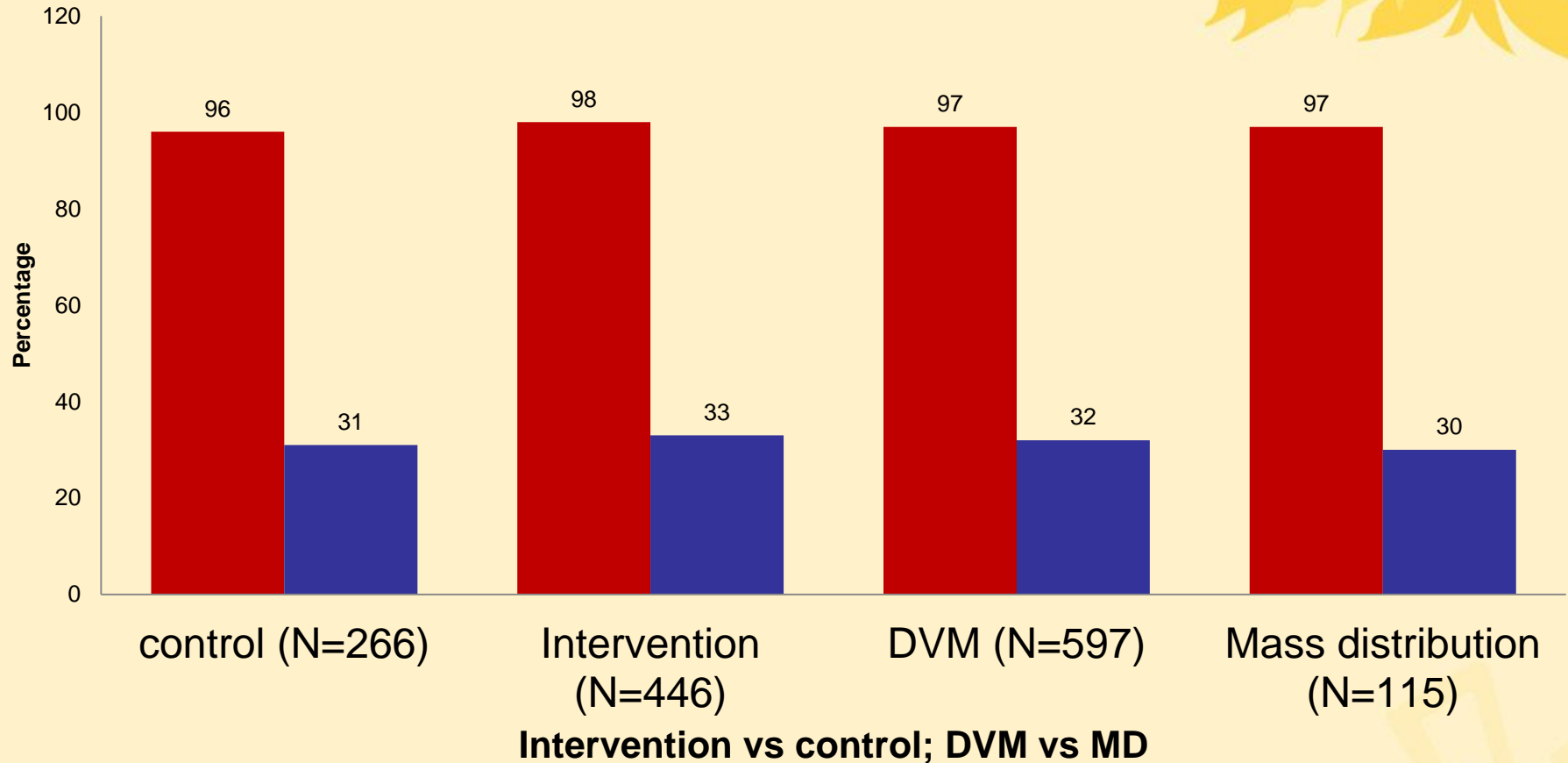
Majority of the households produced sweetpotato (96-98%), and only about 1/3 sold any sweetpotato (30-33%) and its very similar across the categorization

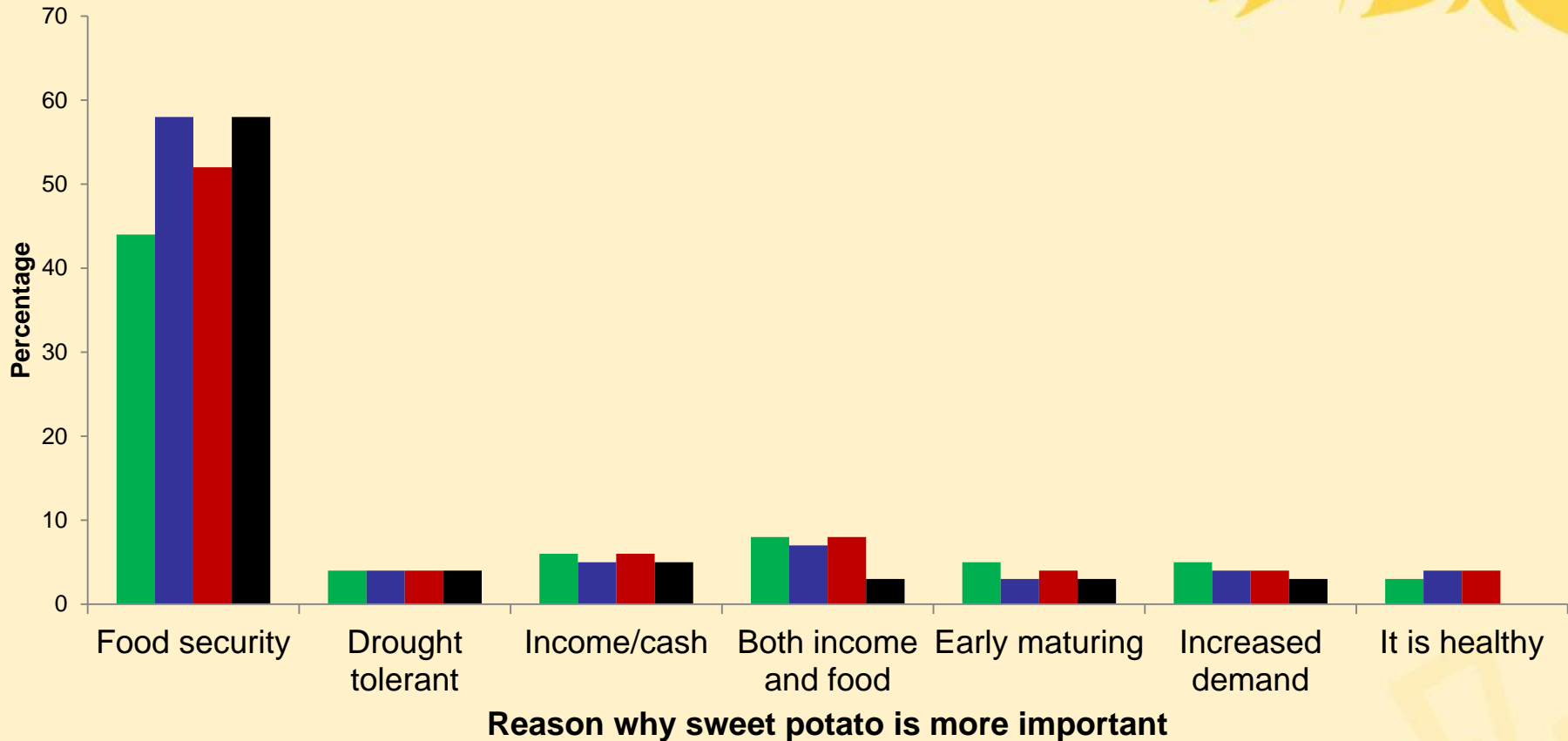# Importance of SP in 2013 compared to before the Marando Bora intervention

Most of the hh said that sweetpotato is more important than before project started across the board. The % in the Intervention areas was higher that the control
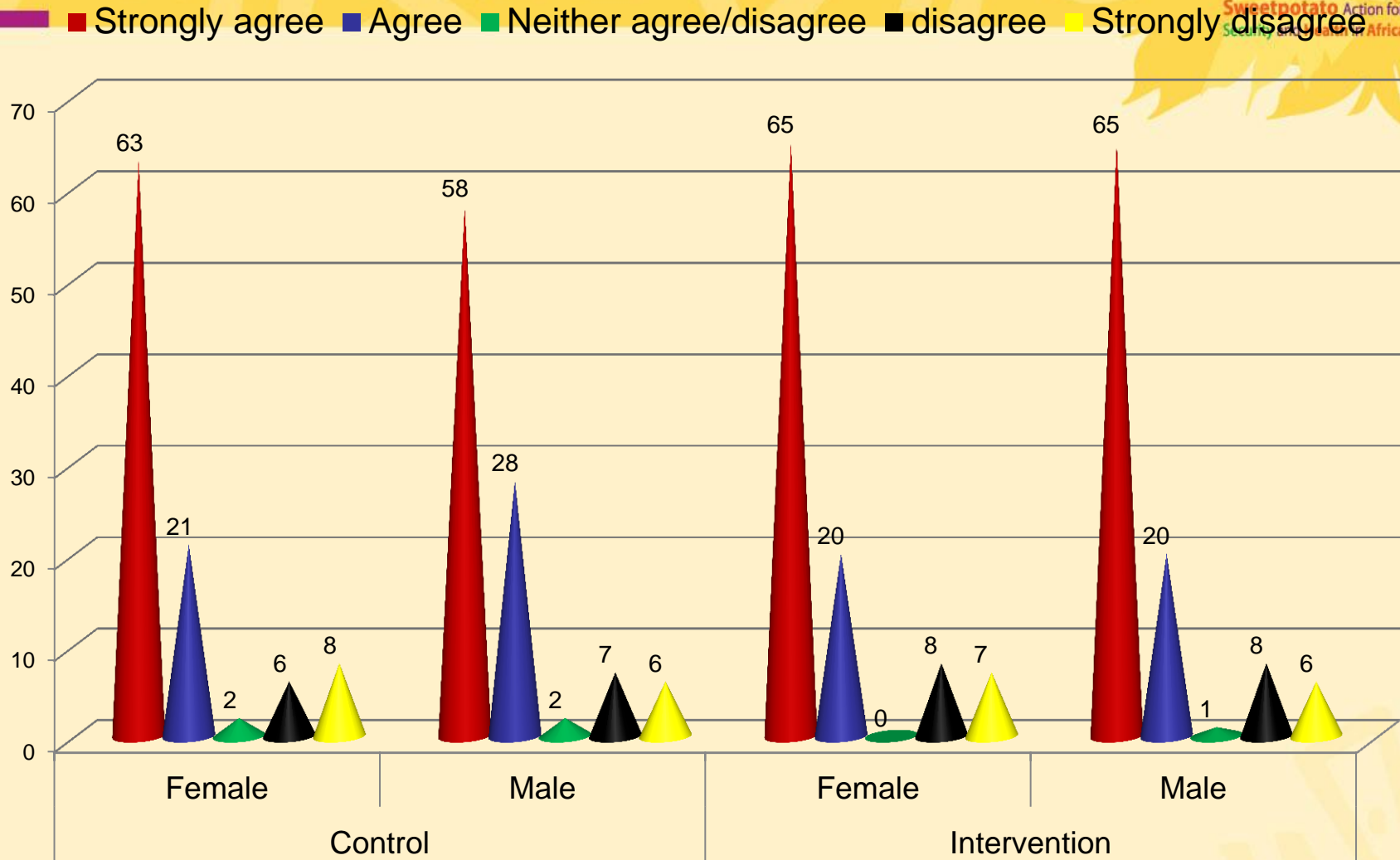
Reasons for SP importance

Food security is by far the most frequently stated reason households gave for growing sweetpotato

Reliability of sweetpotato during times of scarcity

Legend: ■ Strongly agree ■ Agree ■ Neither agree/disagree ■ disagree ■ Strongly disagree

	Strongly agree	Agree	Neither agree/disagree	disagree	Strongly disagree
Control – Female	63	21	2	6	8
Control – Male	58	28	2	7	6
Intervention – Female	65	20	0	8	7
Intervention – Male	65	20	1	8	6

In general Sweetpotato is important during the time of scarcity and in particular in the intervened areas
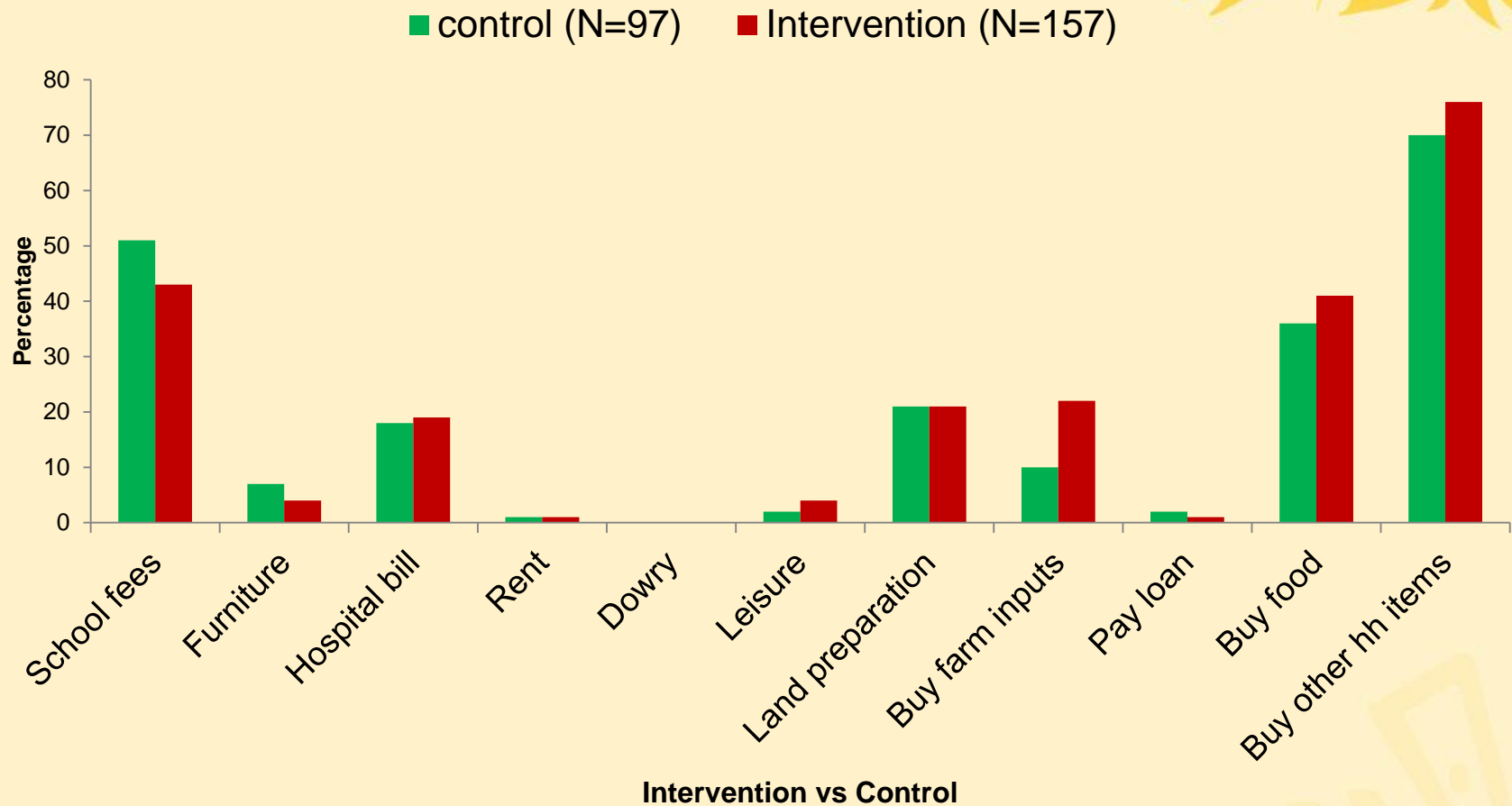
% of sweetpotato sold in 2012
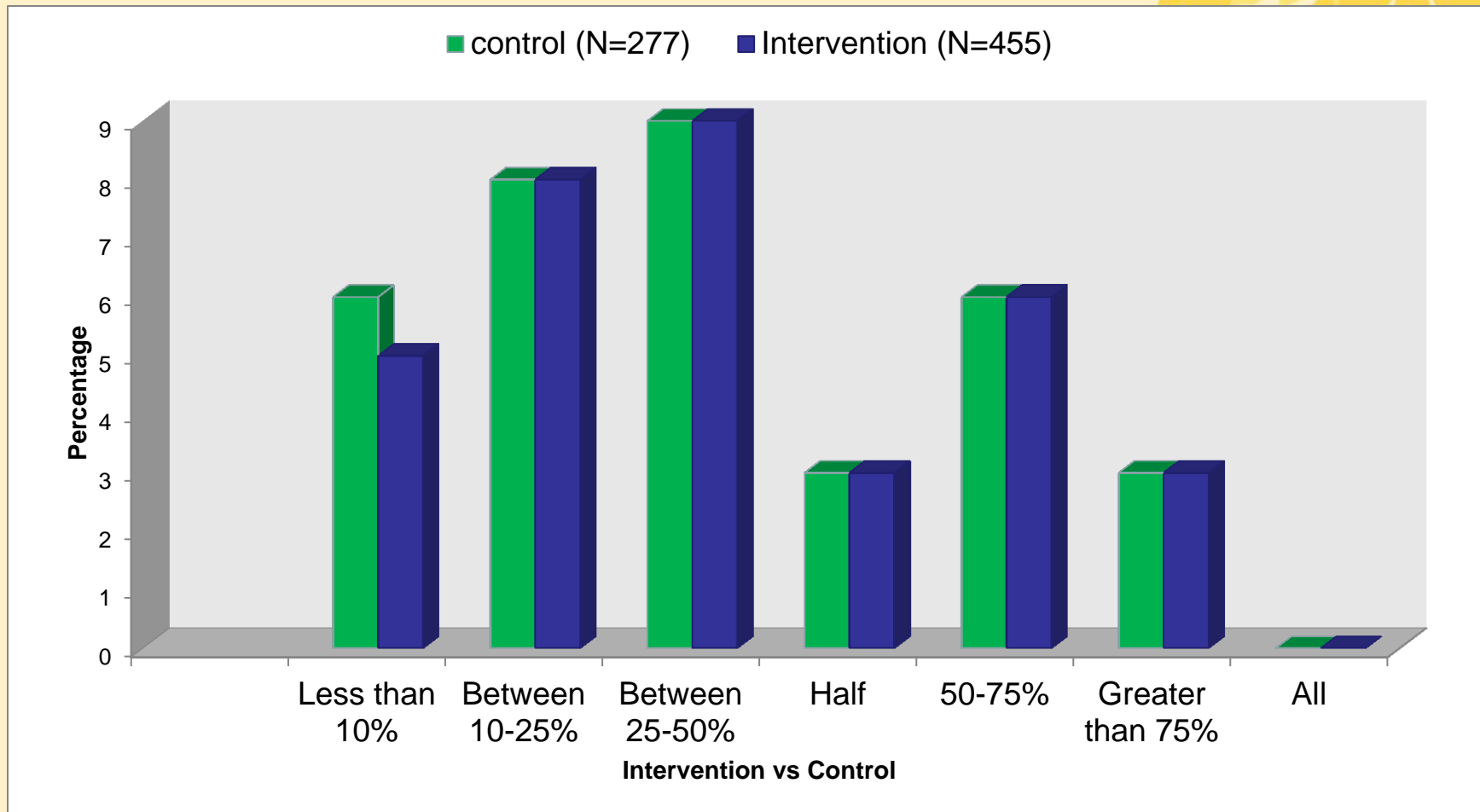
No much difference in sales of sweetpotato

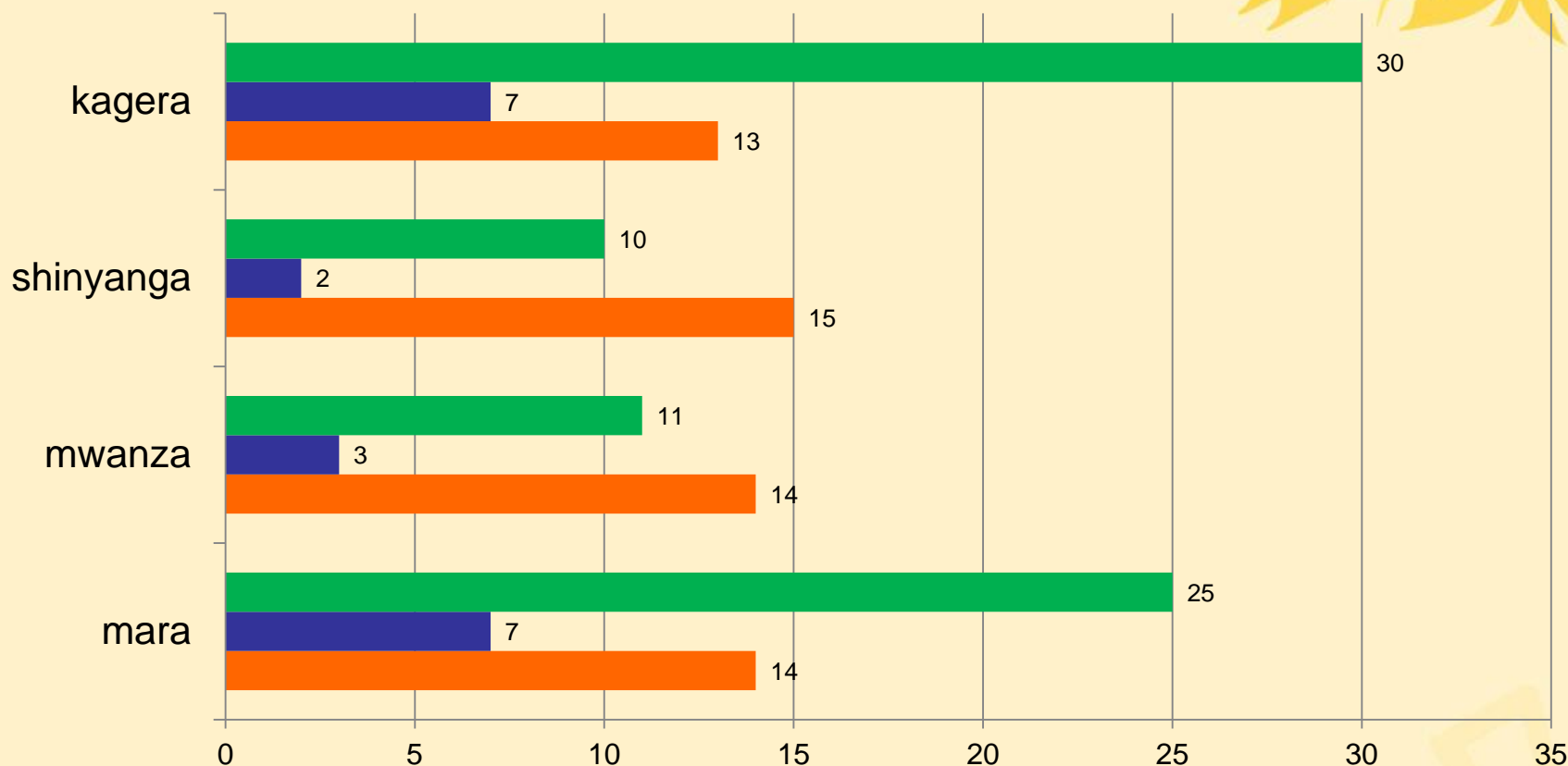# How they spent the money from the sweetpotato sales

The income from sweetpotato is spent for buying other household items, school fees, buy food, hospital bills and land preparation etc.

Who makes decision how income from SP is spent

Legend: **both** (green), **woman** (blue), **man** (orange)

Region	both	woman	man
kagera	30	7	13
shinyanga	10	2	15
mwanza	11	3	14
mara	25	7	14

In most households SP income expenditure decision is made by man and wife or the man so for value chain development its important we think carefully how to ensure that the women are involved from the beginning

Training on sweetpotato production & Management

Yes before Marando Bora

■ control (N=277) ■ Intervention (N=455)

10%

20%

Yes in the Marando Bora operation period

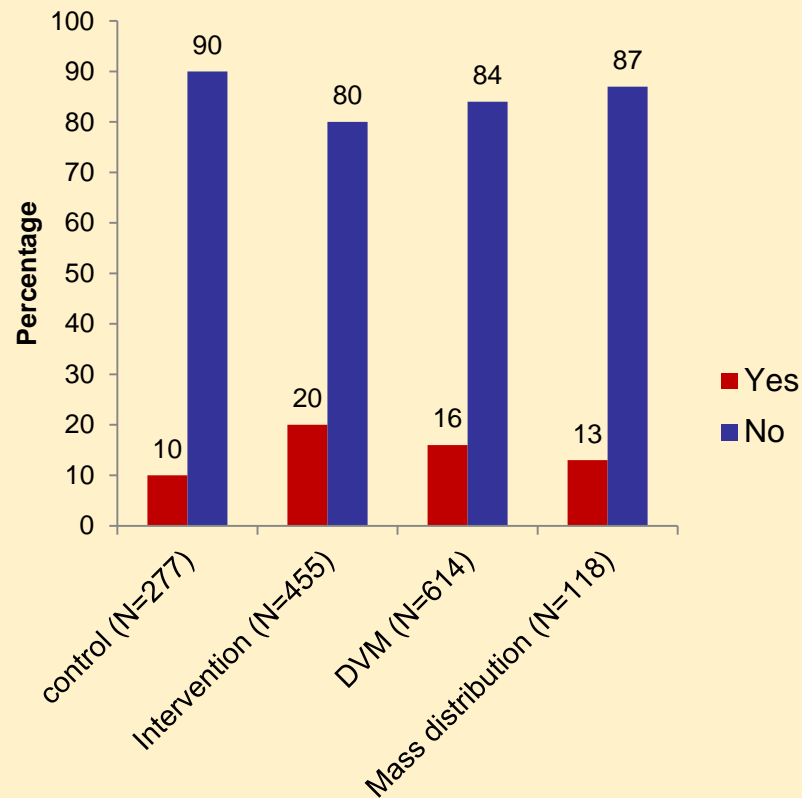■ control (N=277) ■ Intervention (N=455)

21%

45%
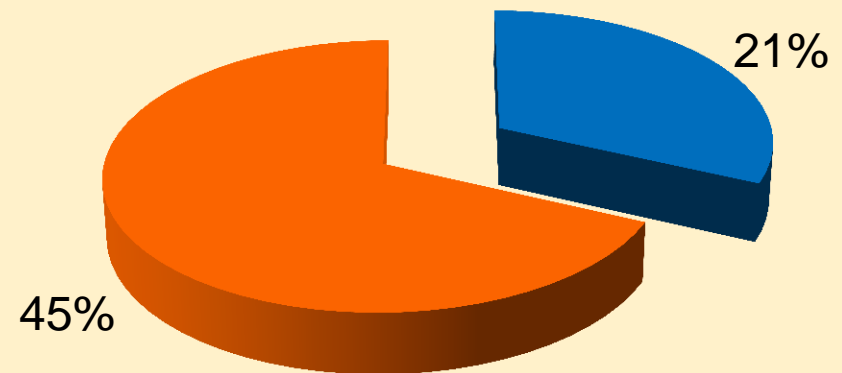
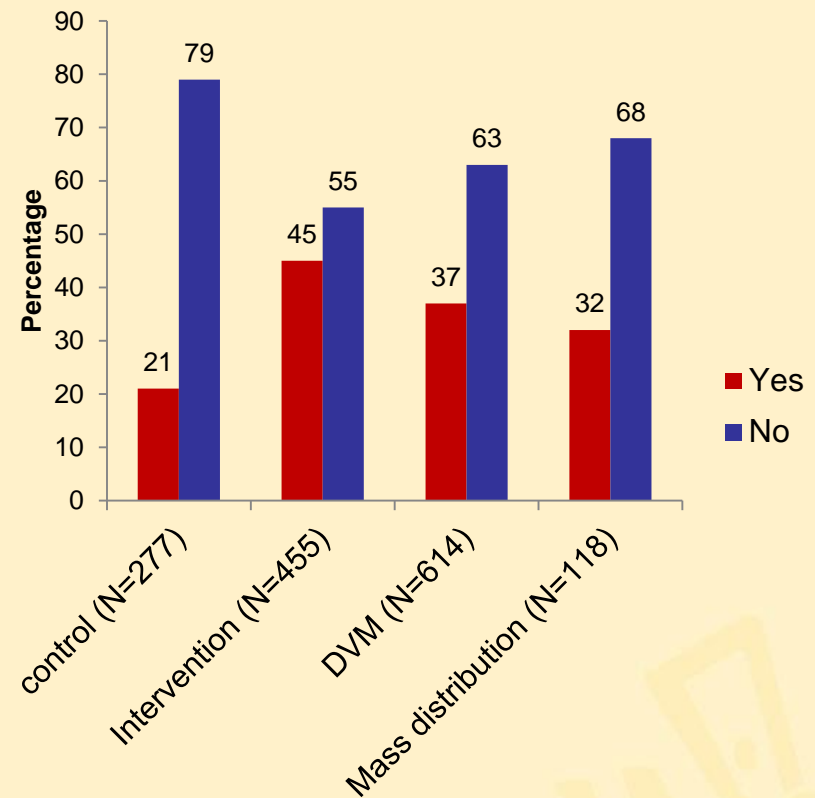Those who have had training in the intervention areas grew by 25% whereas in the control areas grew by 11%

Training on sweetpotato production & Management
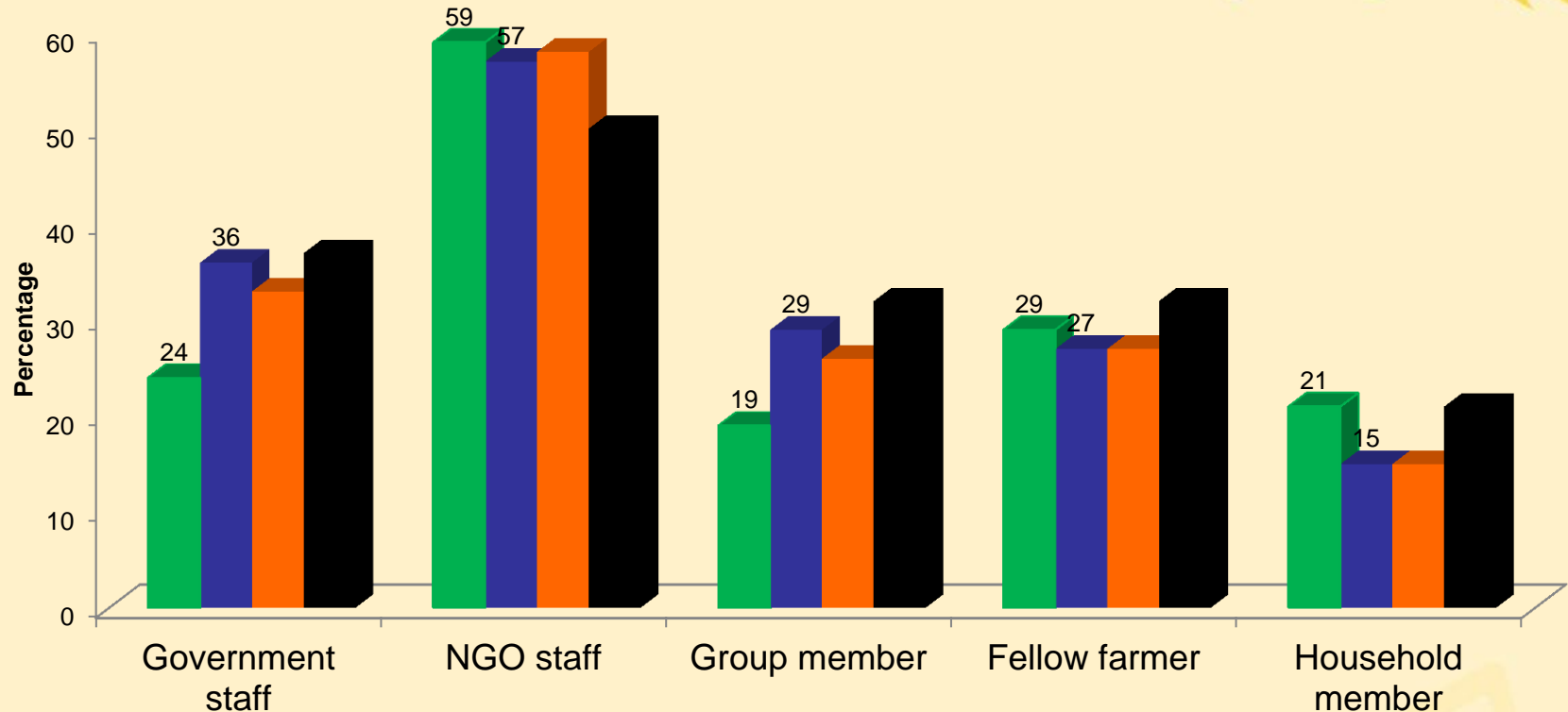
Before Marando Bora

After Marando Bora

Before the project there was little training

During the project there was more training in intervention areas
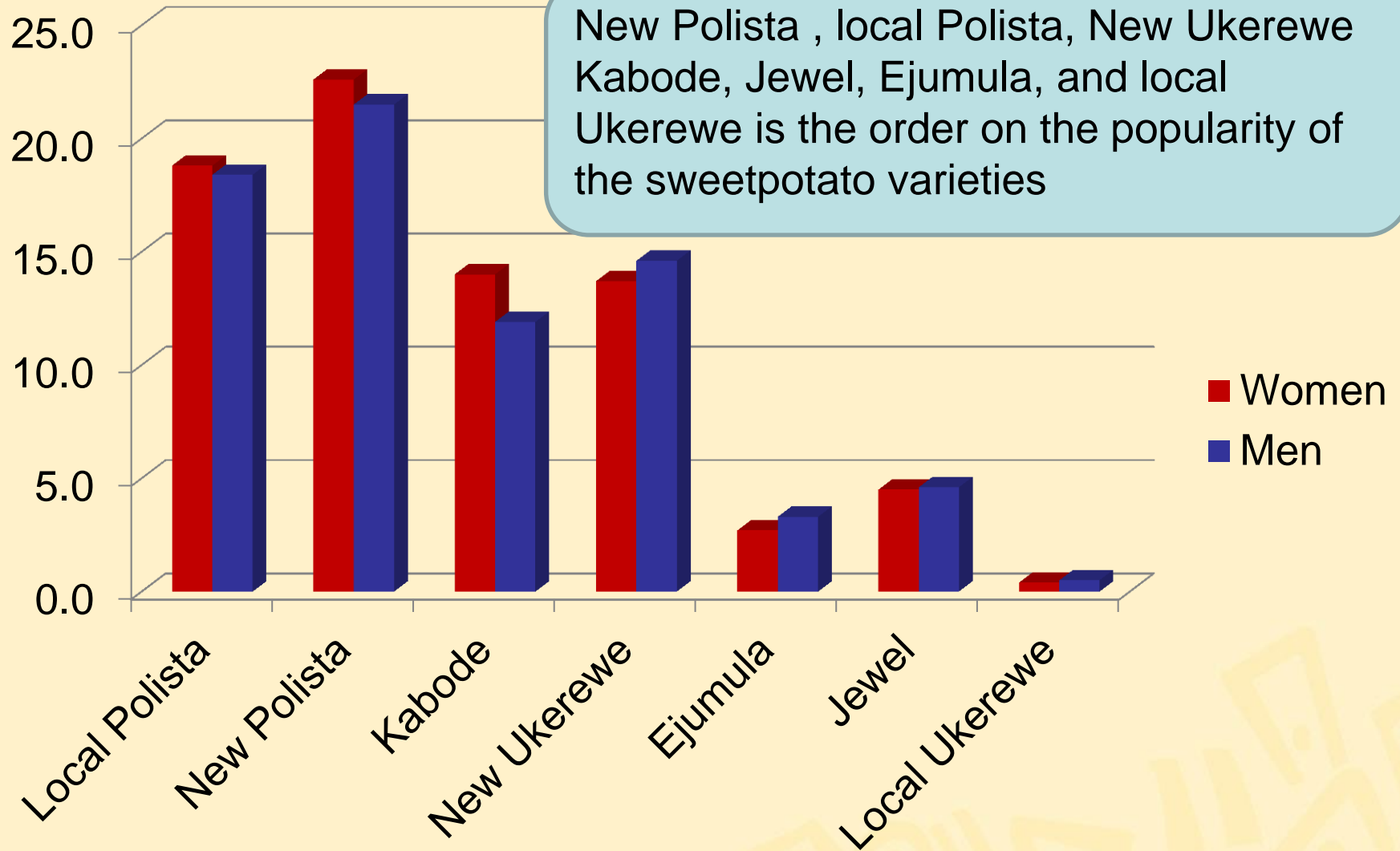
Source of training

NGO staff were the main source of training but it is interesting it was in both the control areas and the intervention areas

The study investigated which varieties were most popular among the study respondents

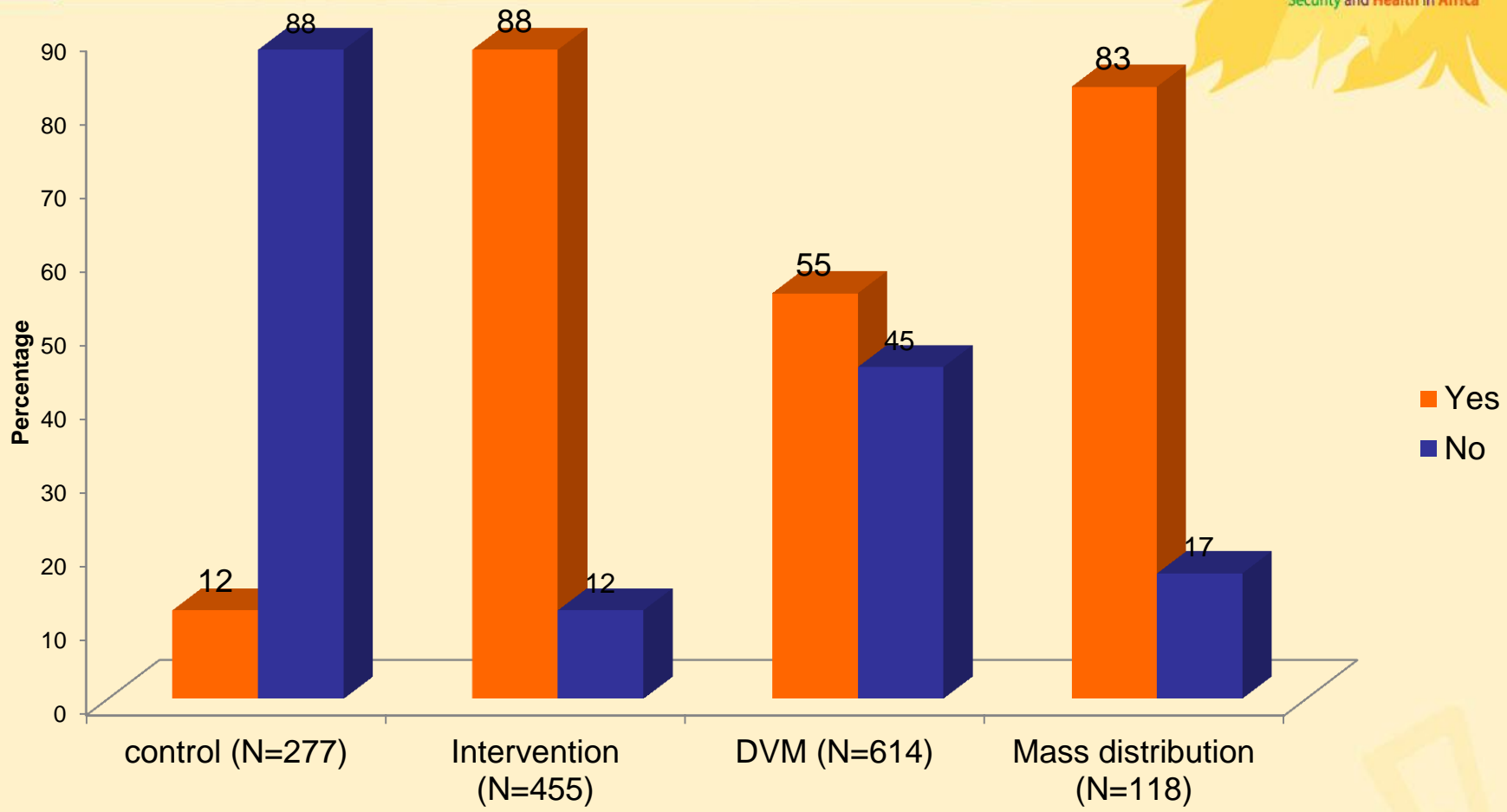New Polista , local Polista, New Ukerewe Kabode, Jewel, Ejumula, and local Ukerewe is the order on the popularity of the sweetpotato varieties

SEED SYSTEM

The quality of the vines they are getting
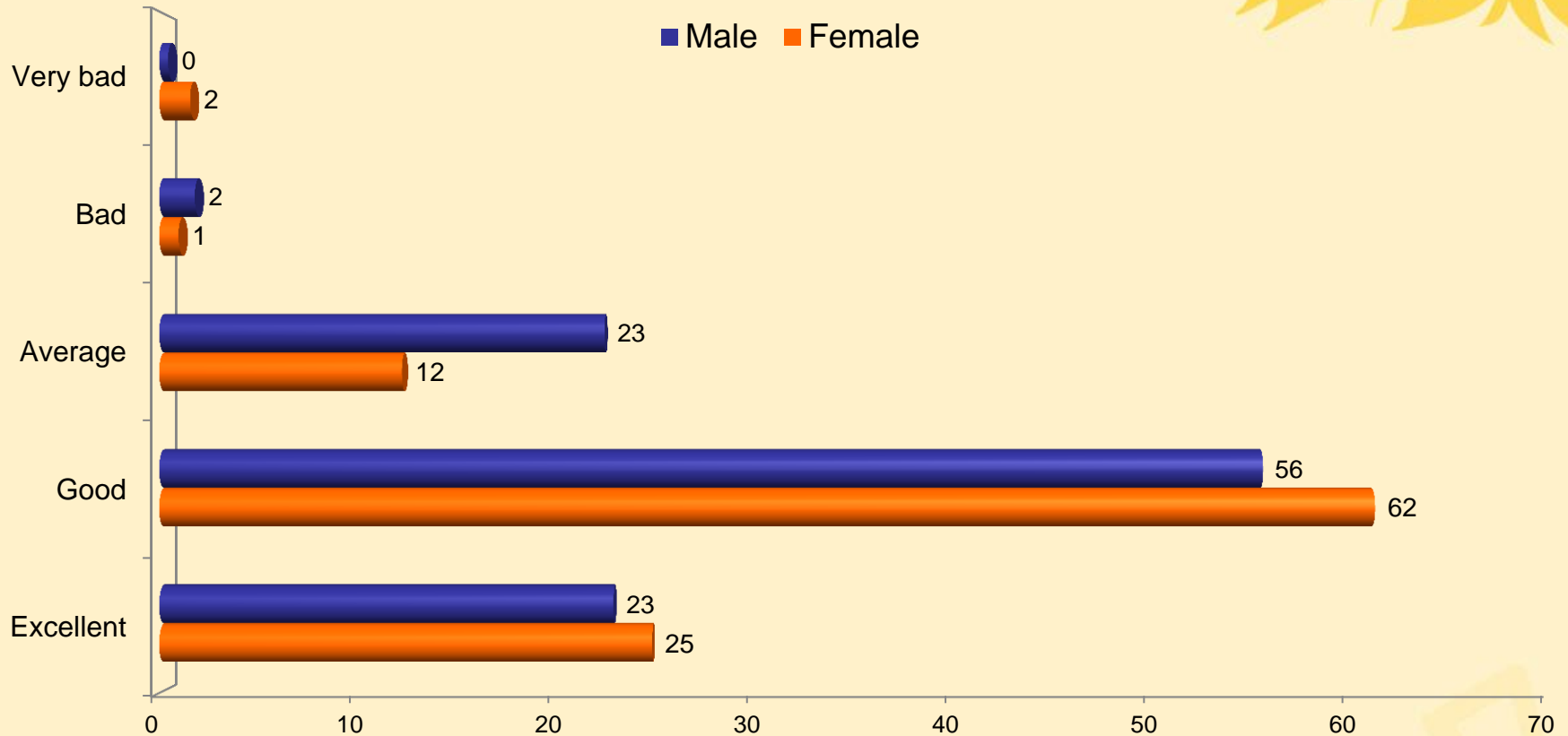
Did you get new variety of sweetpotato vines between 2010 and 2012

A high % of Respondent in the intervention areas had got vines from a outside their farms

Year in which new variety was planted

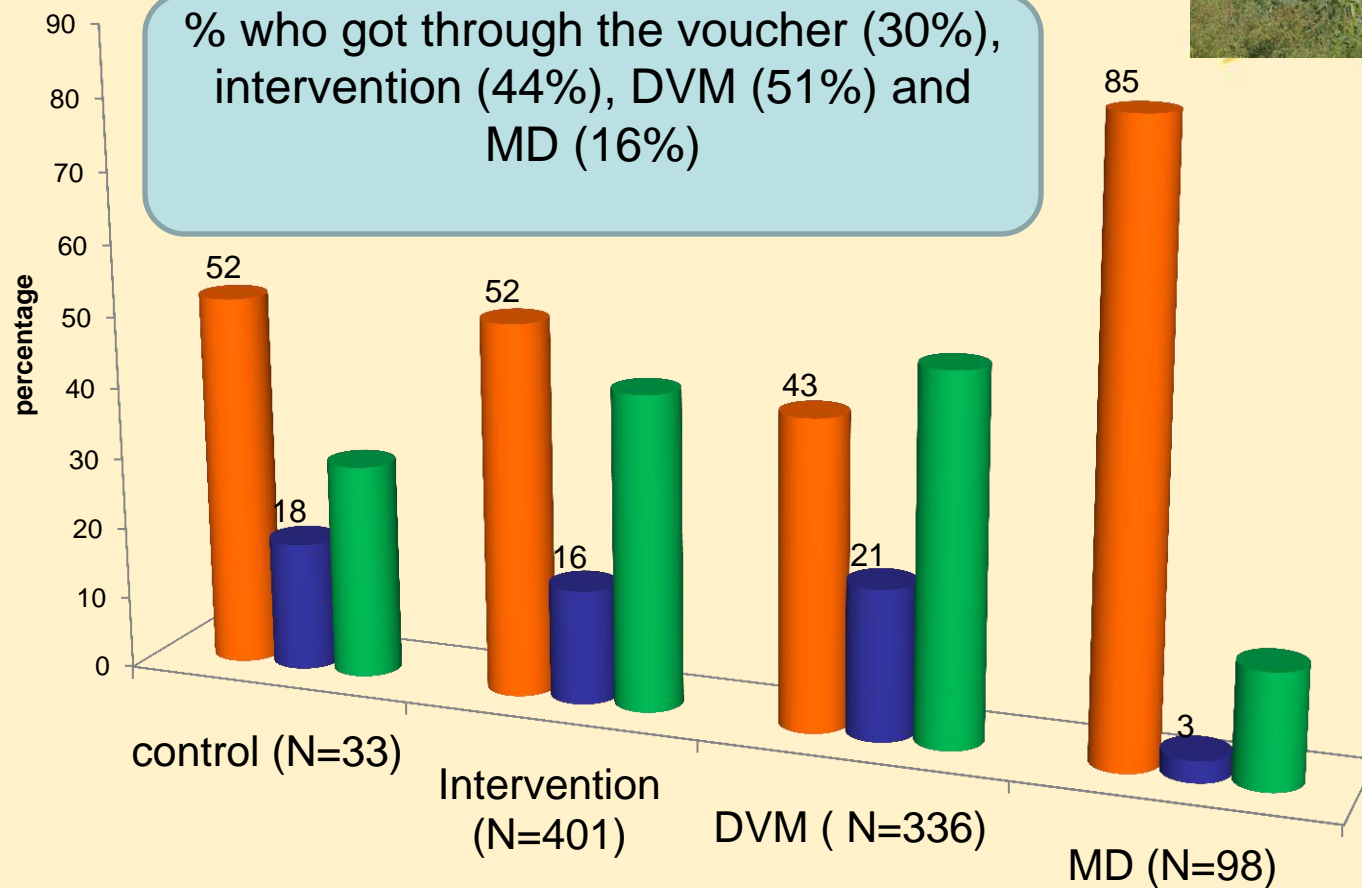| Region	Year									
	2012		2011		2010		2009		2008	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Mara (N=93)	67.16	61.29	50.75	39.78	19.4	12.90	2.99	2.15	2.99	1.09
Mwanza (N=173)	45.76	54.34	31.58	41.28	17.54	15.12	8.77	2.33	5.26	5.23
Shinyanga (N=68)	82.35	76.47	17.65	27.94	-	1.47	-	-	-	-
Kagera (N=19)	72.73	36.84	36.36	78.95	-	-	-	-	9.09	-

For most of the areas the new varieties were planted in the period the project was in operation that is 2010 to 2012 and mainly clustered around 2011 and 2012

Means of vine acquisition

Legend: ■ Free ■ Bought ■ Voucher

% who got through the voucher (30%), intervention (44%), DVM (51%) and MD (16%)

Chart (percentage):
- control (N=33): Free 52, Bought 18, Voucher 30
- Intervention (N=401): Free 52, Bought 16, Voucher ~41
- DVM (N=336): Free 43, Bought 21, Voucher ~44
- MD (N=98): Free 85, Bought 3, Voucher ~20

A significant number of respondents actually bought their vines
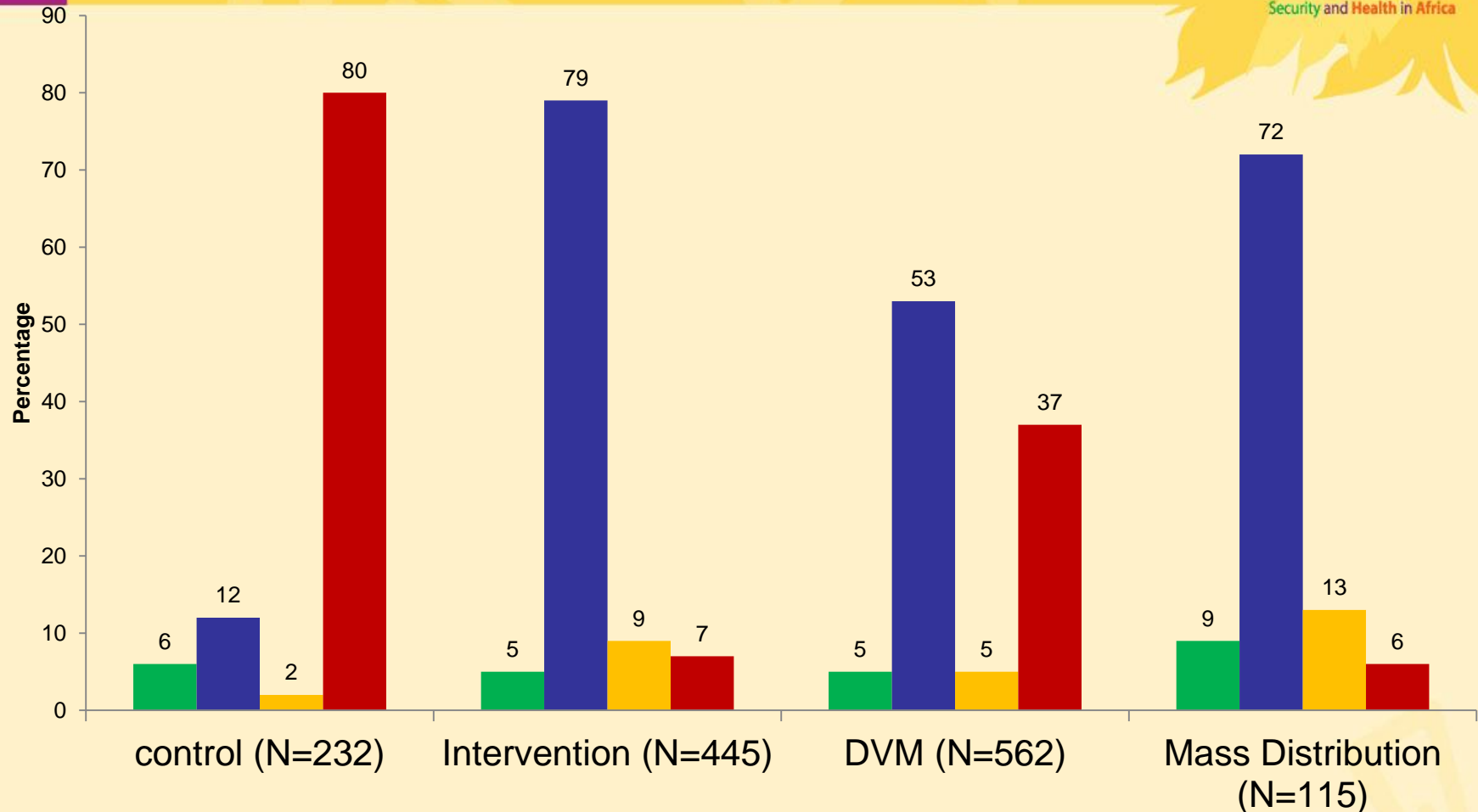
Sources of the new varieties in the last 5 years
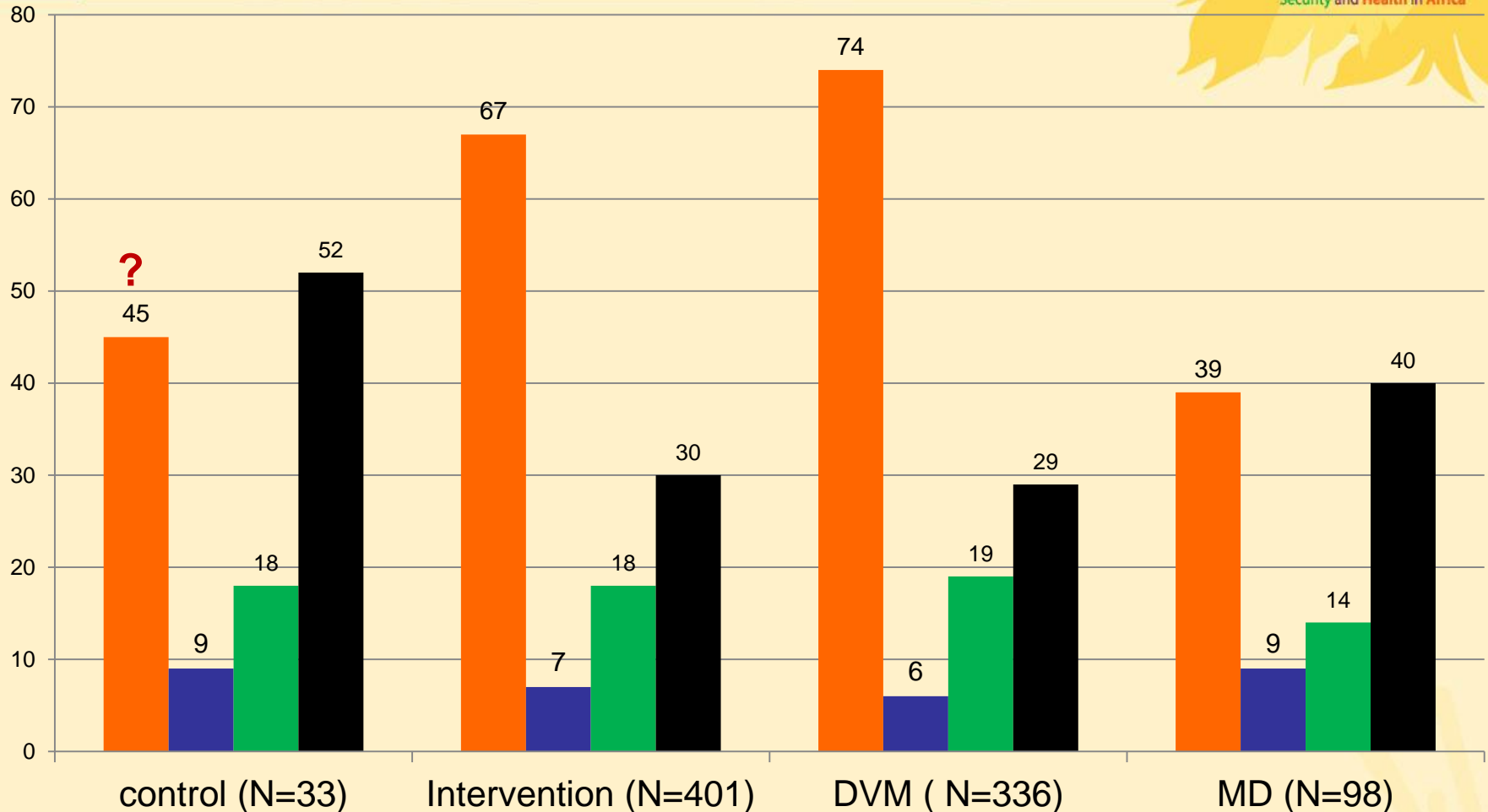
Majority got from Specialized Multipliers (DVM) in intervention areas. DVM areas as expected received most of the vines from the DVM and next important source is fellow farmers

Which type of planting material had higher yields

Most of the respondent said that the new varieties had higher yields (Most of the people in control areas didn't get new varieties)

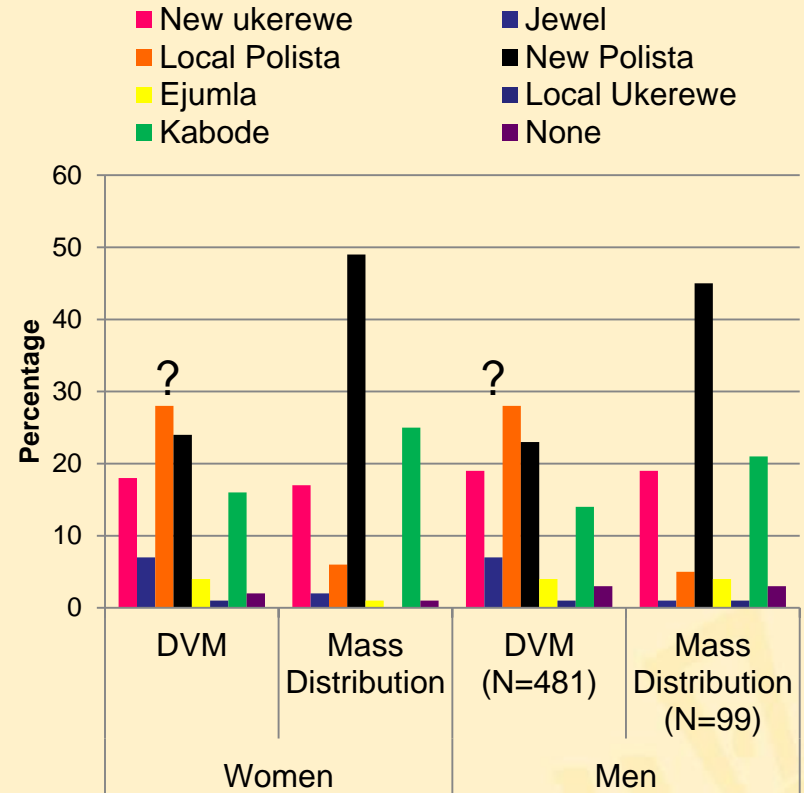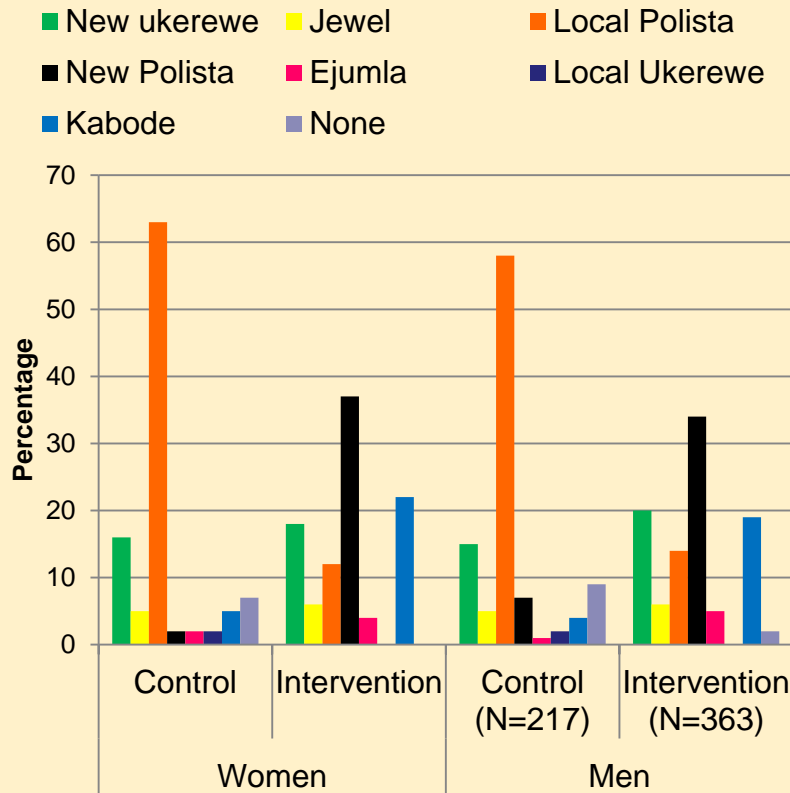# Preference of variety

By control and intervention

By DVM and Mass dissemination

Knowledge of a DVM in the local area
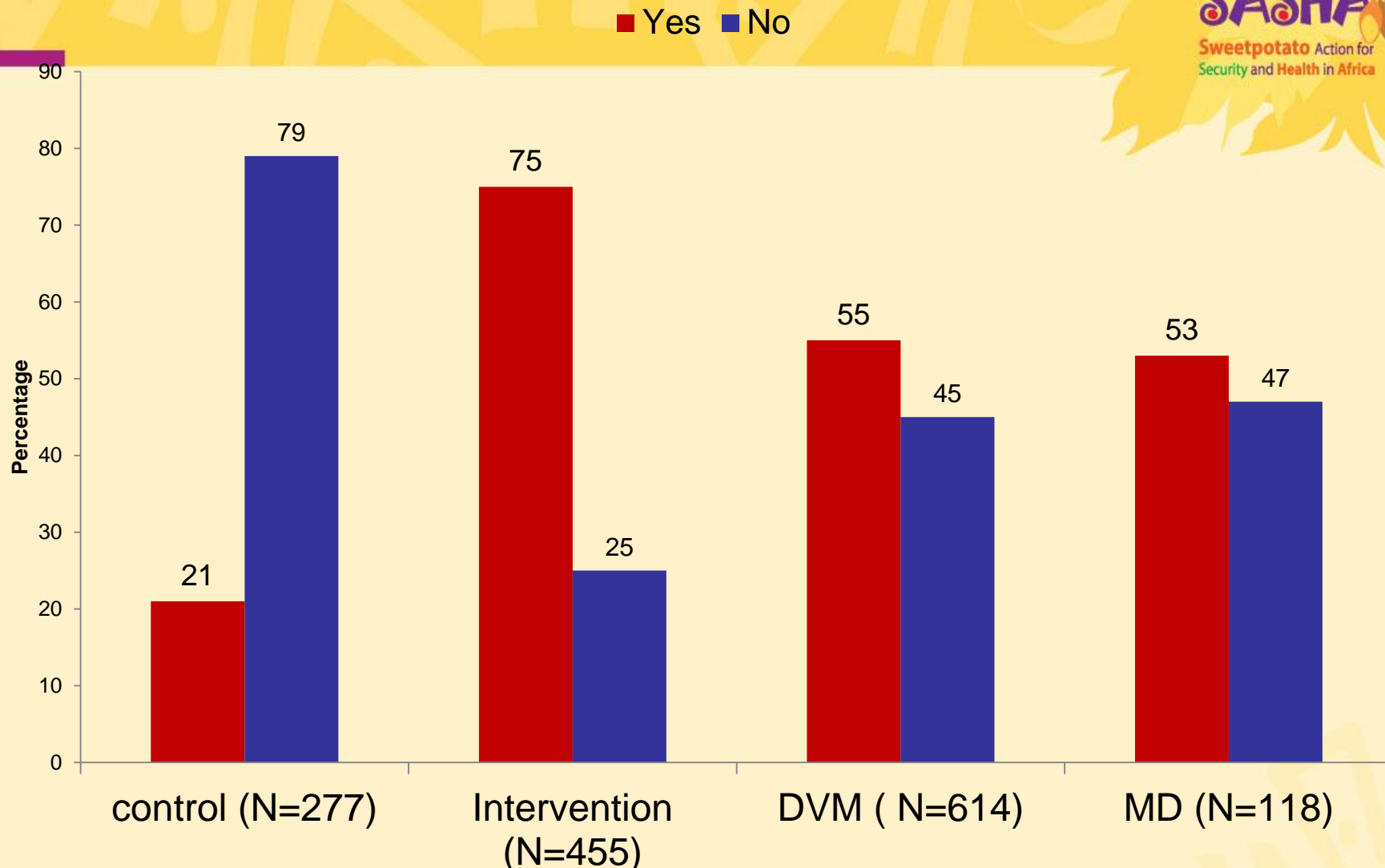
In the intervention areas DVMs are well known. Hence it is expected that this might translate to more purchases after the project phased out

Received a voucher

As expected most of the respondents who received vouchers are in the intervention areas

Benefits of receiving a voucher

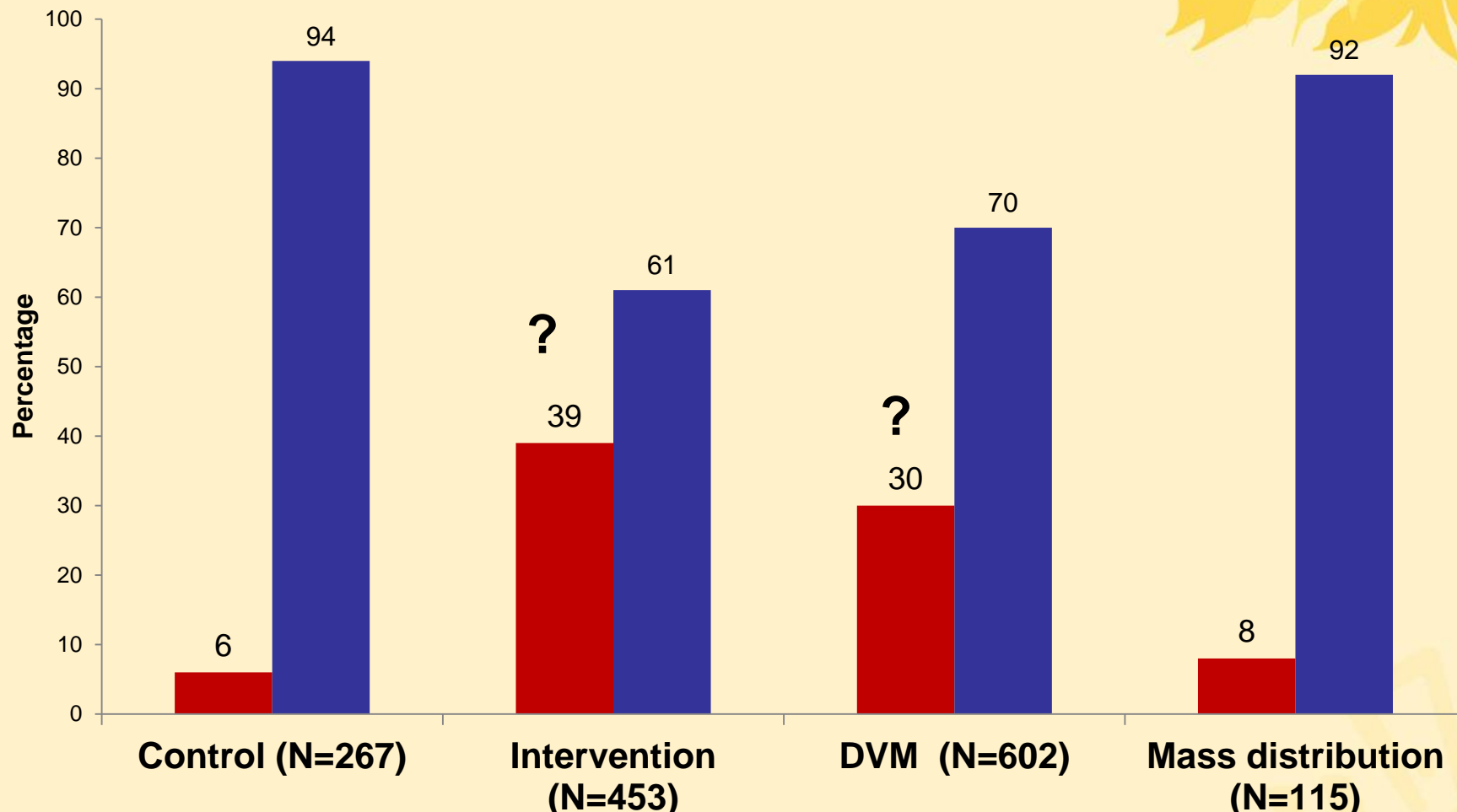Legend: Control (N=16), Intervention (N=173), DVM (N=180), Mass distribution (N=9)

Categories: Cheaper vines, Quick delivery of vines, Sustainable / stable supply of…, Quality vines, Timely access to vines, Ease of access to vines, Encourage record keeping, Allow DVM membership
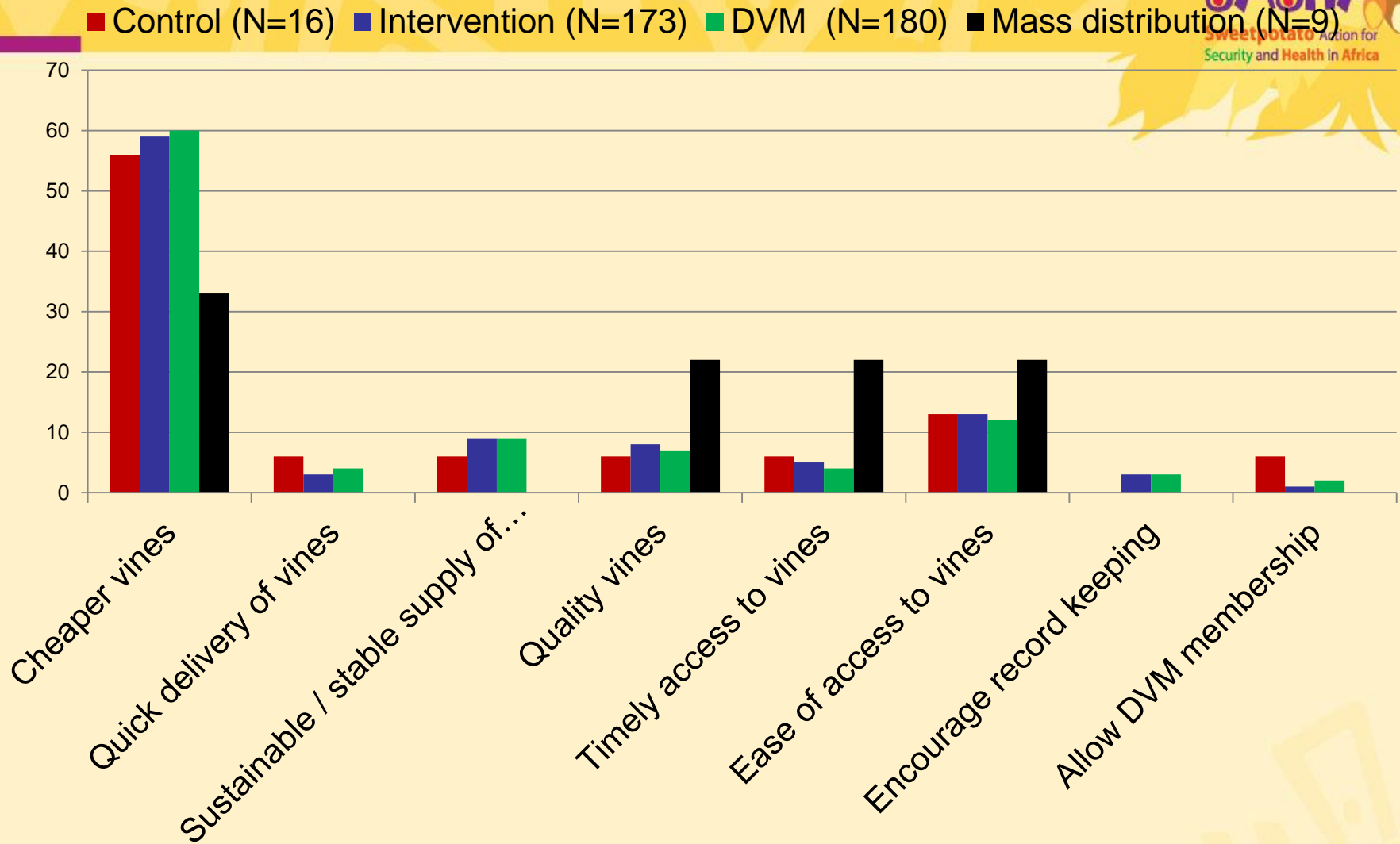
Majority of the respondents saw the voucher as a source of cheap vines hence it is important to communicate the importance of the new varieties clearly
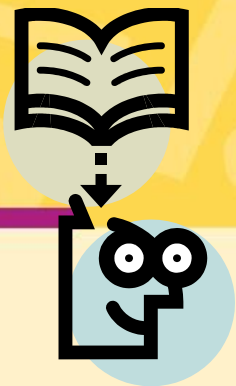
KNOWLEDGE

Respondent diagnosis of virus infection
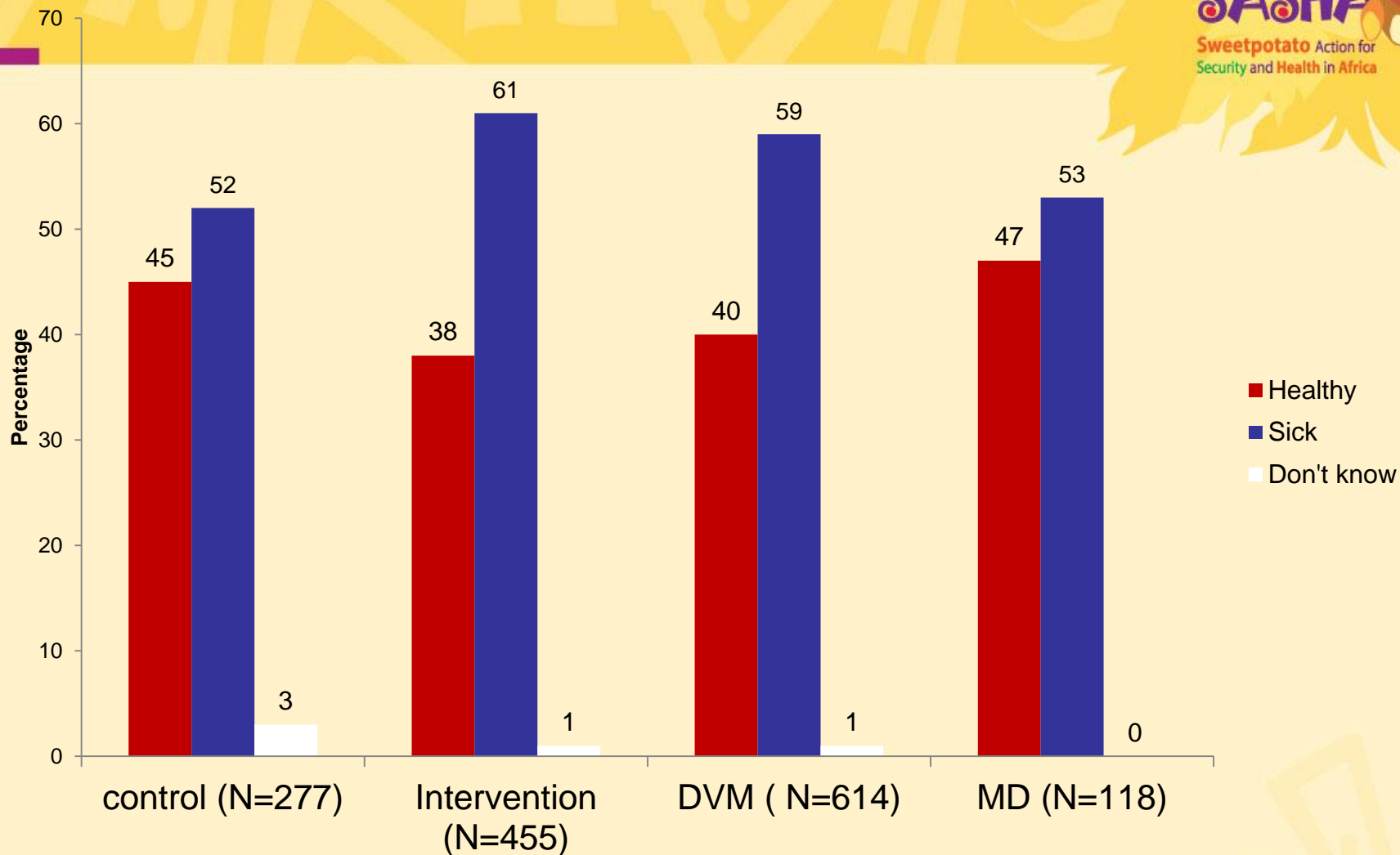
The respondent in the treated areas had a higher percentage of getting the viral or disease infection correct than the control

OFSP is healthier to eat than WFSP
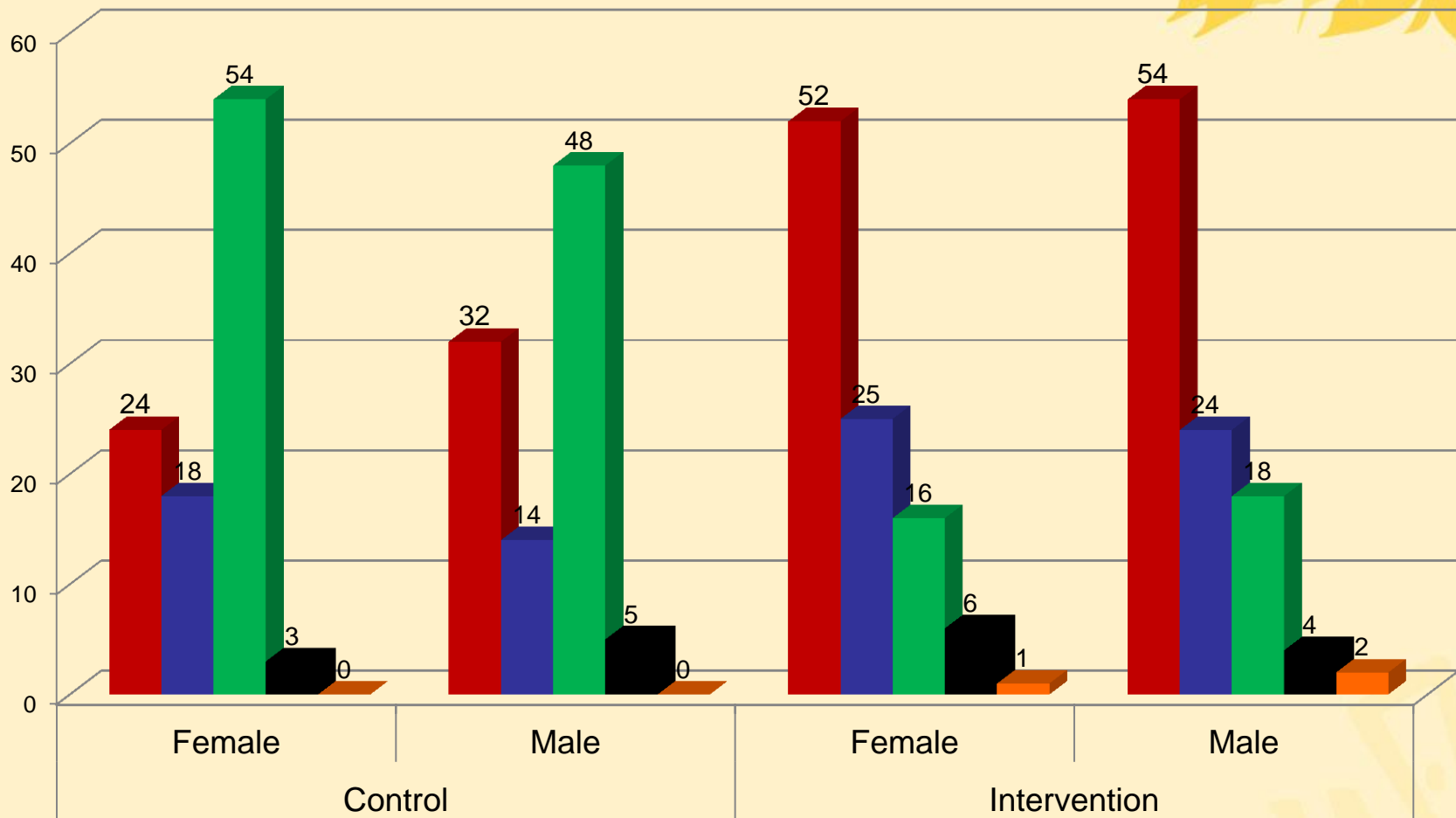
In the control areas most of the respondents didn't know whereas in the intervention areas majority agreed or strongly agreed showing the influence of the project

SP will remain as part of the diet with plenty of food available

Legend: ■ Strongly disagree ■ disagree ■ Neither agree/disagree ■ Agree ■ Strongly agree
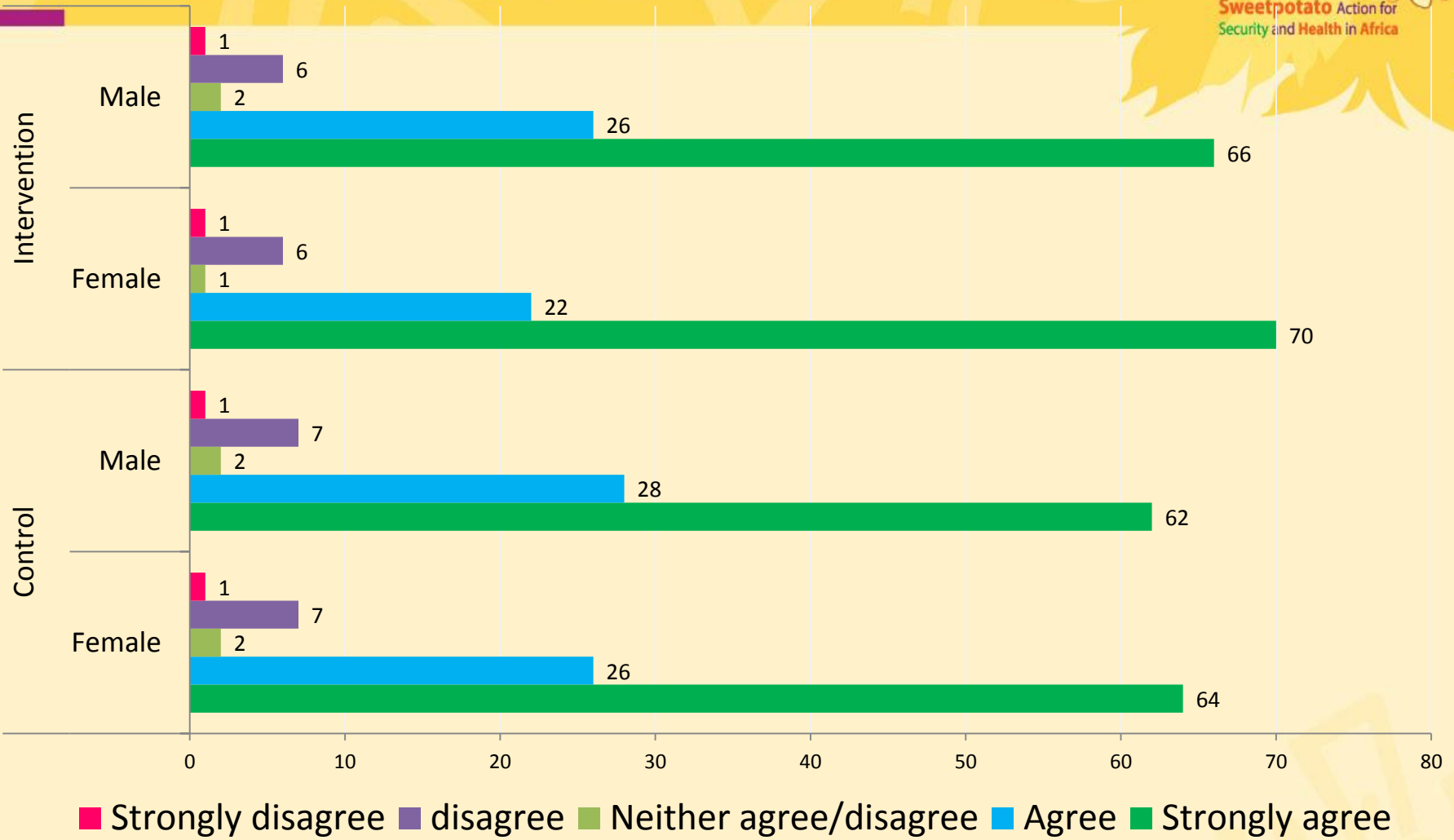
Clearly sweetpotato is important in the diet of the respondent in control areas as well as intervention areas although in the later in seems to have more prominence

Children don't prefer OFSP orange color

Legend: ■ Strongly agree ■ Agree ■ Neither agree/disagree ■ disagree ■ Strongly disagree

Control — Female: Strongly agree 2, Agree 4, Neither agree/disagree 59, disagree 25, Strongly disagree 11
Control — Male: Strongly agree 0, Agree 2, Neither agree/disagree 56, disagree 29, Strongly disagree 13
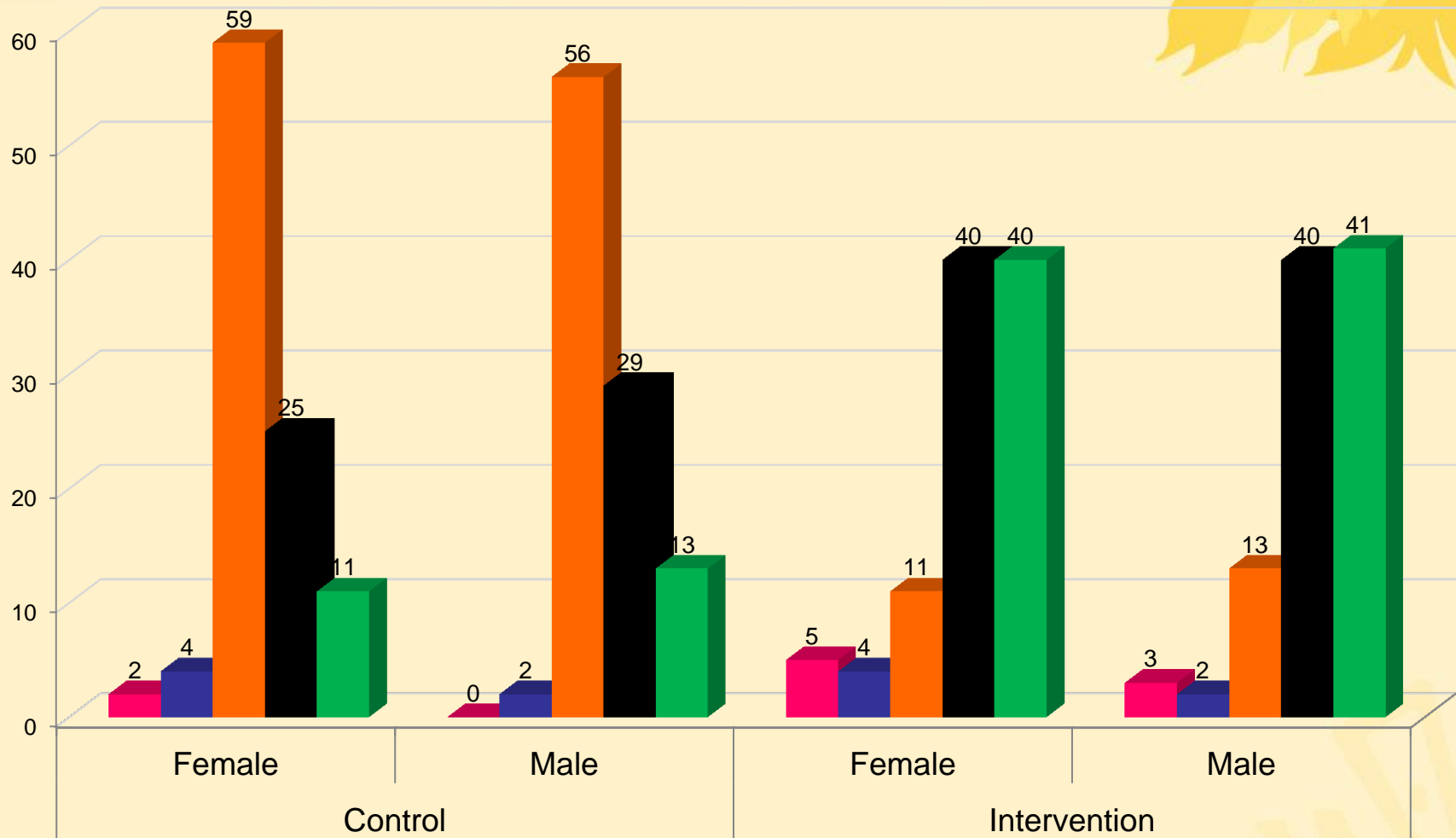Intervention — Female: Strongly agree 5, Agree 4, Neither agree/disagree 11, disagree 40, Strongly disagree 40
Intervention — Male: Strongly agree 3, Agree 2, Neither agree/disagree 13, disagree 40, Strongly disagree 41
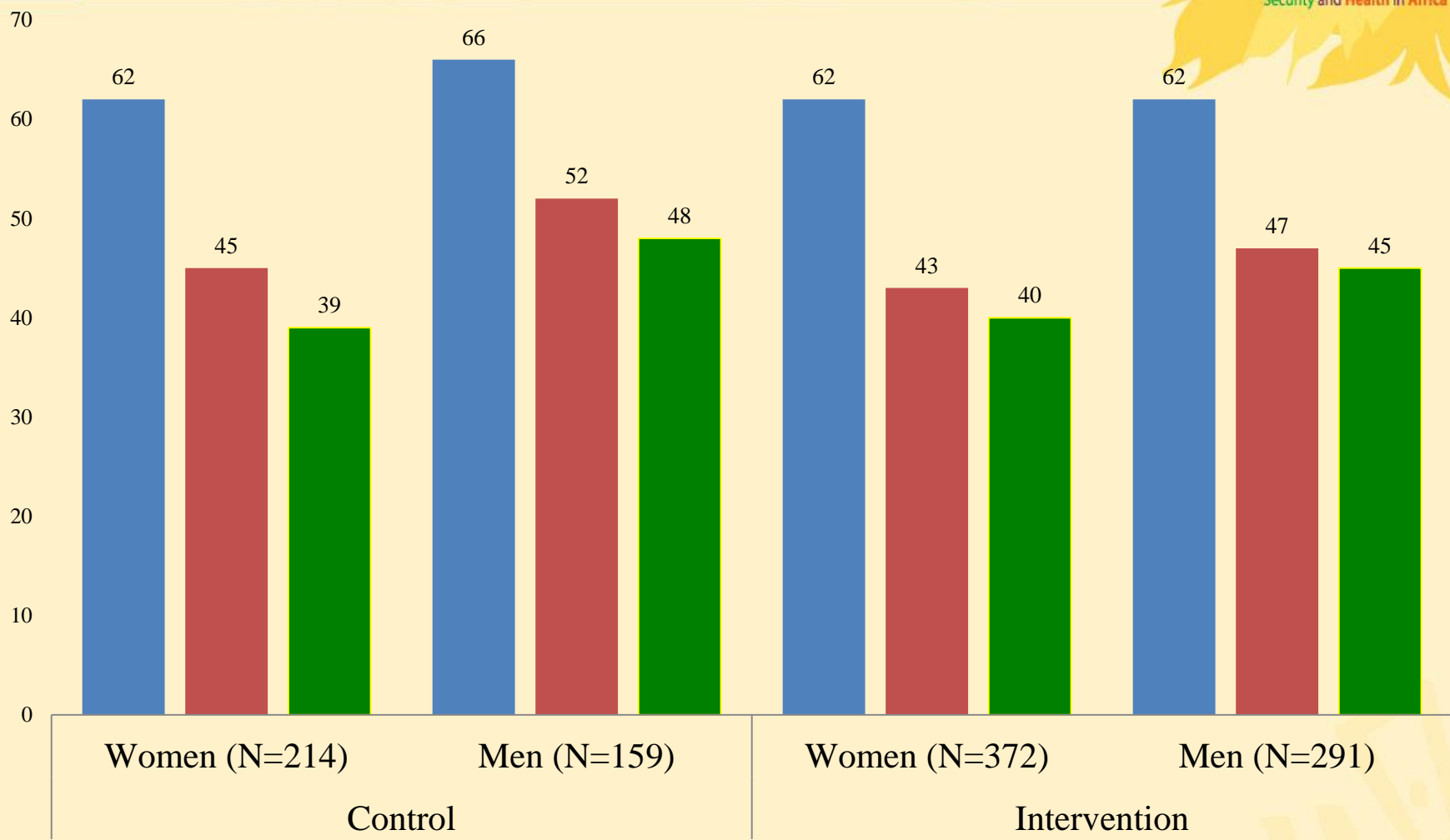
Intervention areas had more experience with OFSP and shows that children like the color in comparison to the control areas

Respondents knowledge of importance of vitamin A

No real difference between control and intervention on the knowledge of the importance of vitamin A in our bodies

Sources of nutrition knowledge

Legend:
- Local radio
- Kiswahili radio
- Health unit
- Health extension
- Local leader
- Religious leader
- Friend
- Relative
- Billboards
- School
- Nutritional book
- Seminars
- Ag extension

Control (N=277): Women, Men
Intervention (N=455): Women, Men
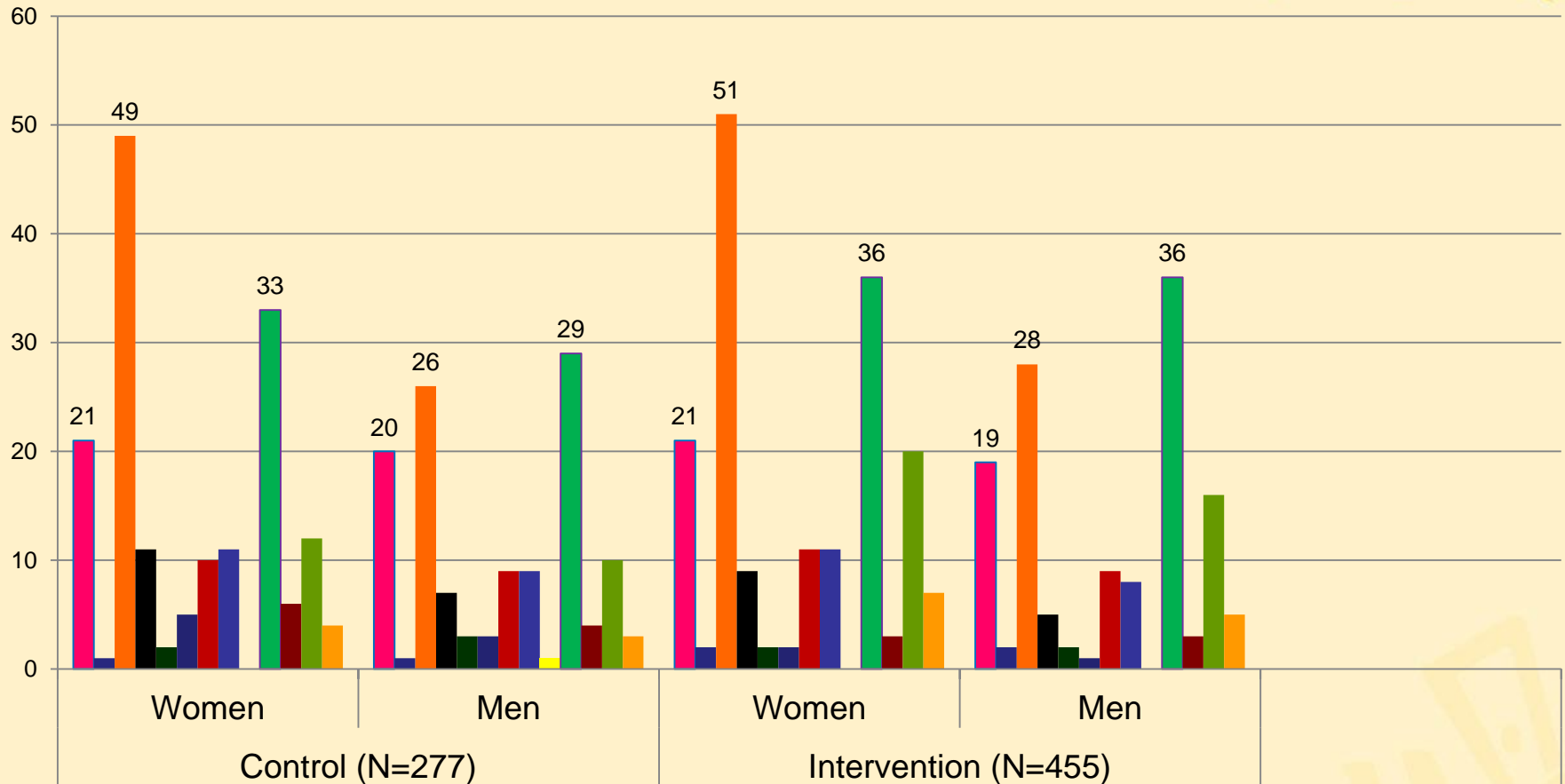
Health units, schools, local radios and seminars are the main sources of the nutrition knowledge

Household and child (6-23 months) 24 hour food diversity

Do they meets WHO food diversity requirement of 4 groups or above?
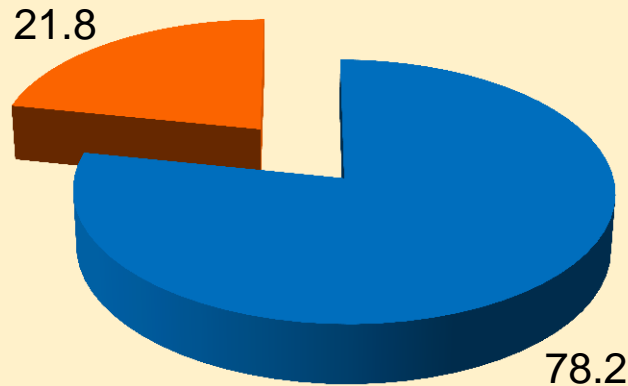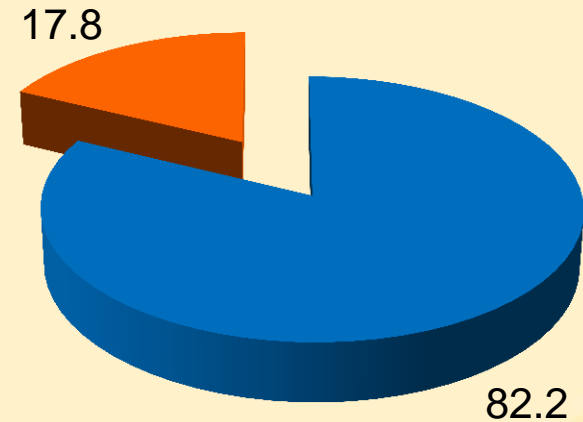
HOUSEHOLD

■ No ■ Yes

21.8

78.2

CHILD

■ No ■ Yes

17.8

82.2

Clearly at the time the survey was conducted it was the so called "hunger period" where the food diversity was not good for the whole household

% of the households that had less than 2 meals a day from their own resources

Month	Control		Intervention	
	Female (N=277)	Male (N=219)	Female (N=453)	Male (N=363)
January	33.94	31.05	30.24	30.19
February	27.08	29.22	22.69	21.55
March	19.86	21.46	15.20	14.09
April	13.00	12.33	9.03	9.39
May	10.83	11.42	10.35	10.50
June	10.47	12.84	14.54	14.64
July	16.97	17.81	15.20	17.68
August	23.10	23.74	22.25	22.93
September	27.80	31.05	30.62	32.04
October	36.46	37.90	35.68	39.50
November	42.24	44.75	42.51	44.08
December	36.82	42.47	40.31	39.23

7 day food frequency

	N	Mean
Weighted 7 days food with vitamin A frequency score for each household	729	7.0
Weighted 7 days consumption of food with vitamin A frequency score for child (6-23 months)	212	5.2

A community has a vitamin A deficiency problem if the mean frequency of total consumption of animal and plant sources of vitamin A is 6 days per week or less therefore we find that children 6-23 months have a vitamin A deficiency problem

7 day food frequency in different categories

		Weighted 7 days consumption of food with vit A frequency score for each for children 6-23	Weighted 7 days food with vit A frequency score for each household
		Mean	Mean
Household was interviewed in the baseline	NO	4.74	6.92
	YES	4.56	7.02
Mode of vine dissemination	DVM method	4.64	6.98
	Mass distribution method	4.58	7.00
(Wealth index quintiles (5) with cows)	1	4.76	7.13
	2	4.51	6.84
	3	4.72	6.87
	4	4.15	7.03
	5	5.25	7.20

We find that children 6-23 months have a vitamin A deficiency problem under all categories

The team

Thank you