OUTLINE

- The problem

- Objectives

- Rationale for the study

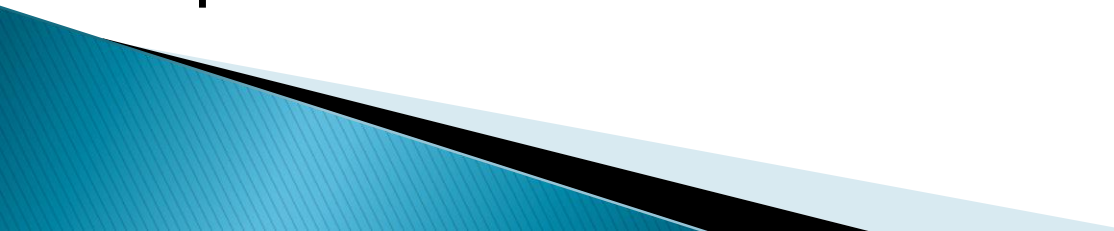- Methodology

- Findings

- Conclusion

- Recommendation

The problem

- Micronutrient deficiency is prominent in Nigeria

- Many local foods, fruits, and plants have been reported to be good sources of micronutrients

- These are available in abundance and very low-priced.

- Moringa (also known as the miracle tree) is a very simple and readily available solution to the problem of malnutrition and improved health.

- It has a local resource, its supply is not seasonal (Fuglie, 2001); all its parts are edible and useful.

MORINGA

▸ The Moringa leaf is a natural antihelmintic, antibiotic, detoxifer and an outstanding immune builder used in the treatment of malnutrition and malaria (Thilza *et al.*, 2010).

▸ Moringa leaves contain more nutrients than other well-known rich foods (Fahey, 2005).

▸ Moringa seeds can also be processed in to cooking oil.

▸ Absolutely no negative effects to daily consumption of Moringa leaves and seeds have ever been reported (Marcu, 2005).

▸ In Hawaii, the flowers are used to make a tea that cures colds. In addition to this, the flowers are a year- round source of nectar and can be used by beekeepers (El-Awady, 2003).

Objectives

▸ assess the level of awareness of moringa products and their nutritional and health benefits;

▸ Investigate attitudes of consumers towards labeling and certification; and

▸ identify the determinants willingness to pay for selected labelled and certified moringa products

Rationale for the study

- Most existing literature studies on *Moringa oleifera* in Nigeria focused on phytochemical and physicochemical analyses.

- The only known socio-economic study on *Moringa oleifera* in Nigeria was conducted by Torimiro *et al.*, (2009).

Methodology

- The data was collected in 2012 using a multi-stage sampling procedure.

- A total of 150 respondents were selected (83 from Abeokuta South and 67 from Abeokuta North).

- The contingent valuation method (CVM) was used to elicit information on consumers' Willingness to Pay (WTP) for the three commonest products.

- The three moringa products (moringa tea, moringa spice/powder and moringa oil).

Analytical tools

▸ ## Descriptive statistics were used to:

- assess the level of awareness of moringa products and their nutritional and health benefits
- investigate perceptions and attitudes of consumers towards labeling and certification of the products.

▸ ## The logit model was used to explain the log-likelihood of willingness to pay and its determinants

− It has comparative mathematical simplicity and asymptotic characteristics, which constrained the predicted probabilities to a range of zero to one.

Logit Model

$$\text{Logit}(P_i) = \log(P_i/1 - P_i) = \alpha + \beta X_i$$

Where:
- P_i = response probabilities of WTP;
- α = intercept parameter;
- β = vector of slope parameters;
- and X_i = vector of explanatory variables.

- Explicitly, explanatory variables are household demographic characteristics and composite indices such as:

  Knowledge of nutrition and health (KNOWNH), Awareness of moringa products (AWAREM), Current consumption patterns (PATTERN), attitude towards moringa products (ATTITMOR), attitude towards labelling (ATTITUDELAB), Perception of labelling and certification (PERCEPLAB) and Perception of moringa products index (PERCEPMOR)

Variables

- The composite indices were derived by averaging the responses to each of the corresponding items (Moon and Balasubramanian, 2004; House *et al.*, 2004).

- This yielded scores that could be any value between two limits.

- For example the summated score for ATTITMOR could range between least positive attitude to and most positive attitude

- HHISTORY captured people's health condition as well as their concern for various nutritional diseases.

Socio-economic variables

- age of the respondents (AGE)
- sex of the respondents (SEX)
- marital status of the respondents (MARISTAT)
- education attainment of the respondents (EDUCAT)
- household size of the respondents (HHSIZE)
- unit price (PRICE)
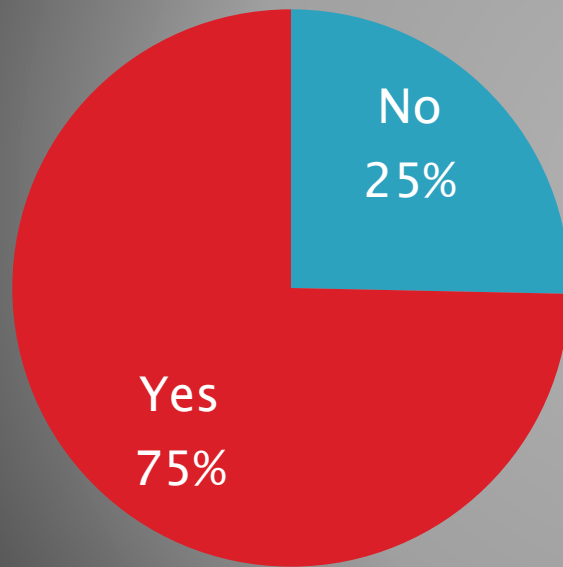- per capita monthly expenditure (HHMPCEXDIST)

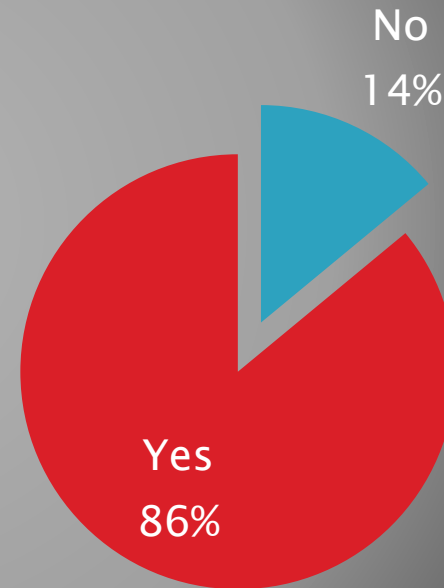# Findings

Factors influencing purchasing decision
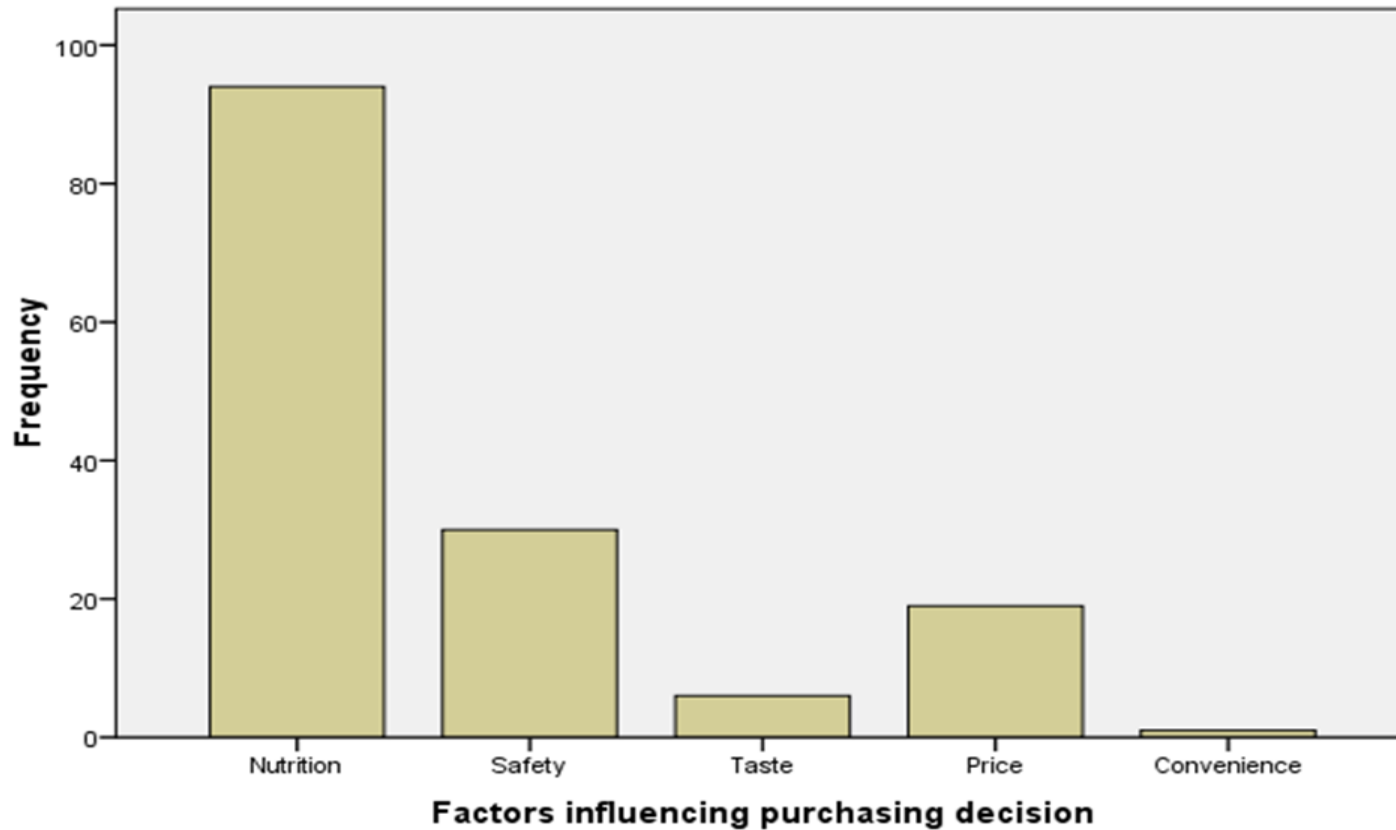
Consumers' attitude towards labelling and certification

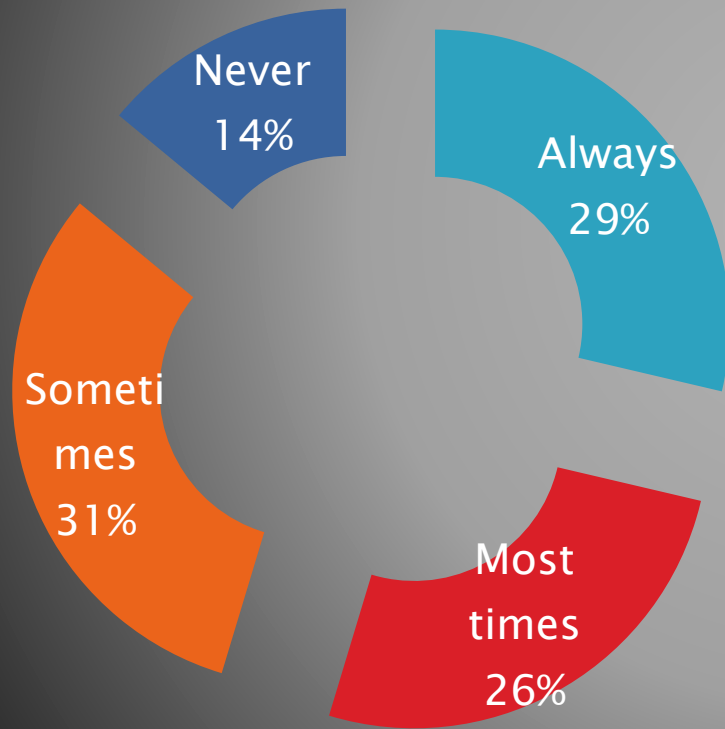- Labelled and certified moringa products are safer than the unlabelled

- Read nutrition/certification labels when I buy moringa product.

No
25%

Yes
75%

No
14%

Yes
86%

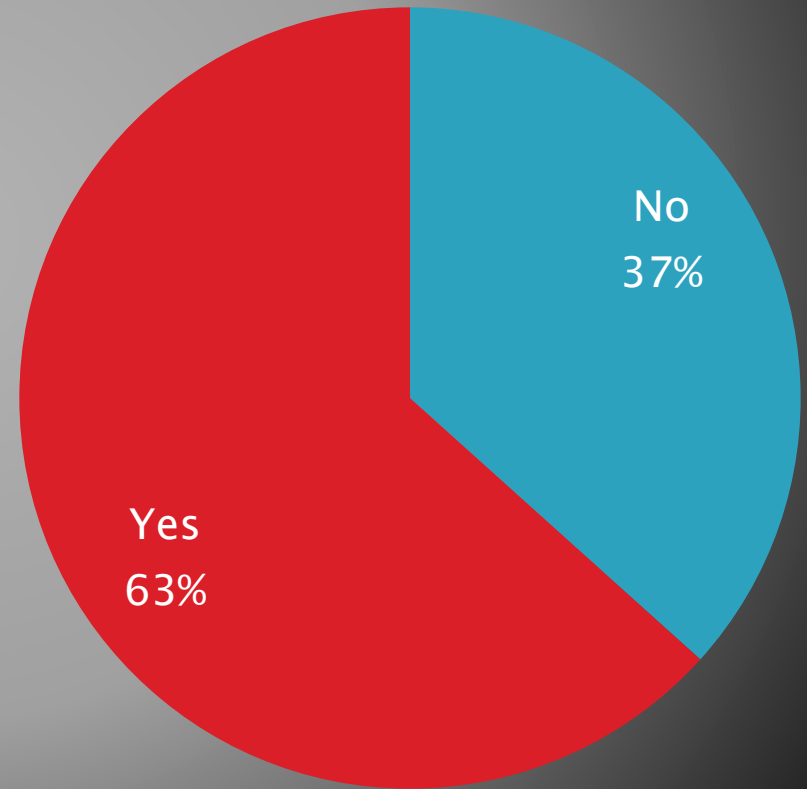# contd.

- Frequency of reading nutrition and safety labels when purchasing moringa products

- Labels affect my purchase price decision

Donut chart (left):
- Never 14%
- Always 29%
- Most times 26%
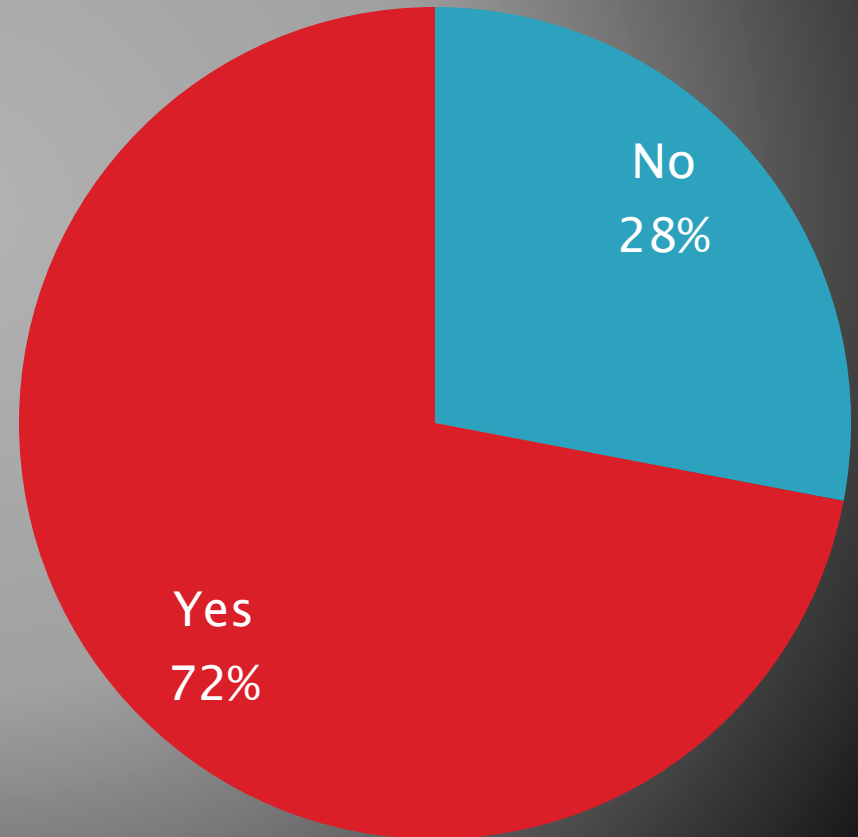- Sometimes 31%

Pie chart (right):
- No 37%
- Yes 63%

Contd

- Consume unlabelled moringa product

Yes
33%

No
67%
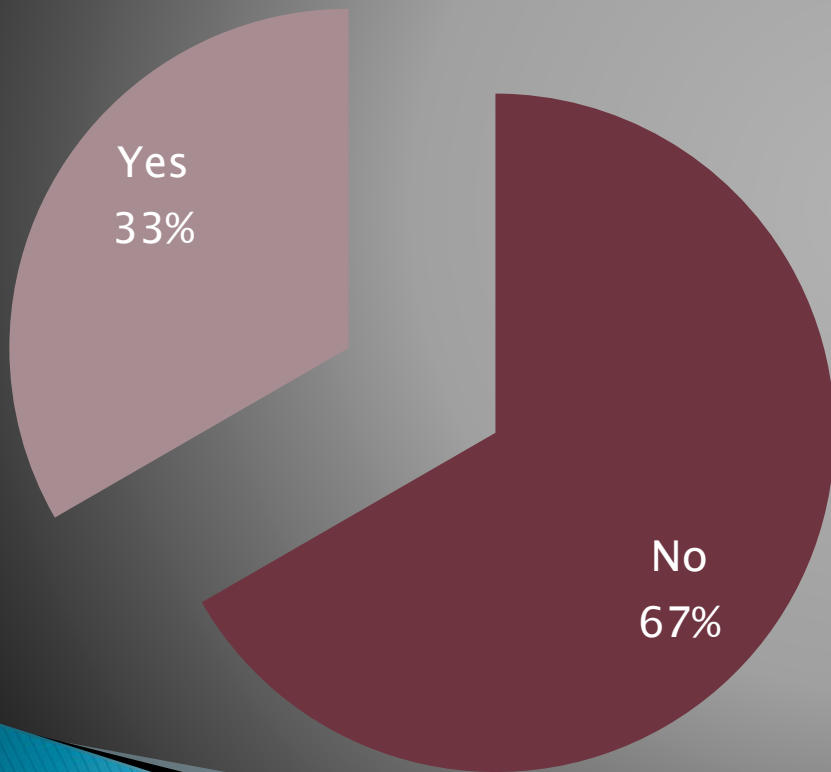
- Prefer labelled and certified moringa products

No
28%

Yes
72%

Contd.

▸ Prefer imported moringa products

Yes
41%

No
59%
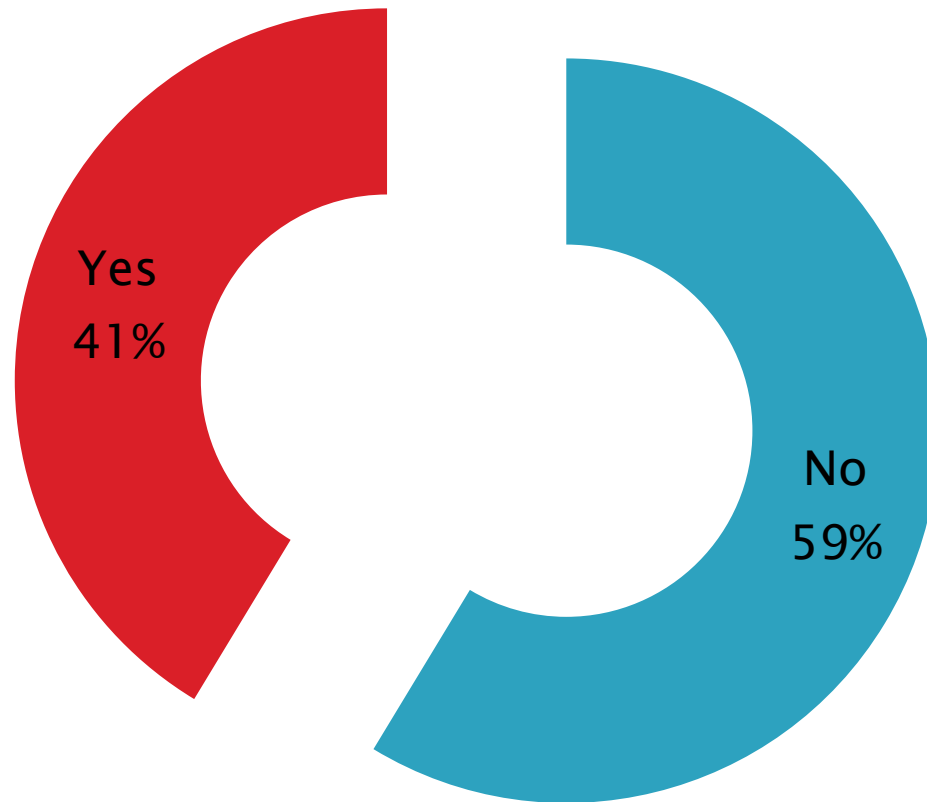
Preferred Certifications/endorsements for Moringa products

SON 17%

Others 1%

NAFDAC 82%
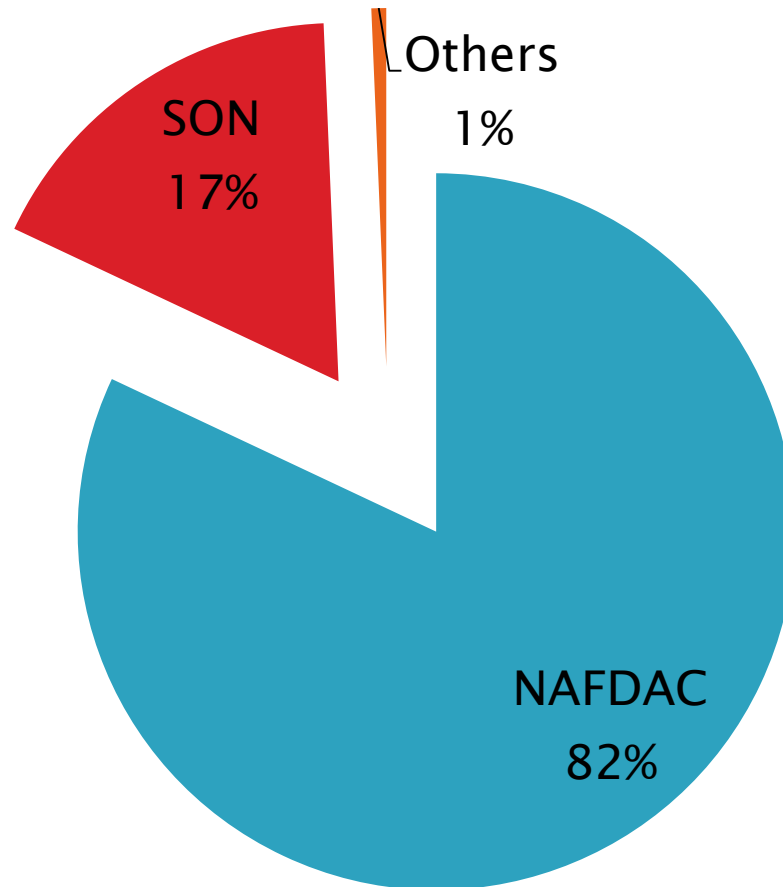
Preferred packaging methods for the Moringa products
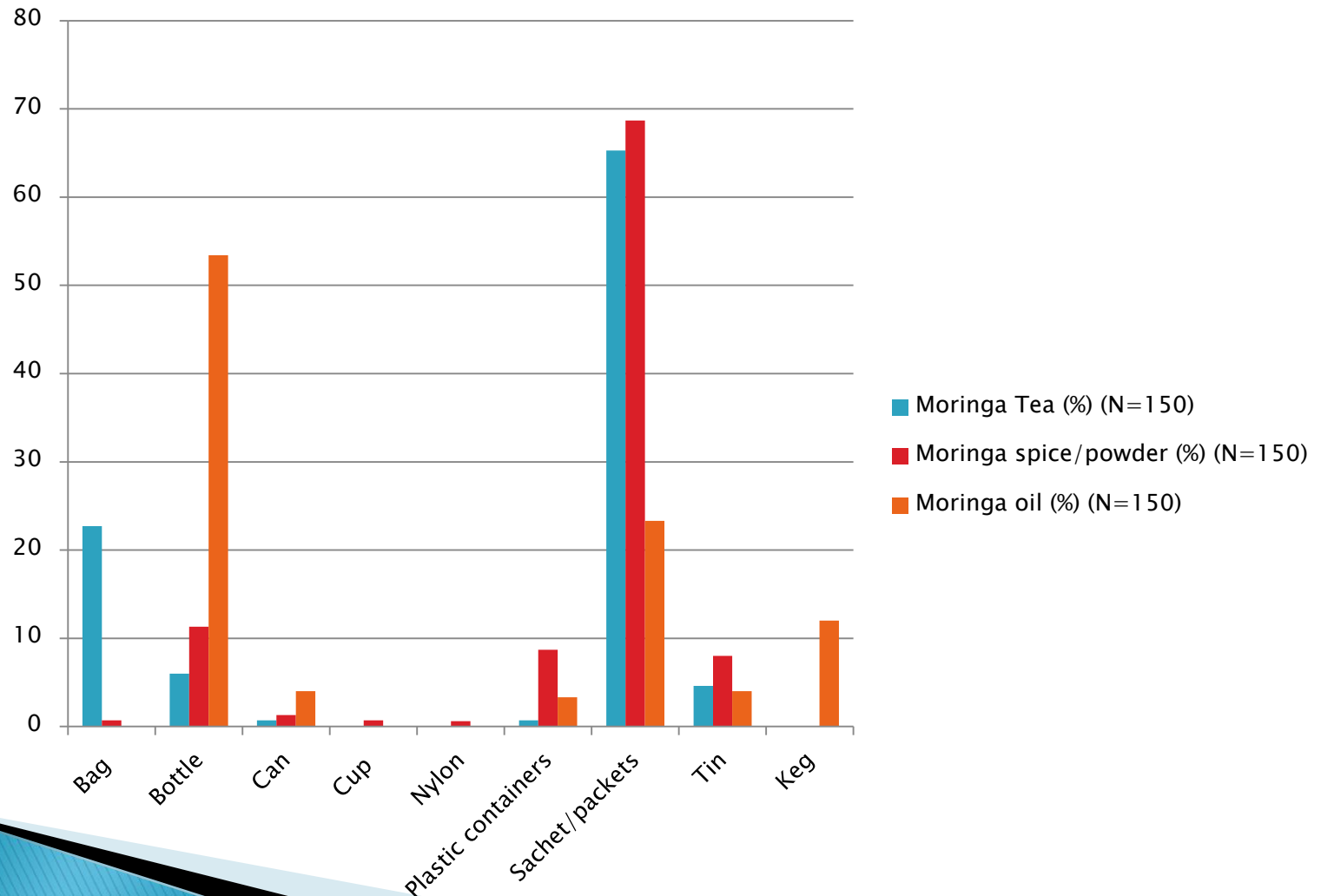
Distribution of consumers based on their WTP for certified moringa products

Moringa products	Response	Frequency (N=150)	Percentage (%)	Average premium (₦)
1. Moringa tea	No	75	50.0	48.3
	Yes	75	50.0	
2. Moringa spice/ powder	No	77	51.3	64.8
	Yes	73	48.7	
3. Moringa oil	No	75	50.0	64.8
	Yes	75	50.0	

Marginal effects after Logit on WTP

	Moringa Tea		Moringa Spice		Moringa Oil	
Variables	Marginal effect	Standard error	Marginal effect	Standard error	Marginal effect	Standard error
SEX	-0.1788*	0.1019	-0.1297	0.0998	-0.0903	0.1006
MARISTAT	-0.3645**	0.1449	-0.1921	0.1685	-0.3155**	0.1517
AGE	0.0150*	0.0086	0.0086	0.0079	0.0121	0.0083
EDUCAT	-0.0676	0.2025	-0.1925	0.1742	0.0415	0.1911
HHSIZE	0.0111	0.0405	-0.0138	0.0397	0.0148	0.0391
PRICE	-0.0667	0.0484	-0.0007	0.0452	-0.0469	0.0468
HHMPCEXDIST	0.0353	0.0551	0.1095**	0.0554	0.0313	0.0538
KNOWNH	0.3034	0.2384	0.3348	0.2343	0.0874	0.2291
AWAREM	-0.1790	0.1243	0.0159	0.1185	-0.1904	0.1213
HHISTORY	0.0017	0.1945	-0.0819	0.1850	0.1440	0.1844
PERCEPMOR	0.0149	0.1102	-0.0894	0.1064	-0.0587	0.1086
PATTERN	-0.2477***	0.1052	-0.1751*	0.0976	-0.2249**	0.0984
ATTITMOR	0.4063***	0.1102	0.2472**	0.0975	0.3951***	0.1079
PERCEPLAB	0.2298**	0.1122	0.1449	0.1115	0.2104*	0.1098
ATTITUDELAB	0.5386***	0.2772	0.5576**	0.2653	0.4619*	0.2669

Conclusion

- There is a prospect for moringa farmers in Nigeria.

- More males than females were more willing to pay for labelled and certified moringa tea.

- Attitude towards moringa products, perception of moringa product were positively related to WTP for labelled and certified moringa products.

Recommendations

- Intensification of awareness and sensitization programs on moringa products for female consumers.

- Re-orientation programs should also target the men folks and the singles.

- Marketers of these products should target the aging population, owing to their nutrition consciousness.

- Marketers should package moringa tea and spices in satchets; and moringa oil in kegs.

Thanks for Listening