

Table S1. Socioeconomic characteristics of respondents by gender and state

Variables	Benue		Osun		Imo		Total	
	M N=33	F N=30	M N=35	F N=27	M N=24	F N=38	M N=92	F N=95
Age								
less or equal 20	0.0	3.3	0.0	0.0	0.0	2.6	0.0	2.1
21-30	16.7	46.7	8.6	7.4	0.0	17.9	9.5	24.0
31-40	27.8	13.3	42.9	37.0	25.0	25.6	32.6	25.0
41-50	30.6	26.7	25.7	22.2	33.3	23.1	29.5	24.0
51-60	19.4	6.7	11.4	22.2	33.3	10.3	20.0	12.5
>60	5.6	3.3	11.4	11.1	8.3	20.5	8.4	12.5
Other occupation								
Farming	5.6	23.3	5.7	0.0	8.3	7.7	6.3	10.4
Trading	30.6	33.3	11.4	55.6	25.0	48.7	22.1	45.8
Artisan	19.4	10.0	22.9	11.1	16.7	5.1	21.1	8.3
Marketing of farm produce	13.9	26.7	8.6	40.7	8.3	12.8	10.5	25.0
Public Service	5.6	0.0	14.3	7.4	0.0	2.6	7.4	3.1
Cassava marketing	2.8	20.0	2.9			2.6	2.1	15.6
Religion								
Christianity	100.0	100.0	80.0	55.6	100.0	100.0	92.6	87.5
Islam			20.0	44.4			7.4	12.5
Marital status								
Married in a monogamous setting	55.6	60.0	82.9	74.1	87.5	61.5	73.7	64.6
married in a polygamous setting	41.7	33.3	17.1	25.9	0.0	5.1	22.1	17.7
Separated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
single	2.8	0.0	0.0	0.0	4.2	2.6	2.1	1.0
widow	0.0	6.7	0.0	0.0	8.3	30.8	2.1	14.6
Educational level								
No formal education	13.9	46.7	11.4	29.6	0.0	5.1	9.5	25.0
Primary	30.6	16.7	8.6	37.0	41.7	38.5	25.3	31.3
Secondary	36.1	33.3	42.9	18.5	50.0	48.7	42.1	35.4
Tertiary	19.4	3.3	37.1	14.8	8.3	7.7	23.2	8.3
Indigene	58.3	30.0	54.1	51.9	95.8	79.5	57.9	56.3
Land ownership								
Personal	66.7	70.0	20.0	25.9	87.5	61.5	54.7	54.2
Family	33.3	13.3	37.1	51.9	66.7	64.1	43.2	44.8
Rented	69.4	46.7	71.4	51.9	33.3	46.2	61.1	47.9
Leasehold	11.1	3.3	22.9	3.7	12.5	15.4	15.8	8.3
Member of cooperative	38.9	26.7	31.4	22.2	12.5	20.5	29.5	
Household size								
less or equal 4	19.4	33.3	37.1	44.4	25.0	46.2	27.4	41.7
5-8	38.9	56.7	42.9	55.6	58.3	41.0	45.3	50.0
9-12	16.7	6.7	14.3		12.5	12.8	14.7	7.3
>12	25.0	3.3	5.7		4.2	0.0	12.6	1.0
Years of experience running own farm								
less or equal 10	19.4	63.3	22.9	51.9	41.7	25.6	26.3	44.8
11-20	41.7	16.7	42.9	25.9	4.2	30.8	32.6	25.0
21-30	19.4	13.3	25.7	14.8	29.2	17.9	24.2	15.6
31-40	11.1	6.7	8.6	7.4	12.5	10.3	10.5	8.3
41-50	8.3	0.0	0.0	0.0	12.5	10.3	6.3	4.2
>50	0.0	0.0	0.0	0.0	0.0	5.1	0.0	2.1

Farm size (Ha)								
less or equal 2	38.9	63.3	28.6	66.7	83.3	89.7	46.3	75.0
3-4	19.4	23.3	22.9	29.6	16.7	5.1	20.0	17.7
5-6	25.0	6.7	20.0	3.7	0.0	5.1	16.8	5.2
>6	16.7	6.7	28.6	0.0	0.0	0.0	16.8	2.1
Cassava Farm size								
less or equal 2	72.2	96.7	62.9	77.8	91.7	97.4	73.7	91.7
3-4	19.4	3.3	25.7	18.5	8.3	2.6	18.9	6.3
5-6	8.3		2.9	0.0	0.0	0.0	4.2	1.0
>6	0.0		8.6	3.7	0.0	0.0	3.2	1.0
Proportion by cassava farm (%)								
less or equal 20	22.2	20.0	11.4	7.4	8.3	10.3	14.7	12.5
21-40	33.3	40.0	34.3	7.4	0.0	17.9	25.3	21.9
41-60	27.8	26.7	31.4	33.3	16.7	10.3	26.3	21.9
61-80	0.0	6.7	17.1	22.2	37.5	20.5	15.8	16.7
>80	16.7	6.7	0.0	29.6	37.5	41.0	17.9	27.1
Estimated farm income per year								
less or equal 250000	8.3	33.3	11.4	37.0	41.7	46.2	17.9	39.6
251000-500000	19.4	33.3	20.0	37.0	20.8	33.3	20.0	34.4
501000-750000	13.9	10.0	17.1	18.5	16.7	7.7	15.8	11.5
751000-1000000	16.7	16.7	20.0	3.7	4.2	2.6	14.7	7.3
>1000000	41.7	6.7	31.4	3.7	16.7	10.3	31.6	7.3
Estimated income from cassava/year								
less or equal 250000	50.0	83.3	45.7	74.1	62.5	71.8	51.6	76.0
251000-500000	27.8	13.3	22.9	22.2	16.7	15.4	23.2	16.7
501000-750000	8.3	0.0	14.3	0.0	8.3	2.6	10.5	1.0
>750000	13.9	3.3	17.1	3.7	12.5	10.3	14.7	6.3
Non-farm income per year								
less or equal 200,000	19.4	40.0	31.4	92.6	29.2	38.5	41.0	54.2
201,000-400,000	16.7	6.7	11.4	0.0	12.5	17.9	21.3	9.4
401000-601000k	11.1	6.7	2.9	0.0	8.3	2.6	11.5	2.1
601000-800000	11.1	53.3	2.9	0.0	4.2	2.6	9.8	1.0
>800000	8.3	0.0	5.7	0.0	20.8		16.4	1.0
Household monthly expenditure on food								
less or equal 20000	2.8	36.7	22.9	25.9	12.5	30.8	12.6	31.3
21,000-40,000	47.2	53.3	31.4	70.4	29.2	33.3	36.8	50.0
41,000-60,000	30.6	6.7	31.4	3.7	50.0	30.8	35.8	15.6
61,000-80,000	8.3	3.3	5.7	0.0	4.2	2.6	6.3	2.1
>80,000	11.1	0.0	8.6	0.0	4.2	2.6	8.4	1.0
Remittances (monthly)								
less or equal 20000	25.0	23.3	14.3	14.8	25.0	51.3	21.1	32.3
21,000-40,000	2.8	6.7	2.9	0.0	8.3	2.6	3.2	3.1
41,000-60,000	5.6	6.7	2.9	0.0	4.2	5.1	1.1	4.2
>60,000	0.0	0.0	0.0	0.0	0.0	5.1	4.2	2.1
Ownership of mobile phone	97.2	83.3	100.0	96.3	100.0	79.5	98.9	85.4
Control over mobile phone	97.2	83.3	100.0	96.2	100.0	79.5	98.9	85.4
Ownership of means of transportation	77.8	26.7	71.4	33.3	62.5	20.5	71.6	26.0
Control over means of transportation	80.6	23.3	68.6	22.2	62.5	10.3	71.6	17.7
Access to credit facilities	50.0	33.3	54.3	55.6	25.0	35.9	45.3	40.6
Access to climate information	27.8	23.3	48.6	40.7	29.2	30.8	35.8	31.3

Benefits from any government programme	16.7	13.3	31.4	3.7	37.5	20.5	7.4	13.5
Access to equipment/infrastructure	33.3	6.7	57.1	25.9	29.2	30.8	41.1	21.9

Table S2. Cassava traits and response (coping and adaptation) strategies sources (literatures, expert review and validation and main survey)

S/N	Cassava Traits	Sources: Literatures (2010-2023), Expert reviews/validation, Pre-test and main survey (individual interviews, key informant interviews and focus group discussion)
A	Complements other staples	Acheampong, et al (2013), Expert reviews, individual interview/main- survey, Focus group discussion
	Leaves inedible to cattle scent/ odour	Individual interview pretest, Focus group discussion
	Thrives in any soil	Bentley et al, 2017, Focus group discussion
	Thrives with intercropping	Madu et al., 2022, Bentley et al, 2017, Expert review and Focus group discussion
	Contributes to food during drought	Acheampong, et al (2013), focus group discussion
	Provides diverse food during lean season	Teeken, et al (2018), Expert reviews, focus group discussion
	Long duration/late maturity	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021. Focus group discussion
	Short duration/early maturity	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021, Adjebeng-Danquah et al (2020), Ndjouenkeu et al., 2020
	Tolerance to pest and diseases	Balogun et al., 2021, Adjebeng-Danquah et al (2020), Bentley et al, 2017, Acheampong, et al (2013),
	Survive in a water logged area	Bentley et al, 2017, Teeken, et al (2018), Expert reviews
	In-ground storability	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021, Ndjouenkeu et al., 2020, Expert reviews.
	Thrives on low nutrient soil	Bentley et al, 2017, Teeken, et al (2018), Acheampong, et al (2013), Expert reviews
	Tolerance to dry spells	Bentley et al, 2017, Teeken, et al (2018), Expert reviews
	Short duration/early bulking	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021 Expert reviews, Focus group discussion
	High root yield	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021, Ndjouenkeu et al., 2020, Pushpalatha & Gangadharan, 2021, Expert reviews, individual interview pretest, Focus group discussion
	Minimal inputs and management requirements	Bentley et al., 2017, Individual interview pretest, Focus group discussion
	Low cost of production	Acheampong, et al (2013), Expert reviews, Focus group discussion
	High stem yield	Bentley et al., 2017, Expert reviews, Individual interview pretest, Focus group discussion
	Flexible harvesting times	Bentley et al., 2017, Tufan et al., 2018, Teeken et al., 2018, 2021, Expert reviews, Focus group discussion, Key Informant Interviews

	Root Milking	Bentley et al., 2017, Individual and key informant pre-test, focus group discussion
B1	Conflict related coping strategies (herder-farmer clashes, communal crises, land-use conflicts)	
	Early planting	Adjebeng-Danquah et al (2020), focus group discussion
	Early harvesting	Key Informant Interviews, Focus group discussion.
	Backyard/neighborhood farming	Key Informant Interviews, Focus group discussion.
	Relocating farms	Yikwa and Oludayo, 2021. Expert reviews, Focus group discussion, Key Informant Interviews,
	Managing multiple plots	Expert reviews, Focus group discussion, Key Informant Interviews
	Migrating	Haider, 2019, Lenshie et al., 2020. Expert reviews, Focus group discussion, individual and Key Informant Interviews
	Intercropping	Expert reviews, Focus group discussion, Key Informant Interviews
	Crop diversification	Sangotegbe, et al (2010), Rudolf and Hermann (2009); Apata et al (2009), Sangotegbe, et al. (2015), Hansa et al., (2017) Expert reviews, Focus group discussion, Key Informant Interviews
	Engage in non-agricultural livelihood	Sangotegbe, et al. (2015), Focus group discussion, Key Informant Interviews
	Praying	Individual interview pre-test, Focus group discussion, Key Informant Interviews
	Loan	Focus group discussion, Key Informant Interviews
	Frequent farm visits/close monitoring	Sangotegbe, et al. (2015) Focus group discussion, Key Informant Interviews, FAO, (2015): www.fao.org/3/i5188e/i5188E.pdf
	Vigilante/security agents	Individual interview pre-test, Focus group discussion, Key Informant Interviews
B2	Environmental/Climate related coping strategies (Pests and Diseases, drought, high temperature, nutrient depletion and erosion)	
	Growing disease resistant crops	Ikeogu et al, 2022; Elsie et al.,2018, Expert reviews
	Growing underground RTCs	Ikeogu et al, 2022, Expert reviews
	Relatively low farm size	Expert reviews, Focus group discussion, Key Informant Interviews
	Selective crop cultivation	Fawole & Aderinoye-Abdulwahab, 2019, Focus group discussion
	Sowing less	Expert reviews, Focus group discussion, Key Informant Interviews
	Migrating	FAO. 2017. The future of food and agriculture – Trends and challenges. Rome, www.fao.org/3/i6583e/i6583e.pdf Expert reviews, Focus group discussion, Key Informant Interviews
	Grow crops in upland case of flash floods	Expert reviews, Focus group discussion, Key Informant Interviews
	Use of chemicals (fertilizer/manure/herbicides application)	Expert reviews, Focus group discussion, Key Informant Interviews, Brenda, (2011), https://doi.org/10.1525/bio.2011.61.3.4