Baseline Production Survey on the Status of the African Indigenous Vegetables in Zambia and Kenya

1. IDENTIFYING RESPONDENTS AND THE STUDY AREA

1.1. Name of household head 1.1A Mobile phone No. 1.1B

1.2. Name of respondent (if not household head) 1.2A

1.3. Relation of respondent to the household head (if not household head) ***(Circle one)*** 1.3A

1. Spouse; **2**. Son; **3**. Daughter; **4**. Other_____

1.4. Sex of respondent (if not household head) (*Only recorded, not asked!*) ***(Circle one)*** 1.4A

1. Male; **0**. Female

1.5. Number of people in your family: 1.5A

1.6. Number of people that are children in your family: 1.6A

1.7. In general, would you say your health is: ***(Circle one)*** 1.7A

1. Excellent; **2.** Very good; **3.** Good; **4.** Fair; 5. Poor

1.8. District: 1.8A 1.9. Township 1.9A

2. LAND OWNERSHIP AND USE

2.1. What are the sizes of land parcels your household has access to and how did you use them in 2014?

Parcel No.	Acres	Tenure **(See codes below*)**	Area under vegetables in last production cycle (M^2)	Area under other crops (Acre)	Area under fallow (Acre)	Area rented out (Acre)
1.	2.11A	2.11B	2.11C	2.11D	2.11E	2.11F
2.	2.12A	2.12B	2.12C	2.12D	2.12E	2.12F
3	2.13A	2.13B	2.13C	2.13D	2.13E	2.13F
4.	2.14A	2.14B	2.14C	2.14D	2.14E	2.14F
5.	2.15A	2.15B	2.15C	2.15D	2.15E	2.15F

Note: Parcel1 is the farm where the farmer lives.

***Tenure**: **1**= Freehold with the title; **2**=Freehold without title; **3**=Rented –in; **4**=Communal;**5**=Other (specify)__

2.1.2. What are the sizes of land parcels your household has access to and how did you use them in **2015**?

Parcel No.	Acres	Tenure **(See codes below*)**	Area under vegetables in last production cycle (M^2)	Area under other crops (Acre)	Area under fallow (Acre)	Area rented out (Acre)
1.	2.121A	2.121B	2.121C	2.121D	2.121E	2.121F
2.	2.122A	2.122B	2.122C	2.122D	2.122E	2.122F
3	2.123A	2.123B	2.123C	2.123D	2.123E	2.123F
4.	2.124A	2.124B	2.124C	2.124D	2.124E	2.124F
5.	2.125A	2.125B	2.125C	2.125D	2.125E	2.125F

Note: Parcel 1 is the farm where the farmer lives.

***Tenure**: **1**= Freehold with the title; **2**=Freehold without title; **3**=Rented –in; **4**=Communal; **5**=Other (specify)_____

2.2. Which are the major crops that this household grows and which inputs do you apply? (State area under each crop in *Acreage* column.)

Crop Name	Why the crop is preferred **(See codes below**)**	Acreage (or area- and if area- define unit size	Did you apply the following in 2014?						Total harvest 2014 **(State units)**
			Manure **1**=Yes **0**=No	Fertilizer **1**=Yes **0**=No	Pesticide **1**=Yes **0**=No	Irrigation **1**=Yes **0**=No	Hired labor **1**=Yes **0**=No	Family labor **1**=Yes **0**=No	
2.21 A	2.21 B	2.21 C	2.21 D	2.21 E	2.21 F	2.21 G	2.21 H	2.21 I	2.21 J
2.22 A	2.22 B	2.22 C	2.22 D	2.22 E	2.22 F	2.22 G	2.22 H	2.22 I	2.22 J
2.23 A	2.23 B	2.23 C	2.23 D	2.23 E	2.23 F	2.23 G	2.23 H	2.23 I	2.23 J
2.24 A	2.24 B	2.24 C	2.24 D	2.24 E	2.24 F	2.24 G	2.24 H	2.24 I	2.24 J
2.25 A	2.25 B	2.25 C	2.25 D	2.25 E	2.25 F	2.25 G	2.25 H	2.25 I	2.25 J
2.26 A	2.26 B	2.26 C	2.26 D	2.26 E	2.26 F	2.26 G	2.26 H	2.26 I	2.26 J
2.27 A	2.27 B	2.27 C	2.27 D	2.27 E	2.27 F	2.27 G	2.27 H	2.27 I	2.27 J
2.28 A	2.28 B	2.28 C	2.28 D	2.28 E	2.28 F	2.28 G	2.28 H	2.28 I	2.28 J
2.29 A	2.29 B	2.29 C	2.29 D	2.29 E	2.29 F	2.29 G	2.29 H	2.29 I	2.29 J

** **1**=Own household consumption;**2**=Income generation;**3**=Equally for household consumption and income generation;**4**=Medicinal;**5**=Coping with climate of the area;**6**=Other(specify) _____

2.3.2. Which crops have you tried to grow that did not work or that you did not continue to grow?

Crops	Why did you stop growing it?*	Reason-1	Reason-2
2.321 A	2.321 B	2.321 C	2.321 D
2.322 A	2.322 B	2.322 C	2.322 D
2.323 A	2.323 B	2.323 C	2.329 D
2.324 A	2.324 B	2.324 C	2.324 D

*1. Low Yield; 2. Low Price; 3. Low Demand; 4.Seeds Problem; 5. Lack of production technologies 6. Others (Specify).....

2.3.3. Which crops would you like to grow but are not yet growing?

Crops	Why are you not growing it?*	Reason-1	Reason-2
2.331 A	2.331 B	2.331 C	2.331 D
2.332 A	2.332 B	2.332 C	2.332 D
2.333 A	2.333 B	2.333 C	2.333 D
2.334 A	2.334 B	2.334 C	2.334 D

*1. Low Yield; 2. Low Price; 3. Low Demand; 4.Seeds Problem; 5. Lack of production technologies 6. Others (Specify).....

3. OWNERSHIP OF LIVESTOCK AND OTHER ASSETS

3.1. Please indicate the type and numbers of livestock and other assets your household owns

Livestock type	**Ownership (1=Yes 0=No)**	**Number**
Cattle 3.3.11 A0	3.311 A1	3.311 B
Oxen 3.3.12 A0	3.312 A1	3.312 B
Sheep 3.313 A0	3.313 A	3.313 B
Goat 3.314 A0	3.314 A	3.314 B
Chicken 3.315 A0	3.315 A	3.315 B
Others (specify) 3.316 A0	3.316 A	3.316 B

3.2. Please indicate other assets your household owns

Other assets/services	Ownership (1=Yes 0=No)	Other assets/services	Ownership (1=Yes 0=No)
Radio	3.321 A	Mobile phone	3.321 B
Television	3.322 A	Ox-plough	3.322 B
Bicycle	3.323 A	Hoe	3.323 B
Motor vehicle	3.324 A	Wheel barrow	3.324 B
Landline phone	3.325 A	Electricity in house?	3.325 B

4. PRODUCTION AND PREFERENCES OFVEGETABLES

4.1 Which African Indigenous Vegetables (AIVs) does your household grow?

S. No	Vegetable name	Why the vegetable is grown and preferred (See codes below**)		
		1st	2nd	3rd
1	Amaranth	411 A	411 B	411 C
2	Nightshade	412 A	412 B	412 C
3	Spider plant	413 A	413 B	413 C
4	Cowpea	414 A	414 B	1414 C
5	Jute mallow	415 A	415 B	415 C
6	Kale	416 A	416 B	416 C
7	Sweet Potato Leaves	417 A	417 B	417 C
8	Orange Sweet Potato	418 A	418 B	418 C
9	Okra	419 A	419 B	419 C
10	Other	4110 A	4110 B	4110 C

**1=Good prices; 2=Contract with partner; 3=Production experience; 4=Available market; 5= Opportunity to earn extra income; 6= Cultural reasons for IVs; 7=Home consumption; 8=Other (specify) _____

4.1.2. Which other vegetables does your household grow?

S. No	Vegetable name	Why the vegetable is grown and preferred (See codes below**)		
		1st	2nd	3rd
1	4121 A	4121 B	4121 C	4121 D
2	4122 A	4122 B	4122 C	4122 D
3	4123 A	4123 B	4123 C	4123 D
4	4124 A	4124 B	4124 C	4124 D
5	4125 A	4125 B	4125 C	4125 D
6	4126 A	4126 B	4126 C	4126 D
7	4127 A	4127 B	4127 C	4127 D
8	4128 A	4128 B	4128 C	4128 D
9	4129 A	4129 B	4129 C	4129 D
10	41210 A	41210 B	41210 C	41210 D

**1=Good prices; 2=Contract with partner; 3 =Production experience; 4 =Available market; 5= Opportunity to earn extra income; 6= Cultural reasons for IVs; 7=Home consumption; 8= Other (specify) _____

4.2. Which technologies of AIVs have you ever seen or heard of (Awareness)? Which practices have you used (practices include e.g., improved seed varieties; spacing of Amaranth; fertilizer type for Amaranth; fertilizer rate for spider plant; use of pesticides, post-harvest processing; marketing)?

Practice	Awareness*	Reason 1*	Reason 2*	Reason3*	Year first aware	Use status**	Year first used
Improved seed	421A	421B	421C	421D	421E	421F	421G
Bedding	422A	422B	422C	422D	422E	422F	422G
Spacing (Within & Between Rows)	423A	423B	423C	423D	423E	423F	423G
fertilizer type	424A	424B	424C	424D	424E	424F	424G
fertilizer rate	425A	425B	425C	425D	425E	425F	425G
Pesticides	426A	426B	426C	426D	426E	426F	426G
Irrigation	427A	427B	427C	427D	427E	427F	427G
Weeding	428A	428B	428C	428D	428E	428F	428G
post-harvest	429A	429B	429C	429D	429E	429F	429G
Marketing	4210A	4210B	4210C	4210D	4210E	4210F	4210G

***Awareness:** 0= Never heard, 1=heard; 2=heard and seen

****Use status:** **0**=Never; **1**=Used before but stopped **2**=Still applying; **3**=Applied in 2011; **4**= Other (specify) _____

4.3. What are your three important reasons why you have never used or stopped to use practices you are aware of?

Practice	Reason 1*	Reason 2*	Reason 3*
431A	431B	431C	431D
432A	432B	432C	432D
433A	433B	433C	433D

*** Reason for never/stopping to use:1**=Lack of requisite materials; **2**=Labor demand is high; **3**=Requires more money;**4**=Told by other farmers that is not effective in increasing yields;**5**=Makes AIVs susceptible to diseases and pests;**6**=Makes AIV taste badly;**7**=Other (specify)_____

4.4. List the agronomic practices, location and your experience on AIVs your household grows in 2014?

Vegetable name	Variety Local name	Variety release names*	Year first grown	Area planted (M^2)	Planting method 1=Row 2=Broadcast (*If row state actualspacing*)	Cropping 1 =Intercrop 2 =Mixed crop 3 =Sole stand 4=Other	Seed source	Where grown 1=Farm 2=Kitchen garden	Distance of plot from home (M)	Number of harvests per cycle	Yield / harvest *(State units)*	Quantities harvested from wild
Amaranth	441A	441 B	441 C	441 D	441 E	441 F	441 G	441 H	441 I	441 J	441 K	441 L
Nightshade	442A	442 B	442 C	442 D	442 E	442 F	442 G	442 H	442 I	442 J	442 K	442 L
Spider plant	443A	443 B	443 C	443 D	443 E	443 F	443 G	443 H	443 I	443 J	443 K	443 L
Cowpea	444A	444 B	444 C	444 D	444 E	444 F	444 G	444 H	444 I	444 J	444 K	444 L
Jute mallow	445A	445 B	445 C	445 D	445 E	445 F	445 G	445 H	445 I	445 J	445 K	445 L
Kale	446A	446 B	446 C	446 D	446 E	446 F	446 G	446 H	446 I	446 J	446 K	446 L
Sweet Potato Leaves	447A	447 B	447 C	447 D	447 E	447 F	447 G	447 H	447 I	447 J	447 K	447 L
Orange Sweet Potato	448A	448 B	448 C	448 D	448 E	448 F	448 G	448 H	448 I	448 J	448 K	448 L
Okra	449A	449 B	449 C	449 D	449 E	449 F	449 G	449 H	449 I	449 J	449 K	449 L
Other	4410A	4410 B	4410 C	4410 D	4410 E	4410 F	4410 G	4410 H	4410 I	4410 J	4410 K	4410 L

*Farmers may not know the variety name even if it exists.

4.5. Input quantities and costs of AIVs for the 2014 production cycle

A. Seed, fertilizer and pesticide

Variety name	Seed			Fertilizers1 **(See Code below*)**			Fertilizer2 **(See Code below *)**			Pesticides		
	Name	Quantity	Price/Unit	Name	Quantity	Price/Unit	Name	Quantity	Price/Unit	Name	Quantity	Price/Unit
Amaranth	451 AA	451 AB	451 AC	451 AD	451 AE	451 AF	451 AG	451 AH	451 AI	451 AJ	451 AK	451 AL
Nightshade	452 AA	452 AB	452 AC	452 AD	452 AE	452 AF	452 AG	452 AH	452 AI	452 AJ	452 AK	452 AL
Spider plant	453 AA	453 AB	453 AC	453 AD	453 AE	453 AF	453 AG	453 AH	453 AI	453 AJ	453 AK	453 AL
Cowpea	454 AA	454 AB	454 AC	454 AD	454 AE	454 AF	454 AG	454 AH	454 AI	454 AJ	454 AK	454 AL
Jute mallow	455 AA	455 AB	455 AC	455 AD	455 AE	455 AF	455 AG	455 AH	455 AI	455 AJ	455 AK	455 AL
Kale	456 AA	456 AB	456 AC	456 AD	456 AE	456 AF	456 AG	456 AH	456 AI	456 AJ	456 AK	456 AL
Sweet potato leaves	457 AA	457 AB	457 AC	457 AD	457 AE	457 AF	457 AG	457 AH	457 AI	457 AJ	457 AK	457 AL
Orange Sweet Potato	458 AA	458 AB	458 AC	458 AD	458 AE	458 AF	458 AG	458 AH	458 AI	458 AJ	458 AK	458 AL
Okra	459 AA	459 AB	459 AC	459 AD	459 AE	459 AF	459 AG	459 AH	459 AI	459 AJ	459 AK	459 AL
Other	4510 AA	4510 AB	4510 AC	4510 AD	4510 AE	4510 AF	4510 AG	4510 AH	4510 AI	4510 AJ	4510 AK	4510 AL

Note: *Please use a local unit of measurement, and then convert it to kg. If the local unit is a bundle, use a standard weight for the bundle as determined for the area in 4.2. Example: 1 bundle = 0.4kg (This is just an example!!!).*

***Fertilizer**: **0**=None; **1**=DAP; **2**=CAN; **3**=MAP; **4**=SSP; **5**=Farm yard manure; **6**=Green manure; **7**=Lime; **8**=ASN; **9**=Urea; **10**=S/A; **11**=Mavuno top dress Type

B. Labor, nursery and water managements:

Variety name	Family Labor			Hired Labor			Cost at the nursery mgt			Water mgt* (See Code Below*)
	Name	Qty	Price / Unit	Name	Qty	Price / Unit	Name	Qty	Price / Unit	
Amaranth	451BA	451BB	451BC	451BD	451BE	451BF	451BG	451BH	451BI	451BJ
Nightshade	452BA	452BB	452BC	452BD	452BE	452BF	452BG	452BH	452BI	452BJ
Spider plant	453BA	453BB	453BC	453BD	453BE	453BF	453BG	453BH	453BI	453BJ
Cowpea	454BA	454BD	454BC	454BD	454BE	454BF	454BG	454BH	454BI	454BJ
Jute mallow	455BA	455BB	455BC	455BD	455BE	455BF	455BG	455BH	455BI	455BJ
Kale	456BA	456BB	456BC	456BD	456BE	456	456BG	456BH	456BI	456BJ
Sweet potato leaves	457BA	457BB	457BC	457BD	457BE	457	457BG	457BH	457BI	457BJ
Orange Sweet Potato	458BA	458BB	458BC	458BD	458BE	458	458BG	458BH	458BI	458BJ
Okra	459BA	459BB	459BC	459BD	459BE	459	459BG	459BH	459BI	459BJ
Other	4510BA	4510BB	4510BC	4510BD	4510BE	4510	4510BG	4510BH	4510BI	4510BJ

Note: *Water mgt: **1**=Rain-fed; **2**=Bucket; **3**=Drip irrigation; **4**=Sprinkler irrigation; **5**=Other (specify) _____

4.6. How have production costs for AIVs changed over the past 5 years? ***(Circle one)*** **1**. Increased;**2**. Decreased; **3**. No change; **4**. Do not know 464

4.6.2. What were the major changes for increased or decreased costs? 462A

5. PROCESSING AND VALUE-ADDITION

5.1. List and describe the extent of AIV processing *(any procedure after harvesting, e.g., blending, value-addition, etc.)* by your household.

AIV Name	Do you process (Yes/No)		Year household first processed		Names of 2 most commonly processing / value added products **(See code**)**	Do you use the AIV alone or with other foods? List others foods used with AIV		Cost of Processing / Unit	Price of Processed Product / Unit
	For home eating?	For sale?	For home consumption?	For sale?		First	Second		
Amaranth	511A	511B	511C	511D	511E	511F	511G	511H	511I
Nightshade	512A	512B	512C	512D	512E	512F	512G	512H	512I
Spider plant	513A	513B	513C	513D	513E	513F	513G	513H	513I
Cowpea	514A	514B	514C	514D	514E	514F	514G	514H	514I
Jute mallow	515A	515B	515C	515D	515E	515F	515G	515H	515I
Kale	516A	516B	516C	516D	516E	516F	516G	516H	516I
Sweet Potato Leaves	517A	517B	517C	517D	517E	517F	517G	517H	517I
Orange Sweet Potato	518A	518B	518C	518D	518E	518F	518G	518H	518I
Okra	519A	519B	519C	519D	519E	519F	519G	519H	519I
Other	5110A	5110B	5110C	5110D	5110E	5110F	5110G	5110H	5110I

****1**=Cutting/slicing only; 2=cutting and sun-drying; **3**=Sun-dried and stored; **4**=Sorting & grading; **5**= Bulking with other farmers; **6**= Storage;**7**=Boiling **7**=Other (specify)_____

5.2. Are AIVs stored immediately after harvest? ***(Circle one)***

1. Yes **0**. No 521A

5.3. If **yes** to **Question 5.2**, how are AIVs stored? ***(Circle one)*** 531A

1. On ground under a shade; **2**. On ground under sun; 3. On ground unknown; **4**. In basket;
5. In plastic sack; **6**. In plastic bag; **7**. On a rack outside in the night; **8**. In crate;
9. Above ground in shade; **10**. In a traditional hut; **11**. In cart; **12**. Other (specify) _____

5.4. How do you harvest your AIVs? 541A

1. Just cut a bunch of plant from top? **2**. Just cut a bunch of leaves from side shoots?
3. Strip and harvest leaves only? **4**. Pull the plant out and sell entire plant?
5. Other? **(Specify)** _____

5.5. How do you know the AIV are ready for harvest? 551A

5.6. Do you believe the AIVs are healthy relative to nutrition? If so, please describe? 561A

5.7. Do you believe the AIVs have medicinal value? If so, please describe? 571A

6. MARKETING

6.1 Who is your main trading partners? 6.1A

1 = Direct to consumers.....% 3= Direct to Supermarkets.....% 2 = Brokers .....%
4 = Roadside Stands.....% 5 = Retailers.....% 6 =Wholesalers.....%

6.2 How frequently does your nearest market meet? ***(Circle one)*** 6.2A

1. Daily; **2**. Weekly; **3**. Twice a week; **4**. Thrice a week; **5**. Other_____

6.2 How AIVs are normally packaged during transport? ***(Circle one)*** 6.21A

1. Plastic bags / sacks; **2**. Cartons; **3**. Plastic containers;
4. Wood boxes; **5**. Reed/woven or Bamboo baskets; **6**. Polyethylene bags;
7. Crates; **8**. Other (specify) _____

6.2.2. From where do you get the packaging material? 622A

6.2.3. And what is its cost?..... 623A

6.3 Are you often aware of AIVs prices before you decide to sell? ***(Circle one)*** 63A

1. Yes; **0.** No

6.4 Who fixed the prices of AIVs you sold? ***(Circle one)*** 64A

1. N/A; **2.** Self; **3.** The buyer; **4.** Negotiation; **5.** Middle man or broker; **6.** Other (Specify) _____

6.5 If "**Negotiations**" is one of the responses above, at which periods (certain times of the year, months, season) have you had the opportunity of bargaining for higher producer prices?***(Circle one)*** 654

1. Yes; **0.** No

6.6 If prices were not fixed by you, how do you determine them? ***(Circle one)*** 66A

1. N/A; **2.** I use prices in neighbouring markets; **3.** I use published prices in the newspapers; **4.** I use prices announced on the radio; **5.** I use cost of production; **6.** Other (specify)_____

6.7 When do you start checking prices prior to harvesting of produce? ***(Circle one)*** 67A

1. Less than 3 days before; **2.** A week before; **3.** 2 weeks before;

4. One monthly before; **5.** Not at all

6.8 How have the AIVs prices changed over the past 5 years? ***(Circle one)*** 68A

1. Increased; **2.** Decreased; **3.** No change

6.9 Do you get paid at time of selling the AIVs? 69A

1. Yes **2.**No

6.10 Are the any differences between the production and sale of AIVs compared to other vegetables? 610A

1. Yes **2.**No

6.11. Of the characteristics listed below, which one would you be willing to pay (WTP) a premium if improved? ***(Circle one)*** 611A

1. Hygiene; **2.** Healthy; **3.**Taste; **4.** Organically produced AIVs; **4.** Others (specify)_____

6.12 Did you sell any AIVs in the past two years? ***(Circle one)*** 612A

1. Yes; **0.** No

6.13 If **yes** to **Question 6.12**, fill the Table below for last completed production cycle:

AIV name (use the same code as above for AIVs grown)	Quantity sold last completed cycle	Main form sold (*See codes below)	Main market (**See codes below)	Distance to market (km)	Mode of sale 1= Individual 2= Group 3= Cooperative 4= Contract	Main trading partner 1= Other farmers 2= Middlemen 3= Retailers, 4= Wholesalers	Sources of market infor-mation	Main type of market informa-tion	Means of trans port (*** See codes below)	Who trans-ports 0=Self 1=Buyers	Trans-port cost / unit (If not sold on farm)	Total revenue (/kg)	Mini mum price achieved (/kg)	Maxi mum price achieved (/kg)
Amaranth	6131 A	6131 B	6131 C	6131 D	6131 C	6131 D	6131 E	6131 F	6131 G	6131 H	6131 I	6131 J	6131 K	6131 L
Nightshade	6132 A	6132 B	6132 C	6132 D	6132 C	6132 D	6132 E	6132 F	6132 G	6132 H	6132 I	6132 J	6132 K	6132 L
Spider plant	6133 A	6133 B	6133 C	6133 D	6133 C	6133 D	6133 E	6133 F	6133 G	6133 H	6133 I	6133 J	6133 K	6133 L
Cowpea	6134 A	6134 B	6134 C	6134 D	6134 C	6134 D	6134 E	6134 F	6134 G	6134 H	6134 I	6134 J	6134 K	6134 L
Jute mallow	6135 A	6135 B	6135 C	6135 D	6135 C	6135 D	6135 E	6135 F	6135 G	6135 H	6135 I	6135 J	6135 K	6135 L
Kale	6136 A	6136 B	6136 C	6136 D	6136 C	6136 D	6136 E	6136 F	6136 G	6136 H	6136 I	6136 J	6136 K	6136 L
Sweet Potato Leaves	6137 A	6137 B	6137 C	6137 D	6137 C	6137 D	6137 E	6137 F	6137 G	6137 H	6137 I	6137 J	6137 K	6137 L
Orange Flesh Sweet Potato leaves	6138 A	6138 B	6138 C	6138 D	6138 C	6138 D	6138 E	6138 F	6138 G	6138 H	6138 I	6138 J	6138 K	6138 L
Okra	6139 A	6139 B	6139 C	6139 D	6139 C	6139 D	6139 E	6139 F	6139 G	6139 H	6139 I	6139 J	6139 K	6139 L
Other	6140 A	6140 B	6140 C	6140 D	6140 C	6140 D	6140 E	6140 F	6140 G	6140 H	6140 I	6140 J	6140 K	6140 L

***Main form sold:** **1**=Fresh (loose unsorted); **2**=Fresh (loose sorted); **3**=Fresh (packaged); **4**=Dried; **5**=Preserved; **6**=Other (specify);

****Main Market:** **1**=Farm gate; **2**=Local market; **3**=Urban markets (Supermarkets); **4**=Contract farming; **5**=Growing for a lodge/restaurant/other, specify----; 6=Others (define).

*****Means of transport**: **1**=Manual (walking-on foot); **2**=Cart; **3**=Public transport; **4**=Pick up; **5**=Lorry; **6**=Car; **7**=a buyer picks up at your farm; **8**=Refrigerated truck; **9**=Motorcycle; **10**=Bicycle; **11**=Other (specify)

6.12. What are the key characteristics that your household and buyers look for in AIVs?

AIVs name (use the same code as above for AIVs grown)	Preferences by household and buyers (**See codes below**)			
	Household		Buyers	
	Preferred characteristics*	Score**	Preferred characteristics*	Score**
Amaranth	6121 A	6121 B	6121 C	6121 D
Nightshade	6122 A	6122 B	6122 C	6122 D
Spider plant	6123 A	6123 B	6123 C	6123 D
Cowpea	6124 A	6124 B	6124 C	6124 D
Jute mallow	6125 A	6125 B	6125 C	6125 D
Kale	6126 A	6126 B	6126 C	6126 D
Sweet Potato Leaves	6127 A	6127 B	6127 C	6127 D
Orange Sweet Potato	6128 A	6128 B	6128 C	6128 D
Okra	6129 A	6129 B	6129 C	6129 D
Other	61210 A	61210 B	61210 C	61210 D

Characteristics: ***Agronomic:1**= Tolerance diseases and pests;**2**=Little input required;**3**=Leaf yield;**4**=Leaf size;**5**=Leaf colour;**6**=Marketability (demand); **7**=Leaf price; **Cooking & utilization:8**=Appearance; **9**=Texture; **10**=Taste; **11**=Palatability; **12**=Requires less/ingredients to taste good; **13**=Cooking time; **14**=Nutritive quality; **15**=Medicinal; **16**=Shelf life; **17**=Freshness; **18**=Food safety traits (absence of fertilizer and pesticide residues); **19**=Absence of food-based pathogens; **20**=Origin of crop (Source of vegetables—Traceability);**21**=Shape; **22**=Convenience;**23**=Freshness; **24**=Sorting; **25**=Packaging; ****Score:** **1**=Very much;**2**=Much;**3**=Moderate;**4**=A little;**5**=Not at all.

7. LABOUR ALLOCATION TO AIVs VALUE CHAIN

7.1. Distribution of labor in AIV activities:

AIV types	Who mainly performs the following AIV activities (***See codes below**)													
	Decision to grow the AIV	Sourcing information	Choice of variety to plant	Land preparation	Planting	Inorganic Fertilizer application	Manure application	Pesticide application	Weeding	Harvesting	Processing	Buying	Selling	Controls use of income from AIV sales
Amaranth	711 A	711 B	711 C	711 D	711 E	711 F	711 G	711 H	711 I	711 J	711 K	711 L	711 M	711 N
Nightshade	712 A	712 B	712 C	712 D	712 E	712 F	712 G	712 H	712 I	712 J	712 K	712 L	712 M	712 N
Spider plant	713 A	713 B	713 C	713 D	713 E	713 F	713 G	713 H	713 I	713 J	713 K	713 L	713 M	713 N
Cowpea	714 A	714 B	714 C	714 D	714 E	714 F	714 G	714 H	714 I	714 J	714 K	714 L	714 M	714 N
Jute mallow	715 A	715 B	715 C	715 D	715 E	715 F	715 G	715 H	715 I	715 J	715 K	715 L	715 M	715 N
Kale	716 A	716 B	716 C	716 D	716 E	716 F	716 G	716 H	716 I	716 J	716 K	716 L	716 M	716 N
Swt. Potato Leaves	717 A	717 B	717 C	717 D	717 E	717 F	717 G	717 H	717 I	717 J	717 K	717 L	717 M	717 N
Org. Swt Potato	718 A	718 B	718 C	718 D	718 E	718 F	718 G	718 H	718 I	718 J	718 K	718 L	718 M	718 N
Okra	719 A	719 B	719 C	719 D	719 E	719 F	719 G	719 H	719 I	719 J	719 K	719 L	719 M	719 N
Other	7110 A	7110 B	7110 C	7110 D	7110 E	7110 F	7110 G	7110 H	7110 I	7110 J	7110 K	7110 L	7110 M	7110 N

***Code:1**=Male adult members; **2**=Female adult members; **3**=Male children; **4**=Female children; **5**=Male hired casuals; **6**=Female hired casuals

8. FARMER TRAINING AND EXTENSION NEEDS

8.1 Has anyone in your household accessed agricultural extension services in the last 12 months?

1. Yes; **0**. No 811A

8.2 If **yes** to **Question 8.1,** indicate the source of the advice and main messages

Training area/main message	Whether or not received **(Yes=1 No=0)**	Which organization gave the training? **(**See codes below)**	Frequency of training	Was it useful? **(Yes=1 No=0)**	Ever applied knowledge received **(Yes=1 No=0)**
Seed production technology, methods, or practices	821 A	821 B	821 C	821 D	821 E
Management technologies	822 A	822 B	822 C	822 D	822 E
Varieties	823 A	823 B	823 C	823 D	823 E
Disease and pest control	824 A	824 B	824 C	824 D	824 E
Basic business management and income generation	825 A	825 B	825 C	825 D	825 E
Ways and methods to increase commercial index	826 A	826 B	826 C	826 D	826 E
AIV marketing	827 A	827 B	827 C	827 D	827 E
Nutrition and health	828 A	828 B	828 C	828 D	828 E
Value-addition/processing methods	829 A	829 B	829 C	829 D	829 E
Others (specify)	8210A	8210 B	8210C	8210 D	8210 E

** **1**=Visit by government extension agent; **2**=Radio; **3**=Local administrative meeting (Baraza); **4**=TV; **5**=Newspaper; **6**=Research organizations; **7**=NGOs; **8**=Other farmers; **9**=Field days/demonstrations; **10**=Exchange visits; **11**=Shows; **12**=Other (specify)_____; For the NGOs, or Non NGO- list: ASNAPP for example. The trainings could be done by more than one organization and more than one time.

8.3 Do you or any of your household members belong to inside community/outside community groups/ or associations? (*These could be formally organized groups or informal groups of people who meet regularly to talk or do an activity).* **(*Circle one*)** 83A

1=Yes; **0**=No

8.4 If **yes** to **Question 8.3**, what is the nature of the groups/associations? **(*Circle one*)** 84A

1. CBO; **2**.NGO; **3**. Trade and business; **4**. Farmer group; **5**. Religious; **6**. ALVs; **7**. Political / movement; **8**. Social welfare; **9**. Merry go round / savings; **10**.Others (specify) _____

8.5. Of the groups/organizations you belong to, which ones are the **three** most important to you and/or your household? **(1=most important, 2=second most important, 3=least important)** 85A

Org/group 1	Org/group 2	Org/group 3
85A1	85A2	85A3

9. ACCESS TO CAPITAL FINANCIAL CAPITAL

9.1. Do you knew any providers of financial credit services for agricultural activities? ***(Circle one)***

1. Yes; **2**. No 91A

9.2. Have any of your household members ever applied for credit either in cash or kind? ***(Circle one)***

1. Yes; **2**. No 92A

9.3. If yes, state the purpose for which the credit is applied 93A _____

9.4. Have you ever-obtained credit in the past two years? ***(Circle one)*** 94A

1. Yes; **2**. No

9.5. If yes, what were the three main sources of credit? ***(Circle one)*** 95A

1. Money lender; **2**. Credit association/group; **3**. Bank; **4**. Cooperative;
5. Family members; **6**. Agro-dealer; **7**. Self Help Group;
8. Relatives; **9**. Friends; **10**. Neighbors; **11**.Others (specify)_____

Indicate in the boxes below the codes of the 3 main sources

1	2	3
95A1	95A2	95A3

9.6. For what purpose was the credit granted? ***(Circle one)*** 96A

1. School fees; **2**. Medical bill; **3**. Household needs; **4**. Business;
5. Purchase of agricultural inputs; 6. No specific purpose; **7**. Other (specify) _____

9.7. What was the fee or % loan? 97A

9.8. If credit was not granted, why not? ***(Circle one)*** 98A

1= Lack of collateral **2**= Had outstanding loan **3**= No guarantor
4= Do not know **5**= Others (specify) _____

9.9. If credit was not granted, what is the source of finance for AIV activities? 99A

_____

_____

_____

9.10. Do you have access to crop insurance services? ***(Circle one)*** 9.10A

1. Yes; **2**. No

9.11. If **yes** to **Question 9.10**, state the type of insurance 911A _____

10. CONSTRAINTS IN AIVS FARMING

10.1 List the important constraints to AIV farming and rank them.

Major constraints	Night shade		Amaranth		Spider plant....	
	Constraint? 1=Yes 0=No	Rank its importance (only those with Yes in column 2)*	Constraint? 1=Yes 0=No	Rank its importance (only those with Yes in column 4)*	Constraint? 1=Yes 0=No	Rank its importance (only those with Yes in column 6)*
1	2	3	4	5	6	7
Socioeconomic						
1. Lack of seed or plant materials	1 A	1 B	1 C	1 D	1 E	1 F
2. Lack of improved seed	1 A	2 B	2 C	2 D	2 E	2 F
3. High prices of improved seed	1 A	3 B	3 C	3 D	3 E	3 F
4. Poor quality of seed	1 A	4 B	4 C	4 D	4 E	4 F
5. Unavailability of credit to buy seed	1 A	5 B	5 C	5 D	5 E	5 F
6. High price of fertilizer	1 A	6 B	6 C	6 D	6 E	6 F
7. Lack of credit to buy fertilizer	1 A	7 B	7 C	7 D	7 E	7 F
8. Poor access to markets and information	1 A	8 B	8 C	8 D	8 E	8 F
9. Poor vegetable leaf market prices	1 A	9 B	9 C	9 D	9 E	9 F
10. Food taboos	10 A	10 B	10 C	10 D	10 E	10 F
11. Small land sizes	11 A	11 B	11 C	11 D	11 E	11 F
12. Too many sellers but a few buyers	12 A	12 B	12 C	12 D	12 E	12 F
13. Poor infrastructure	13 A	13 B	13 C	13 D	13 E	13 F
14. Lack of labor	14 A	14 B	14 C	14 D	14 E	14 F
15. lack of land	15 A	15 B	15 C	15 D	15 E	15 F
16. Better prices for other vegetables	16 A	16 B	16 C	16 D	16 E	16 F
17. Need to give attention to my major food crops (e.g. miaze)	17 A	17 B	17 C	17 D	17 E	17 F
18. Other	18 A	18 B	18 C	18 D	18 E	18 F
Biophysical						
19. Drought	19 A	19 B	19 C	19 D	19 E	19 F
20. Floods	20 A	20 B	20 C	20 D	20 E	20 F
21. Pests (**name key diseases**)	21 A	21 B	21 C	21 D	21 E	21 F
22. Diseases (**name key pests**)	22 A	22 B	22 C	22 D	22 E	22 F
23. Soil fertility	23 A	23 B	23 C	23 D	23 E	23 F
24. Other	24 A	24 B	24 C	24 D	24 E	24 F
25. Do you know have a or use a water collection system?	25 A	25 B	25 C	25 D	25 E	25 F
26. Do you now use irrigation?	26 A	26 B	26 C	26 D	26 E	26 F
27. Across how many months of the year are you able to and do grow AIVs and other vegetables?	27 A	27 B	27 C	27 D	27 E	27 F

*1=Most important, 2=Second most important...etc.

10.2. Did you notice any changes in the following weather parameters in the past?

S.No	Parameter	Yes	No	Affecting agriculture?	
				Yes	No
1.	More frequent drought	1021 A	1021 B	1021 C	1021 D
2.	Delayed on –set rainfall	1022 A	1022 B	1022 C	1022 D
3.	Erratic rainfall pattern	1023 A	1023 B	1023 C	1023 D
4.	Too much rain	1024 A	1024 B	1024 C	1024 D
5.	Low rain	1025 A	1025 B	1025 C	1025 D
6.	Higher temperature	1026 A	1026 B	1026 C	1026 D
7.	Earlier on – set of rainfall	1027 A	1027 B	1027 C	1027 D
8.	Others	1028 A	1028 B	1028 C	1028 D

10.3. Did you face any damage due to any climate factor? If yes due to what?

S.No	Variety name	Decline in yield		Increase in yield		Pest and diseases		Weed regime	
		Yes	No	Yes	No	Yes	No	Yes	No
1.	Amaranth	1031 A	1031 B	1031 C	1031 D	1031 E	1031 F	1031 G	1031 H
2.	Nightshade	1032 A	1032 B	1032 C	1032 D	1032 E	1032 F	1032 G	1032 H
3.	Spider plant	1033 A	1033 B	1033 C	1033 D	1033 E	1033 F	1033 G	1033 H
4.	Cowpea	1034 A	1034 B	1034 C	1034 D	1034 E	1034 F	1034 G	1034 H
5.	Jute mallow	1035 A	1035 B	1035 C	1035 D	1035 E	1035 F	1035 G	1035 H
6.	Kale	1036 A	1036 B	1036 C	1036 D	1036 E	1036 F	1036 G	1036 H
7.	Sweet potato leaves	1037 A	1037 B	1037 C	1037 D	1037 E	1037 F	1037 G	1037 H
8.	Orange Sweet Potato	1038 A	1038 B	1038 C	1038 D	1038 E	1038 F	1038 G	1038 H
9.	Okra	1039 A	1039 B	1039 C	1039 D	1039 E	1039 F	1039 G	1039 H
10.	Other	10310 A	10310 B	10310 C	10310 D	10310 E	10310 F	10310 G	10310 H

10.4. Did you take any action against crop loss due to climate?

S.No	Action taken	Yes	No	Reason for changes*	Cost of adaption
1.	Started growing new crop	1041 A	1041 B	1041 C	1041 D
2.	Adopted drought tolerant	1042 A	1042 B	1042 C	1042 D
3.	Moved focus from crop to livestock production	1043 A	1043 B	1043 C	1043 D
4.	Started non-farm activities	1044 A	1044 B	1044 C	1044 D
5.	Started using new land management practices	1045 A	1045 B	1045 C	1045 D
6.	Did nothing	1046 A	1046 B	1046 C	1046 D
7.	Others	1047 A	1047 B	1047 C	1047 D

Note: *1. To increase productivity, 2. To increase soil fertility, 3. To reduce erosion, 4. To response to climate change, 5. Control Pest and diseases, 6. Weed regime.

11. HOUSEHOLD DEMOGRAPHICS

11.1, HH characteristics

S/No.	Household (hh) member name (start with hh head)	Relationship to hh head 1=Head, 2=Spouse, 3=Son / daughter 4=Parent, 5=Brother / sister, 6=Grandchild 7=In law, 8=Employee 9=Other relatives 10=Other	Marital status 1=Never married 2=Married 3=Divorced 4=Separated 5=Widowed	Age	Gender: 1=Male 0=Female	Highest level of education 1=None 2=Primary 3=Secondary. 4=College. 5=University	Informal education 1=None 2=Adult Education 3=Training on vegetable 4=Artisan training	Most important occupation (See codes below*)
1	1111 A	1111 B	1111 C	1111 D	1111 E	1111 F	1111 G	1111 H
2	1112 A	1112 B	1112 C	1112 D	1112 E	1112 F	1112 G	1112 H
3	1113 A	1113 B	1113 C	1113 D	1113 E	1113 F	1113 G	1113 H
4	1114 A	1114 B	1114 C	1114 D	1114 E	1114 F	1114 G	1114 H
5	1115 A	1115 B	1115 C	1115 D	1115 E	1115 F	1115 G	1115 H
6	1116 A	1116 B	1116 C	1116 D	1116 E	1116 F	1116 G	1116 H
7	1117 A	1117 B	1117 C	1117 D	1117 E	1117 F	1117 G	1117 H
8	1118 A	1118 B	1118 C	1118 D	1118 E	1118 F	1118 G	1118 H
9	1119 A	1119 B	1119 C	1119 D	1119 E	1119 F	1119 G	1119 H
10	1110 A	1110 B	1110 C	1110 D	1110 E	1110 F	1110 G	1110 H
11	1111 A	1111 B	1111 C	1111 D	1111 E	1111 F	1111 G	1111 H
12	1112 A	1112 B	1112 C	1112 D	1112 E	1112 F	1112 G	1112 H

***Occupation codes**: **1**=Farming;**2**=Salary earner;**3**=Wage earner in agricultural sector;**5**=Wage earner in non-agriculture large business (factory operation);**6**=Petty business (kiosk, trade in farm produce); **7**=Artisan;**6**=None (applicable to 2nd most important occupations and preschool-age children only); **7**=Student (children actually going to school);**8**=Child (of school going age not in school);**9**=Others (specify)_____

11.2 What are the main sources of your farm labour? (***Circle One***) **1**. Household; **2**. Extended family; **3**. Friends; **4**. Hired. 112A

11.3.1 What are the main sources of household income in 2014?

Source	Rank	Amount (Kwacha) 2014
Permanent employment	1131A	1131B
Wages from hired agricultural labour, local casual labour	1132A	1132B
Self-employment off-farm (business)	1133A	1133B
Casual labour	1134A	1134B
Remittances	1135A	1135B
Pension	1136A	1136B
Sale of cereals	1137A	1137B
Sale exotic vegetables	1138A	1138B
Other crop products	1139A	1139B
Sale of AIVs	11310A	11310B
Sale of livestock products	11311A	11311B
Others (specify):	11312A	11312B

Note to enumerators: *If it is difficult to get the above information, ask how much they sell on average on a typical market day. Use the number of market days in a week to derive the monthly income.*

11.3.1 What are the main sources of household income in 2015?

Source	Rank	Amount (Kwacha) 2015
Permanent employment	11321A	11321B
Wages from hired agricultural labour, local casual labour	11322A	11322B
Self-employment off-farm (business)	11323A	11323B
Casual labour	11324A	11324B
Remittances	11325A	11325B
Pension	11326A	11326B
Sale of cereals	11327A	11327B
Sale exotic vegetables	11328A	11328B
Other crop products	11329A	11329B
Sale of AIVs	113210A	113210B
Sale of livestock products	11321 1A	11321 1B
Others (specify):	11321 2A	11321 2B

Note to enumerators: *If it is difficult to get the above information, ask how much they sell on average on a typical market day. Use the number of market days in a week to derive the monthly income.*

11.4. How do you use your income to achieve your household objectives?

Tick all mentioned objectives and only rank 5 most important (1=most important)

Objective	Rank	Achievement of the objective now: **1**=Easily achievable **2**=No change **3**=Increasingly difficult
Food	1141A	1141B
Housing	1142A	1142B
Transport	1143A	1143B
School fees	1144A	1144B
Medical care	1145A	1145B
Purchase of fertilizers	1146A	1146B
Purchase seed	1147A	1147B
Purchase pesticides	1148A	1148B
Purchase of farm equipment and supplies	1149A	1149B
Hiring labour	11410A	11410B
Others (specify)	11411A	11411

11.5. Are you able to save any money for unexpected expenses? (***Circle one)*****1**. Yes;**0**. No 11.5A

11.6 What is your goal as a farmer over the next 5 years? 116A

11.7 What are the most important trainings you need to improve your production and farm? 11A

You are now finished with the survey
Thank you for your participation