



Draft Baseline Study Report

Assessing the Viability of Establishing a Community Seed Bank in Kafue District

Women's Life & Wellness Foundation (WLWF)

In collaboration with

Zambia Agriculture Research Institute (ZARI)

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1.0 Executive Summary

A baseline study to assess the viability of establishing a community seed bank (CSB) for conservation of landrace genetic resources in Kafue district of Lusaka province was undertaken by the Women's Life and Wellness Foundation (WLWF) in collaboration with the department of Zambia Agriculture Research Institute (ZARI) staff, between 27th July and 2nd August, 2023. The survey was conducted using a structured questionnaire, involving an in-depth situation analysis and assessment based on the project result indicators and anticipated project activities.

The baseline findings indicate that the majority of the respondents (80%) resided in Lukolongo ward, with 92% coming from male-headed households (HH). Only 18% (41 respondents) did not grow any indigenous crops. Lack of access to landrace genetic resources in the area was cited as the main reason attributed to this limitation.

Of the local seed varieties commonly grown in the catchment area, maize varieties were reported by 82% of the respondents, trailed by groundnuts, beans and sweet potatoes. 44% of these genetic resources were sourced from fellow farmers, from both within the district and beyond.

The majority of the respondents reported storing their germplasm produce for either 3 months and/or 12 months, with drying as the most preferred method of preservation for all the crop species. Finally, the assessment found that 62% (144 respondents) did not have any idea what constitutes a community seed bank (CSB), although at least 97% (224 respondents) expressed their desire to have a CSB set up in the area, citing various potential benefits anticipated from this initiative.

Overall, the survey was successfully conducted, with 230 questionnaires being administered within the set timeframe. The survey also revealed how organized the WLWF staff was, in terms of farmer recruitment, resource mobilization as well as their collaboration with the local traditional leadership, zone leaders and the general cadre of farmers. It is thus hoped that the findings of this assessment will provide an impetus upon which WLWF will leverage for decision making regarding the establishment of a CSB in the Kafue district catchment area, and consequently, for the successful implementation of other subsequent projects.

2.0 List of Acronyms

AER	Agro-ecological region
CACC	Camp agriculture committee chairperson
CGIAR	Consultative group for international agricultural research
CSB	Community seed bank
HH	Household
GRZ	Government of the Republic of Zambia
WLWF	Women's Life and Wellness Foundation
ZARI	Zambia Agriculture Research Institute

3.0 Background

The global phenomenon of climate change and its impacts on livelihoods are now a reality. This fact is even more obvious in Zambia's Agro-ecological regions (AER) I and II, which receive less than 1000 mm of rainfall annually. For example, it has been recently observed that "rainfall seasons in southern Zambia have become less predictable and shorter, with rain falling in fewer, more intense events" (GRZ, 2012). Mean annual temperatures have also increased, while droughts and floods have become more frequent and widespread. These climatic changes are projected to worsen over time.

The Women's Life and Wellness Foundation (WLWF) is a Zambian registered non-profit making organization domiciled in Zambia's capital of Lusaka. Other than promoting the plight and welfare of women in the Kafue catchment area, the organisation also strives to enhance the livelihoods of marginalized communities by promoting the management and conservation of agro-biodiversity, addressing household food and nutrition security, as well as responding to contemporary social and environmental challenges. The WLWF strives to achieve this through research, capacity building, advocacy and fostering partnerships.

Between 27th July and 2nd August, 2023, the WLWF in collaboration with staff from the department of Zambia Agriculture Research Institute (ZARI) based at Mount Makulu Central Research Station in Chilanga, conducted a baseline assessment to ascertain the viability of establishing a community seed bank in Kafue district, under the auspices of a project dubbed '*Exploring Farmer-managed Seed Systems as an Adaptation Method*'. Three wards (i.e. Lukolongo, Kabweza and Shimabala) were targeted for this assessment. The team was however, assisted on the ground by the camp agriculture committee chairpersons (CACC) and community zone leaders.

4.0 Baseline Study Context and Purpose

This baseline study was undertaken in order to ascertain the viability of establishing a community seed bank in Kafue district.

The specific objectives of this baseline assessment were however, as follows:

- 4.1 To assess access and production levels of indigenous crop varieties by farmers in the Kafue catchment area;
- 4.2 To determine the level of utilisation of local crop varieties among farmers in Kafue;
- 4.3 To investigate storage conditions for landrace materials from harvest through the next planting season; and
- 4.4 To assess the community's knowledge, appreciation and potential benefits associated with the establishment of a CSB.

5.0 Baseline Study Framework and Methodology

The baseline study was conducted using a structured questionnaire administered on a sample of 230 respondents. The paper-based questionnaire was pre-tested on site in Mphande area of Lukolongo ward, and thereafter administered to the rest of the target area in the district. Pre-test results of the first 10 questionnaires showed that the research instrument did not need any further amendments.

Three wards (Lukolongo, Kabweza and Shimabala) were purposively-sampled to be part of the study. However, respondents that included women, youth, the elderly, as well as the physically-challenged, were randomly-selected to constitute a final survey sampling frame. WLWF staff, CACC and local zone leaders were instrumental in the sampling processes. The inclusion of local zone leaders was crucial as they are key in community and farmer mobilisation, as well as in information dissemination and technology uptake.

All the 230 questionnaires were successfully administered across the target network within the set timeframe (i.e. from 27th July through 2nd August, 2023).

Data entry and analysis were conducted in Microsoft Office Excel (2016 Edition) by ZARI staff. However, some cross-tabulation of data parameters was conducted using the Statistical Package for Social Sciences (SPSS, IBM 21.0).

6.0 Survey Findings & Discussion

The following are the findings of the baseline assessment, based on the results of the data analysis.

6.1 Generally, the majority of the respondents (80%) came from Lukolongo ward, with only 3% (7 respondents) representing the remaining two camps of Shimabala and Kabweza, as the figure below shows. Nonetheless, it is worth-indicating that 4.3% (10 respondents) did not know the name of the ward in which they resided.

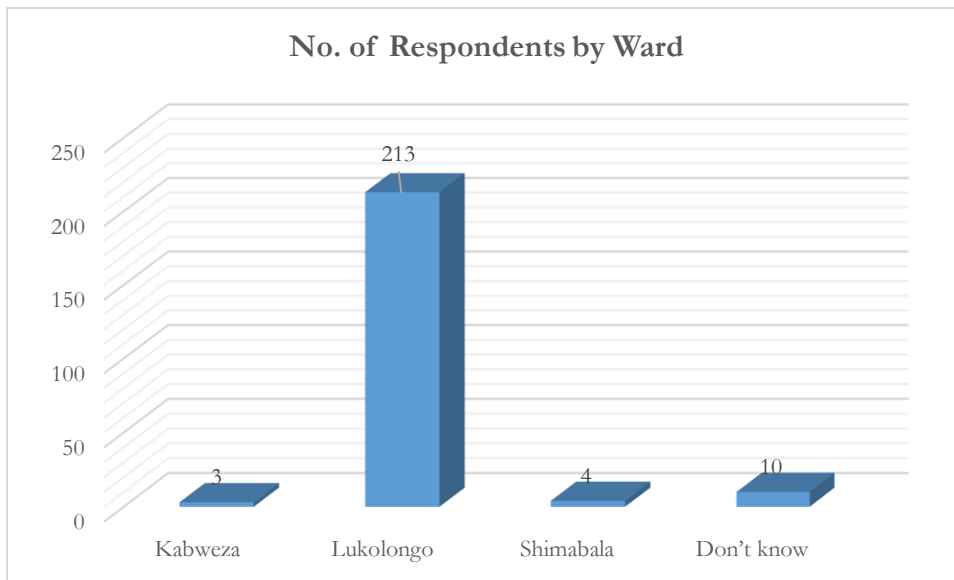


Fig. 1. Number of respondents segregated by ward

6.2 In terms of gender segregation, 80% (184 respondents) came from male-headed households. Female-headed households accounted for only 20% (46 respondents). None of the respondents came from a child-headed household (below 16 years), as exemplified by the figure below.

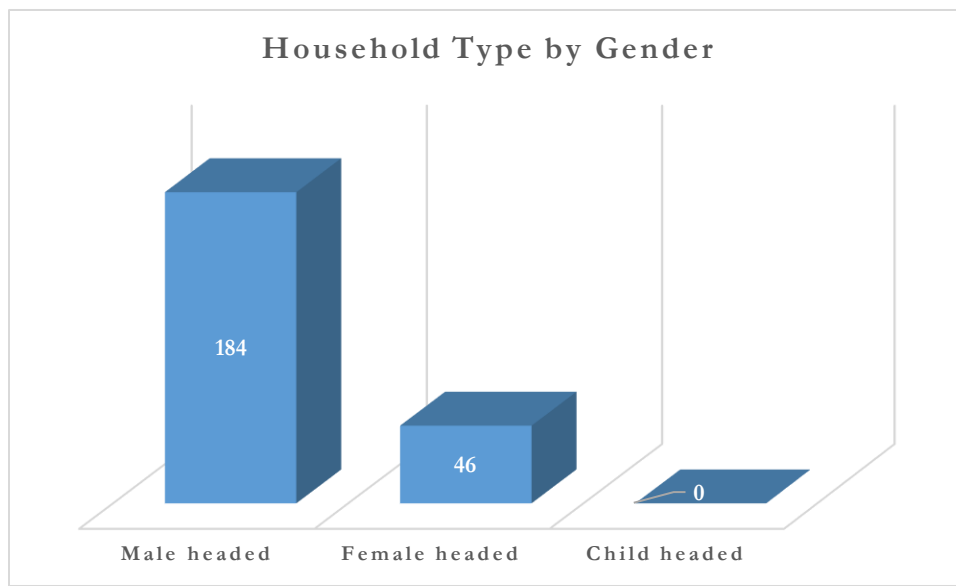


Fig. 2. Number of respondents segregated by gender

6.3 As the figure below will show, 60.4% of the respondents (i.e. 139 out of 230) were below the age of 50, with youths (respondents below age 35) accounting for 30.4 % (i.e. 70 respondents). These statistics notwithstanding, there may still be need to continue investing more in the recruitment of youthful farmers across the entire coverage area for sustainability of project goals.

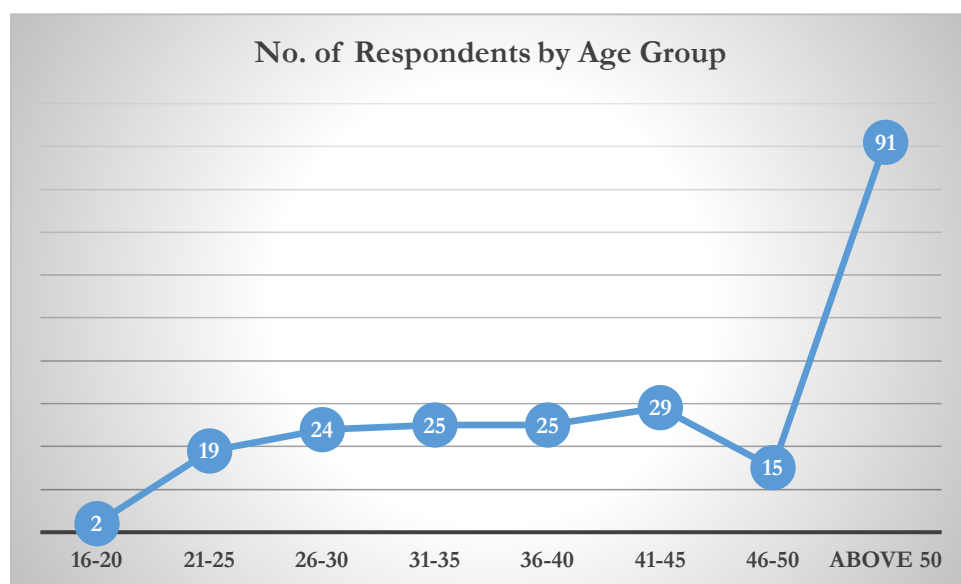


Fig. 3. Number of respondents segregated by age group.

6.4 Only 18% of the respondents (41 HH) indicated that they did not cultivate any indigenous crops in the area:

Farmers' affinity for indigenous crops	No. of Respondents
Respondents who grew indigenous crops	189
Respondents who did not grow indigenous crops	41

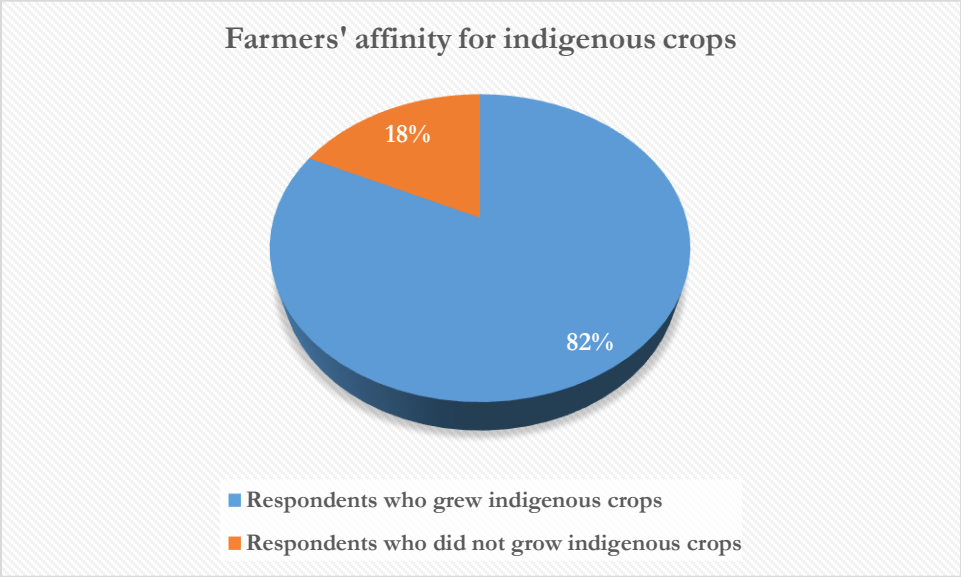


Fig. 4. *Farmers' affinity for indigenous crops*

The majority of the farmers growing indigenous crops were in Lukolongo ward, with Shimabala reporting the least number of farmers growing indigenous crops:

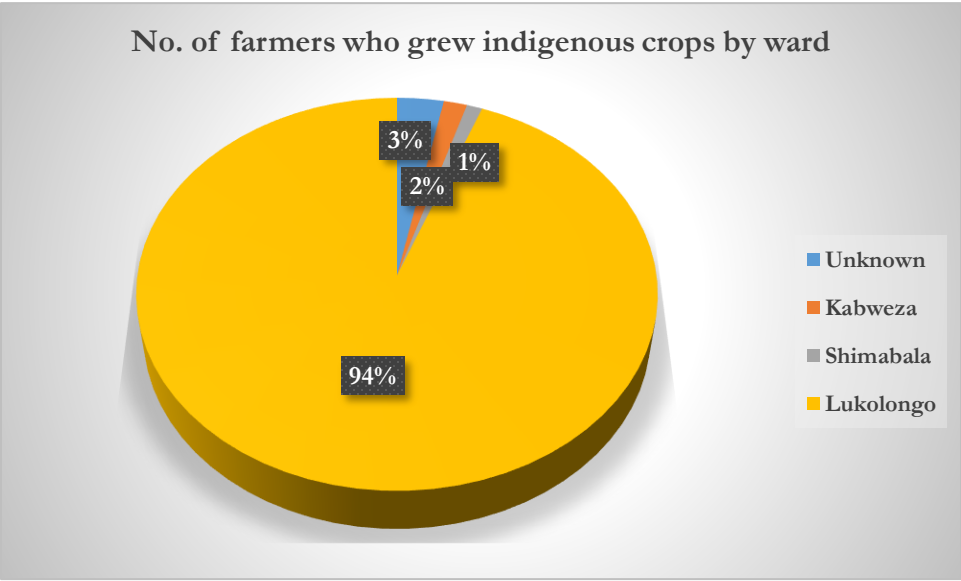


Fig. 5. *No. of farmers who grew indigenous crops by ward*

6.5 For the respondents who did not grow any landraces, different reasons were submitted (as the figure below depicts). The non-availability and lack of access to seed were cited as the main reasons why some farmers did not grow any indigenous crops.

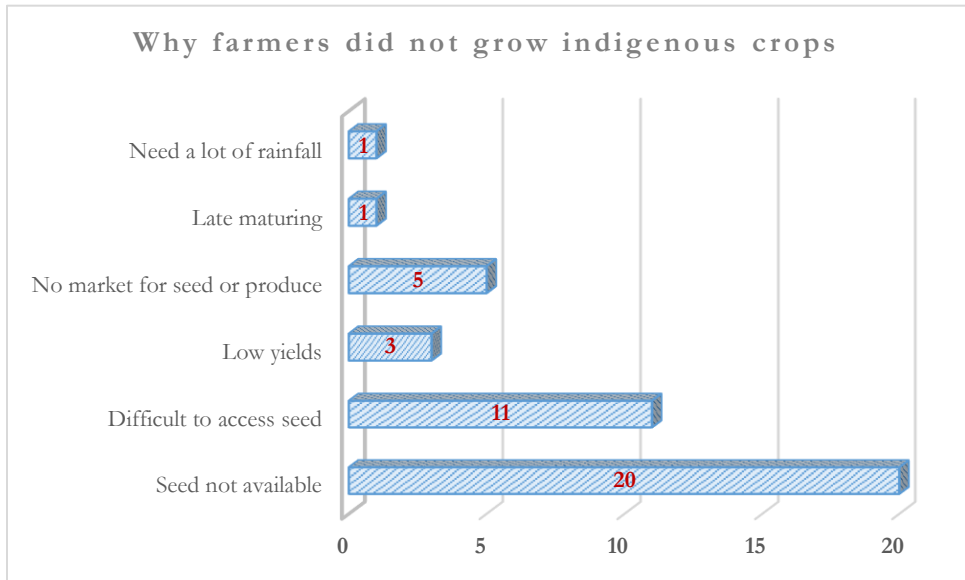


Fig. 6. Reasons why farmers opted not to grow indigenous crops

For respondents who grew indigenous crops however, the following reasons were also submitted, as depicted in the figure below:

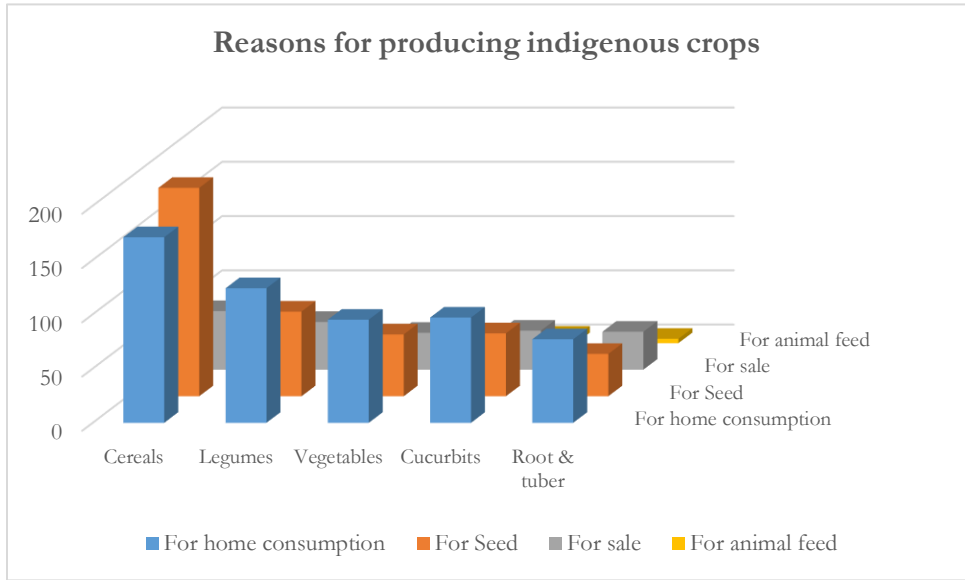


Fig. 7. Reasons for growing indigenous crops

All species of indigenous crops were grown mainly for consumption. For example, 171 respondents (74%) reported growing cereals like maize solely for consumption. 53% grew legumes for the same reason, with 42% for cucurbits, 41% reported for vegetables, and 33% for root & tubers.

However, indigenous crops were also grown for seed, sale and for animal feed. It is also worth noting however, that other reasons reported for growing indigenous crops include tolerance to drought and pests, good storability, less fertiliser requirements and aromatic properties.

It can also be deduced from the figure above that cereals remain the most popular crop species of choice in the area, both for home consumption and for seed, followed by legumes.

6.6 The assessment findings indicate that the following is the distribution of landrace species grown in the catchment area:

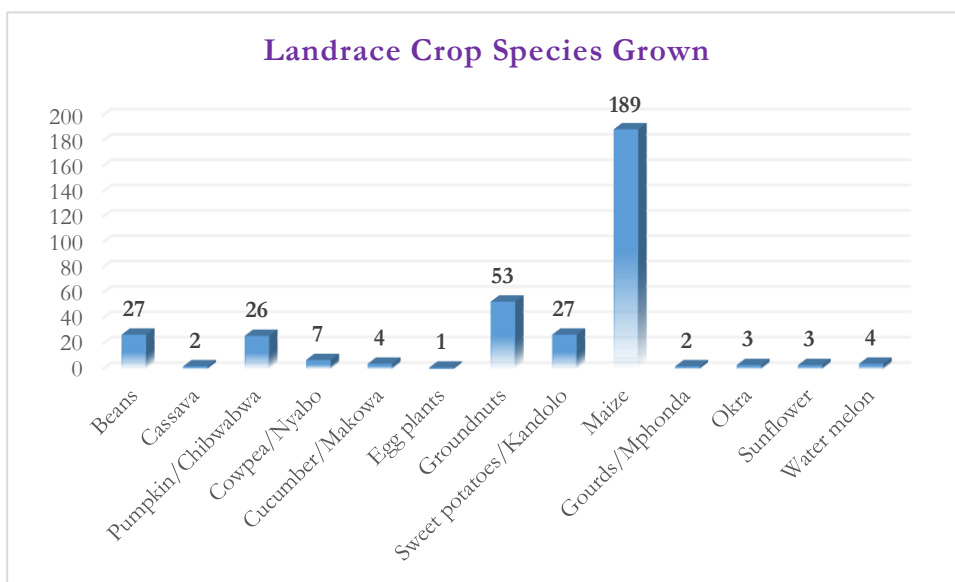


Fig. 8. Indigenous crop species grown in the catchment area

As can be seen in the figure above, indigenous maize (grown by all the 189 respondents) is the most popular of the crop species in the target area, with groundnuts (53 respondents) as well as beans and sweet potatoes (trailing with 27 respondents each), being the other favourable crops grown.

6.7 The tabulation of indigenous crop species (segregated by variety) as grown by farmers in the catchment area is as shown below:

SN	Class of indigenous crop	Species	Commonly grown local varieties	No. of respondents
1	Legumes	Beans	Yellow beans	1
			Chidima beans	1
			Solwezi beans	4
			Lundazi beans	1

			Black nuts	1
			Chalimbana	4
		Groundnuts	Kadononga/Solontoni	55
			Kanjuti	1
			Muyombe	1
		Cowpea	Nyabo	81
		Bambara nuts	Mbulukutu/Mbwila	23
2	Cereals	Maize	Gankata	139
			Go by Red	5
			Kafwamba/Kapyawangu	125
			Kalimwa	1
			Kampelia	1
			Kenya/Yellow maize	23
			Multi-coloured	2
			Tandanzala	2
			Siluntuba	3
			Kafumbushi	1
		Sorghum	Loongo/maila	8
			Sweet Sorghum/Misale	10
Mucheme	2			
Pearl millet	Nzembwe	1		
3	Vegetables	Amaranthus sp.	Bondwe	5
		Pumpkin leaves	Chibwabwa	58
		Okra	Delele	29
		Corchorus	Tindingoma	3
		Brassica sp.	Tantachulu	26
		African egg plant	Impwa	1
		Sweet potato leaves	Kalembula	6
		Cleome	Lubanga/Suntha	10
		Black Jack	Kanunkha	1
		Hibiscus	Lumanda	11
		Roselle	Mundambi/Sindambi	4
		Tomatoes	Small tomatoes	1
4	Cucurbits	Horned/Kiwano melons	Vitunguza	3
		Pumpkins	Matanga	14
		African cucumbers	Makowa	44
		Gourds	Mphonda/Myungu	44
		Water melon	Namunwa	17
5	Root & tubers	Cassava	Bwelelapo/Tute/Mwanja	24
		Sweet potatoes	Muchanga weka	1
			Luanshya	1
			Chipotomoyoka	1

			Kalyabwangu	1
			Mukakabole	1
			Kandolo (Common)	61
		Yams	Yams	4
6	Other crop species (Oil seed crops)	Sunflower	Sunflower	1

Fig. 9. Tabulation of local germplasm as grown by farmers in the catchment area segregated by local varieties

6.8 The main sources of indigenous seed for crops grown in the target area were as shown below. Other sources (accounting for 41%) however, included purchases from the local village market, agricultural shows, parents (and other family members), other towns and villages, cooperatives, and donations from an employer. None of the indigenous seed came from any of the consultative group for international agricultural research (CGIAR) organisations.

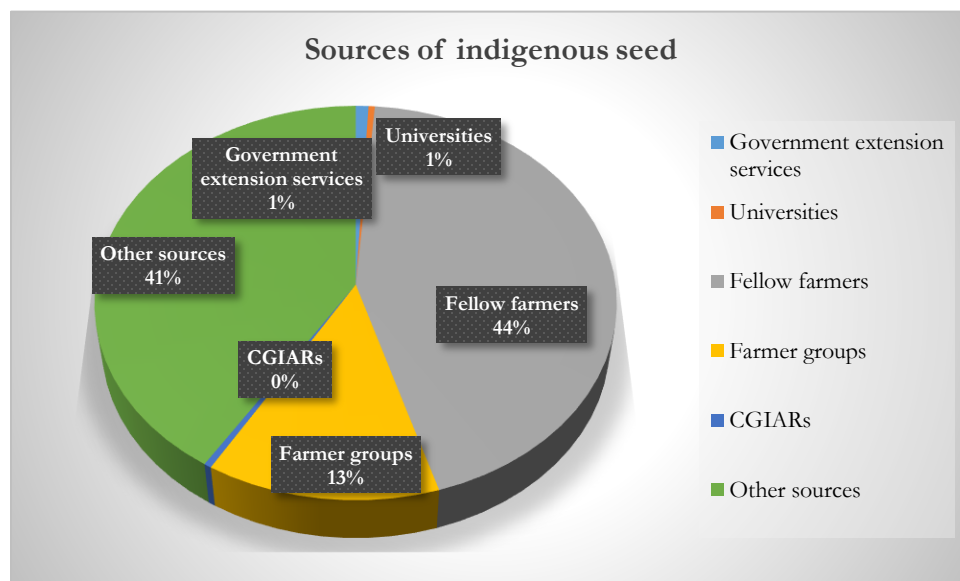


Fig. 10. Sources of indigenous seed for farmers in the catchment area

6.9 The table below (Fig. 11) shows how many respondents reported using particular storage technologies with respect to various crop species. It can thus be deduced that most respondents used storage bags for conserving both seed and grain. However, for crop species such as root and tubers the most preferred mode of seed conservation was in-field or garden storage. A good number of respondents also reported using plastic buckets for storage of cereals, legumes, vegetables and cucurbit species.

Technologies used to conserve indigenous crops by respondents:

Storage technology used	Cereals	Legumes	Vegetables	Cucurbits	Root &
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					tuber
Bag	87	47	17	12	1
Bin	1	0	0	0	0
Bottle	3	9	12	12	0
In husk	1	0	0	0	0
Mud-plastered basket	3	0	0	1	0
Newspaper wrapping	1	1	0	0	0
Nkhokwe (granary)	2	0	0	1	0
Plastic bag	3	3	7	1	0
Plastic bucket	39	14	14	16	0
Smoke (in kitchen ceiling)	3	0	0	0	0
Tin	3	4	2	2	0
Open ground surface	0	1	2	5	0
In-field (soil) storage	0	0	0	0	37
Old freezer	1	1	1	0	0

Fig. 11. Storage technologies for various indigenous crop species.

6. 10 The table below shows the number of respondents who reported various storage periods (in months) for respective crop species under conservation. The assessment found that the duration for storage of various indigenous crop species ranged from 1 month to 12 months:

Storage duration (Months)	Cereals	Legumes	Vegetables	Cucurbits	Root & tuber
1	2	0	1	1	0
2	8	0	10	8	1
3	24	1	16	13	3
4	15	0	3	4	3
5	22	0	7	6	5
6	33	0	1	2	0
7	5	0	0	1	0
8	0	0	3	2	0
10	0	0	0	1	0
12	18	0	10	15	1

Fig. 12. Storage duration (in months) for various indigenous crop species segregated by number of respondents.

The table shows that 24 respondents reported having stored their cereals (seed and/or grain) for a period of 3 months, with 16 respondents having stored their vegetables for the same duration. By and large, the majority of the respondents stored their germplasm for either 3 months and/or 12 months.

6.11 Respondents reported various methods of preserving grain, seed and other forms of produce for indigenous crops. The assessment results show that drying is the most preferred method of preservation for all the crop species in question, with blanching being the second most preferred method for preserving vegetables, while burying with ash is equally a very preferred method for preserving root and tuber crops like sweet potatoes.

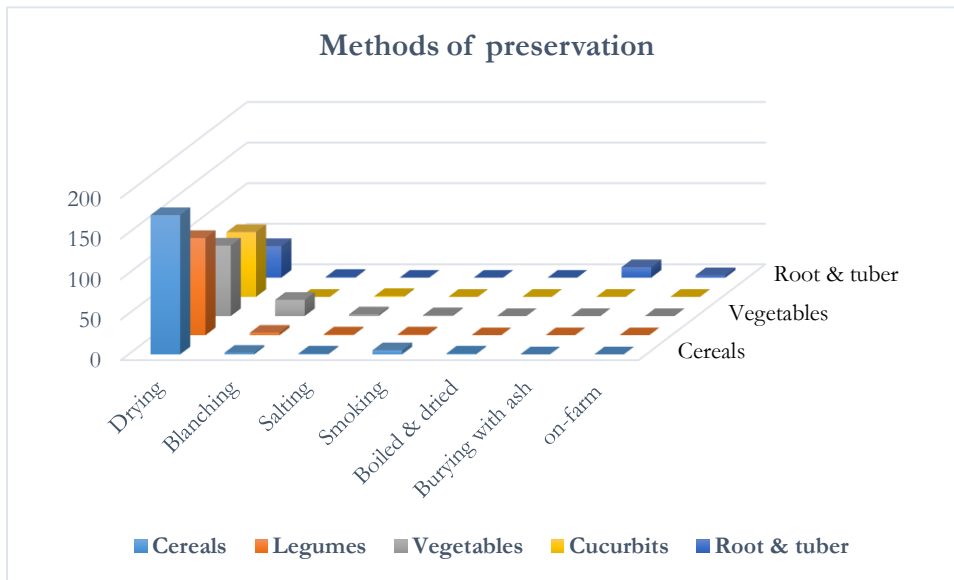


Fig. 13. *Methods of preserving grain, seed or other produce of indigenous crops*

6.12 Most respondents (74% for cereal consumers, 54% for legumes, 41% for vegetables, 38% for cucurbits and 36% for roots & tubers) reported using cooking as the most preferred method of processing food. However, for cereals, roasting (with 74 respondents), and frying (35 respondents) were food processing methods also found to be popularly in use.

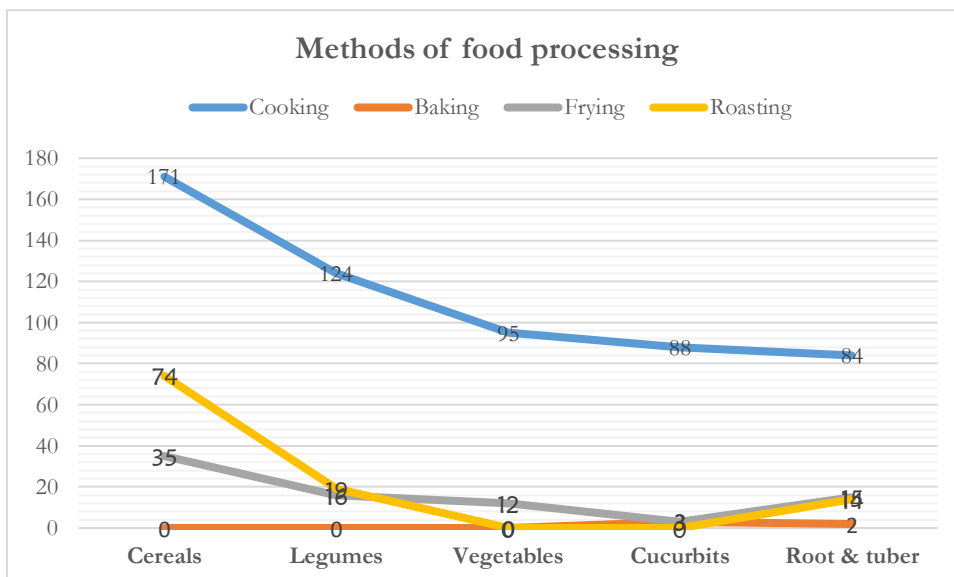


Fig. 14. *Number of respondents segregated according to food processing methods*

6.13 Findings indicate that 62% (144 respondents) did not have an idea what constitutes a CSB. Nevertheless, at least 13% (31 respondents) showed that they had a fair idea of what a CSB entails, i.e. a place where indigenous seed is kept and exchanged by the community.

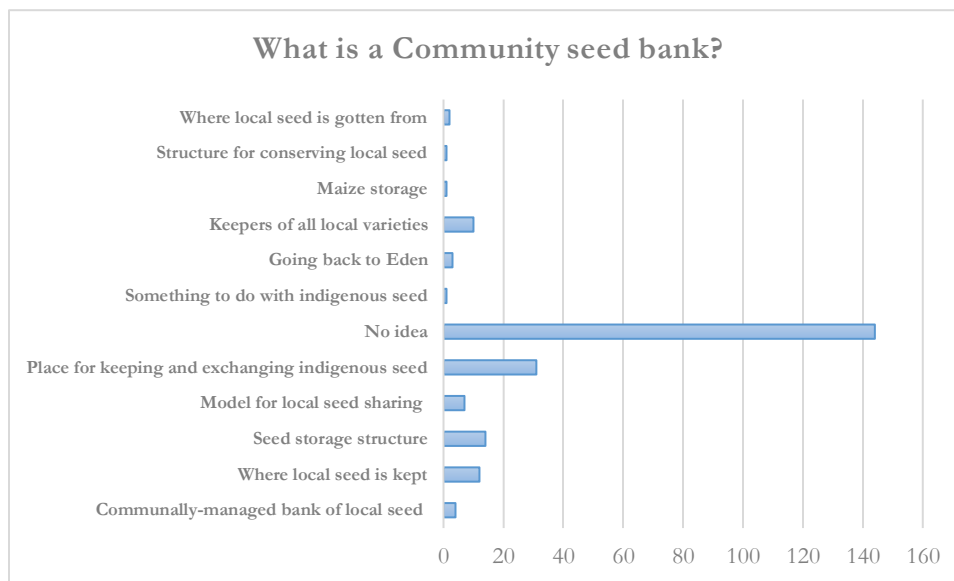


Fig. 15. Respondents' knowledge on community seed banking.

6.14 Although the majority of the respondents had limited knowledge on what constitutes a CSB, at least 97% (224 respondents) expressed their desire to have a CSB set up in the area.

6.15 About 44% of the farmers (101 respondents) anticipated that the establishment of the CSB in the area would enhance access to farmer-saved seed. Other anticipated benefits highlighted by respondents include enhanced food and nutrition security (35 respondents), improvement of the rural agricultural outlook (34 respondents), safe storage of seed (19 respondents) and sustainable utilisation of local seeds (16 respondents), among others.

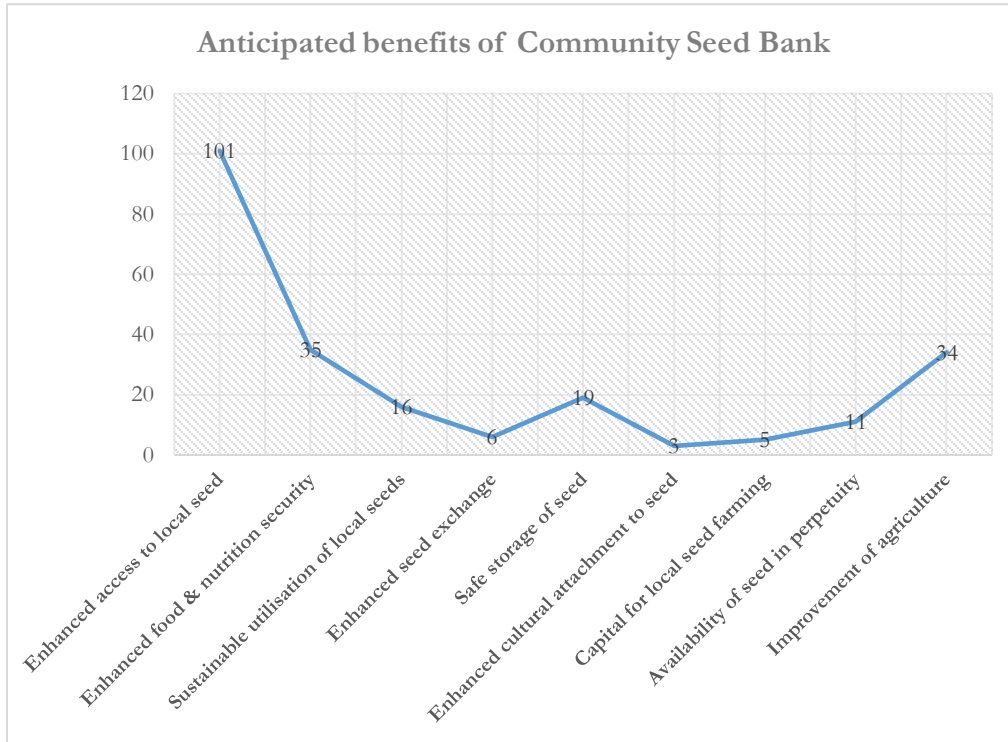


Fig. 16. *Benefits anticipated from the establishment of a CSB*

7.0 Conclusion

This baseline assessment conducted by the Women’s life and Wellness Foundation in collaboration with the Zambia Agriculture Research Institute has provided valuable insights into the feasibility of establishing a community seed bank for the conservation of landrace genetic resources in Kafue

District of Lusaka province. The study revealed significant details about the agricultural practices, preferences, and challenges faced by the local community.

The findings highlight that a majority of respondents in Lukolongo ward, primarily from male-headed households, engage in growing local seed varieties, particularly maize, groundnuts, beans, and sweet potatoes. The limited access to landrace genetic resources emerged as a significant barrier to indigenous crop cultivation, although only 18% of respondents were not involved in such farming. Notably, the majority of respondents expressed interest in having a community seed bank, indicating a strong willingness to embrace the concept and benefit from its potential advantages.

The survey showcased the organised efforts of the Women's life and Wellness Foundation in terms of recruiting farmers, mobilising resources, and collaborating with local leadership and farmers. Nevertheless, it is clear that there is a gap in understanding the concept of a community seed bank, with 62% of the respondents indicating a lack of awareness. However, this gap can be addressed through targeted educational initiatives.

The study's successful administration of 230 questionnaires within the specified timeframe underscores the dedication and efficiency of the research team. The detailed insights provided by the survey should serve as a solid foundation for the Women's life and Wellness Foundation to make informed decisions regarding the establishment of a community seed bank in the Kafue District catchment area. Furthermore, these findings will be instrumental in guiding the successful implementation of future projects aimed at promoting sustainable agricultural practices and safeguarding local genetic resources.

8.0 Recommendations

It is therefore, recommended that:

- 8.1 Farmers should be trained in the management of a community seed bank, should WLWF decide to embark on establishing one in the area;

- 8.2 More women and youthful farmers be involved in project activities to ensure sustainability;
- 8.3 Farmers should be trained on agronomic practices involving the cultivation of indigenous crops in order to improve and ensure sustainable production levels for the landraces in the Kafue district catchment area;
- 8.4 Farmers should be trained on post-harvest handling and management practices for indigenous crops; and
- 8.5 Farmers should be trained on food processing of indigenous crops.

9.0 References

GRZ, October 2012: **Technology Needs Assessment for Climate Change Adaptation**, Rural Net Associates Limited, Lusaka

10.0 Annexes

10.1 List of Survey respondents:

SN	Respondent's Name	Ward
1	Sara Hachiwa	Unknown
2	Holiness Mweemba	Unknown
3	Mutinta Mwiinde	Unknown
4	Thomas Hakwene	Unknown
5	Manda Lwindi	Unknown

6	Alfred Chola Kasusi	Unknown
7	Malambo Ng'andu	Unknown
8	Modesta Siati	Unknown
9	Winstone Hachalwe	Unknown
10	Astridah Nakaona	Unknown
11	Eunice Kampampa	Kabweza
12	Mary Nyirongo	Kabweza
13	Idah Munandenda	Kabweza
14	Reagan Hachoonga	Shimabala
15	Grace Ntalasha	Shimabala
16	Doreen Muzeya	Shimabala
17	Joshua Moonga	Shimabala
18	Danny Hagwela	Lukolongo
19	Clement Mulengu	Lukolongo
20	Charity Musakabantu	Lukolongo
21	Monica Lishiko	Lukolongo
22	Ruth Mweemba	Lukolongo
23	Dainess Musobola	Lukolongo
24	Ebbi Nachalwe	Lukolongo
25	Alfred Mumba	Lukolongo
26	Alice Mwaba	Lukolongo
27	Madam Chabatala	Lukolongo
28	Joyce Mwansa	Lukolongo
29	Alice Lumingu	Lukolongo
30	Alonet Nyirenda	Lukolongo
31	Memory Mwiinga	Lukolongo
32	Getrude Fungwe	Lukolongo
33	Phaides Kapesha	Lukolongo
34	Martha Choongo	Lukolongo
35	Monica Mukasulwe	Lukolongo
36	Donald Chipoya	Lukolongo
37	Mirriam Mwanamwalye	Lukolongo
38	Alick Banda	Lukolongo
39	Gift Masumba	Lukolongo
40	Lalipa Shawa	Lukolongo
41	Jessie Zimba	Lukolongo
42	Eunice Chiefwa	Lukolongo
43	Agness Siachela	Lukolongo
44	Rabecca Banda	Lukolongo
45	Rosemary Mwanza	Lukolongo

46	Victor Siakainala	Lukolongo
47	Dorcas Nayame	Lukolongo
48	Victor Bwitonga	Lukolongo
49	Herbert Kanene	Lukolongo
50	Lister Lwindi	Lukolongo
51	Tryven Masanga	Lukolongo
52	Teddy Cheelo	Lukolongo
53	David Hansawela	Lukolongo
54	Mervis Sakala	Lukolongo
55	Steven Zimba	Lukolongo
56	Matthias Chawana	Lukolongo
57	Abraham Lemana	Lukolongo
58	Ruth Ngoma	Lukolongo
59	Arasoni Shabombe	Lukolongo
60	Gift Banda	Lukolongo
61	Prudence Mwale	Lukolongo
62	Misozi Nkole	Lukolongo
63	Saliya Bofana	Lukolongo
64	Rent Moonga	Lukolongo
65	Trywell Simweemba	Lukolongo
66	Catherine Moonga	Lukolongo
67	Mwaka Chikatula	Lukolongo
68	Davies Mulitah	Lukolongo
69	Memory Namwiinga	Lukolongo
70	Erikana Kayela	Lukolongo
71	Fred Kabamba	Lukolongo
72	Precious Phiri	Lukolongo
73	Phales Mwembela	Lukolongo
74	Purity Mweemba	Lukolongo
75	Patricia Kasamba	Lukolongo
76	Ntembelwa Maulisho	Lukolongo
77	Robert Siabuyuna	Lukolongo
78	Ivor Malende	Lukolongo
79	Lazarous Mubanga	Lukolongo
80	Mervis Lande	Lukolongo
81	Mwambeyi Moyowanga	Lukolongo
82	Beatrice Zulu	Lukolongo
83	Agness Dimba	Lukolongo
84	Jane Mutinta	Lukolongo
85	Christopher Ntambo	Lukolongo

86	Governor Fungwe	Lukolongo
87	Owen Mataa	Lukolongo
88	Precious Nkandu	Lukolongo
89	Given Malambo Hibanyama	Lukolongo
90	Grace Hachibooma	Lukolongo
91	Benister Mweemba	Lukolongo
92	Clement Kaluba	Lukolongo
93	Autila Gingala	Lukolongo
94	Eunice Kwele	Lukolongo
95	Rose Halumba	Lukolongo
96	Precious Moonga	Lukolongo
97	Osten Hamasizi	Lukolongo
98	Agness Chisanga	Lukolongo
99	Ignitius Shanongwe	Lukolongo
100	Charity Banda	Lukolongo
101	Favourite Malambo	Lukolongo
102	Raymond Thymo	Lukolongo
103	Hitler Mweemba	Lukolongo
104	Mildred Katotoka	Lukolongo
105	Mike Ephan Mbozi	Lukolongo
106	Kelvin Chishimba	Lukolongo
107	Alex Mweemba	Lukolongo
108	Emeldah Musamba	Lukolongo
109	Victoria Chibwe	Lukolongo
110	Austin Mudenda	Lukolongo
111	Prisca Simukonda	Lukolongo
112	Precious Shiachitema	Lukolongo
113	Loges Phiri	Lukolongo
114	Juliet Phiri	Lukolongo
115	Tamara Gondwe	Lukolongo
116	Royness Chiluba	Lukolongo
117	Agness Longwani	Lukolongo
118	Catherine Phiri	Lukolongo
119	Kalumbilo Mutakela	Lukolongo
120	Violet Banda	Lukolongo
121	Levy Thole	Lukolongo
122	Naomi Mutale	Lukolongo
123	Hakalonga Magusi	Lukolongo
124	Martha Shanongwe	Lukolongo
125	Weaver Hamasama	Lukolongo

126	Lilian Situmbeko	Lukolongo
127	Rodgers Mwete	Lukolongo
128	Lucy Nakaonga	Lukolongo
129	Coillard Mweemba	Lukolongo
130	Adess Nyambo	Lukolongo
131	Elizabeth Kasamu	Lukolongo
132	Stellia Hamasandu	Lukolongo
133	Winfredah Katongo	Lukolongo
134	Collins Shabana	Lukolongo
135	Abigail Chiinda	Lukolongo
136	Esther Tembo	Lukolongo
137	Jean Tembo	Lukolongo
138	Morris Miyanda	Lukolongo
139	Everlyn Nachilima	Lukolongo
140	Stemia Chabala	Lukolongo
141	Eunice Ngoma	Lukolongo
142	Fostina Muleya	Lukolongo
143	Gladys Hasowela	Lukolongo
144	Joyce Namoola Mendai	Lukolongo
145	Esnart Chilwalo	Lukolongo
146	Felistus Tembo	Lukolongo
147	Ruth Choma	Lukolongo
148	Sidah Ng'andu	Lukolongo
149	Ednala Nyirenda	Lukolongo
150	Ruth Nyambe	Lukolongo
151	Helen Hachoote	Lukolongo
152	Tealister Muchindu	Lukolongo
153	Fani Chipwalo	Lukolongo
154	Mervis Phiri	Lukolongo
155	Esther Sakala	Lukolongo
156	Georgina Kalinda	Lukolongo
157	Nephias Kabaza	Lukolongo
158	Stanley Mweene	Lukolongo
159	Memory Manyombe	Lukolongo
160	Mary Chasunkwa	Lukolongo
161	Mary Ngulube	Lukolongo
162	Obrian Kapekele	Lukolongo
163	Emmanuel Kabaso	Lukolongo
164	Fanta Simuchembu	Lukolongo
165	Matildah Hagwena	Lukolongo

166	Selina Milandu	Lukolongo
167	Lutangu Maimbolwa	Lukolongo
168	John Mupona	Lukolongo
169	Nyeleti Timothy Siampingo	Lukolongo
170	Allison Bwalya	Lukolongo
171	Rosemary Kajaulungwa	Lukolongo
172	Patrick Kasamu	Lukolongo
173	Olice Mweemba	Lukolongo
174	Maybin Mweemba	Lukolongo
175	Robson Shamaila	Lukolongo
176	Esther Sibotwe	Lukolongo
177	Makuwa Mbaita	Lukolongo
178	Levy Hamoonga	Lukolongo
179	Alex Mudenda	Lukolongo
180	Joyce Mosi	Lukolongo
181	Faustina Chibanga	Lukolongo
182	Katema Matomola	Lukolongo
183	Aldeta Kaduka	Lukolongo
184	Mervis Mwiinga	Lukolongo
185	Chipo Tembo	Lukolongo
186	Catherine Tembo	Lukolongo
187	Patricia Zulu	Lukolongo
188	George Hamanjile	Lukolongo
189	Miniver Ndhlovu	Lukolongo
190	Cosmas Miyanda	Lukolongo
191	Jane Mulemba	Lukolongo
192	Agness Matafwale Kasamu	Lukolongo
193	Susan Dimba	Lukolongo
194	Jame Fimaka	Lukolongo
195	Kesina Munsaba	Lukolongo
196	Esther Mwampikita	Lukolongo
197	Regina Nampungwe	Lukolongo
198	Ruth Kangwe	Lukolongo
199	Veronica Tembo	Lukolongo
200	Elina Mwanja	Lukolongo
201	Lenny Mwale	Lukolongo
202	Dominic Chaamwe	Lukolongo
203	Mary Lungu	Lukolongo
204	Martha Ngizimani	Lukolongo
205	Innocent Mwiinga	Lukolongo

206	Monica Litulula	Lukolongo
207	Michael Mvula	Lukolongo
208	Loveness Mwampikita	Lukolongo
209	Richard Mukonka	Lukolongo
210	Angela Mwape	Lukolongo
211	Idah Shabasimbi	Lukolongo
212	Rhoda Moonga	Lukolongo
213	Kilian Simoonga	Lukolongo
214	Dennis Banda	Lukolongo
215	Doubt Chitipa	Lukolongo
216	Brenda Lubemba	Lukolongo
217	Asa Ngoma	Lukolongo
218	Judith Chalyokezhya	Lukolongo
219	Janet Namwinga	Lukolongo
220	Jazman Malambo Chipwele	Lukolongo
221	Victor Susiku Limuna	Lukolongo
222	Lilian Chonya	Lukolongo
223	Thomas Phiri	Lukolongo
224	Mervis Nyanga	Lukolongo
225	Rosemary Kabobo	Lukolongo
226	Sylvia Ngobala	Lukolongo
227	Edward Kasamu	Lukolongo
228	Eles Kalabila	Lukolongo
229	Brenda Ng'andu	Lukolongo
230	Regina Kajaulunga	Lukolongo

10.2 List of Survey Enumerators

SN	Enumerator	Organisation/Affiliation
1	Natasha Sakala	Women's Life & Wellness Foundation
2	Rhoda Mumba	Zambia Agriculture Research Institute
3	Mulenga M. Mukanu	Women's Life & Wellness Foundation
4	Mwansa Mwansa	Zambia Agriculture Research Institute
5	Lomphande Phiri	Women's Life & Wellness Foundation
6	Edwin Chuma Ng'ona	Zambia Agriculture Research Institute
7	Emmanuel Simutowe	Women's Life & Wellness Foundation

10.3 Data collection instrument



ZAMBIA AGRICULTURE RESEARCH INSTITUTE AND WOMEN’S LIFE AND WELLNESS FOUNDATION
Survey Questionnaire

Activity: *Survey on the viability of setting up community seed banks in Kafue District*

Project: *Exploring Farmer-managed Seed Systems as an adaptation method*

SECTION A: HOUSEHOLD IDENTIFICATION AND LOCATION

A01. Province:	A02. District:	A03. Constituency:
A04. Ward:	A05 Agricultural Camp:.. ..	A06 Chiefdom:
A07. Name of the HH Head:		
A08. Type of Household: 1. Male Headed 2. Female headed 3. Child headed 4. Elderly headed (head of household is 65 years or more)		
A09. Name of the Respondent: A10 Gender of Respondent:		
A11 Age of Respondent: 1. Between 16-20 years		

- 2. Between 21-25 years
- 3. Between 26-30 years
- 4. Between 31-35 years
- 5. Between 36- 40 years
- 6. Between 41-45 years
- 7. Between 46-50 years
- 8. Above 50 years

A12. Relationship to HH Head (If different from A09):

.....

A13. Size of Household: Male:..... Female: Below 18yrs: Above 18yrs:

A14. Phone number:

A15. Date of the interview (D/M/Y):/...../2023

A16. Name of enumerator:

SECTION B: ACCESS AND PRODUCTION OF INDIGENOUS CROPS

B01. Do you grow indigenous crops?

Response	Tick
Yes = 1	
No = 2	

B02. If no, why don't you grow the indigenous crops?

Reason(s)	Tick
Not Available = 1	
Difficult to access = 2	
Low yielding = 3	
No market	

B03. Which non-indigenous crop do you grow and why?

Type of Crops	Crop	Write the reason(s) in the space
Cereals = 1		
Legumes = 2		
Vegetables = 3		
Cucurbits = 4		
Roots and Tubers = 5		
Other, specify = 6		

B04. If yes, what types of indigenous crops do you grow?

Type of Indigenous Crops	Tick
Cereals = 1	
Legumes = 2	
Vegetables = 3	
Cucurbits = 4	
Roots and Tubers = 5	

B05. Which local varieties of the types of crops do you grow?

Types of Indigenous Crops	Local Varieties (Write in space provided)
Cereals = 1	1. 2. 3. 4. 5.
Legumes = 2	1. 2. 3. 4. 5.
Vegetables = 3	1. 2. 3. 4. 5.
Cucurbits = 4	1. 2. 3. 4. 5.
Roots and Tubers = 5	1. 2. 3. 4. 5.

BO6. Where do you acquire the indigenous crops?

Source	Tick
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Government Research = 1	
Government Extension = 2	
International Research Centres = 3	
Universities = 4	
Farmer = 6	
Farmer Group = 7	
Seed Bank = 8	
Other, specify = 9	

BO7. What quantities of the indigenous crop seed did you receive (INDICATE FOR ONLY UP TO 5 LOCAL VARIETIES)?

Types of Indigenous Crops	Local Variety of Indigenous Crops	Quantities(Kg/cutting/tuber/vines)
Cereals = 1	1.	
	2.	
	3.	
	4.	
	5.	
Legumes = 2	1.	
	2.	
	3.	
	4.	
	5.	
Vegetables = 3	1.	
	2.	
	3.	
	4.	
	5.	
Cucurbits = 4	1.	
	2.	
	3.	
	4.	
	5.	
Roots and Tubers = 5	1.	
	2.	

	3.	
	4.	
	5.	

BO8. Give reason(s) for producing the indigenous crops of your choice

Crops	Reason(s)	Tick
Cereals = 1	Home Consumption = 1	
	Seed = 2	
	Sale = 3	
	Animal Feed = 4	
	Other, specify = 5	
Legumes = 2	Home Consumption = 1	
	Seed = 2	
	Sale = 3	
	Animal Feed = 4	
	Other, specify = 5	
Vegetables = 3	Home Consumption = 1	
	Seed = 2	
	Sale = 3	
	Animal Feed = 4	
	Other, specify = 5	
Cucurbits = 4	Home Consumption = 1	
	Seed = 2	
	Sale = 3	
	Animal Feed = 4	
	Other, specify = 5	
Roots and Tubers = 5	Home Consumption = 1	
	Seed = 2	
	Sale = 3	
	Animal Feed = 4	
	Other, specify = 5	

BO9. How much did you produce in 2022/2023 farming season (**INDICATE FOR ONLY UP TO 5 LOCAL VARIETIES**)?

Types of Indigenous Crops	Local variety of Indigenous Crops	Quantities (Kg/tuber/roots)
Cereals = 1	1.	
	2.	
	3.	
	4.	
	5.	
Legumes = 2	1.	
	2.	
	3.	
	4.	
	5.	
Vegetables = 3	1.	
	2.	
	3.	
	4.	
	5.	
Cucurbits = 4	1.	
	2.	
	3.	
	4.	
	5.	
Roots and Tubers = 5	1.	
	2.	
	3.	
	4.	
	5.	

SECTION C: STORAGE OF INDIGENOUS CROP

C01. Provide the seed storage information and technologies

Types of Crops	Species of Indigenous Crops	Qty of seed, vegetable or tuber stored (kg/root/tuber)	Duration of storage (Months)	Storage Technology (ies) used	Capacity of Storage Technologies Used
Cereals = 1	1.				
	2.				
	3.				
	4.				
	5.				
Legumes = 2	1.				
	2.				
	3.				
	4.				
	5.				
Vegetables = 3	1.				
	2.				
	3.				
	4.				
	5.				
Cucurbits = 4	1.				
	2.				
	3.				
	4.				
	5				

Roots and Tubers = 5	1.				
	2.				
	3.				
	4.				
	5.				

SECTION D: UTILIZATION OF INDIGENOUS CROPS

D01. What methods of food preservation do you use?

Type of Indigenous Crops	Methods of Preservation	Tick
Cereals = 1	1. Drying	
	2. Blanching	
	3. Salting	
	4. Smoking	
	5. Other, specify	
Legumes = 2	1. Drying	
	2. Blanching	
	3. Salting	
	4. Smoking	
	5. Other, specify	
Vegetables = 3	1. Drying	
	2. Blanching	
	3. Salting	
	4. Smoking	
	5. Other, specify	
Cucurbits = 4	1. Drying	
	2. Blanching	
	3. Salting	
	4. Smoking	
	5. Other, specify	
Roots and Tubers = 5	1. Drying	
	2. Blanching	
	3. Salting	

	4. Smoking	
	5. Other, specify	

D02. What methods of food processing do you use?

Type of Indigenous Crops	Methods of Processing	Tick
Cereals = 1	1. Cooking	
	2. Baking	
	3. Frying	
	4. Roasting	
	5. Other, specify	
Legumes = 2	1. Cooking	
	2. Baking	
	3. Frying	
	4. Roasting	
	5. Other, specify	
Vegetables = 3	1. Cooking	
	2. Baking	
	3. Frying	
	4. Roasting	
	5. Other, specify	
Cucurbits = 4	1. Cooking	
	2. Baking	
	3. Frying	
	4. Roasting	
	5. Other, specify	
Roots and Tubers = 5	1. Cooking	
	2. Baking	
	3. Frying	
	4. Roasting	
	5. Other, specify	

SECTION E: COMMUNITY SEED BANK (CSB)

E01. What do you understand by the term 'Community Seed Bank'?

.....
.....
.....

E02. Would you like the CSB to be set up in your area?

Response	Tick
Yes = 1	
No = 2	

E03. What benefits do you think will come with the setting up of the CSB in your area?

.....
.....
.....
.....
.....
.....

END