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Feasibility Study on the Home Grown School Feeding Programme and Recommendations for Scalability

November 2024

Feasibility Study on the Home Grown School Feeding Programme and Recommendations for Scalability

OYAYONE Foundation

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Abbreviations

AMTA	Agro Marketing And Trade Agency
FAO	The Food and Agriculture Organization of the United Nations
GCNF	Global Child Nutrition Foundation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GRN	Government Republic of Namibia
HGSFP	Home Grown School Feeding Programme
MAWLR	Ministry of Agriculture, Water and Land Reform
MoEAC	Ministry of Education, Arts and Culture
NAB	Namibia Agronomic Board
NSFP	National School Feeding Programme
SHF	Small Holder Farmers
UN	United Nations
WASH	Water, Sanitation and Hygiene Programme
WFP	World Food Programme

Source: Oyayone Foundation

Supporting Research And Studies

Studies in the table below were carried out to review previous studies and contain analysis, findings and reviews of the Home-Grown School Feeding Programme (HGSFP). They offer useful insights into the programme and are useful references to the current study.

	Report/Policy	Year	Sanctioned by	Reference
1	The Namibia School Feeding Programme A Case Study. Author: Justin Ellis of Turning Points Consultancy	2012	Ministry of Education, Arts & Culture (MoEAC) World Food Programme (WFP)	EDU-WFP-12
2	Namibia School Feeding Policy	2019	Ministry of Education, Arts & Culture (MoEAC)	NSFP-2019
3	Country Report – Namibia	2020	Global Child Nutrition Foundation (GCNF)	CR-NAM-20
4	Global Survey Report – School Meal Programmes Around the World	2021	GCNF, USDA	GCNF-21
5	HGSFP Pilot Review Report (Survey) Author: Salufu Nyambe	2022	WFP	WFP-PRR-22 WFP-PRRS-22
6	Scoping Mission Report	2022	(MoEAC), WFP	EDU-WFP-22
7	Back to Office Report – Kavango East	2023	WFP	BTO-WFP-23
8	Concept Note: Accelerated Journey to Zero Hunger – Namibia. "National Home-Grown Feeding Programme as a Strategic Driver For Development"	2023	WFP-COE Support	WFP-COE-23
9	School Feeding Programme Reporting Tool - School Feeding Programme Implementers Author: S.Nyambe	2024	WFP	SFPRT-24

1. Background Study

The Home-Grown School Feeding Programme (HGSFP) is a flagship programme introduced by the World Food Programme (WFP) in 2021 and is implemented concurrently with the National School Feeding Programme implemented by the Ministry of Education, Arts and Culture (MoEAC). By the year 2023 the HGSFP had a total of 11,730 beneficiaries and was piloted in 29 schools, which is an average of four schools in seven (7) regions countrywide.

The programme is implemented to enable schools to provide a nutritious and diversified diet for primary learners, who currently receive stable starch foods from the Government of the Republic of Namibia (GRN). The specific objective of the HGSFP is to enable schools to add a greater variety of food types to the existing feeding menu. They achieve this by cultivating self-grown school gardens and sourcing from small holder farmers, traders and retailers.

In order to assess the impact and effectiveness of the HGSFP as well as investigate the functionality of the programme in the respective schools, various studies have been conducted since the inception of the programme to date. Assessments for this study was carried out by collecting data and sourcing feedback via interviews, observations and surveys as outlined in the methodology. The findings were reported based on the outcome of the survey conducted between March to June 2024.

Overview of the study

In April 2024, the OYAYONE Foundation, contracted by the United Nations World Food Programme Namibia Country office, visited fourteen (14) selected piloting schools in six (6) regions to assess the impact of the HGSFP. Direct interactions were made with programme beneficiaries, implementers, parents, community volunteers and small holder farmers (SHF) to review and discuss the status of the programme. A survey was conducted to investigate the effectiveness of the pilot, in meeting the objectives in terms of the impact, effectiveness, value chains, etc. The OYAYONE Foundation Project Team also held discussions with programme implementers and carried out inspections of the school gardens, storage locations, water infrastructure and cooking areas.

Regional school visits by the Project Team were carried out over a period of two weeks (18 – 30 April 2024) and identified stakeholders engaged the team receptively. During the visits, a strong degree of cooperation in the programme was fostered. The learners and their parents demonstrated a strong interest and satisfaction about the programme and also expressed their desire for it to last longer. This is demonstrated by their sense of support and voluntary contributions towards the programme through cooking, gardening, cleaning and collection of firewood, water etc.

One key highlight of the programme is that it directly complements the agricultural potential of the schools and their desire to grow their own produce, and although there was a degree of variability in agricultural output, there is a shared level of satisfaction in growing their own food. At some schools the programme was accessible for agriculture students and teachers, through Work Integrated Learning. Interviewers ensured equitable representation of both male and female interview respondents.

Programme overview

National School Feeding Programme

The National School Feeding Programme (NSFP) was initiated by the Government of the Republic of Namibia with the support of the WFP in 1990, and fully handed over to Government for implementation via the Ministry of Education, Arts and Culture (MoEAC) in 1996. The NSFP was aimed at creating an enabling learning environment by reducing hunger among school going children, thereby optimizing health and nutrition. The NSFP consists of a daily mid-morning fortified maize meal. The NSFP has grown exponentially, with coverage in excess of 424,248 school learners at 1,530 schools in 14 regions, countrywide. (UN-WFP, 2022).

Home Grown School Feeding Programme

In 2021, the MoEAC and the United Nations World Food Programme (WFP) collaborated to pilot the Home-Grown School Feeding Programme (HGSFP). This partnership was established to alleviate hunger, enhance learning capabilities, and improve school enrollment and retention rates. The HGSFP has been successfully piloted in 29 schools across 7 regions namely Omaheke, Hardap, Khomas, Kunene, Ohangwena, Kavango East, Kavango West and Zambezi (UN-WFP, 2022). The programme provides balanced and diversified diets using food sourced from local smallholder farmers, it complements the existing National School Feeding Programme (NSFP) which primarily offers fortified maize meal. The WFP provides funds to enable schools to operate school gardens. Horticulture products harvested from the gardens along with food from other smallholder farmers is a supplement to the NSFP meal. Based on existing data, the Ohangwena region recorded the highest number of recipients at 2,440, followed by the Kavango East and West regions with 2,102 and 2,166 beneficiaries, respectively. There is a fair balance between male and female programme beneficiaries across the schools.

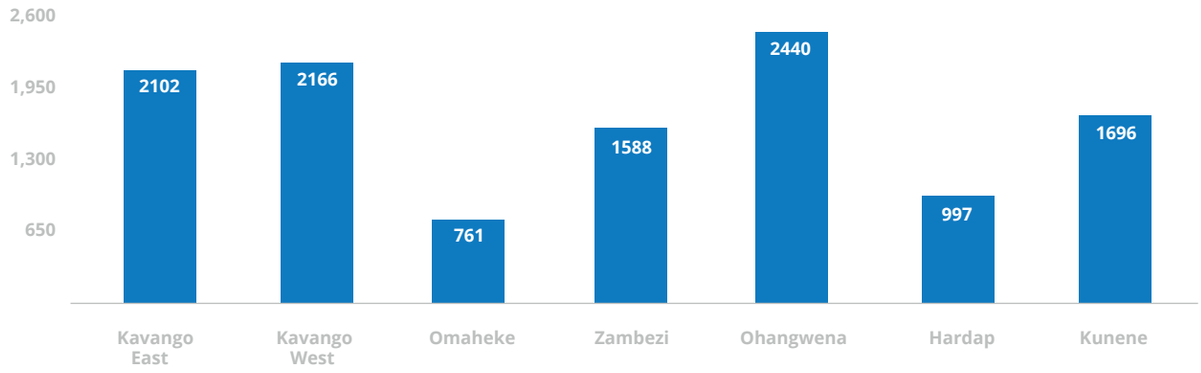
Table 1: Comparative analysis of NSFP and HGSFP

Feature	NSFP	HGSFP
Name	National School Feeding Programme	Home-Grown School Feeding Programme
Inception	1990	2021
Implementer	Ministry of Education, Arts & Culture	• Ministry of Education, Arts & Culture • United Nations World Food Programme
Objective	Reduce hunger by providing a daily meal to learners	• Provide balanced and diversified diet to learners • Provide alternative source of income to parents, smallholder farmers, community members • Reduce unemployment rate amongst community members
Implementer aid	Fortified maize blend	Financial resources
Implemented regions	14	7
Implemented schools	1530	29
Impacted learners	424 248	11 730
Menu	Fortified maize blend	• NSFP fortified maize blend • School garden harvest • Produce purchased from smallholder farmers • Produce purchased from retail stores
Supporting stakeholders	• Teachers • Parents • Community members	• Teachers • Parents • Community members • Smallholder farmers

Source: * The Namibian School Feeding Programme Case Study, 2012
** WFP and partners celebrate progress of home-grown school feeding programme in Namibia (2024)
*** Scoping Mission of the Home-Grown School Feeding Programme (HGSFP) site inspections jointly with the World Food Programme (WFP) in the four selected regions for piloting of this programme namely Zambezi, Ohangwena, Hardap and Kunene (2017)

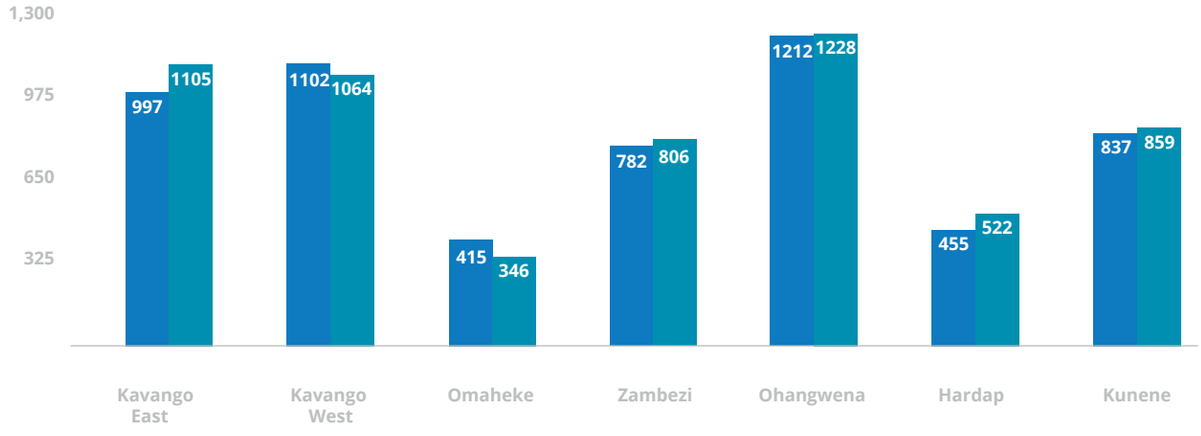
Charts 1 - 2: Current Beneficiaries per region, by gender:

Figure 1: Total HGSFP Beneficiaries Per Region



Source: Oyayone Foundation

Figure 2: Male vs Female Composition of the HGSFP



Source: Oyayone Foundation

2. Literature Review

Namibia is one of the few countries globally that has developed a policy framework to link school feeding with local agricultural production (UN-WFP, 2022).

A study by American psychologist, Abraham Harold Maslow (1943) on the theory of human motivation indicates that both physiological and psychological needs influence occupation. This can be interpreted to mean that when the basic needs of learners are met, they are more likely to demonstrate a higher ability and motivation for learning. The national school feeding programme provides a mid morning meal to encourage higher levels of school attendance, improved health, attention, motivation, enhanced academic achievement, and to reduce hunger poverty or starvation (Aurino et al. 2019; Bundy et al. 2018).

WFP's overall global objectives for school feeding programmes are to ensure that children have access to adequate meals, and are healthy and ready to learn. In Rwanda, a study by Jean Claude and Cyprien (2022) on the causes of school dropouts revealed that child labour, childbearing, low academic achievement and poverty in the family, among others, are major causes of dropouts (Habyarimana, 2023). In 2012, the dropout rate for primary education in Namibia was 9.4%. This has risen in recent years. (Knoema, 2012)

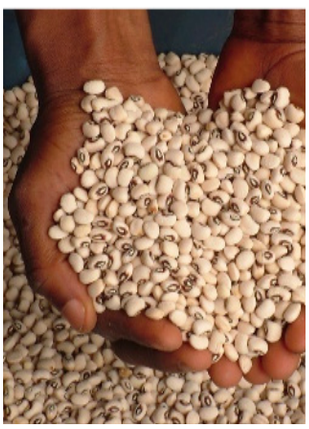
According to national data, 84% of children aged 6-12 attend primary school. In urban areas 85% of children attend primary school, compared to 84% in rural areas. Primary school attendance is highest in the Oshana region (90%) and lowest in the Ohangwena region (45%). (Alves Da Silva, Avila Pedrozo, & Nunes Da Silva, 2023)

2.1 Namibia's unique proposition

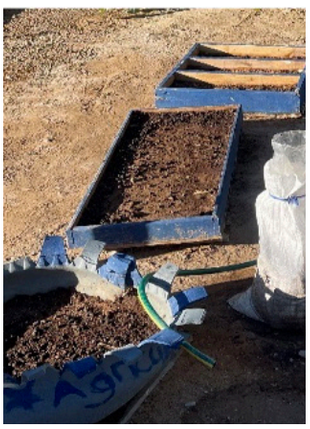
Namibia's Home-Grown School Feeding Programme (HGSFP) is unique in the world because it prioritises sustainable local food sourcing, and community involvement. The HGSFP places strong emphasis on sourcing food from small holder farmers within the local area, to stimulate agricultural growth and boost the micro-economic activities of nearby communities (CoreUSAID, 2012).

By connecting schools with local agriculture supply chains, the programme has the potential to generate steady incomes for farmers, while increasing agricultural productivity (CoreUSAID, 2012). Additionally, the HGSFP promotes sustainable practices by encouraging schools to participate in food composting programmes, minimizing waste and sourcing locally-produced foods to raise awareness about environmental issues (CoreUSAID, 2012).

Rupara Primary and Combined School cowpeas (beans)



Schlip Primary School potatoes (trays) and sprouting potatoes (sack)



Cooked mutete with maize and beef at Rupara Primary and Combined School

Source: Oyayone Foundation

3. Feedback from Previous Studies

Previous Review Study (UN-WFP, 2022)

Data from previously conducted surveys was qualitative and not easily open for coherence testing or deriving evidence for hypothesis testing and checking the confidence levels. We sought to measure the degree to which the HGSFP was impactful, effective and aiding the creation of value chains. This research sought to simplify the balance between qualitative and quantitative outcomes for easier interpretation.

Based on previous studies, the HGFSP achieved the following impact:

A. Relevance:

- Contributes to household savings for parents as they purchase lesser food quantities, because their children eat at school.
- Improves nutrition and reduces the high levels of stunting as the community gets more access to food and a nutritious diet.
- The programme was found to benefit 56% women as compared to 43% men involved in the programme as volunteering community members or smallholder farmers.
- During the evaluation data collection exercise, all schools indicated they have access to land for gardening.

B. Effectiveness

- Based on the outcome of the survey, implementers indicated that attendance has improved and there has been a decline in absenteeism amongst most participating schools.
- Learners no longer fall asleep during class/lessons.
- HGSFP facilitated agricultural linkages for schools and farmers. It is also a source of income for the communities.
- In terms of decentralisation of procurement for the HGSFP to the regions, this has improved the effectiveness of the programme, whereby schools are in control of resources and the procurement process is therefore less challenging. Training was provided to equip focal teachers with resource administration and reporting skills.
- However, the effectiveness of the supply chain is mixed. There are gaps in terms of transportation and distribution which affected the timeliness of delivery of food commodities to schools and caused most schools to collect their food (fortified maize blend).

C. Food handling

- Poor food handling as well as storage facilities can result in food losses and food-borne disease along the supply chain. Most schools reported not having experienced food losses.
- Maize and agricultural tools were mostly exposed to losses through theft, mould and infestation by rodents, insects and other foreign material.

D. Efficiencies

- HGSFP brought about efficiency gains in terms of cutting costs such as transport (food is locally procured within the community), no delays in service delivery to the schools and food arriving in good condition.
- HGSFP has brought about cost savings for the GRN. Cost estimates indicate that the government is only spending 5 Namibian dollars per child (WFP Report, 2021). In addition, payments to suppliers are done within a short period of time, as decision-making has been streamlined, reducing the levels of approval required.

E. Impact

- The parents, implementers, community members and smallholder farmers qualitatively described that the school feeding has contributed positively to the children's education outcomes and general livelihoods.
- The active involvement of parents will promote sustainability of the programme. It is notable that the HGSFP is having a positive impact at the household level.
- Based on the findings, the HGSFP has improved food security at the household level.
- The HGSFP plays an important role in reducing dropouts amongst school-going children.

F. Sustainability

- There is need for skills transfer to the MoEAC. The programme requires improved understanding and knowledge by the school implementers and that people on the ground are capacitated and empowered.
- The involvement of different key players in the agriculture sector is insufficient. For the sustainability of the programme, all key players should be involved throughout the entire process.

G. Feedback from the Community and Farmers:

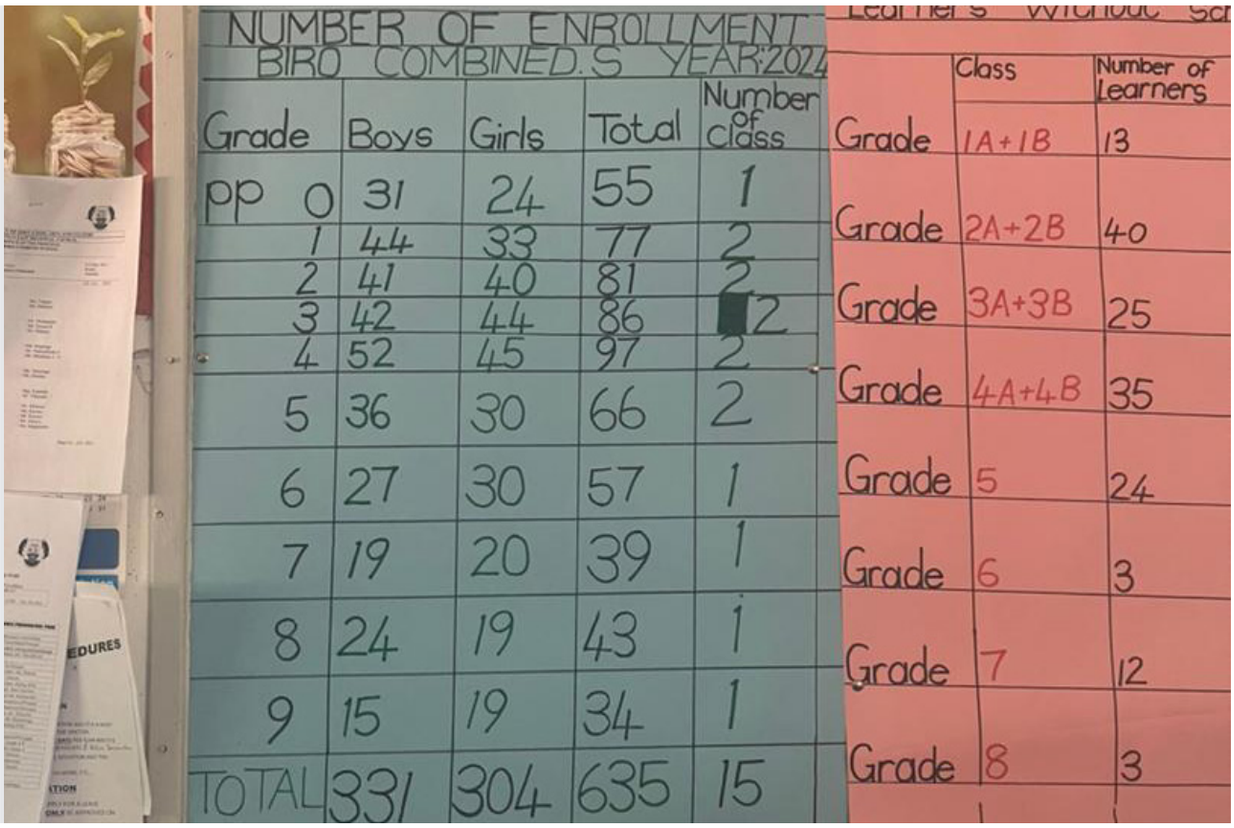
- The community key informants/members and cooks demonstrated an equally good understanding of a balanced diet and associated key determinants such as the importance of good sanitation and hygiene when it comes to school meal preparations.

Kaisosi Primary School sweet potato plantation

Source: Oyayone Foundation

4. Programme Evaluation

Total number of learners registered for the academic year benefiting from the HGSFP at Biro Primary School, Kavango East



NUMBER OF ENROLLMENT
BIRO COMBINED.S YEAR:2024

Grade	Boys	Girls	Total	Number of class
pp 0	31	24	55	1
1	44	33	77	2
2	41	40	81	2
3	42	44	86	2
4	52	45	97	2
5	36	30	66	2
6	27	30	57	1
7	19	20	39	1
8	24	19	43	1
9	15	19	34	1
TOTAL	331	304	635	15

	Class	Number of Learners
Grade	1A+1B	13
Grade	2A+2B	40
Grade	3A+3B	25
Grade	4A+4B	35
Grade	5	24
Grade	6	3
Grade	7	12
Grade	8	3

Source: Oyayone Foundation

On average learners are fed 16 days per month under the HGSFP, as feeding is only provided upon the availability of the GRN's school feeding programme. This equates to 120 days of feeding per academic calendar year. Available data depicts that the average cost of feeding a child is almost equivalent to 1 Namibian dollar per day or 20 Namibian dollars per month per child. There is no official record of the estimated value of self-grown produce (Author, 2024). It would be useful for such data to be recorded and shared with the HGSFP.

4.1 Core objectives of the study

1. Assess the impact and effectiveness of the current HGSFP (educational, social, governance, economic, agricultural and environmental).
2. Evaluate the HGSFP, it's value chains and it's the market proposition.
3. Determine the impact, feasibility and scalability of the HGSFP to enhance livelihoods and strengthen sustainable food production systems particularly for women and youth.
4. Improve the ability of schools to procure locally produced food directly from smallholder farmers.
5. Evaluate existing interventions to advise on the scalability of the current programme, so as to replicate its expansion to other schools across Namibia.

4.2 Analysis method

The initial research data collected was qualitative, which helped to make an insightful analysis and provided context on the current status of the project with recommendations for identifying gaps for improvement. The various challenges associated with qualitative data include the complexity of translating the progress into measurable outcomes, (UserPilot.com, 2024). The current research will strengthen the monitoring and evaluation scope of the programme from a qualitative perspective. The collected data will be analysed using qualitative content analysis, narrative analysis and a thematic approach (Warren, 2020).

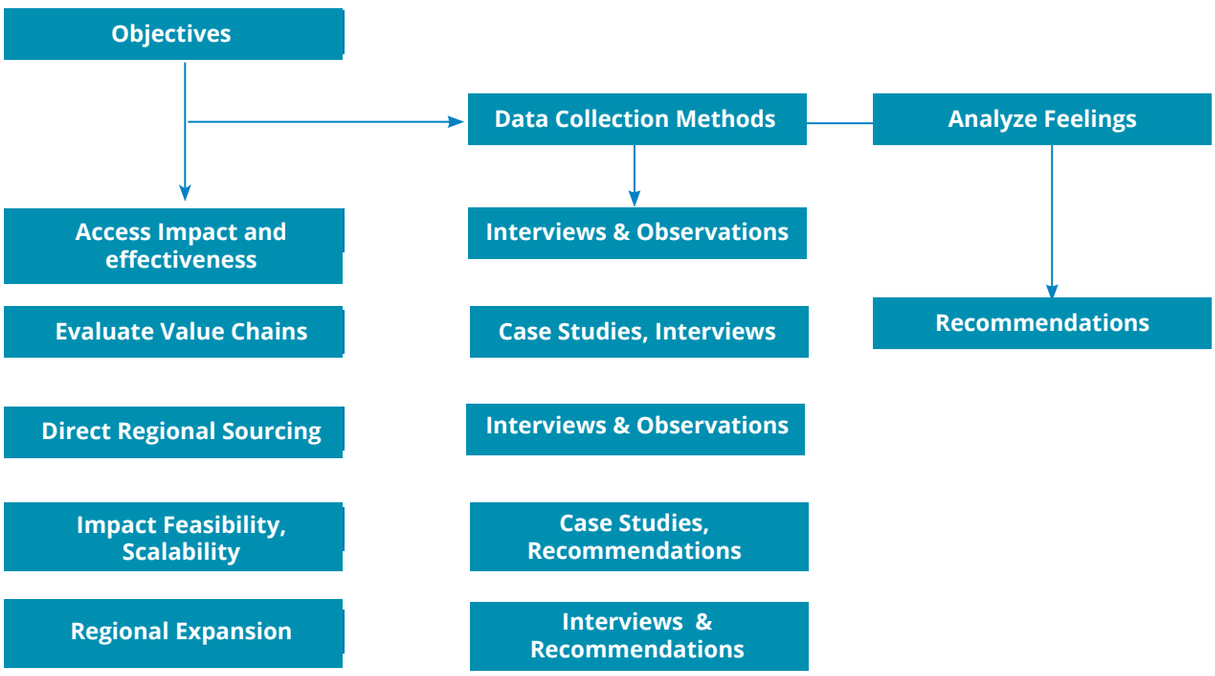
4.3 Methodology framework - sampling

The framework below provides a clear strategy on how the research methodology was designed to achieve tangible research objectives, findings and outcomes.

A total of 14 schools, consisting of schools in the Omaheke, Kunene, Ohangwena, Zambezi, Kavango East, Kavango West regions were visited. Schools that were not visited in the 2021 study were selected for the 2024 study. A total of 372 people were interviewed, with 3 schools interviewed remotely due to time constraints and distance/access barriers. A total of 20 learners between the ages of 9-21 (grades 3-9) were interviewed, and from the groups of parents (2), small holder farmers (2), implementers/teachers (2) and volunteers/community members (2), per school.

Figure 3: Research Survey Sample

Figure 4: Research Methodology



One of four school gardens at Shatipamba Combined School, Okongo, Ohangwena Region

Source: Oyayone Foundation

5. Survey Results and Analysis

A general observation was made that a one-size-fits all approach will not be effective for sourcing, gardening and implementation of the programme. A one-size fits all approach (comprising the same budget, execution methods and performance) will not yield successful results as different schools in different regions have unique challenges. Challenges are effected by weather conditions, wildlife-human contact and/or conflict, availability of skilled labourers, number of learners and access to resources (water, gardening tools, distance). For example, although pest infestation is a common challenge observed throughout the 14 schools, each region is facing a unique pest infestation. There is a need to assess the unique challenges and develop custom approaches to achieving the programme objectives.

Table 2: The following schools were observed and commended for their unique approach towards implementation of the HGSFP:

Best performing school	Unique attributes	Reasons for success
Brendan Simbwaye Primary School	• Sells excess mangoes at a profit of N$7,000 per annum, generating revenue for the HGSFP; • Have a sizable and well-functioning garden with two employed community members.	• Reliable source of water from the municipality • Fertile region
Kaisosi Primary School	• Have a gardening committee consisting of 12 teachers; • Garden is well maintained with a variety of crops including sweet potatoes, maize, butternut and carrots.	• Reliable source of water from the municipality • Fertile region
Schlip Primary School	• Successful feeding programme. • Situated on rocky area with smaller garden, but implement effective school governance structure	• Reliable source of water from the municipality • Dedicated and knowledgeable focal teachers
Rupara Primary and Rupara Combined School	• Community members volunteer to maintain the school garden. • Community members provide seedlings to the school garden. • Consensual agreement has been made that 50% of the harvest is given to the school and 50% is given to the community garden tenders. • Learners part of the Learners Representative Council (LRC) responsible for distributing food to learners during feeding time.	• Reliable source of water from rivers • Fertile region • Training received from GIZ • Dedicated and knowledgeable focal teachers
Biro Senior Primary School	• One male small-scale farmer only grows beans (cowpeas and groundnut), and supplies his produce to the school. He has employed about 8 occasional workers who help in the garden with harvesting and are paid N$30.00 per week.	• Farmer has nutritional knowledge on legumes

Source: Data compiled from observation during school visits, 2024

Condition of one of the four gardens negatively affected by dew that occurs at night at Shatipamba Combined School, Okongo, Ohangwena Region

Source: Oyayone Foundation

Table 3: The following schools were observed to be underperformers and have the potential to better perform, with better management of resources:

Under performing schools	Unique attributes	Reasons for underperformance
Mphe Thoto Primary School	• No garden activities since inception of HGSFP although water borehole and well fenced garden site is available	• No ownership or accountability • Procrastination • Limited knowledge on garden practices
Onambutu Combined School	• No garden activities although the water borehole and well fenced garden site is available. • HGSFP garden is used for learner's agricultural school activities and does not contribute to feeding programme	• No ownership or accountability • Procrastination • Whistleblowing reported cases of mismanagement of funds.
Makena Primary School	• No garden activities although well fenced large garden is available. • No water available from the borehole pump. • River is crocodile infested, posing a risk when they collect water . • Forest is inhabited by dangerous rhinos and snakes posing a risk when the learners want to collect firewood.	• Unreliable source of water (damaged borehole, crocodiles at the river) • Rhinos attack teachers when collecting firewood. • Limited smallholder farmer activities. >300 Km to retail stores to purchase material
Shatipamba Combined School	• No garden activities although school has 4 well fenced gardens. • Water shortages, sunny conditions during the day and cold dew at night has destroyed garden work. • School is located 70 km from retail stores-transportation a challenge. Local cuca shops excessively costly.	• Unreliable water sources (Borehole not sufficient for the clinic and school) • Limited smallholder farmer activities. >100 Km to retail stores to purchase material • Cold dew at night dehydrates plants • Sunny conditions during the day wilt plants • Excessive high local shop prices

Analysis of Results

5.1. Objective 1: Impact and effectiveness of the HGSFP

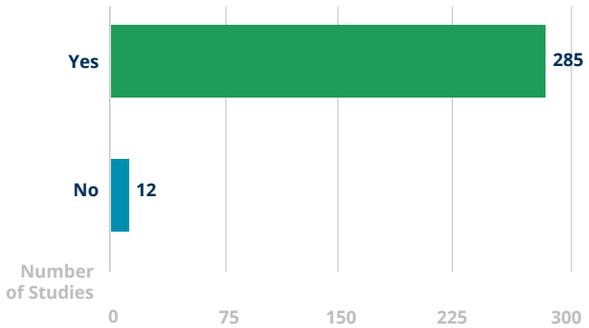
Beneficiaries (learners) indicated their satisfaction with the impact of the HGSFP, 96% agreed that the programme is useful to them, while 4% recorded their dissatisfaction with the impact of the programme.

Dissatisfied beneficiaries expressed the following concerns:

- Increasing of feeding rations.
- Increase in the HGSFP feeding days.
- Increasing of the daily feeding intervals (to twice a day).
- Improve variety of food to include more fruits, eggs, meat, fish and juice/tea.

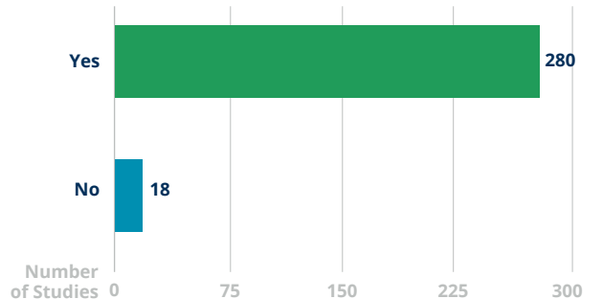
According to the feedback from the survey, a majority (94%) of beneficiaries also agreed that the programme has improved their learning ability. This implies a positive response regarding the core objective of the programme which is to ensure that the academic performance of the learners is improved.

Figure 5: Beneficiaries: Is the programme helpful? (%)



Source: Oyayone Foundation

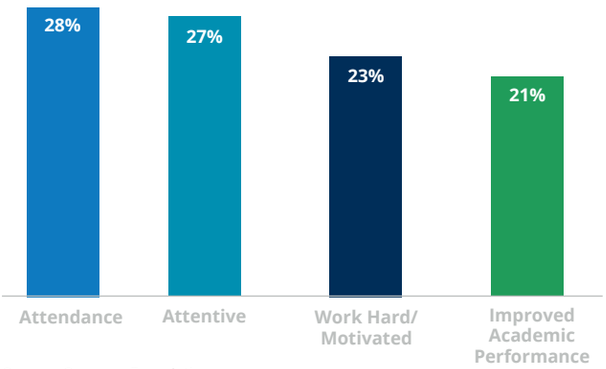
Figure 6: Beneficiaries: Does the programme benefit your learning abilities (%)



Source: Oyayone Foundation

A high number of teachers (97%), agreed that school attendance improved since inception of the programme. Additionally, 93% of teachers agreed that there is a high level of learner attentiveness. Only 73% of teachers agreed that there is a high level of academic performance. It is evident that the academic performance of learners can be influenced by various external factors. Lastly, 80% of teachers responded that learners are highly motivated and hardworking as a result of the HGSFP.

Figure 7: Implementers: Changes and Impact (%)



Source: Oyayone Foundation

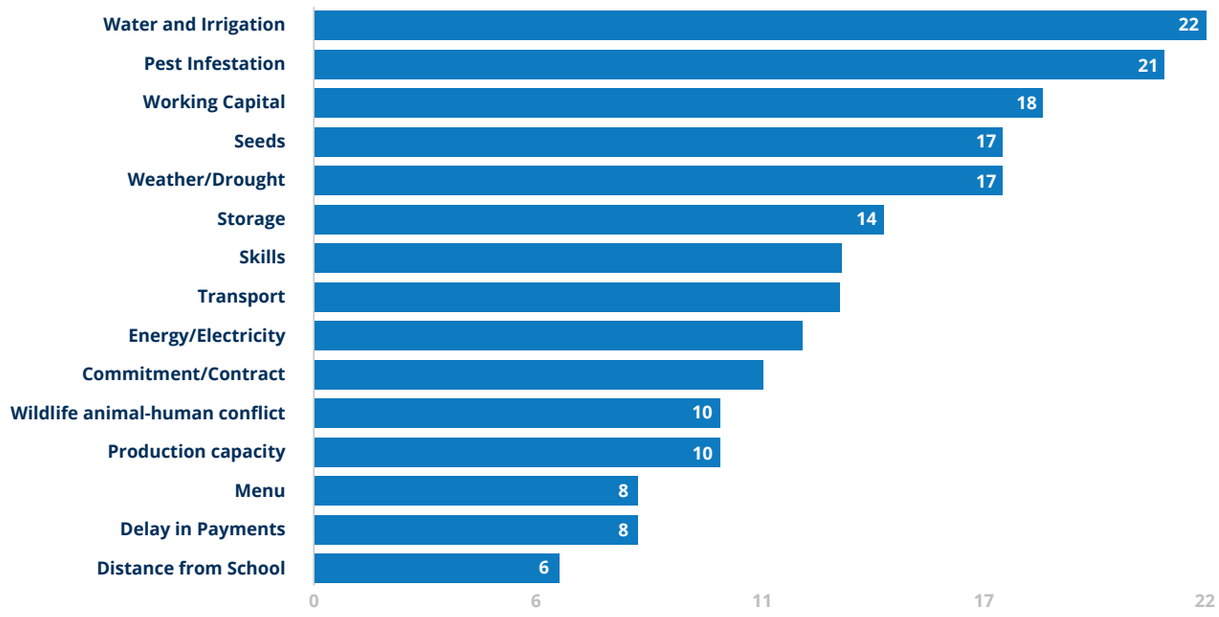
The chart below indicates that a majority of the farmers (73%) experience challenges with water and irrigation, followed by pest infestation (70%) and weather and drought conditions (57%). As per the farmers they are satisfied with the distances to the schools, the swiftness of payments, production capacity and how the menu is structured. As per the data collected, about 60% of SHF do not have sufficient working capital.

According to the chart below, Zambezi and Kavango East regions recorded four (4) fully functional gardens, this was followed by Kavango East and the Ohangwena region with two (2) fully functional gardens, with Hardap only recording one (1) fully functional school garden.

A fully functional garden is one that is cultivated, tended and productive.

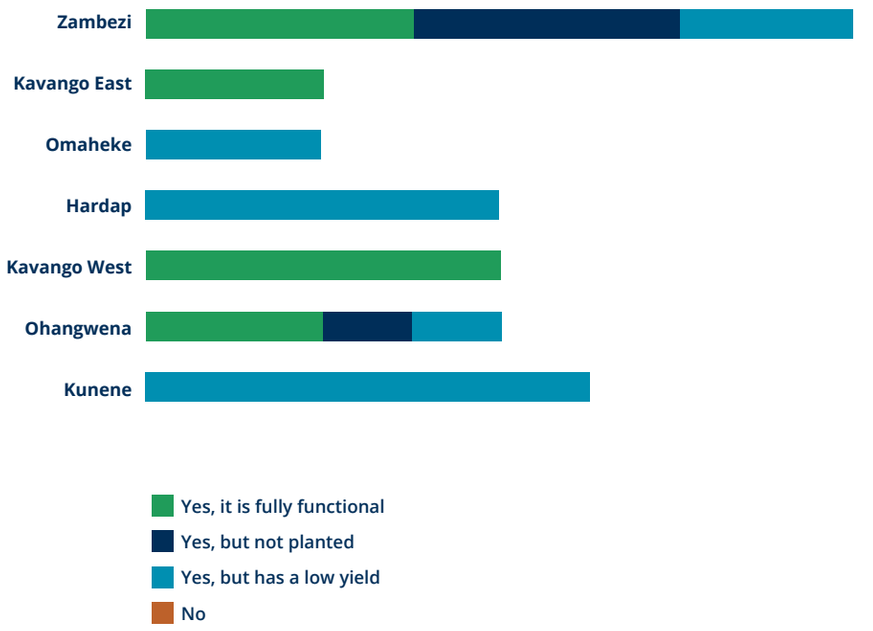
Gardens with a low yield were reported in Kunene (5 schools), Ohangwena (1), Hardap (3), Omaheke (2) and the Zambezi region (2).

Figure 8: SHF Challenges (%)



Source: Oyayone Foundation

Figure 9: Does the school have its own garden (number of schools per region)



Source: Oyayone Foundation

5.2. Objective 2: Value chains supported

The HGSFP creates various value chains which, both in the short and long term, benefit from the implementation of the programme.

a) Education – Through the HGSFP a selected group of learners, SHF and teachers are equipped with agriculture, finance and programme management skills.

b) Seedling production – Some schools have become active producers of seedlings that were replanted into the gardens, thus enriching knowledge about gardening.

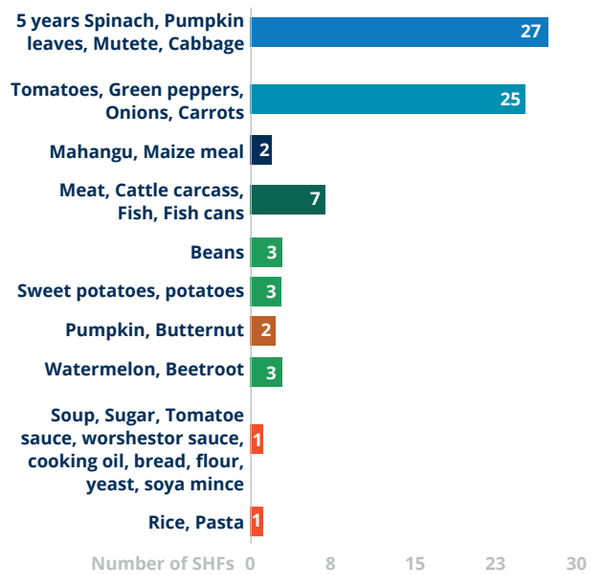
c) Supply Chain and Logistics – Implementers and school board members gain skills for improving supply chain management by participating in the various sourcing activities of the HGSFP.

d) Surplus Crops – The programme has the potential to purchase surplus harvest crops to avoid wastage.

e) Supply Market for SHF – The programme is creating an offtake market for SHFs, securing their production for the long term.

Food Supply Value Chain

Figure 10: Number of Producers (SHFs) that supply the HGSFP (value)



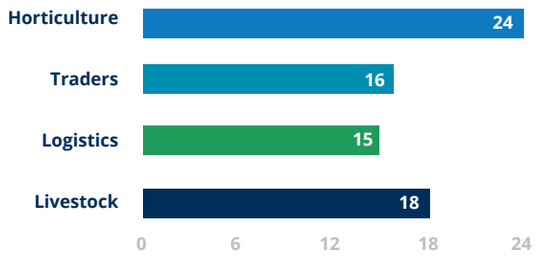
Source: 2022 HGSFP survey reports

The chart above displays the composition of food items supplied by SHFs to the schools. The most commonly produced and supplied food items include spinach, pumpkin leaves, 5-years spinach, mutete and cabbage. This is followed by common vegetables such as onions, tomatoes, green peppers and carrots.

Horticulture is the most widely supported value chain by the HGSFP, with a total of 24 farmers currently supported, and 18 livestock farmers and 16 traders.

A total of 7 SHFs supply meat, beef and other carcasses. Three (3) farmers supply beans, sweet potatoes, potatoes, watermelon and beetroot. Only 2 SHFs supply mahangu and maize meal, this also applies to pumpkin and butternut. Lastly, only 1 SHF is supplying traded items including rice and pasta.

Figure 11: Value Chains Supported (value)



Source: Oyayone Foundation

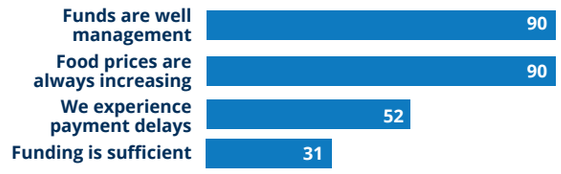
Maize grown in the school garden at Biro Senior Primary School, Kavango East, Rundu

Source: Oyayone Foundation

5.3. Objective 3: Feasibility and Scalability

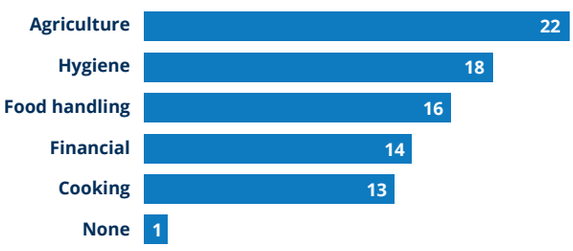
The feasibility of the HGSFP is measured through the following indicators: diversification, school attendance, monitored improvements, increase in productive capacities, market access and supply, evaluation, planning and capacity building, impact on women and youth, and project costs and funding (see Gap Analysis, Chapter 6).

Figure 12: School Level Implementers: What are your experiences with regards to funding (%)



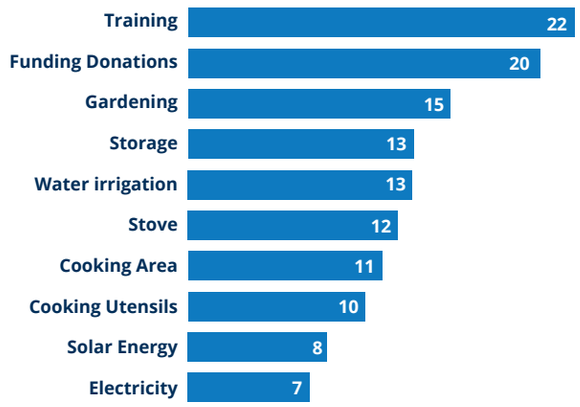
Source: Oyayone Foundation

Figure 13: School Level Implementers: Which training would be required (%)



Source: Oyayone Foundation

Figure 14: School Level Implementers: Which resources would you require to become self-suffiecient? (%)



Source: Oyayone Foundation

Project costs and funding are key requirements for the feasibility of the project, and it is necessary to scale production with the allocated funding.

There is a high level of satisfaction with how the funds are managed, however, only 9 respondents indicated satisfaction with the amount/value of funds disbursed for the HGSFP. A third of respondents indicated payment delays.

A total of 22 respondents indicated a need for agricultural training. Additionally, they also requested for hygiene, food handling, financial and cooking training.

Gardening is an important function in the implementation of the HGSFP programme and it is thus paramount that school level implementers are well equipped for gardening activities and remain dedicated.

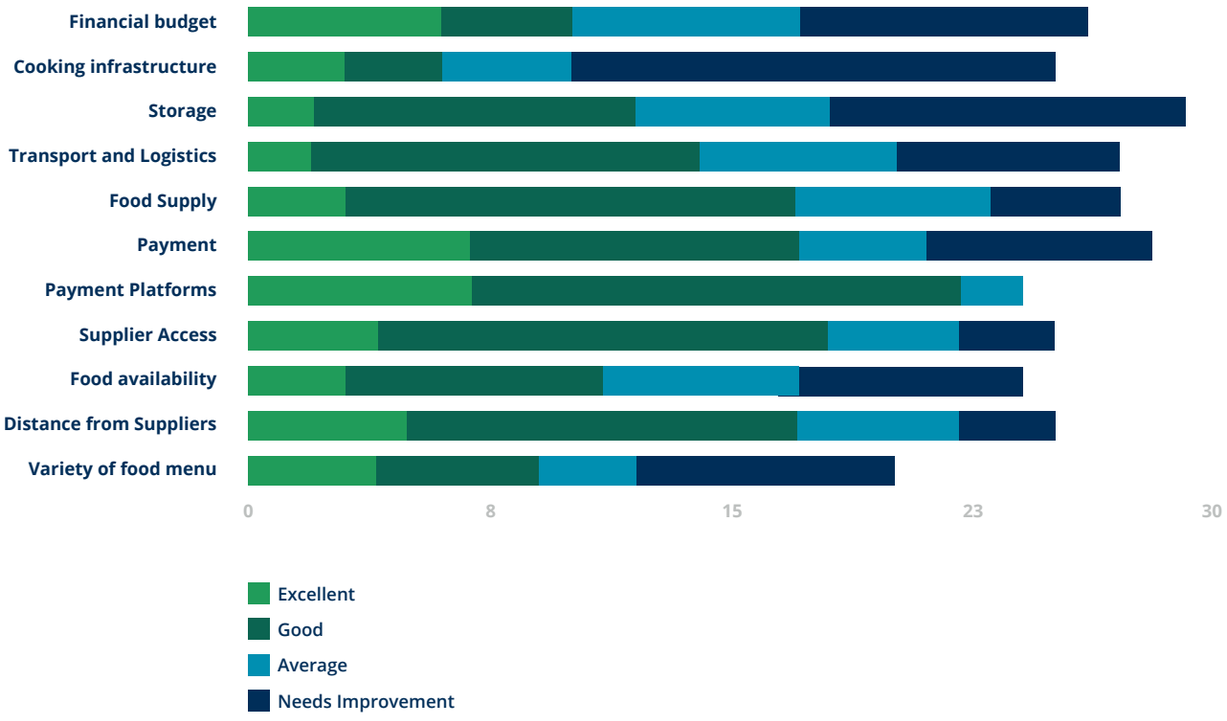
To become self-sufficient, 22 implementers requested additional training, funding and donations (20). One of the key demands is gardening equipment, tools, as well as irrigation and water supply.

Only 11 school level implementers requested for cooking areas, 13 requests for storage facilities and 8 others requested for electricity.

The school level implementers were asked to rate the various functions of the HGSFP as either excellent, good, average or requiring improvement. Payments and budgeting received the highest scores, followed by supplier distances, food variety and supplier access.

On the contrary, food infrastructure, transport, storage and food availability were rated poorly.

Figure 15: Implementers: How do you rate the programmes capacity? (value)



Source: Oyayone Foundation

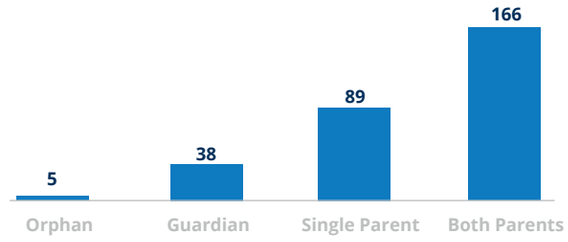
5.4. Feedback from Beneficiaries

The programme beneficiaries (learners) expressed a high degree of satisfaction with the HGSFP, with 96% responding that the programme is helpful. A total of 166 learners live with both their parents, while half (89) of learners live with a single parent. There were only 5 orphans and 38 who live with guardians. Over a third indicated that they are not in a position to bring lunch to school, with over the mean average (64%) claiming they are able to bring food along to school. Over 50% indicated that the HGSFP makes them food secure and worry less about what they will eat at home.

Results varied for different schools in different geographical areas as some learners are severely affected by poverty when compared to others in more suburban areas. Other impediments also contributed to the poverty conditions of learners, such as worn-out clothing, poor body hygiene, unemployed parents and the remoteness of the school.

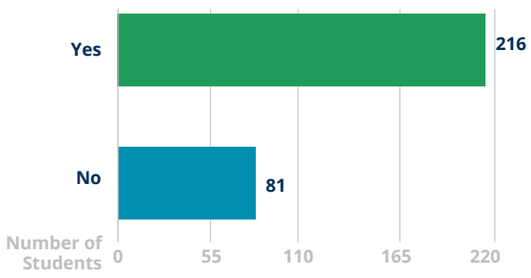
Results indicated a high level of cooperation by the learners and their eagerness to support the HGSFP. Learners contribute to the programme primarily by fetching wood, water, gardening and washing dishes. At some schools, agriculture teachers and learners also play a supporting role in the gardening activities.

Figure 16: Family Status (%)



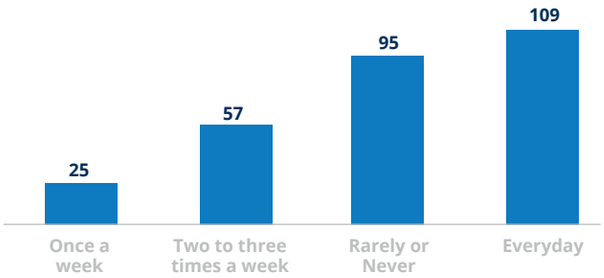
Source: Oyayone Foundation

Figure 17: Worry less about what to eat after school (%)



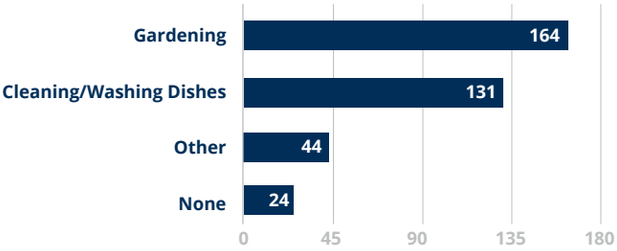
Source: Oyayone Foundation

Figure 18: Able to afford lunch (%)



Source: Oyayone Foundation

Figure 19: Where do you assist (%)



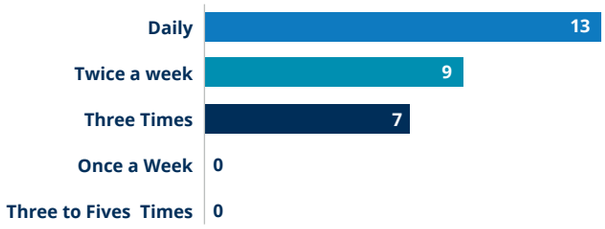
Source: Oyayone Foundation

5.5. Feedback from School level Implementers

According to data obtained from the school level implementers, most learners are fed on a daily basis, while others are fed 2–3 times a week. On average, 66% of schools feed learners in the mornings, with only 34% schools conducting feeding in the afternoons. Respondents also confirmed that the programme empowers women and youth in the sourcing of food and as volunteers. Only half indicated that the menu accommodates a variety of food, with others claiming an average level of variety.

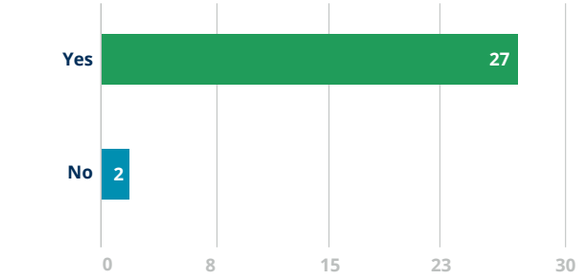
Majority of 76% respondents also reported that due to the HGSFP, the health of learners has improved significantly, with 24% rejecting the claims. A total of 62% of the teachers claim that the programme is sufficiently managed in a hygienic manner, while 34% responded otherwise.

Figure 20: How often are learners fed (%)



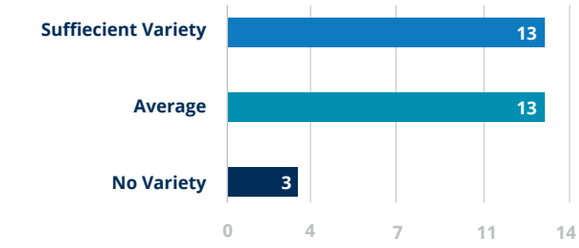
Source: Oyayone Foundation

Figure 21: Does the programme empower women and youth (%)



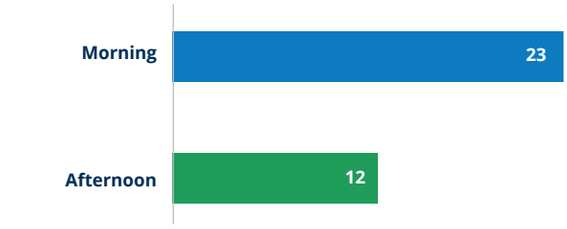
Source: Oyayone Foundation

Figure 22: How do you rate the variety (%)



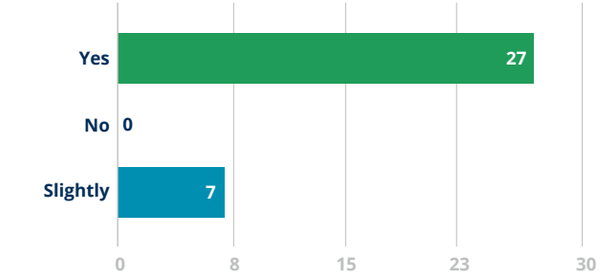
Source: Oyayone Foundation

Figure 23: Feeding intervals (%)



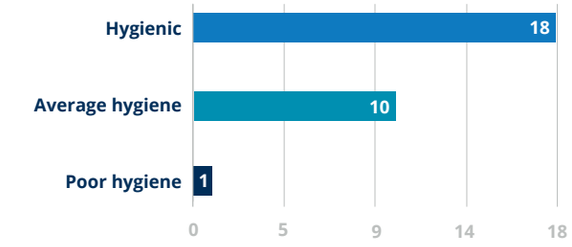
Source: Oyayone Foundation

Figure 24: Does the programme improve learners health (%)



Source: Oyayone Foundation

Figure 25: How do you rate overall hygiene (%)



Source: Oyayone Foundation

5.6 Feedback from Parents

From the list of parents interviewed, 40% indicated they were unemployed, while 30% were self-employed. Some parents were actively involved in the HGSFP by selling produce to the school to generate household income.

Ninety three percent (93%) of the parents indicated that the programme is helpful for their children. This is a positive reflection as it indicates that the parents are highly satisfied with the programme.

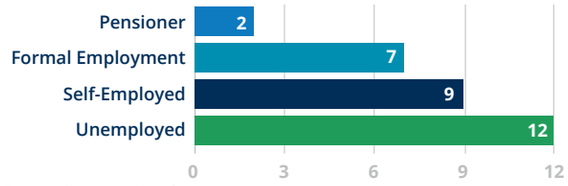
A total of 53% of parents indicated that the HGSFP improves learner school attendance. This is because learners are incentivized and motivated to attend school on a daily basis, in order to secure a daily meal.

63% of parents agreed that the meals provided to their children through the HGSFP helps them to worry less about what their children will eat after school. As a result, parents are relieved of this burden and are able to focus on addressing other needs.

If the HGSFP did not exist, 41% of parents indicated that they would hardly be able to afford meals for their children.

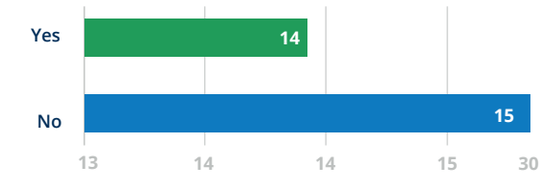
The majority of parents indicated their willingness to assist in cooking, supplying firewood or other materials, and cleaning dishes. This highlights the desire of parents

Figure 26: Current Employment Status (%)



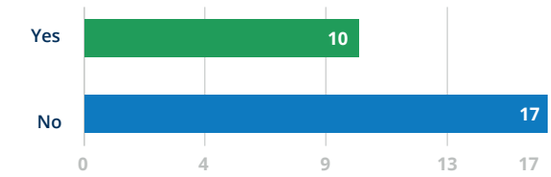
Source: Oyayone Foundation

Figure 27: Improved Learning Ability (%)



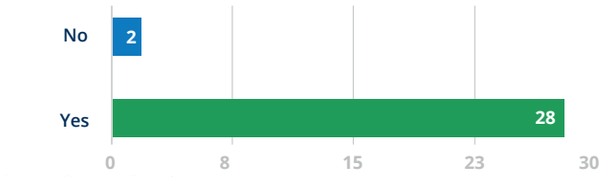
Source: Oyayone Foundation

Figure 28: Worry less about what to eat (%)



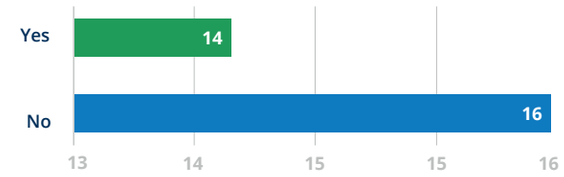
Source: Oyayone Foundation

Figure 29: Is the programme helpful for your child



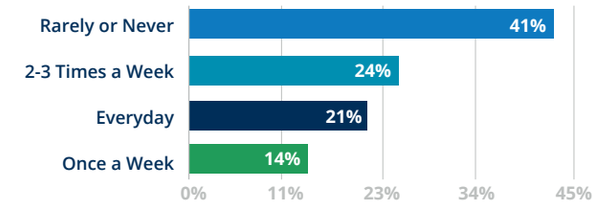
Source: Oyayone Foundation

Figure 30: Improved Attendance (%)



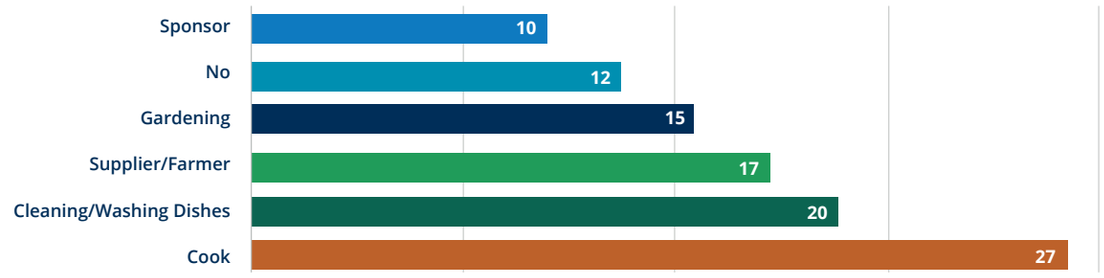
Source: Oyayone Foundation

Figure 31: Able to afford lunch (%)



Source: Oyayone Foundation

Figure 32: Where do you wish to assist? (%)



Source: Oyayone Foundation

to be involved in the programme in areas where they are most comfortable and knowledgeable. Further, the selected tasks do not require special skills.

5.7. Feedback from Community Members

The community members that volunteer in the HGSFP noted that the majority of volunteers are consistent, but more hands are needed to assist. Although volunteers start off motivated, they eventually encounter cooks who do not want to volunteer without receiving monetary compensation. This is because the food preparation process takes between 5-8 hours per day. Although the individuals who have volunteered are unemployed, they do not want to spend the day working for free. Although the government already provides maize to volunteers, there is a need to introduce additional incentives, such as stipends, for community members who volunteer.

Other community members involve themselves in the HGSFP by supplying money, firewood, water, or other materials. Only 6% community members were found to not show interest in the HGSFP.

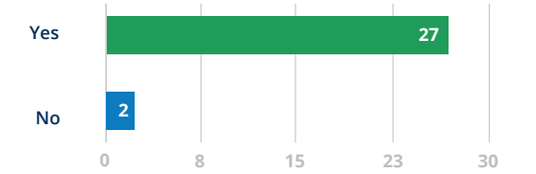
More than 90% of respondents reported that the HGSFP is helpful to the local community by empowering women and youth, supporting local businesses and reducing overall hunger. The HGSFP is not only positively impacting beneficiaries, the impact is being spread to broader stakeholders in this value chain.

The majority of community members indicated that they currently assist with the cooking and cleaning of dishes. They wish to continue assisting in those areas. Training and capacity building programmes are suggested to equip community members with the skills to contribute towards other tasks such as financing, procurement and garden work.

Figure 33: Experience of Cooks (%)

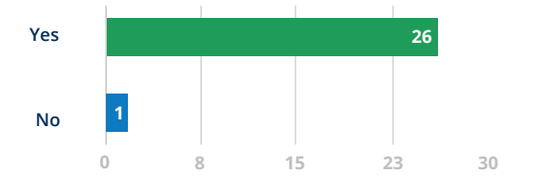
Source: Oyayone Foundation

Figure 34: Is the programme helpful to local community (%)



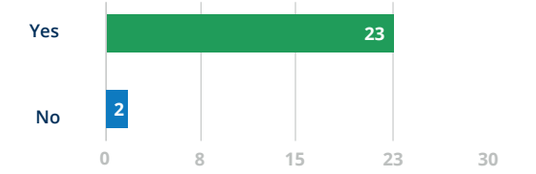
Source: Oyayone Foundation

Figure 35: Does the programme empower, motivate & encourage community to become productive (%)



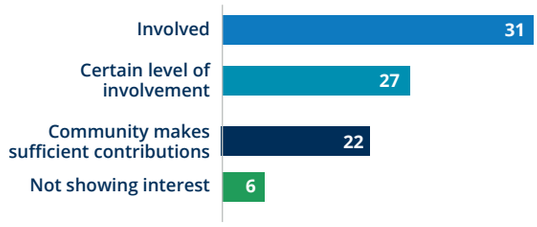
Source: Oyayone Foundation

Figure 36: Does the programme empower women



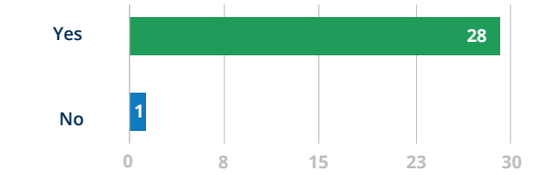
Source: Oyayone Foundation

Figure 37: Community Invlovement (%)



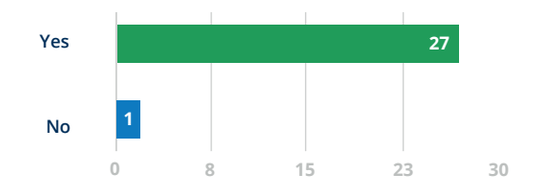
Source: Oyayone Foundation

Figure 38: Does the programme support local business in Agro producers, suppliers (%)



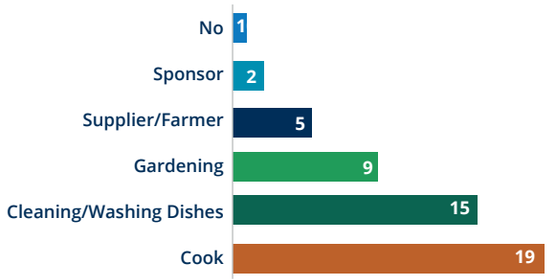
Source: Oyayone Foundation

Figure 39: Does the programme reduce hunger (%)



Source: Oyayone Foundation

Figure 40: Where do you wish to assist (%)



Source: Oyayone Foundation

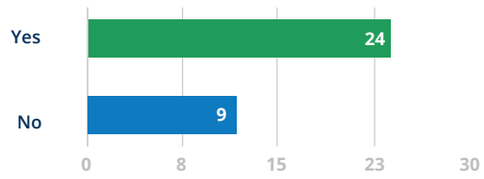
5.8 Feedback from Small Holder Farmers

A majority of farmers indicated that they are aware of the HGSFP, this was further supported by responses that communication between SHFs and the schools is good. Forty-three (43) percent of respondents indicated that communication is poor, with 23% saying it is average.

In terms of supply capacity and commitments, levels vary from daily, weekly, quarterly and biannual suppliers. A majority also supported the idea that orders are placed well in time or in advance, while 12% indicated that orders are placed late. Respondents indicated the current status of their land, with 35% being communal and private, with 10% occupying government land and 19% having a leasehold agreement in place.

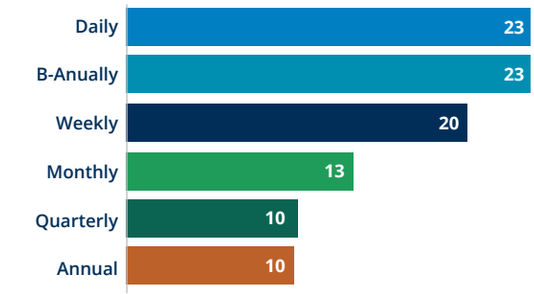
In terms of price and affordability, 62% of SHF indicated that schools were satisfied with their pricing, while 38% of farmers indicated that schools could afford their products sometimes and not always.

Figure 41: Awareness (%)



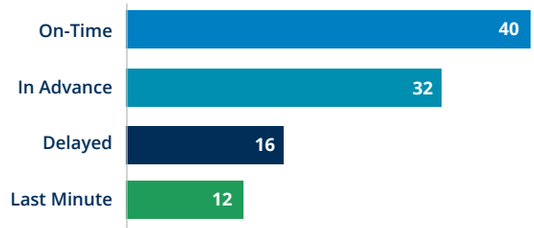
Source: Oyayone Foundation

Figure 42: Currently Supplying (%)



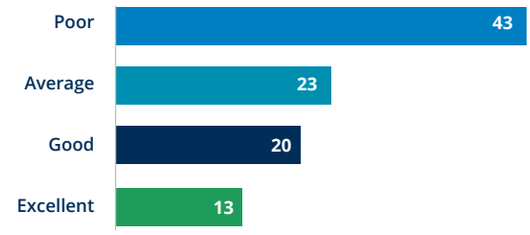
Source: Oyayone Foundation

Figure 43: Timeframes when orders are placed (%)



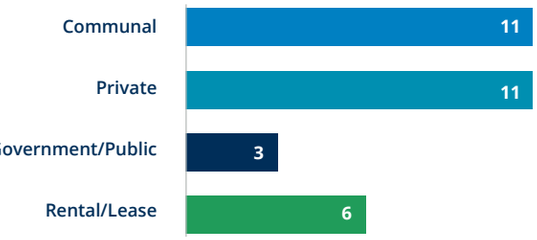
Source: Oyayone Foundation

Figure 44: Communication (%)



Source: Oyayone Foundation

Figure 45: Land Tenure (%)



Source: Oyayone Foundation

Figure 46: Price Expectations (%)

Source: Oyayone Foundation

5.9 Regional analysis

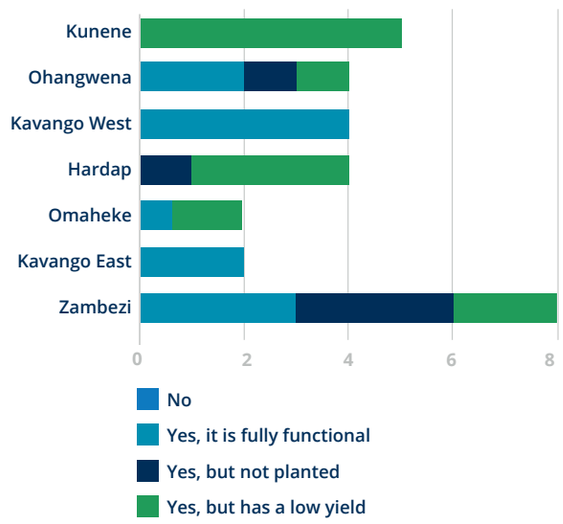
Schools in the Zambezi region have more gardens comparatively which 5 responding that the gardens are active and 2 responders that it is inactive. In in Kavango East and West regions, all responded that their gardens are fully functional. Kunene, Omaheke and Hardap regions indicated a low yield. Ohangwena indicated majority active gardens with only 2 responding as inactive.

Learners in the Kavango East are fed predominantly in the afternoon, whereas learners in Kunene, Ohangwena and Hardap are fed in the morning.

Respondents in the Zambezi region indicated that the HGSSFP is impactful and that learners are more attentive, are hardworking and have improved in their performance. This is followed by Kunene, Hardap and Kavango West.

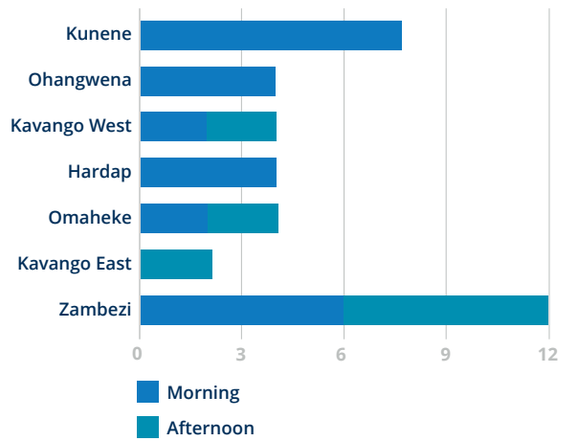
Most schools in the Zambezi region indicated a need for training in finance, hygiene, cooking and agriculture.

Figure 47: Does the school have its own garden? (Number)



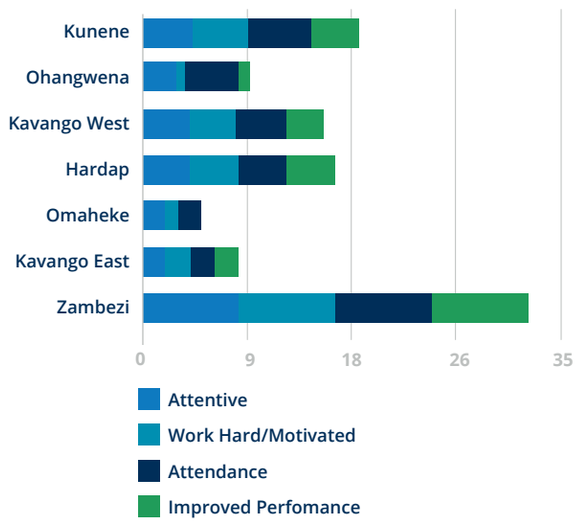
Source: Oyayone Foundation

Figure 48: Feeding Intervals Per Regions (Amount)



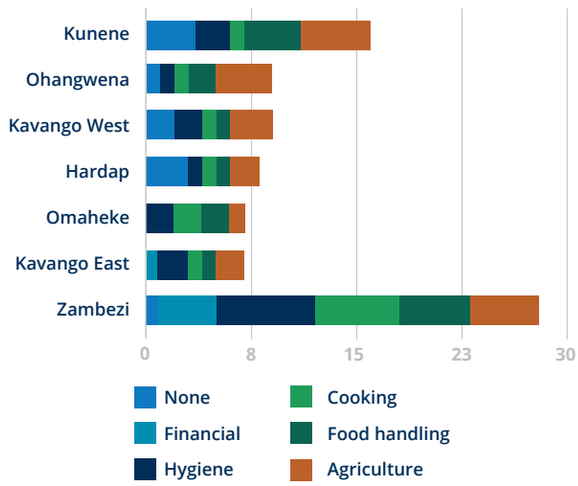
Source: Oyayone Foundation

Figure 49: Impact per Region (Amount)



Source: Oyayone Foundation

Figure 50: Which training would be required (Amount)



Source: Oyayone Foundation

6. Gaps, Observations and Challenges

The following gaps were identified during the study with regards to the feasibility indicators, key focus areas and previously identified gaps and challenges. The desired outcomes provide suggestions to be considered for improvement and to address the gaps.

1. Indicators: The gap analysis was carried out for the following indicators and focus areas:

a. **Feasibility Indicators:** The feasibility indicators correspond with overall objectives as outlined in the methodological approach of the study. The indicators include diversification, attendance, crop production, market access, employment creation, evaluation and planning, impact and project costs.

b. **Key Focus Areas:** The programme key focus areas for this study include the impact and effectiveness of the HGSFP, value chain analysis, self-sourcing, feasibility and scalability and programme expansion.

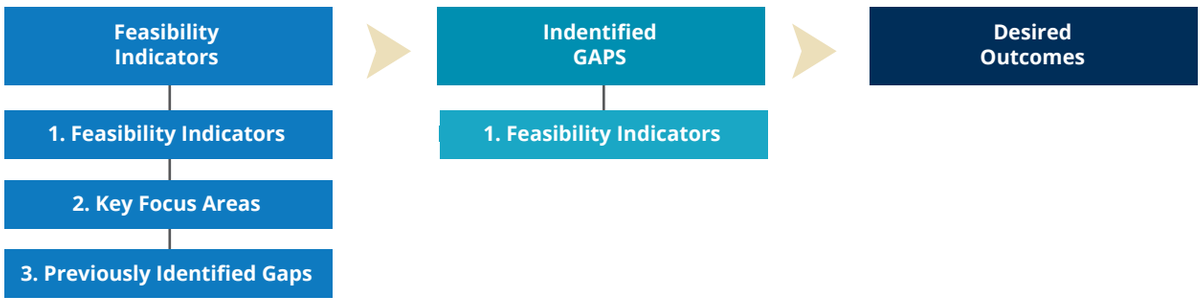
c. **Previously Identified gaps:** The study also provides an assessment of the previously identified gaps, which include participation, awareness, gardening, agriculture support, food safety, feeding patterns, payments, prices, energy and lastly, farming.

2. Identified Gaps: The gaps analysis is a reference from assessments of the qualitative outcomes of the survey to avoid vague assumptions. The gaps are related to each feasibility study, which is preceded by its desired outcomes.

3. Desired Outcomes: The desired outcomes outline the intended results, if effective interventions are made to address the identified gaps.

The gap analysis can be associated with the recommendations of the HGSFP, but not exclusively, but with reference to the feasibility indicators, as they provide guidelines on what interventions should be taken to reach programme efficiency.

Figure 51: Gap Analysis Process Flow



Source: Oyayone Foundation

6.1. Gap analysis of feasibility indicators

FEASIBILITY INDICATOR	CURRENT STATE – GAPS	DESIRED OUTCOMES:
6.1.1 Diversification of School Meals	a) There is no fixed or uniform approach to menu design, presenting a challenge for food planning. b) The school menu is low in protein.	a) There is a need to structure and design menus per school and region, based on seasonal food supply and production. b) There is a need to boost legume production and enhance the procurement and consumption of low-cost meat and protein products.

6.1.2 School Attendance	a) According to the survey results, 97% of teachers agreed that school attendance has improved. Additionally, 96% of beneficiaries agreed that the programme is helpful and 94% agreed that it improves their learning ability.	
6.1.3 Increase in Production	Analysis on Schools: a) Results indicate that 45% of school gardens have a low yield, with 38% being fully functional. It would be useful to find solutions to the production gaps. b) The gardening techniques applied by some schools are not productive. c) There are not enough measures in place to tackle climate resilience and adaptability. Analysis for SHF's d) A majority of farmers (73%) indicated challenges with water and irrigation, additionally 45% of implementers also indicated challenges with water and irrigation.	a) Gardening is seasonal and some geographic areas are adversely affected by environmental conditions such as drought, therefore requiring targeted regional interventions to address specific shortcomings. b) Capacity building training is required at some schools on agronomy, gardening and pest control. c) Carry out a separate investigation and support mechanisms to secure water supply. d) Recommend drought resistant seeds and crops for schools in dry areas. e) Consider implementing hydroponic gardening systems in drought-stricken school areas.
6.1.4 Market Access and Supply	a) Only 10% of implementers indicated a challenge with supplier and market access. A majority 90% indicated that the suppliers are within reach. b) In terms of horticultural supplies, 40% SHFs indicated that their produce is available on a monthly basis, with 22% able to deliver biannually, 19% quarterly and 11% annually.	a) Design strategies to improve market access and supply for trade goods It is also critical to commit and secure supply by SHF through formal contractual agreements. b) Explore avenues for rural financing mechanisms to support SHF to scale production activities and capacities. c) Facilitate SHF capacity building training to overcome limitations, promote crop diversification and deliver quality assurance through industry approved standards and guidelines.
6.1.5 Employment Creation	a) The programme relies on the support of volunteers, parents and community members. b) In the absence of formal contractual agreements with SHF, it is difficult to quantify the direct and indirect impact of the HGSFP on employment creation.	a) Consider introducing incentive-based rewards for volunteers and sponsors.
6.1.6 Evaluation, planning and capacity development	a) Programme evaluation is conducted from an oversight perspective, it overlooks areas that would require a detailed monitoring approach from a regional perspective to assess gardening methods, water infrastructure, gardening methods and food production.	a) There is a need to design and implement robust programme evaluation strategies.

6.1.7 Impact on Women and Youth	a) Programme has a strong focus on women and youth empowerment as their participation is commendable.	a) Male farmers were recorded to be 54% of suppliers, there is room to expand the ratio of female SHF if necessary.
6.1.8 Project costs and funding	a) The procurement and sourcing model is very direct (independent), with no guidelines, or clear mechanisms for accountability.	a) There is a need to assess finances and expenditures. b) The payment methods and strategies need to be standardized. c) There is a need for financial training. d) Assign a finance committee to handle programme funds per school.

Source: Oyayone Foundation

6.2. Gap analysis of key focus areas

The gap analysis in this section is related to the key focus areas of the study such as impact and effectiveness, value chains, self-sourcing, feasibility and scalability and expansion.

FEASIBILITY INDICATOR	CURRENT STATE – GAPS	DESIRED OUTCOMES:
6.2.1 Impact and effectiveness	a) The basic impact and benefits derived from the study and observations are quite satisfactory. The programme is very relevant for the learners, their parents and communities. We can therefore conclude that the programme is impactful because in its absence students only rely on a steady national feeding programme. b) The impact of the programme reflects on the increased attentiveness of the learners and it boosts their energy during the school day. c) Suppliers are eager to work with the HGSFP and community members also wish to improve their participation. d) The HGSFP highlights the role of food production in order to motivate agriculture at educational institutions as well in the communities. e) Unemployment is rampant in Namibia, and due to the programme students feel secure to have a meal at school. There are also other social factors that may affect the learner's ability to attend school, however such initiatives shield learners from such worries.	a) Long-term sustainability of the HGSFP in all its activities with cooperation from the government and society as a whole. b) A stronger monitoring and evaluation strategy. c) The programme should review their nutritional strategy at a regional level and assess all the available factors to achieve a high level of effectiveness. d) Some schools that are not performing will need the establishment and supervision from a gardening committee.
6.2.2 Value chain analysis	a) A plethora of schools are surrounded by sufficient value chains; however, the expectations may vary as producers weigh the market factors on their own from a cost-benefit and profit-making perspective. b) The suppliers indicated a need to assist the schools more, however, this rests on the ability of the schools to afford more produce. c) There must be a clear mapping out of the value chains and a clear set out objectives and engagement strategies, additionally assess ways to expand the relationship with suppliers to other regions or schools. d) Improve the skills capacity of SHF. e) Schools have a low yield to create their own value chains, and the schools with high yield have a very limited reach to assist other schools.	a) Expand the roles of suppliers to other schools or at a national level. b) Clear definitions of what a SHF farmer is and a clear engagement strategy to boost participation and accountability. c) There is a need to boost legume production and encourage consumption of low-cost meat products. d) Improve the skills capacity of SHF and introduce them to other support programmes in the region or nationally. e) Coordinate relevant stakeholders who will empower the SHF's. f) Improve inter-school cooperation, sourcing, skills exchange and supply mechanisms.

6.2.3 Self-sourcing	a) The current self-sourcing capacity of most schools is not strong enough. b) We carried out a needs assessment to assess the challenges of schools to become self-reliant and it demonstrates the need for increased support.	a) There is a need to structure and design menus per school and region based on seasonal food supply and production. b) There is a need to boost legume production and encourage consumption of low-cost meat products.
6.2.4 Feasibility and scalability	a) There is no clear objective for measuring the expected results in terms of feasibility apart from the overall number of gardens and their performance. b) The implementers outlined their focus areas for increasing the scalability of the programmer which are related to the increase in funding, water infrastructure, gardening, cooking utilities, storage and training needs. c) The study proposes an evaluation criterion to be carried out to assess the status of the school and evaluate their success rate based on a predefined set of activities and functions. This will aid and guide the expansion strategy for other regions. d) Expansion is not only about financial assistance, other factors, such as management and infrastructure also play a major role.	a) The programme should set out clear feasibility indicators, highlight its long- and short-term goals, and develop an execution plan to reach maximum success. b) The self-sourcing capacity should be evaluated.
6.2.5 Programme expansion	a) The results from the impact assessment of the study indicates that it is very beneficial for future expansion. b) The programme is currently in a piloting state, but it attracts enormous interest from schools outside the programme. Through observation and carrying out interviews with implementers, there was also an appeal for increasing the number of feeding days. Students also demanded more food and meal intervals.	a) The programme should draft an expansion plan to find strategies to expand the HGSFP. b) As the HGSFP progresses, it is likely to attract more stakeholder support from both public and private entities. There is however, a need for a plan to establish a reaching out strategy to clearly identify which roles should be filled and to what extent such assistants are required, and lastly, to communicate the success stories of the HGSFP at a national and international level using various communication strategies. c) There is a need to establish a focal office responsible for HGSFP to strengthen its role, highlight its role nationally, and assess its role on a continuous basis.

6.3 Analysis of previously identified gaps

The study also assessed gaps which were identified in the previous study. The desired outcomes are not reviewed in this section.

INDICATOR	ASSESSMENT – CURRENT OUTCOMES
1. Participation and community ownership	a) From observation, the initiative has only attracted the participation of a limited group of entities and individuals, there is also a very poor support base for the project's long-term sustainability. b) Seventy nine percent (79%) of the implementers indicated that the community is well aware of the HGSFP, however only 7 % indicated their willingness to sponsor the programme.
2. Awareness	a) There is a need to align with organizations such as AMTA to form formidable alliances for future cooperation and assist the programme to bridge that gap with the SHF's.
3. School Gardening	a) Seventeen percent (17%) of the gardens are not functional. Improvements are needed for implementation and maintenance and control. b) Training is required for pest management and handling.
4. Agriculture Support & training	a) Seventy six percent (76%) of implementers indicated a need for training. Training should be continuous and ongoing to build strong capacity. There is a need for a robust training plan to address the challenges of each school or region.
5. Food safety	a) Thirty eight percent (38%) of the implementers indicated that there is a need to improve the storage facilities.
6. Feeding patterns	a) Some schools are not in a position to provide meals more than 2 times a week, due to funding and other constraints. Among the schools, 45% feed on a daily basis, 31% feed three times a week and 24% thrice a week.
7. Payments and Procurement	a) There is a need to review the payment and procurement strategy.
8. Product Prices	a) Rising prices of food and inflation cannot be controlled and thus focus should be made on making schools self-reliant.
9. Energy	a) Energy or electricity was not identified as a huge gap by the majority of schools as they prefer the method of cooking with firewood. However firewood has environmental implications to be considered.
10. Farming	a) Schools need support with farming techniques, methods and infrastructure, there is a need to carry out an individual assessment to combat the gaps.

7. Economic Impact Assessment

According to the FAO (2023), 1.5 million Namibians are unable to afford a healthy diet, which makes up 60% of the local population. The average cost of affording a healthy meal is estimated at 4 USD per day (NAD 76). They also indicated that 17% of the total population is undernourished, with 33% facing severe food insecurity. Lastly, they depicted that 17% of children below 5 years experience stunting. (State of Food Nutrition - FAO 2023)

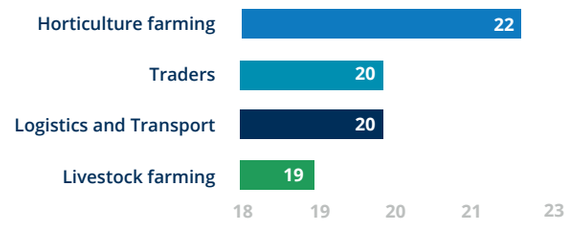
7.1 Economic Impact Assessment of the HGSFP

The feedback from community members and parents benefiting from the HGSFP is that it has great economic benefits as it aids in the reduction of poverty and hunger. There was a general appeal for the expansion of the programme to adopt a more diverse menu and to increase the feeding intervals and feeding days. In addition, the SHF was also proud to be associated with the HGSFP and wished to see it grow.

The HGSFP does not receive as much economic support as it is supposed to, and there is a need for the programme to appeal for support at a national level and seek support from various private individuals and institutions. This will widen the scope of food donations and raise the interest of potential suppliers. The programme can approach this by introducing a recognition mechanism for businesses and individuals that come to their aid. This will most likely draw a sense of loyalty to the HGSFP. Aside from monetary contributions, there are also non-financial ways to support the HGSFP, which can be proposed to various businesses and individuals.

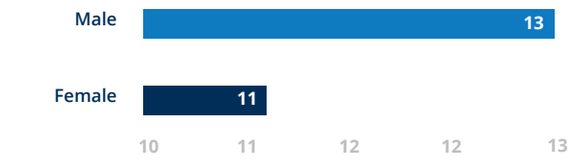
The economic impact of the HGSFP can be measured through a dual partnership that will benefit both the beneficiaries and the business community. If children are fed during school hours, they will focus on their schoolwork and become more productive citizens of the country, with a reduced school dropout rate.

Figure 52: Implementers: Value Chains (%)



Source: Oyayone Foundation

Figure 53: Gender of SHF (%)

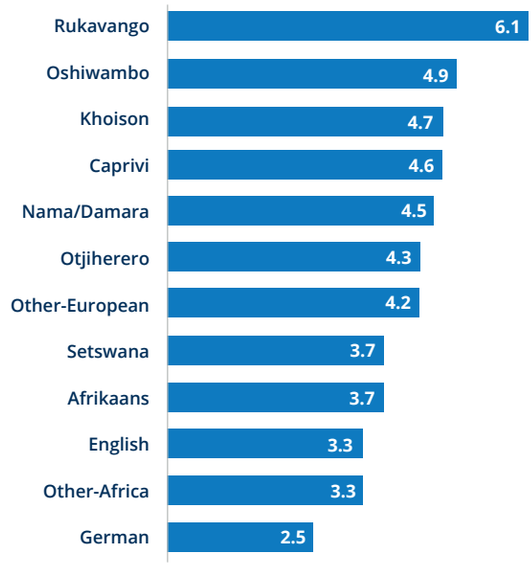


Source: Oyayone Foundation

The evidence from the study indicates that the HGSFP contributes significantly to various economic value chains such as agriculture, trading, logistics, and livestock farming. The community members testified that there is direct support for women and youth, especially as volunteers and SHFs. The chart above also indicates that there is a close gap between 11 female smallholder farmers and 13 male farmers participating in the programme.

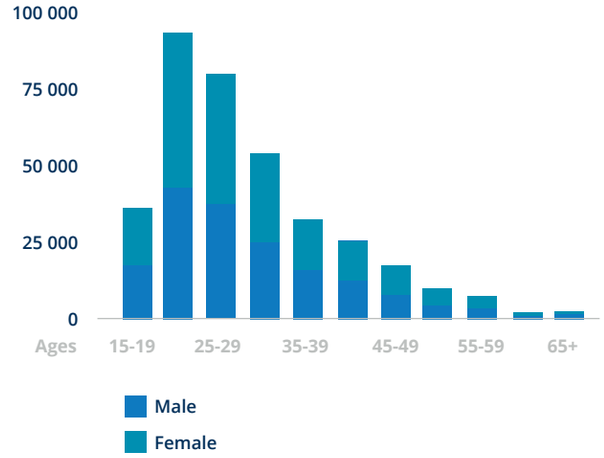
According to the NSA (2013), poverty is very widespread in Namibia, and one of the contributing factors is that there is a high occupancy rate in previously disadvantaged households. As per the chart below, the Kavango region has an average household occupancy of 6 people, followed by Aawambo and Khoisan with 5, and lastly Silozi, Otjiherero and Damara/Nama with 4.5 occupants. The lowest occupancy levels are recorded for Afrikaans, English and German nationals, averaging 3 only. In some cases, the higher level of occupancy can place a strain on the family's ability to sustain itself, especially for demographic groups with high unemployment and other related socio-economic challenges. The segment of the population associated with lower inequality or poverty is recorded to have a lower count of households of 2 to 3 occupants.

Figure 54: Average household size (Value)



Source: Survey data results

Figure 55: Unemployment by Gender and Age (Value)



Source: Survey data results

With regards to sourcing, products are very costly in the regions due to their remote position, this results in higher overhead costs that can affect the project. The implementers/teachers also indicated that seeds and pests are more expensive comparatively. The inflationary behaviour of food, garden equipment and consumables remain a key challenge for the programme. In small villages implementers do not have a wider option of suppliers and depend on traders who are trading in smaller quantities.

One more economic factor which affects sustainability of the programme is the climate and environmental conditions for which various schools, towns, and regions are exposed to. In some areas there is severe drought which may require a specialized targeted approach for the HGSFP. The HGSFP is structured around the requirement of self-sufficiency, however some environmental conditions may delay this objective and there are some arewanaas that require holistic intervention for both community members and schools to resolve the environmental challenges and improve food security.

7.2 SWOT analysis for the HGSFP

This section assesses the economic strengths, weaknesses, opportunities and threats of the HGSFP.

Strengths	Weaknesses
• Reduce income inequalities among learners who have food and those who do not. • Learners gain agricultural skills and motivation to grow their own food. • Programme extends to remote areas and is making a great contribution in stemming hunger poverty in rural areas. • There is strong cooperation with the community in sharing resources, for instance water supplies and boreholes. • Children become independent and more accountable for their academic performance.	• No specific reference to indigenous foods as Programme relies on supplementing the NSFP • Lack of synergies among government entities to support the HGSFP can delay its progress. There is a need for wider coordination. • Farming is seasonal and relies strongly on environmental conditions. There is a need for a more adaptive approach towards menu design based on seasonal availability.
Opportunities	**Threats**
• Improved economic activity and livelihoods. • Supports agricultural value chains in communities by creating supply and demand stream for agricultural produce. • HGSFP is well placed to be integrated into school curriculum and use educational platform to expand participation. • Medium term reductions in child malnutrition, stunting and wasting, and improved standard of living/quality of life. • Opportunity exists for a synergized and full-time support strategy for the School Gardens within the Ministry of Agriculture.	• Limited buy-in and and awareness from surrounding business community. • Requires multiple sources of funding for long-term sustainability. • There are currently no plans for urban expansion despite threat of hunger poverty in urban and peri-urban areas. • School gardens rely on the broader agricultural sector of the country and if their role is not recognized, monitored and supported by the line ministry, may be exposed to unforeseen external shocks and challenges.

8. Nutritional Assessment of the HGSFP

According to the FAO (2023) nutrition guidelines for children, a child's diet should comprise of carbohydrates, proteins, fruits, vegetables and fats/oils.

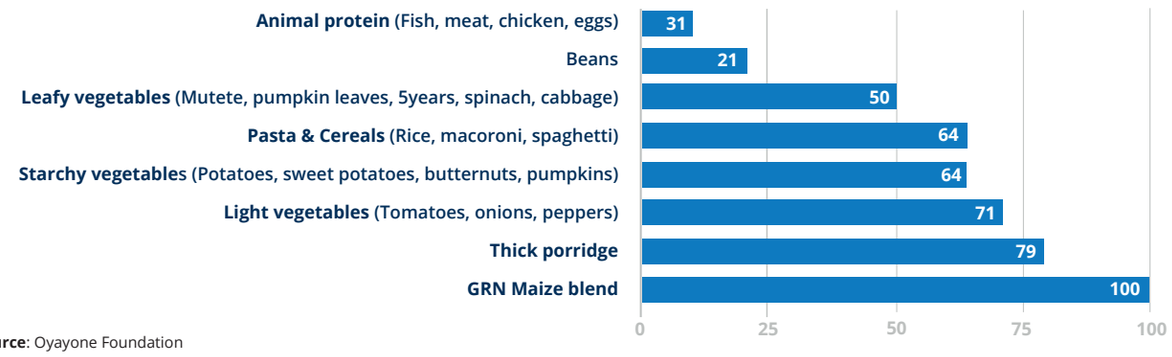
During the study, it was discovered that 100% of interviewed schools feed learners GRN maize blend which makes up for the carbohydrate portion. The HGSFP funds are utilized by 79% of the schools to purchase mahangu or sifted maize which is used to prepare a thicker porridge. It was discovered that fewer schools are feeding learners with a protein-based menu, essential for muscle growth and development. Only 21% of schools incorporate beans and 10% of the schools incorporate animal protein. More than 50% of the schools feed the beneficiaries with vegetables.

About 34% of beneficiaries have requested for an increase in animal-based protein in the menu. Protein is beneficial to the muscle development of a child. 27% beneficiaries requested for more starchy food (more porridge, rice, pasta and bread). This highlights the need for the HGSFP to cater for energy dense foods. Less than 20% of beneficiaries requested for vegetables, fruits and other changes in the menu.

Since the prices of meat and fish are relatively high, there is need to strongly encourage HGSFP to grow beans for large consumption. The advantages of beans are highlighted below:

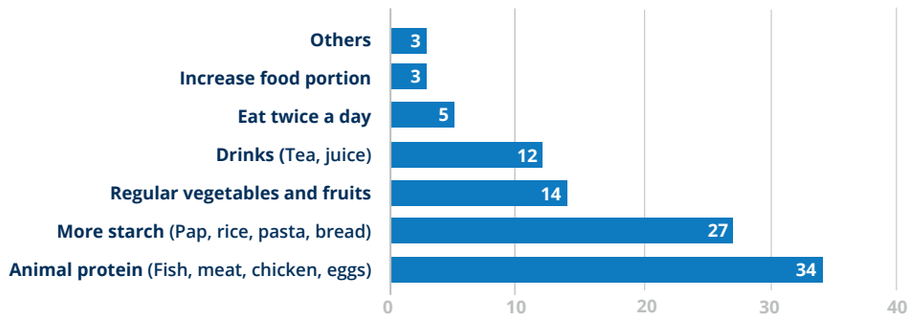
- Beans such as cowpeas and Bambara groundnuts are excellent sources of protein.
- Beans also contain good sources of zinc, iron, calcium and Vitamin B.
- Beans are drought and pest resistant when planted in a garden.
- Beans fix nitrogen in the atmosphere, causing them to provide natural fertilizing compounds to the soil which is beneficial to other plants in the garden.
- Once beans are harvested, they can be sundried as a low-cost method of preservation.

Figure 56: Food Item (%)



Source: Oyayone Foundation

Figure 57: What the benefeciaries desire to eat (%)



Source: Oyayone Foundation

Storage of Government maize blend, dried mutete and other dry foods at Rupara Combined and Rupara Junior School, Nkurenkuru, Kavango West

Source: Oyayone Foundation

- Beans have a long shelf life and can be stored at room temperature.
- In cases where beans cannot be grown at the school garden, beans are locally sold and available at AMTA outlets.

Rupara Primary and Combined School cowpeas (beans) During the study it was discovered that only 2 schools' plant starchy vegetables (potatoes and sweet potatoes). One school explained the various challenges they faced with their potatoes which would rot before sprouting. It is highly recommended that high starchy vegetables are planted.

Advantages of starchy vegetables

- Starchy vegetables such as potatoes and sweet potatoes provide energy for longer periods
- Source of fibre which can prevent constipation and colon cancer.
- They are an excellent source of potassium, Vitamin B6 and Vitamin A.
- They are a source of antioxidants which prevent cancer.

During the study it was discovered that all the schools in the north and north-eastern regions consume mutete. It is recommended to encourage and strengthen consumption and growth of mutete and other leafy spinach.

Advantages of mutete are as follows:

- Mutete is an excellent form of Vitamin C.
- Once mutete is harvested, they can be sundried as a low-cost method of preservation.
- Mutete has a long shelf life and can be stored at room temperature.
- Growing mutete in the school garden can add minerals to the soil and manage pests.
- Mutete can lower high blood pressure.

School feeding programmes contribute positively towards achieving the UN SDG pillars of ending hunger, promotion of sustainable agriculture, equitable access to quality education, and gender equality (WFP, 2019; UN, 2015). (Shekar et al., 2017)

9. International Benchmarks

A. Rwanda

Rwanda has concurrently implemented three (3) school feeding programmes which are categorized as:

a) The National Early Childhood Development Programme - serves one cup of milk to pre-primary children twice a week in 19/30 districts.

b) School Lunch Programme (funded by the Government and parents) - provides the secondary day-school students with a daily lunch meal.

c) World Food Programme (WFP) - serves meals to school learners in 4/30 districts that face poverty, food insecurity and malnutrition. (MINEDUC, 2019c). It is reported that the current cost of a meal is estimated to be 150 Rwandan francs which is N$ 2 per child per day. (Habyarimana, 2023) (Habyarimana, 2023)

B. Brazil

In Brazil, there are 8,300 nutritionists involved in the school feeding programme and they are paid by the local governments. The programme has nutritional requirements for food baskets as well as food restrictions to avoid obesity. The menu also includes an indigenous Brazilian crop known as PANCS. "The feeding programme is mandated to cover at least 15% of the student's daily nutritional needs as per government regulations" (Silva et al., 2022).

It is estimated that family-planted agriculture gardens receive over 1.1 million per annum from the feeding programme, which is a direct benefit to their economy. (Alves Da Silva, Avila Pedrozo, & Nunes Da Silva, 2023)

C. Nigeria

Nigeria's Home-Grown School Feeding Programme was established in 2004/5:

a) Over 300 million meals have been served to more than 7.5 million pupils in 46,000 Public Primary Schools in 22 states with 1510 schools benefiting.

b) The programme uses a multisectoral approach involving the ministries of Agriculture, Education, Finance, Health and Information and is led by the Ogun State Ministry of Special Duties and Inter-Governmental Affairs.

c) The state conducts training for cooks on food

d) Food handler's test is also conducted for cooks

e) Facilitation of a loan is given to food vendors.

f) The loan is repayable by the vendors over a period of three years.

g) The items procured with the loan for each cook include: a uniform, apron, and cap, industrial coal pot, medium warmers, small warmers, cooking spoons, knives, and pots.

h) The state provides training for cooks on food preparation and also administers the Food Handler's Test.

i) In addition, food vendors are offered loans that can be repaid over a three-year period. The loan covers the cost of essential items such as uniforms, aprons, caps, industrial coal pots, medium warmers, two small 30-cl warmers, cooking utensils, knives, pots, and turning sticks for each cook.

j) Opening accounts with specific banks is mandatory for cooks. Money is transferred directly to each cook's account, not via a middleman.

k) Every day, the cooks sign the feeding attendance sheets of the students they serve.

D. South Africa

a) The National School Nutrition Programme (NSNP) was implement in 1994 and feeds over 9 million learners meals on a daily basis. Teachers and principals note that the NSNP has a positive impact on classroom behaviour, as learners are more focused and less likely to engage in negative behaviours due to hunger and malnutrition

E. Diet Inclusion

The menu from the HGSFP is designed to provide a diverse and nutritious diet to schoolchildren, with a focus on locally sourced ingredients and traditional dishes. The following is a breakdown of the different foods fed to learners in different countries that have implemented the school feeding programme:

Country	Menu
Nigeria	Rice, beans, fish, pepper, corn flour Beans with fish
Brazil	Rice, beans, and vegetables
Spain4	Rice, pasta, and vegetables
Belize	Rice, beans, muffins, corn, and banana
Philippines	Rice, vegetables, and fruits
Tanzania	Grains, roots and tubers, legumes, vegetables, fruits, and meat and dairy products
Namibia	Maize blend, mutate, tomatoes, 5 years spinach

Storage of government maize blend at Brendan Simbwaye Primary School, Katima Mulilo, Zambezi Region.

Source: Oyayone Foundation

10. Self-Sourcing Criteria

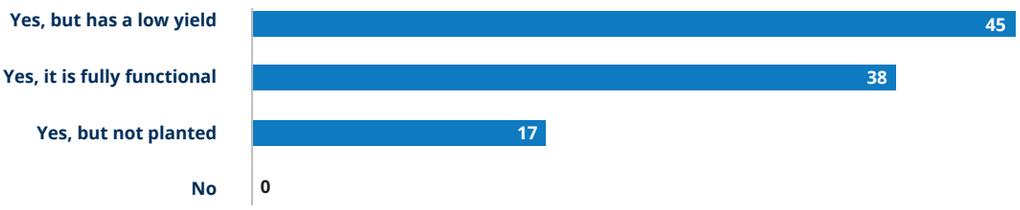
The HGSFP should develop an evaluation strategy to test its capacity to become independent. The schools are required to receive outside assistance from the community and donors to expand their food production capacity for long term sustainability.

The study established that only 38% of interviewed schools have their own fully functional gardens, 17% are dormant, and 45% of the school gardens do not produce sufficient yield.

In the chart below, the schools have indicated the main gaps and challenges that hinder their ability to become self-reliant. The majority indicated their desire for training, funding, functional gardens, storage, water and irrigation, cooking utensils, cooking areas to become self-reliant.

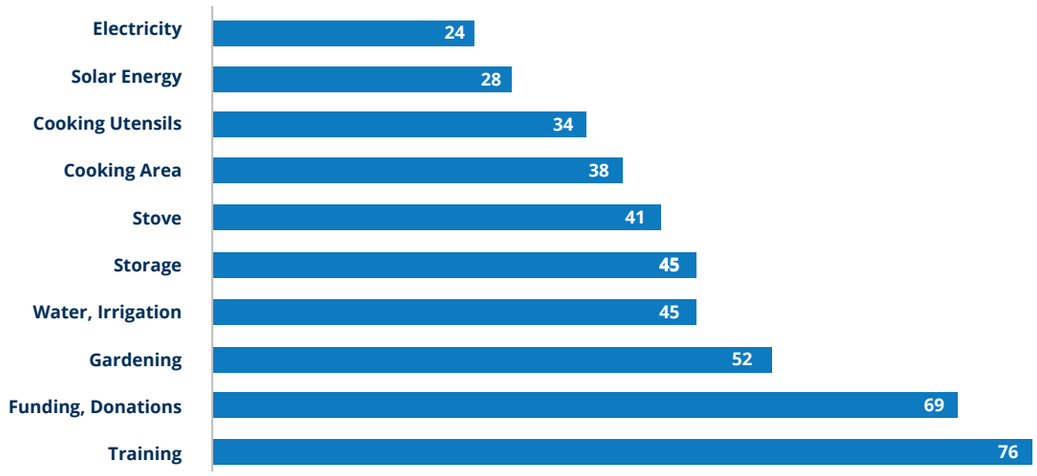
There is a need to address the shortage of gardening infrastructure in regions. There is a need for assessment, implementation, support, and maintenance to ensure gardens yield fruitful results. The programme should develop an extensive evaluation method for self-sufficiency, they should also assess the associated risks, provide training, and build capacity..

Figure 58: Does the school have its own garden (%)



Source: Oyayone Foundation

Figure 59: Implementer: Which resources would you require to become self-suf-



Source: Oyayone Foundation

11. Programme Expansion Assessment

To expand the programme, there are various internal and external factors to consider that should work together to strengthen the growth of the HGSFP. There are numerous solutions and key interventions required at the regional and national levels to meet long-term expansionary targets. The planning of these strategies will require cooperation from both private and public stakeholders, i.e., AMTA, NAB, MAWLR, private donors, professional bodies, industry experts, wholesalers, etc.

The implementers also indicated their desire for supportive programmes to be introduced in partnership with the HGSFP, such as: water and sanitation, career guidance, sexual and reproductive health and programmes on substance, physical and sexual abuse.

Figure 60: Implementer: Which complimentary programme would you require (%)

Source: Oyayone Foundation

HGSFP beneficiaries and Oyayone Foundation research consultants are pictured after completing the survey at Brendan Simbwaye Primary School, Katima Mulilo, Zambezi.

Source: Oyayone Foundation

12. Suggestions on Implementation and Stakeholder Participation

In comparison to the previous research data and case studies, the findings are coherent and robust which indicates that this research was successful in its approach. The key difference for this paper was to carry out direct interviews with beneficiaries, in order to draw conclusions about the impact of the Programme. The study also investigated the socio-economic impacts of the programme. The unique approach of the study was to assess the feasibility for expansion and self-sufficiency of the HGSFP.

Figure 61: Research Approach

Source: Oyayone Foundation

The recommendations with regards to the study are outlined as follows:

1. Existing Study Reviews

The literature from previous study conducted in 2022 contains relevant information on some of the feasibility indicators of the current study which include relevance, effectiveness, food handling, efficiency, impact and sustainability. This is useful in assessing gaps in the current and previous study.

2. Operational Suggestions

Suggestions on the operational strategy of the Programme provide solutions to implementation challenges experienced, with respect to nutrition, gardening, value chains, water supply, SHF's, community empowerment and pest control.

3. Stakeholder Recommendations

We identified relevant stakeholders whose strategic cooperation would enhance the implementation, sustainability and efficiency of the HGSFP. The challenges experienced by the schools may be addressed with support from various stakeholders in the private sector, government, media, agricultural sector, regulators, Civil Society Organisations (CSO), traditional leaders, etc.

4. School Observations and Findings

The observations made at the piloting schools are listed under Appendix A, providing a progress summary on the HGSFP.

A. Suggestions for operational implementation:

1. Nutrition

1.1. Canned fish and Mutete are a staple and affordable meal that can be supplemented on vast scale in the northern regions.

1.2. There is opportunity to include legumes (Cowpeas and Bambara groundnuts) in the menu to increase protein consumption, as well as "fat cakes" (traditional doughnuts) which are cost efficient.

1.3. Menus should be adjusted according to food types available in a specific region.

1.4. Structure and implement regional sourcing plans according to available seasonal produce. Menus to be adjusted bi-annually to align with seasonal availabilities.

2. Gardening

2.1. Schools have relatively adequate land for agricultural production, there is however an opportunity to add more orchid trees around school premises.

2.2. Empower school level implementers with knowledge on pest management and equip them with tools to combat pest infestations.

2.3. Provide guidelines to teachers (school level implementers) on the requisite tools and equipment for establishing and maintaining a school garden.

2.4. Provide guidelines for effective application of fertilizer, as different schools were using their preferred dung from cows, donkeys and goat.

3. Value Chains

3.1. Expand the sourcing, production and distribution of plant seedlings because school grounds alone are not sufficient to grow seedlings, and also due to neglect.

3.2. The regional value chains should clearly map the potential products available.

3.3. Provide more logistical support to source fertilizer (animal manure) from farmers in the vicinity.

3.4. Promote wider planting and distribution of the '5 years' spinach as there is opportunity for mass production in the Zambezi and Kavango regions.

4. Water Supply

4.1. A contractor should be appointed to frequently service, improve and maintain water supply infrastructure for the schools.

5. Small Holder Farmers (SHF)

5.1. Develop and formulate clear criteria for selecting small holder farmers to supply the schools.

6. Empowerment

6.1. Well performing piloted schools can support neighbouring schools to enhance their productivity and capacity.

6.2. Strengthen cooperation and communication with regional educational offices to address the challenges encountered by implementers.

7. Pest Control

7.1. Identify the most common pest infestations and implement strategies to combat them (i.e. stalk borer, ants, amphids and locusts).

7.2. Offer training for affordable and home-based remedies for pest control. (A good example is the Neem leaves fermented in chilli, as a safe and cheaper pesticide alternative).

Table 3: Stakeholder mapping & suggestions for participation

Stakeholders	Role to enhance HGSFP
Key Stakeholders	
Beneficiaries	Voluntarily participate in cleaning dishes, collecting firewood, water and gardening duties.
Primary Stakeholder	
Farmers	• Established farmers should share knowledge and transfer skills with emerging Small Holder Farmers with interest to participate in the HGSFP. • SHF need crop schedules to achieve diversification of menus; standards for quality assurance; value addition and agro-processing for food preservation, etc.
Parents and Community members	Cultivate a positive mindset to educate learners at home on the benefits of the HGSFP.
Teachers/Implementers	• Establish central HGSFP committee comprising of parents, SHF and community members to enhance ownership and accountability, together with schools. • Strengthen communication with regional education director. • Encourage beneficiaries to plant home backyard gardens.

Community Leaders	
Traditional Authorities	• Village Headmen and traditional leaders to assign land to enlarge school gardens, where necessary. • Prioritize access to firewood for HGSFP. • Build synergies to work with traditional leaders in the respective regions to strengthen support for the HGSFP.
Media	
Radio, print, press and digital media.	Promote awareness of HGSFP for public education purposes and to attract potential partners.
Government	
Ministry of Education, Arts and Culture	• Integrate HGSFP into school curriculum practical activities. • Formalize the HGSFP at public schools countrywide. • Suggest mandatory establishment of gardens at schools, countrywide. • Design standardized school feeding menus that correspond with regional crop production calendar, as well as recommended balanced nutritional intake. • Provide infrastructure support for the HGSFP where necessary. • Allocate dedicated staff for gardening to realize full potential of the HGSFP. • Collaborate with organizations in regions to promote education and training on hygiene, sexual and reproductive health, and gardening.
Ministry of Health and Social Services	• With support from the Namibia Standards Institute (NSI), fortify the maize blend for added nutrition. • Provide WASH, STI/HIV and pregnancy programmes to beneficiaries. • Provide first aid kits to each school and as far as feasible, training on first aid to treat fires, oil, burns etc. • Provide tools and materials for training on food safety (to avert food poisoning incidents) etc.
Ministry of Agriculture, Water and Land Reform	• Where necesssary, avail access to land for school gardens. • Educate schools on good crop management practices. • Provide pest management training. • Provide seeds of drought and pest resilient seeds to schools. • Support provision of water resources and infrastructure support through borehole pumps and hydroponics services, for the HGSFP. • Ministry extension has various support initiatives that may be beneficial to the HGSFP, including the poultry and horticulture subsidy project, NAMSIP for machinery and equipment and the small farmer subsidies.
Ministry of Defense and Veteran Affairs	HGSFP to obtain support from the military schools to source food items (i.e. Mukwe and Divundu Correctional Facility Kavango East)
Ministry of Mines and Energy	• Extend rural electrification programme to schools. • Introduce renewable energy mix for school electrification.
Vocational Training Institutes	Utilise VTC students to manufacture low cost shade nets, irrigation pipes, gardening tools, repair and production of school furniture etc
Agro Marketing Trade Agency (AMTA)	• Absorb excess produce from SHFs. • Provide capacity building on reducing postharvest losses and preservation methods. • Explore food storage options and source supplies. • AMTA is currently milling and considering the production of a blend (fortification). Integrate fortified blend into school menus. • Offer capacity building training to SHFs on standards, pest control and quality assurance, food processing (dried foods).
Namibia Agronomic Board	• Provide detailed information on SHF's at regional and national level. • Inform design of SHF crop calendars at regional level.

Development Partners, NGOs and other organizations	
UN Agencies (WFP, UNICEF)	• The WFP supports the HGSFP by funding a diversified menu for the learners which promotes the consumption and sourcing of locally grown food inputs towards a balanced and nutritious diet. Combatting malnutrition, starvation, stunting and wasting.
Oyayone Foundation	• Boost cooperation between SHF and the schools through better organization and coordination, and facilitated market linkages. • Identify and evaluate SHF's for supply of respective products as per regional crop calendars. • Offer capacity building on self-employment opportunities, train women in farming and seedling production. • Conduct economic assessment for the HGSFP. • Assist HGSFP in drafting project strategy (infrastructure support, production models and market ecosystem).
Local Food Suppliers	Provide schools with locally manufactured food items (e.g: Sunflow Oils Namibia, Undera & Shadikongoro Green Scheme, Kalimbeza Rice)
GIZ	• Distribute home backyard gardening booklets to schools to encourage gardening at household level. • Technical assistance in developing food menus. • Cooking and food handling training for volunteers.
Private Sector	Scope for donations, financing, logistical and technological support and partnership.

Learners cleaning their own utensils after a meal prepared with food sourced from the HGSFP at Kailiangile Combined School, Katima Mulilo, Zambezi Region.

Source: Oyayone Foundation

13. Key Findings & Discussions

The overall objective of the study is to reference the framework and guidelines of the HGSFP, feasibility indicators and key focus areas to assess the impact of the piloted HGSFP, and inform recommendations and the design of models for scalability. Evidence collected indicates that piloting schools encountered various challenges in the implementation of the pilot. A standardized model to guide project execution is required for school implementers, relative to respective social and environmental contexts. There is need additionally, to introduce standardised gardening guidelines, as well as monitoring and evaluation methodologies, to track the impact and progress of the programme, nationally.

The research findings confirm that the HGSFP is impactful and effective, with 96 % positive feedback with regards to the role it plays in improving attendance and attentiveness. A majority of the parents are unemployed and this indicates that food security is a critical socio-economic benefit. According to the teachers, the HGSFP also contributes positively for the health of the students.

There are gaps to be filled in order to realize the HGSFP objectives and for expansion, as highlighted in the Gap Analysis. The gaps provide a guideline for key project areas that require improvement and a proposed set of interventions to be considered.

The study indicates the key evaluation mechanisms for self-sourcing and identifies schools that have yielded successful results from the HGSFP. These can be prioritised for stronger support to become 'Model Schools' or 'Centres of Excellence" for regional benchmarking and referencing.

The study further suggests conducting an assessment to measure the level of self-sufficiency of the various school gardens. This will further inform the scalability and sustainability of the HGSFP. However, a 'one approach fits all' cannot be utilized in expanding this programme in other schools. An adaptive approach (modeling) is therefore recommended, taking into consideration varying socio-economic and environmental contexts in the different regions and schools.

Finally, there is need to identify and address the critical challenges at the regional level undermining the efficiency and efficacy of the programme, as far as relating to infrastructure support, food production models (with menu design and agricultural crop calendars), as well as the market strategy (supply ecosystem).

A. Recommended programme model

The HGSFP should identify, select and categorise participating schools based on the social, environmental and economic context and capacity of the respective school. Three (3) pronged model is proposed for the rollout of the HGSFP across schools from different social, environmental and economic contexts countrywide. The models to be considered are:

Source: Oyayone Foundation

The three approaches which can be assessed, include:

1. Identifying those schools with gardens, that are partially and fully-independent and have capacity to be self-sufficient.
2. An integrated approach that identifies schools with a garden, and supply network of small holder farmers and other supplier organisations within the vicinity to supplement the feeding programme;

and lastly

3. A special-needs approach based on special category schools within unique communities (such as nomadic communities, privately owned and managed community schools, and schools in disadvantaged, informal areas).

All 3 approaches will rely on the volunteering of parents, learners and community members in the process of gardening, cooking, collection of inputs and cleaning up, critical to the ownership and sustainability of the initiative.

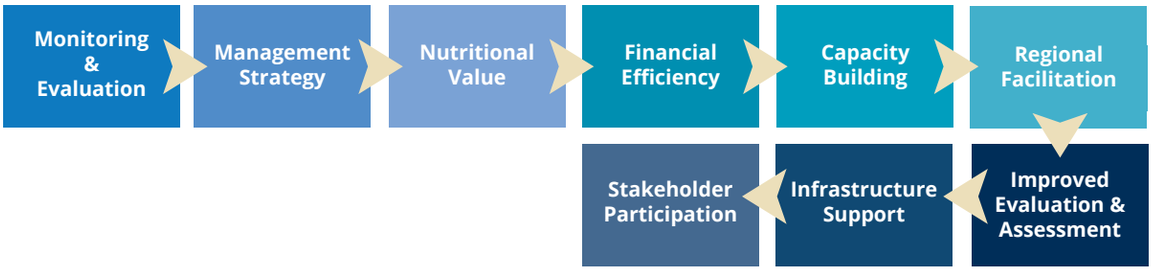
B. Recommendations for programme expansion (scalability)

The following recommendations relate to the scalability and sustainability of the HGSFP:

The following are recommendations that WFP and MoEAC should consider in ensuring the successful expansion and implementation of the HGSFP to other schools, countrywide.

1. Develop and institutionalise a monitoring and evaluation strategy for the HGSFP within MoEAC.
2. Strengthen the management and institutional coordination of the HGSFP at all levels.
3. Enhance the nutritional value of meals by maintaining a more diverse menu, and introducing complimentary crop calendars for SHF integration.
4. Strengthen the financial efficiency of the HGSFP by setting targets, and measuring outcomes through enhanced accountability. This will potentially reduce input costs while maximising impact.
5. Develop and implement capacity building interventions for all stakeholders involved in the planning, management and implementation of the HGSFP.
6. Assign a stronger performing school to serve as a model in the region, as well as facilitating the procurement, gardening performance or transportation of purchased produce regionally. Draft criteria that can be followed to appoint a central or regional facilitator.
7. Regularly assess capacity of schools – evaluation, needs assessment, identify shortcomings, risk analysis, training and capacity development. Find a long-term execution strategy for key challenges such as water, technical capacity constraints, etc.
8. Draft an operational and communications strategy to address challenges.
9. Provide the requisite infrastructure, tools and resources and finances to schools with capacity constraints.
10. Deepen stakeholder participation, such as NAB, AMTA, GIZ and Ministry of Agriculture, Water and Land Reform in the implementation of HGSFP value chains and potential national expansion.
11. The procurement and payment strategy should be reviewed, as direct distribution of funds requires greater supervision and accountability.
12. For long term sustainability, HGSFP implementers should consider reforming the current discretionary volunteer status of community members to an incentivized volunteer system that could include payment via food parcels, recognition awards, etc.

Figure 62: Key recommendations for programme expansion



Source: Oyayone Foundation

14. Conclusion

The research is based on a quantitative study carried out on the HGSFP for 16 schools and a sample of beneficiaries, school level implementers, teachers, parents, community (volunteers) and small holder farmers.

The HGSFP together with the cooperation from the WFP and the Ministry of Education, Arts and Culture has proven to be a successful programme that has empirically increased school attendance and decreased hunger poverty among school going children. Many unemployed women and youth have been provided with a platform to empower themselves through the community integrated model.

Involving the local and national private sector is a critical success factor in ensuring the effectiveness of this programme. Furthermore, training and capacity building for parents, community volunteers, small holder farmers and school level implementers are strong requirements for this sustainability of the programme.

Without a doubt, improving child nutrition is a long term investment in human capital, which has a triple dividend for the children of today, the adults of tomorrow and next generation of children. We implore all stakeholders to maintain and intensify funding and support, towards scaling the HGSFP nationally.

Learners completing the beneficiary survey at Kailiangile Combined School, Katima Mulilo, Zambezi Region.

Source: Oyayone Foundation

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*** Scoping Mission of the Home-Grown School Feeding Programme (HGSFP) site inspections jointly with the World Food Programme (WFP) in the four selected regions for piloting of this programme namely Zambezi, Ohangwena, Hardap and Kunene (2017).

16. Appendices

APPENDIX A: Observations made during the current school visits

1. Mphe Thuto Primary School

- Local community is surrounded by cactus growing in residential plots. WFP and HGSFP should empower community to grow cactus to produce jam from it.
- Ben Hur Rural Development Center is run by GRN. It has a accommodation space, poultry unit, mobile clinic, carpentry workshop and a small garden.
- The poultry farmer on the newly established Ben Hur Development centre does not supply to HGSFP. Collaborate with Ben Hur Rural Development Center to supply vegetables and poultry to HGSFP.
- Farmers around the community have given the school permission to collect cow dung manure from their farms. Learners in grade 5-7 help to collect manure.
- Food is stored at the school hostel premises. Storage facility is not enough for HSFP food as they are sharing with the hostel.
- The borehole operates on solar, electricity and diesel. It supplies water to the school, teachers houses and surrounding community. Shortage of water supply causes the garden produce to wilt and die
- One of the teachers wants agricultural training.
- HGSFP money is not consistent, it differs every time.

2. Schlip Primary School

- Kitchen uses electricity to prepare food.
- When there is no power, they cook on firewood.
- Firewood is bought from community members or parents who contribute firewood. School has 2 male parents who freely collect firewood.
- School only has 1 male SHF. He has 2 grandchildren at the school.
- School has 1 deep freezer and 1 refrigerator.
- Feed schedule: 2 days they eat maize blend and 3 days they eat HGSFP food (macaroni, rice).
- Potatoes were planted but did not sprout. Sometimes potatoes rot before they are harvested.
- During spring, the heavy rains wash away the plantations.
- Pests particularly damage cabbage before harvest.
- Sand is very hard. It needs to be filled up with loads of sand which requires costly labour.
- Current budget is not enough to care for the garden.
- Produce destroyed by harsh sun. Shade net is not strong enough because of harsh sun.
- School is built on privately owned and residential land.
- Nampower sometimes refuse to supply electricity to school while GRN has refused to put up any development on the school because of ongoing land ownership fight. Community members ask to be given Maize blend.

3. Usib Primary School

- Community and school share water from the same borehole.
- Garden is available but they are not able to harvest from it because of water. Pumpkin, carrots, beetroots, spinach was planted but died.
- When they try to water the garden sparingly from borehole water, normal pipes excessively waste water. There is limited irrigation pipes.
- Normal hose pipe is wasting water.
- Learners break into the house where the food is stored. Food is currently stored in the book storeroom.

4. Brendan Simbwaye Primary School

- School is waiting for quotations to purchase gas stoves and furnish sitting place for eating
- Tap water is main source of water. Water shortage occurs if there is a water burst. Borehole is used as backup.
- Two full time gardeners employed by the school.
- School did not fully depend on garden in the past years. Pests destroyed the plants last year. Reoccurring locusts in the garden and persistent ants in the storeroom.
- Affordability and availability from SHF supplies food to the school.
- Throughout the year they can harvest monthly. Weather is favorable between June-July. They can harvest weekly during this period.

- Produce planted: spinach (rape, 5years), onion, tomatoes and mangoes.
- Planning to plant citrus and oranges
- Mangoes are harvested and sold to community members. In 2023 profit from mangoes was around N$ 5700.
- The garden fence is vandalized by community members. The school security guard does not have access to the garden after hours
- The volunteers get an opportunity to eat daily at the school. Sometimes they receive portion of food to take home
- There is 4 groups each consisting of two cooks that assist on a rotational basis per week.
- The volunteers cook for the morning and after school session
- Community member voluntarily provides manure
- Firewood is normally bought from community
- Tuckshop is stocked by school. Community member is employed by school and compensated
- Training for the cooks is required
- Budget is not sufficient to feed all learners because it fluctuates
- Maize price is expensive, costs N$ 500/ 50 Kg. 2 sacks cooked per week.

5. Kaliangile Combined School

- Drought seasons because it has not rained for 3 months.
- Salty water obtained from borehole.
- Water from Namwater is costly. Community must use N$200 for transport to travel to town for water payments.
- Common pests prevalent during spring from September: stalk borer eats the stalk of maize or mahangu and locust consume everything in the field.
- Meat is bought 7 Km away from the local market.
- Learners collect firewood.
- Mangoes are stolen by the learners during fruiting stage. Mangoes can be planted in the garden so that it is fenced off and protected.

6. Biro Combined School

- Grades 8 & 9 not included in the policy but school enrolls until grade 9.
- Focal teacher and community members have limited knowledge of pests attacking garden and different produce.

7. Makena Primary School

- Garden not operational due to water shortage.
- Borehole pump was stolen in March 2023. It was fixed but it stopped operating. Pump is not pumping water.
- Learners fetch water from the river but it is dangerous because of the crocodiles and hippos. School was assessed to obtain their own borehole but they did not qualify.
- There are a few suppliers or farmers to purchase food from the community. Purchase is done at Shankara which is about 70 Km away from school.
- SHF benefit from HGSFP but it's a once off request.
- School favors one farmers over another.
- All products are bought from one farmer only resulting only in one farmer benefitting and others are disadvantaged. School buys meat from owners directly and not from suppliers.
- SHF lack pest control chemicals. They use traditional methods like ash from Neem.

8. Kaisosi Combined School

- Locusts and worms attack leafy products onions and cabbages.
- Pesticide used is Marasoni.
- They have 1 full time volunteering gardener.
- Vegetables planted: Maize, onion, tomatoes, butternut, watermelon, cabbage, mutete, green peppers, carrots and mangoes.
- Community members jump fence and steal the maize.
- Manure is bought from community.
- Rats are persistent in storeroom.
- Firewood is bought. Challenge is policy does not allow learners to collect firewood.
- Learners contribute N$150 per year to the school.
- School has a gardening committee of consisting of 12 teachers.
- School has two gardens one is operational
- Cooking structure is not standard. During rain it floods and interrupts cooking.

9. Rupara Combined School

- Vegetables planted: Mutete, Beans, Maize, Spinach,

Grasshoppers, Spinach, Chili, Onions, 5 years, sweet potatoe.
- Community garden shares gardening resources.
- Can the HGSFP money be used to buy seeds for the garden- Mr Shikukumo
- They buy cattle carcass for approximately N$ 7000 and consume it for about a month.
- HGSFP Maize blend costs N$ 700/ 50 Kg. It is consumed for about 1 1/2 day.
- Cockroaches, rats, ants and termites are present in storeroom. They are using pink pills and powder and insecticides.
- Community share the garden space with school. Harvest is split to benefit school and community.
- Community recieved training on transplanting sweet potatoes.
- Winnie local irrigatio farmer supplies seedlings to community members.
- School LRCs assist in serving junior learners during eating time.
- School policy does not allow feeding of learners from grade 8.
- School policy does not clarify if HGSFP funds can be used to purchase seeds.

10. Shatipamba Combined School

- School has 4 gardens but are currently not operational due to water shortage.
- Some vegetation destroyed by cold dew.
- Produce: Maize, tomatoes, mahangu, granadilla, watermelon.
- School shares water with the clinic.
- Borehole tanks damaged.
- School purchases food from local suppliers but prises are high.
- Nearest shops are approx. 70 Km away.
- Parents contributes to build school classes.
- Senior students do no want to eat NPS meal.

11. Onambutu Combined School

- School garden active for school agricultural projects but not utilized for HGSFP.

12. Ngwenzi Primary School

- School is located in the same vicinity as Brendan Simbwaye PS.
- School does not benefit from HGSFP because it is classified as being in the urban area.
- Total learners 1300 - 1800 learners.
- Registered about 350 OVC learners
- Some learners are foreigners are footing from the borders of Zambia.
- They have a higher enrollment as compared to rural schools.
- Manure is a constraint for schools in the city areas (not available and expensive)
- They have a active garden.
- Cassava, mangoes and lemons are harvested from the garden and sold at a profit of N$10 000.
- Profit is used to fill up gas stoves.
- NPS meal does not come on time. It is April yet they have not received anything for 2024.
- Teachers volunteer to buy bread and oros for learners but not regularly.
- Parents contributed for shades.
- Learners do not have proper school uniform.
- Reported cases of parents physically abusing learners due to limited food at home.
- Learners concentration drops when they are taught.
- Learners are always crying due to hunger.

APPENDIX B: Status of visit and total beneficiaries

	Name of school	Region	Nearest town	Beneficiaries	Interviewed / Reported	Community	SHF	Implementers
1	Biro Primary School	Kavango East	Rundu	583	Yes	Yes	Yes	No
2	Kaisosi Combined School	Kavango East	Rundu	855	Yes	No	Yes	No
3	Karukuta Primary School	Kavango East	Rundu	433	Yes	Yes	Yes	No
4	Makena Primary School	Kavango East	Rundu	231	Yes	Yes	Yes	No
5	Mbandu Murangi Junior Primary School	Kavango West	Nkurenkuru	344	Yes	Yes	Yes	No
6	Ncaute Primary School,	Kavango West	Rundu	412	Yes	No	No	No
7	Ncumcara Primary School	Kavango West	Rundu	408	No	No	No	No
8	Rupara Combined School	Kavango West	Nkurenkuru	709	No	Yes	Yes	Yes
9	Rupara Junior Primary School	Kavango West	Nkurenkuru	293	Yes	Yes	Yes	No
10	Eiseb Primary School	Omaheke	Gobabis North	184	Yes	No	Yes	Yes
11	Mphe Thuto Primary School	Omaheke	Gobabis South	49	Yes	No	Yes	Yes
12	Naosanabis Primary School	Omaheke	Gobabis South	488	Yes	No	Yes	No
13	Traugott Kandorozu Primary School	Omaheke	Gobabis North	40	Yes	No	Yes	Yes
14	Brendan Simbwaye Primary School	Zambezi	Katima Mulilo	939	Yes	Yes	Yes	No
15	Kaliangile Primary School	Zambezi	Katima Mulilo	414	Yes	Yes	Yes	No
16	Mchita Primary School	Zambezi	Katima Mulilo	154	Yes	Yes	Yes	No
17	Masikili Primary School	Zambezi	Katima Mulilo	81	Yes	Yes	Yes	No
18	Mwadinomho Combined School	Ohangwena	Ondangwa	712	Yes	No	No	No
19	Onambutu Combined School	Ohangwena	Oniipa	444	No	Yes	Yes	Yes

20	Shatipamba Combined School	Ohang-wena	Eenhana	337	Yes	Yes	Yes	Yes
21	Weyulu Primary School	Ohang-wena	Outapi	947	Yes	No	No	No
22	JR Camm Primary School	Hardap	Aranos or Rehoboth	341	No	No	Yes	Yes
23	N Mutschuana Primary school	Hardap	Mariental	393	Yes	No	Yes	Yes
24	Schlip Primary School	Hardap	Rehoboth South	88	Yes	No	Yes	Yes
25	Usib Primary School	Hardap	Rehoboth North	155	Yes	No	No	Yes
26	Dawid Khamuxab Primary School	Kunene	Outjo	279	Yes	Yes	Yes	Yes
27	Elias Amxab Combined School	Kunene	Opuwo	839	Yes	No	No	No
28	Etoto West Primary School	Kunene	Opuwo	370	No	Yes	Yes	Yes
29	Otjimuhaka Primary School	Kunene	Opuwo	208	Yes	No	No	No
				11,730				

APPENDIX C: Average feeding cost estimates (2024)

Region	School	KG Per child/day (in kg)	Cost per child/day	Cost per child/ Month	Cost per child/Feed Days	Cost per child/ Year
Zambezi	Mchita Primary School	0.38	1.18	11.80	18.87	141.55
	Masikili Primary School	0.38	1.18	11.80	18.87	141.55
	Brendan Simbwaye Primary School	0.38	1.18	11.80	18.87	141.55
	Kaliangile Combined School	0.38	1.18	11.80	18.87	141.55
Ohang-wena	Mwandinomho Combined School	0.38	1.18	11.80	18.87	141.55
	Kavango West Region	0.38	1.18	11.80	18.87	141.55
	Kavango East Region	0.38	1.18	11.80	18.87	141.55
	Weyulu Combined School	0.38	1.18	11.80	18.87	141.55
Hardap	N. Matschuana Primary School	0.38	1.18	11.80	18.87	141.55
	JR Camm Primary School	0.38	1.18	11.80	18.87	141.55
	Schlip Primary School	0.38	1.18	11.80	18.87	141.55
	Usib Primary School	0.38	1.18	11.80	18.87	141.55
Omaheke	Traugott Kandorozu Primary School	0.38	1.18	11.80	18.87	141.55
	Eiseb Primary School	0.38	1.18	11.80	18.87	141.55
	Naosanabis Primary School	0.38	1.18	11.80	18.87	141.55
	Mphe Thuto Primary School	0.38	1.18	11.80	18.87	141.55

Kunene	Otjimuhaka Primary School (Ondao Mobile Unit)	0.38	1.18	11.80	18.87	141.55
	David Khamuxab Primary School	0.38	1.18	11.80	18.87	141.55
	Elias Amxab Combined School	0.38	1.18	11.80	18.87	141.55
	Etoto-West Primary School (Ondao Mobile Unit)	0.38	1.18	11.80	18.87	141.55
Kavango West Region	Ncumcara Primary School	0.38	1.18	11.80	18.87	141.55
	Rupara Combined School	0.38	1.18	11.80	18.87	141.55
	Rupara JP	0.38	1.18	11.80	18.87	141.55
	Mbandu Murangi Primary School	0.38	1.18	11.80	18.87	141.55
	Ncaute Primary School	0.38	1.18	11.80	18.87	141.55
Kavan-go East Region	Makena Primary School	0.38	1.18	11.80	18.87	141.55
	Karukuta Primary School	0.38	1.18	11.80	18.87	141.55
	Kaisosi Combined School	0.38	1.18	11.80	18.87	141.55
	Biro Combined School	0.38	1.18	11.80	18.87	141.55
			1,660,369	**1,660,369**	**221,382.54**	**1,660,369**
			Daily	**Monthly**	**Annualy**	

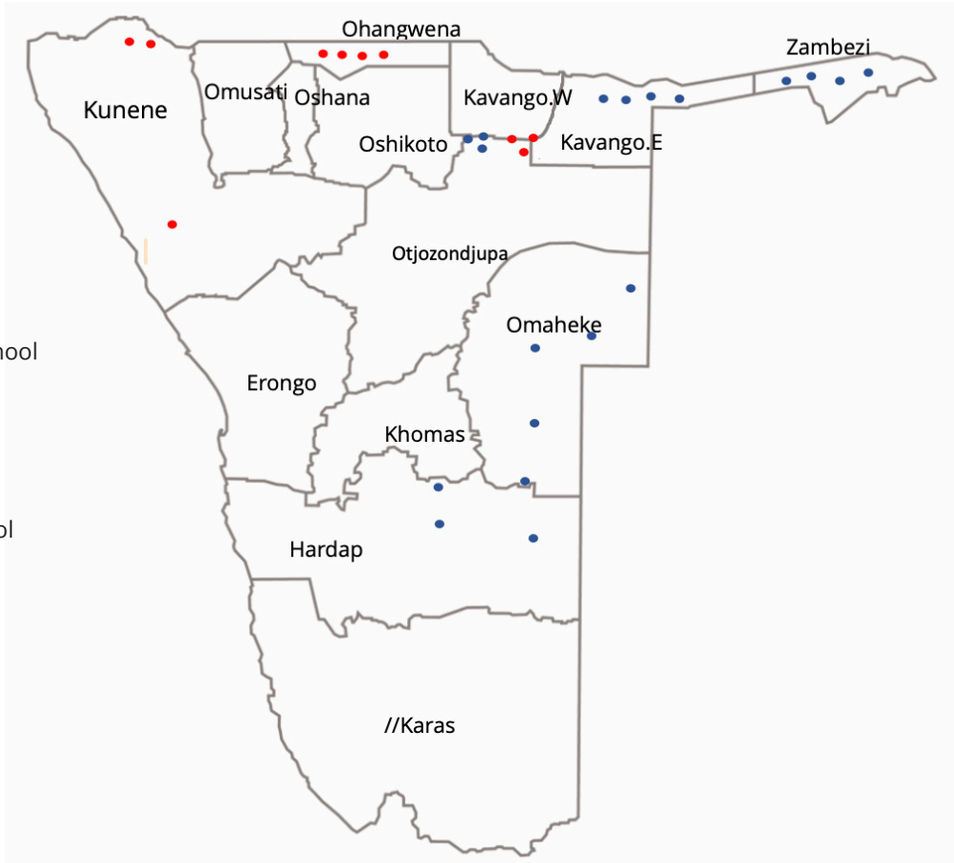
APPENDIX D: Programme map (2022)

Not Interviewed

Kavango West
Ncaute Primary School
Ncumcara Primary School
Rupara Combined School

Kunene
Dawid//Khamuxab Primary School
Elias Amxab Combined School
Etoto West Primary School

Ohangwena
Mwadinomho Combined School
Onambutu Combined School
Shatipamba Combined School
Weyulu Primary School



	W	ST	FD	SG	T	F	P
Kavango East							
Biro Primary							
Kaisosi							
Karukuta							
Makena							
Kavango West							
Mbandu Murangi							
Rupara Junior							
Zambezi							
Brendan Simbwaye							
Kaliyangile							
Mchita							
Masikili							
Omaheke							
Eiseb			2 days				
Mphe Thuto			2 days				
Naosanabis							
Traugot Kandorozu			3 days				
Hardap							
JR Camm			2 days				
N Mutschuana			3 days				
Schlip			2 days				
Usib			0 day				

Map Legend

	Always Present	Sometimes	None
Water (W)			
Storage (ST)			
Feeding Days (FD)	3 days	2 days	0 days
School Garden (SG)			
Training (T)			
Funding Status (F)			
Payment Consistency (P)			

APPENDIX E: 2024 Survey matrix

Evaluation Questions	Indicator(s) Data	Feedback Collected From:	Total Respondents	Comments
Focus Areas: Impact **Review Questions:** What difference is the programme making? What is the economic contribution towards agro, food supply, employment creation, empowerment. What are the benefits and challenges of the feeding programme towards education and economic wellbeing or livelihoods of various target groups. What is the impact on women and youth? Does the school have capacity to create its own garden, what is required?	1. Total students, total suppliers, total produce, menu types, frequency of meals 2. Benefits, challenges, 3. Agro production and supply capacity, logistics, storage capacity, 4. Employment numbers, schools, 5. Environment impacts, social impacts	1. Beneficiaries 2. Parents 3. Implementers 4. Community Members		Empowerment, assign roles, training, skills,
Focus Area: Effectiveness **Review Questions:** Is the programme achieving its objectives? Is the programme achieving its intended targets and objectives? What are the main challenges? What is the gap analysis to reach these objectives?	1.School attendance, nutritional advantage, 2. Shortfalls 3. Volunteer support 4. Increase in food production, consistency 5. Project costs, budgeting, affordability	1. Surveys, interviews 2. Interviews, case studies 3. Interviews 4. Interviews, case studies 5. Interviews, case studies, financial data,		Empowerment, assign roles, training, skills

Focus Area: Value Chain Analysis **Review Questions:** Which value chains are created by the feeding programme in its current form? Which alternative value chains can be assed? How can feeding programme access more smallholder farmers? Can the programme increase the market capacity of food producers and its own produce? Does the school have capacity to produce its own food, what are the challenges, opportunities?	1. Food production, feeding programmes, current suppliers and food types per suppliers, frequency of supply, consistency 2.Distance, logistics, storage, capacity, resources, communication, 3. Challenges, interests 4. Support programmes, lack of support, required support 5. Financial capability and access to resources, land, water 6. Do schools have capacity	1. Survey, Interviews, Case Studies 2. Survey, Interviews, Case Studies 3. Survey, Interviews, Case Studies 4. Survey, Interviews, Case Studies 5. Survey, Interviews,	Implementation strategies Support mechanisms Market Interventions, Awareness, visibility Commercial support Communication support Production information training for both buyer and seller Contractual options Financial access Training and skills
Focus Area: Self-Sourcing **Review Questions:** Capacitate schools to buy directly and handle their own sourcing? (instead of relying on administrative support from central office, donors) Can schools appoint a school to represent the other schools in the region? Which implementation model, or criteria can be followed to appoint a central regional facilitator? – draft evaluation criteria Which infrastructure is required to facilitate this?	1. Assess capacity of schools – evaluation, needs assessment, identify shortcomings, risks analysis 2. Implementation strategy, communication strategy, 3. Provide required infrastructure, resources, finances	1. Case studies, Interviews, observation 2. Case studies, Interviews, observation 3. Case studies, Interviews, observation	

Focus Area: Programme expansion **Review Questions:** Can the program be scaled to be replicated to other schools in Namibia? Can the study validate if the current programme is feasibility for expansion, what are the challenges, shortcomings and best practises (Suggestions)	1. Expansion plan, Targeted sample, budget (costs), 2. Expansion analysis and evaluation 3. Self sourcing and self-supply assessment.	Case studies, observation, interviews, Producer data in regions

APPENDIX F: Food quantity estimates (2022)

Home grown school feeding pilot Estimation of food quantities per week		**Quantities per day per child**								
		Mealie	**Rice**	**Beans**	**Oil**	**Spinach**	**Tomatoes**	**Onions**	**Salt**	**Milk**
		180 g	**0 g**	**85 g**	**7 g**	**90 g**	**10 g**	**5 g**	**2 g**	**0 ml**
		Quantities per school per WEEK								
Region	**School**	**Maize meal (kg) 3 days**	**Rice (kg) 2 days**	**Beans (kg) 2 days**	**Cooking oil (kg) 4 days**	**Spinach (kg) 2 days**	**Tomatoes (kg) 4 days**	**Onions (kg) 4 days**	**Salt (kg) 4 days**	**Milk (ltrs) 1 day**
Zambezi	Mchita PS	83.16	0.00	26.18	4.31	27.72	6.16	3.08	1.23	0.00
	Masikili PS	43.74	0.00	13.77	2.27	14.58	3.24	1.62	0.65	0.00
	Brendan Simbwaye PS	507.06	0.00	159.63	26.29	169.02	37.56	18.78	7.51	0.00
	Kaliyangile PS	223.56	0.00	70.38	11.59	74.52	16.56	8.28	3.31	0.00
Ohang-wena	Mwandi-nomho CS	384.48	0.00	121.04	19.94	128.16	28.48	14.24	5.70	0.00
	Shatipam-ba CS	181.98	0.00	57.29	9.44	60.66	13.48	6.74	2.70	0.00
	Onambutu CS	239.76	0.00	75.48	12.43	79.92	17.76	8.88	3.55	0.00
	Weyulu CS	511.38	0.00	160.99	26.52	170.46	37.88	18.94	7.58	0.00
Hardap	N. Matsch-uana PS	212.22	0.00	66.81	11.00	70.74	15.72	7.86	3.14	0.00
	JR Camm PS	184.14	0.00	57.97	9.55	61.38	13.64	6.82	2.73	0.00
	Schlip PS	47.52	0.00	14.96	2.46	15.84	3.52	1.76	0.70	0.00
	Usib PS	83.70	0.00	26.35	4.34	27.90	6.20	3.10	1.24	0.00

Omaheke	Traugot Kandorozu PS	21.60	0.00	6.80	1.12	7.20	1.60	0.80	0.32	0.00
	Eiseb PS	99.36	0.00	31.28	5.15	33.12	7.36	3.68	1.47	0.00
	Naosanabis PS	263.52	0.00	82.96	13.66	87.84	19.52	9.76	3.90	0.00
	MPHE Thuto PS	26.46	0.00	8.33	1.37	8.82	1.96	0.98	0.39	0.00
Kunene	Otjimuhaka (Ondao Mobile Unit)	112.32	0.00	35.36	5.82	37.44	8.32	4.16	1.66	0.00
	David K hamuxab PS	150.66	0.00	47.43	7.81	50.22	11.16	5.58	2.23	0.00
	Elias Amxab CS	453.06	0.00	142.63	23.49	151.02	33.56	16.78	6.71	0.00
	Etoto-West (Ondao Mobile Unit)	199.80	0.00	62.90	10.36	66.60	14.80	7.40	2.96	0.00
Kavango West Region	Ncumcara PS	220.32	0.00	69.36	11.42	73.44	16.32	8.16	3.26	0.00
	Rupara CS	382.86	0.00	120.53	19.85	127.62	28.36	14.18	5.67	0.00
	Rupara JP	158.22	0.00	49.81	8.20	52.74	11.72	5.86	2.34	0.00
	Mbandu Murangi PS	185.76	0.00	58.48	9.63	61.92	13.76	6.88	2.75	0.00
	Ncaute PS	222.48	0.00	70.04	11.54	74.16	16.48	8.24	3.30	0.00
Kavango East Region	Makena Ps	124.74	0.00	39.27	6.47	41.58	9.24	4.62	1.85	0.00
	Karukuta PS	233.82	0.00	73.61	12.12	77.94	17.32	8.66	3.46	0.00
	Kaisosi	461.70	0.00	145.35	23.94	153.90	34.20	17.10	6.84	0.00
	Biro CS	314.82	0.00	99.11	16.32	104.94	23.32	11.66	4.66	0.00
	TOTAL (KGS)	**6,334**	**0**	**1,994**	**328**	**2,111**	**469**	**235**	**94**	**0**
	TOTAL (Tonnes)	**6.33**	**0.00**	**1.99**	**0.33**	**2.11**	**0.47**	**0.23**	**0.09**	**0.00**

APPENDIX G: Previous research data - scoping missions (WFP-MOE, 2022)

A. Feeding Timeslots:

School Feeding Pattern	Frequency	Morning	Afternoon
Not Feeding	1		
Twice a Week	23	22	
Three times a Week	5		7

B. Community feedback

Awareness	Participation	Impact
School Learners	Cooking	Savings on Food by Parents
Parent Meetings	Firewood	Less Street Children
Community Members	Cleaning	High Attendance
School Board	Provide Water	Improved Food Security
		Improved Health
		Improved Balanced Diet
		Boost in Economic Participation

C. Small Holder Farmers

Awareness	Products/Menu	Challenges/Suggestions
Phone Calls	Cabbage	More Agricultural traning
Direct Approach	Mutete	Training on crop variety
Parent Meetings	Spinach	More Water, Bore Holes
School Board	Tomatoes	Supply Consistency - Contractual
	Onions	More Funding for the Programme
	Beans	Early informed about the Menu
Benefits	Cabbages	Seed donations
Market Assess	Green Pepper	Include Milk
Post-Harvest Losses Reduced	Carrots	Need for more farmers
	Sweet Potato	
	Mahangu meal	
	Butternuts	
	Meat	
	Pumpkin	
	Fish	
	Pumpkin Leaves	
	Corn	

D. Implementer Feedback:

Observations	Challenges/Suggestions
Storage Needs	Delay in Funds
Refrigerators for food	No notice given when funds are deposited
Stock Control	No partnerships or donors
Frequency of Feeding	Construction of Modern kitchens
Feeding Facilities	Revive School Gardens
Water boreholes need	
Community helps with firewood	

Notes

Notes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