



THOUGHT PIECE 2

Jala Peo – A collective impact initiative in South Africa

JET Education Services

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RESEARCH • IMPLEMENTATION • MONITORING & EVALUATION

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Acronyms and abbreviations

AASA	Anglo American South Africa
CAPS	Curriculum Assessment Policy Statements
CWP	Community Work Programme
DBE	Department of Basic Education
DESTEA	Department of Economic, Small Business Development, Tourism & Environmental Affairs
EPWP	Expanded Public Works Programme
HEI	Higher education institution
IKS	Indigenous knowledge systems
JET	JET Education Services
JPI	Jala Peo Initiative



JTG	John Taolo Gaetsewe
NGO	Non-governmental organisations
NPO	Non-profit organisations
NSC	National Steering Committee
NSNP	National School Nutrition Programme
PC	Project Coordinator
PPE	Personal protective equipment
SFNG	School food and nutrition gardens
ToC	Theory of Change
TSI	Tshikululu Social Investments
TVET	Technical vocational education and training
VCRC	Value chain resource centre
WCED	Western Cape Education Department
WESSA	Wildlife and Environment Society of South Africa
WesBank	WesBank Fund



Executive summary

The issue of food insecurity at the household level in South Africa, despite national food security, remains a significant concern. Factors influencing this situation include household income, expenditure on food, family size, and market dynamics affecting food availability and prices. This disparity affects urban and rural areas, particularly disadvantaged households, and impacts children's nutrition and educational prospects.

Recognising the vital role of schools in addressing this challenge, the Jala Peo Initiative (JPI) under the National School Nutrition Programme (NSNP) focused on establishing and sustaining School Food and Nutrition Gardens (SFNGs). The Initiative aimed to enhance food availability and diversity, promote nutrition education, and integrate the SFNGs into the curriculum. Implemented across three provinces—Limpopo, Free State, and Western Cape—the JPI fostered multi-stakeholder partnerships and leveraged strategies to achieve its objectives.

The Initiative's success can be traced through the accomplishment of its five key objectives: strengthening operational systems, mobilising resources, developing human capacity and skills, embedding curriculum integration, and advocating knowledge management. Notable achievements included the establishment of thriving SFNGs in 95% of schools, engagement of diverse stakeholders in District Forums, and substantial resource mobilisation. The provincial spotlights provide a snapshot of particular successes in each of the Districts.

Despite the successes, challenges were encountered including the impact of COVID-19 on project implementation, varying levels of stakeholder engagement across provinces, and changes in funding strategies. Adaptation strategies were employed, such as virtual meetings, redirecting budgets, and prioritizing certain project aspects during the pandemic, an indication of District Forums' flexibility and agility.

In order to sustain the Initiative's impact, there was a need to establish ongoing support and funding, especially in securing long-term partnerships to ensure continued success beyond the pilot phase.

Overall, the JPI demonstrated considerable success in leveraging school-based agriculture to combat food insecurity and promote holistic education. Addressing challenges and securing sustained support will be crucial in perpetuating its positive impact on South African communities, children's nutrition, and educational outcomes.



Introduction

Dr Andrew Paterson – JET Education Services Research Associate

Schools: Fundamental institutional base towards achieving and sustaining food security

Whereas the country is deemed food secure at a national level in terms of aggregate production and consumption of food, at a household level South Africa is food insecure. In each household daily access to the right nutrition in appropriate quantities and proportions is not necessarily achieved.

The structure of the South African agricultural economy has a strong influence. Household access to food is conditioned strongly by income of the household, the share of household expenditure that can be allocated to food, the number of members of a household and choices about which food items to purchase. Food that becomes available to the majority of South African households is influenced by how domestic agricultural producers may choose to compete in national and/or global markets. The international and local prices of agricultural goods are subject to price fluctuations based on quality and availability. The basket of products that becomes locally available is subject to these factors. Productivity and prices in the agricultural sector are also affected by external economic shocks to the national economy such as the recent impact of Covid-19. This is because the sector has backward and forward linkages with other economic sectors through inputs such as fuel and labour, and changes in consumption. Lastly, distribution networks that play a critical role in making fresh food items accessible in rural areas are weakly developed which limits the variety of options for a balanced diet.

A 2017 survey by Statistics South Africa showed that nearly 20% of households in the country experienced inadequate or severely inadequate access to food. Provinces differed on this indicator from a low of 6.4% of households in Limpopo to 35% of households in the North West province. Also in the same year 1.6 million households experienced hunger and more than 60% of those households were located in urban areas. Over half a million households with members aged five years or less experienced hunger in 2017 (StatsSA,2019,24). These findings demonstrate that household food insecurity, hunger and inadequate nutrition are distributed widely in urban and rural contexts, affecting children of pre-school and school going age. Historically disadvantaged households headed by black Africans and coloureds in particular are more likely to have minimally adequate or severely inadequate access to food (StatsSA,2019,24).

These limitations placed on generating and sustaining a reliable supply of fresh ingredients to households remains a vital priority for children and the society. The need for school gardens remains high, as schools can provide an institutional base that supports school garden projects to raise levels of food obtainability and diversity. In this process teachers and learners can promote the value of micro-nutrient rich greens, give opportunities to produce healthy food items for a better-balanced diet, and add value and depth to the quality of learning across learning areas (Araya et al.2020).



Jala Peo Introduction and Background

The NSNP is one of the interventions intended to address intrinsic (physical, mental and health-related) and societal (poverty, violence, alcohol and drug use) barriers to quality education outcomes. This is done within a larger collaborative and multifaceted response towards the multiple barriers to learning faced by vulnerable children. The purpose of nutrition education is to improve nutritional knowledge and healthy food choices as well as to promote healthy lifestyles among school communities.

The Jala Peo (“Plant the Seed”) Initiative (JPI) was a vehicle for the School Food and Nutrition Garden programme of the NSNP in the Department of Basic Education (DBE). The JPI developed multi-stakeholder partnerships at the district level in support of thriving SFNGs and drew on three key levers of change: 1) Enhancing the status of agriculture; 2) Building human capacity in schools and school communities; and 3) Sharing of best practice. The JPI began in Limpopo in 2017, and was initiated in the Free State and the Western Cape in 2018. The pilot included 67 schools across one district per province (Fezile Dabi in the Free State, Vhembe in Limpopo and the West Coast in Western Cape) and expanded to reach an additional 13 schools in Limpopo and 5 new schools in the Western Cape, for a total of 85 schools by the conclusion of the pilot phase.

The National Steering Committee (NSC) was the overall governance structure for the JPI at the national level and consists of the DBE (project owner), the WesBank Fund (WesBank) and later the FirstRand Foundation as the funder, Tshikululu Social Investments (TSI) and JET Education Services (JET) as the managing agent. The partners played an important role in coordinating project activities between provinces, and also at a national level. The JPI was modelled as a collective impact initiative with a firm understanding of the common agenda to establish SFNGs in schools, shared measurement frameworks to monitor progress of the Initiative, participation in mutually reinforcing activities across and within District Forums in support of the Initiative, and practised open communication and knowledge sharing. These activities were all overseen by the backbone support of the NSC, primarily TSI and JET. The model mirrors the four streams outlined by the NASCEE Collaboration in the John Taolo Gaetsewe (JTG) District of the Northern Cape and provides a worked example of successful collective impact implementation in the South African context.

At the local level, a District Forum in each of the three provinces was supported by a Project Coordinator (PC). These forums were multi-stakeholder partnerships which work to improve efficiency between government departments, private sector organisations, non-profit organisations (NPO)/non-governmental organisations (NGOs) and communities in order to better deliver on mandates related to SFNGs. Forums initiated and supported activities in schools and communities to contribute to the initiative’s intended outputs:

- Forums mobilise resources to implement the JPI
- Every school has a functioning and sustainable SFNG
- Every school has knowledgeable and skilled teachers

The JPI’s objectives were as follows:

- Strengthening Operational Systems and Structures
- Mobilise Resources
- Develop Human Capacity and Skills
- Embedding Curriculum Integration



- Advocacy and Knowledge Management

Through the achievement of these outputs and objectives, the JPI intended to contribute to long-term changes including learners valuing agriculture and nutrition, and understanding how to produce and consume nutritious food, and communities keeping nutritious food gardens as a way of life. It was ultimately hoped that this would result in the impact of citizens that are healthier, more productive and educated.

Jala Peo structures and sub-structures

The JPI included multi-layered governance and a number of structures and sub-structures, outlined in table 1 below. These structures will be referenced in the thought piece.

Name	Description
National Steering Committee (NSC)	The NSC meets quarterly. It includes the Department of Basic Education as the project owner, funders and their fund managers, the managing agent(s), Provincial Coordinators and/or invited Forum representatives. A quorum is established by 50% + 1 in attendance.
Management Committee (ManCom)	Comprised of the Department of Basic Education, Tshikululu as the fund manager and JET Education Services as the managing agent of the Jala Peo Pilot. The ManCom meets monthly to share updates, identify and address challenges, as well as on factors that will impact the project.
Project Management Team	This team is comprised of project managers, support staff and Provincial Coordinators (PCs). This team is responsible for direct implementation of the programme, monitoring and reporting. It forms the links between the NSC and District Forums, and supports Forums with strategy and planning, budgeting and capacity-building.
District Forum	The District Forums are led by the Department of Education in the relevant district, and include government departments, higher education institutions, non-profits and non-governmental organisations and other stakeholders relevant to the area. The Forum is a multi-stakeholder partnership which provides general guidance and oversight to the project in the District, draws up annual project budgets and is supported in its activities by a Provincial Coordinator. The District Forum sets its own meeting schedule, but must meet at least twice per year. Quorum is established by 50% + 1 in attendance.
Working Group	The Working Group is a subset of the District Forum that meets monthly in addition to on-demand meetings. The Working Group is imbued with a mandate from the Forum to take decisions in the interim between Forum Meetings. The working group also ensures that all decisions by the District Forum are carried out.



Bursar	A forum member, resident in the district elected by a majority of the Forum members sitting at a quorate meeting scheduled to make such an election. The bursar must be an official representative of an organisation that enjoys Public Benefit Organisation status with SARS (accorded tax exemption as per Section 18A of the Income Tax Act).
Needs-Based Sub-committees	From time to time the Forums and in particular the PCs have seen the need to draw sub-committees together to complete short-term projects. Examples include a poster competition committee and an infrastructure committee. At the national level, committees have been established for events, monitoring and evaluation, curriculum integration and scale/replication.

Table 1: Jala Peo structures and sub-structures



Figure 1: Relation of structures and sub-structures to each other

Programme theory

The JPI had two versions of a Theory of Change (ToC), the second being an updated version of the original. It was a fitting development given that it is in the name that the theory is based on change which involves evaluating and learning for improved implementation during the life cycle of the project/the pilot phase. The revised ToC was finalised in 2020, and formed the basis of the implementation plan for the final pilot project cycle. A brief overview of the old version of the ToC can be found below and further detail on the revised version follows.

The initial ToC informed the inception of the project with an outline of the different elements that make up a programme theory. This is from interventions and activities; to project outcomes; and followed by project objectives which remained the same in the revised ToC. The interventions and activities were aimed at different stakeholders including learners, teachers, school management and the community in the areas of Improving the Status of Agriculture; Human Capacity Development; and Sharing and Replication of Best Practice. The initial ToC can be seen in the image below:



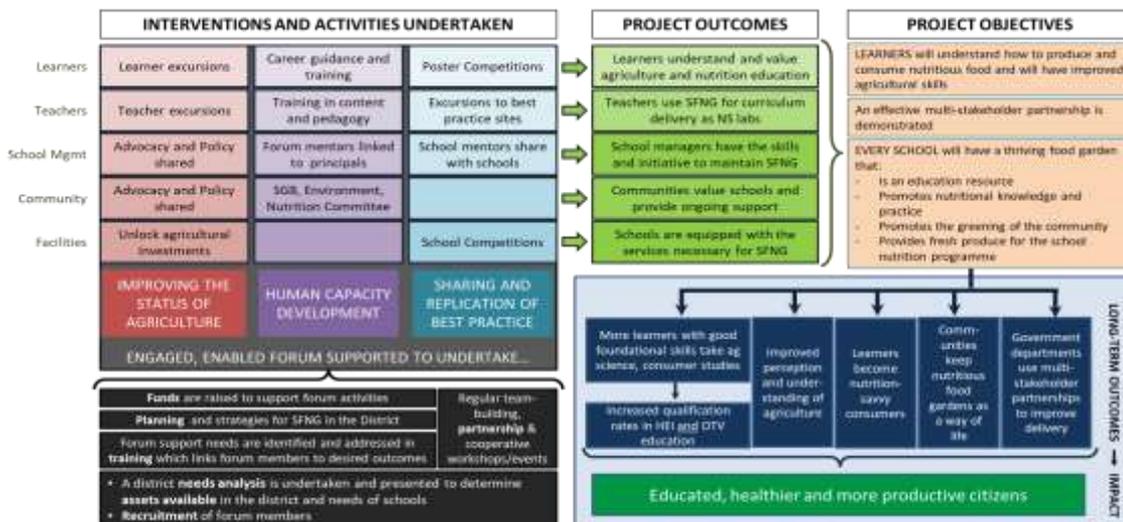


Figure 2: Initial JPI Theory of Change

One of the additions that is visible in the revised ToC was the segmentation of the outcomes between short, medium- and long-term categories. The outcomes per category are as follows:

Short-term outcomes (1 - 3 years)

- School Leadership Teams have the skills and the initiative to maintain SFNG
- Schools are equipped with the resources necessary for SFNG
- Every school has a thriving school and nutrition, its own living learning laboratory

Medium-term outcomes (3 - 5 years)

- Inspired, inspiring and capable teachers use SFNG for curriculum delivery
- Engaged learners engage the production and consumption of nutritious food
- Communities value their schools and provide ongoing support
- Communities keep nutritious food gardens as a way of life

Long-term outcomes (5 - 10 years)

- Increased agriculture qualification rates in higher education institutions (HEI) and occupational, technical vocational education and training (TVET)
- Learners value agriculture (its contribution + as a viable career option) and nutrition
- Learners become nutrition-savvy consumers
- Improved status of agriculture in communities

The activities that are outlined in the revised ToC below were seen as necessary to achieve the outcomes, and were narrowed down and were fewer than in the previous version of the ToC. The activities were linked to Key Outcome 1, "Government departments use multi-stakeholder partnerships to improve delivery". The Key Outcome is also linked to other outcomes: Forum is provided ongoing project coordination; District and Forum Assets/needs analysis; Recruitment of Forum members; and Mobilising resources (Raising funds) to support the Forum activities.



The impact statement in the revised ToC has slightly different wording from the original one, more of a clearer and direct statement than the previous one which can be judged to be passive. The new wording reads: "Citizens are more educated, healthier and productive and its timeline is 10 years and beyond after the project ends."



Figure 3: Revised JPI Theory of Change

Realising the vision through a pilot

As is the purpose of many pilot projects, JPI aimed to test and refine the concept of a multi-stakeholder Forum supporting the establishment and flourishing of SFNGs across a range of varying provinces. The three



areas in which the JPI was implemented provided diverse governmental and environmental contexts in which the pilot could be tested.

School food and nutrition gardens present co-curricular opportunities to develop curriculum skills such as maths, science and language, as well as skills on how food is produced in relation to the complex issues of hunger and malnutrition. Food gardening initiatives present an opportunity to educators and learners for hands-on experience and give insights into methodologies of implementing small-scale agricultural initiatives. These “outdoor laboratories” have the potential to develop positive attitudes and instil values of active citizenry as well as a passion for environmental and natural resource management. They therefore contribute to the holistic development of an individual. It was within this context that the DBE, the WesBank Fund, TSI and JET, entered into the conceptualisation and implementation of the JPI.

Successes major innovations

In the five short years in which the JPI was implemented, it indicated tangible evidence of outcomes consistent with whole-school development, rural development, district-based development, private-public partnership, inter-governmental coordination and collaboration, and community-led development. Some of these major innovations and successes will be highlighted in the sections below, laid out per pilot objective.

Objective 1: Strengthen operational systems

Having established clear objectives for the project, a series of activities were undertaken to realise them. PCs were appointed and trained, Forums formed and trained, and strategic planning sessions were undertaken. Work plans for each Forum were developed and working committees established. The activities highlighted below were all aimed at strengthening the Initiative in all the districts.

Establishment of District Forums

The core change-agents of the JPI were the three multi-stakeholder district Forums. All Forum members, representing local and provincial government departments, private enterprises, NPOs, state-owned entities and community representatives, had both contributed to and benefitted from the JPI. Chaired by a Provincial Education Department district official, and supported by a dedicated Project Coordinator appointed by JET, each Forum worked together collaboratively to unlock assets and resources that already existed within their district. The Forums directed these resources to ensure thriving SFNGs, which were increasingly used for curriculum delivery, in and by schools in their districts. The Forums were allowed a high degree of flexibility by the NSC in the way they operated – some Forums only met bi-annually due to time constraints while the working groups of that Forum met more regularly during the year. During the COVID-19 lockdown, the Forums also found new ways of convening meetings, such as WhatsApp calls and groups, as well as more regular engagements through platforms such as Google Meet and Microsoft Teams.

Annual Review Workshop

At the end of 2018, the NSC conceived the idea of an Annual Review, in order to facilitate the sharing of knowledge and best practice across levels of governance, Provinces and Forums, as well as to engage in collective problem-solving on challenges. The Annual Review process strengthened both intra- and inter-provincial collaborations. The first Annual Review was held in March 2019, and due to COVID-19 could not be held again until June 2022 which also then served as a close out for the JPI and gave both Forums and



future funders the opportunity to contemplate the future of the Initiative and what forms it might take in each of the districts.

Sustainability measures

A number of sustainability measures were put in place during the course of the pilot, but especially so in the last year of implementation (2021 – 2022). These are detailed below:

Scaling plans

The Vhembe and West Coast districts embarked on scaling plans that were implemented in the last year of the pilot (2021-2022). At the inception of the pilot, 29 schools were onboarded in the Vhembe district and this was scaled to a further 13 schools during the last year. In the West Coast, there were 19 schools originally participating and to date there are 25 schools running the JPI. The programme is still active in the West Coast district at the District Forum was able to source further funding through Syngenta and Stellenbosch University, two key Forum members.

Sustainability workshops

In order to encourage District Forums to engage in sustainability thinking and planning beyond the pilot, all three Forums conducted sustainability workshops towards the conclusion of the pilot. Attendees included existing Forum members and district officials as well as provincial government departments. During the workshop, comprehensive reports on the JPI were provided, from inception to date and a commitment made for the Forum to explore alternative funding sources and strategise how best to support the initiative going forward. Not originally part of the stakeholders engaged in the sustainability workshops, Food and Trees Africa approached the PC in the Fezile Dabi District to support 10 of the 19 schools under their EduPlant programme for a period of two years from 2022.

Objective 2: Mobilise resources (direct resources to SFNGs)

Under this objective, District Forums had to direct resources to SFNGs by coordinating the mobilisation of resources that already existed in communities. These resources could have been financial contributions, but more importantly in-kind contributions such as the offering time, expertise and technical skills and operational support such as transportation and venues. The WesBank Fund/FirstRand Foundation provided a certain amount of funding to each District Forum each year. The total resources per year of the JPI are indicated below:

- 2018-2019: In total, a WesBank Fund total contribution of R117 462.54 to Forums unlocked an additional R 930 281.25 in in-kind and financial contributions from Forum members to JPI schools. 60% (40 out of 67) of schools showed improvements in the status of their SFNGs, and four schools show evidence of using the SFNG as a vehicle for curriculum delivery.
- 2019-2020: R251 711.56 was provided to Forums by WesBank to mobilise R1 980 779.80 in monetary contributions, and in-kind contributions to the value of R654 648.009.
- 2020-2021: R684 000.00 of WesBank Fund/FirstRand Foundation funding unlocked R1,238,660 in in-kind contributions, and R3,162,880 in monetary contributions for the year. The largest cost drivers of the period were the placement of gardeners in the three Provinces (R2,195,130) and the provision of infrastructure for school and home gardens in the Western Cape (R828,000.00).
- 2021-2022: R240 000.00 was provided in Forum funds by the FirstRand Foundation while R969 900.00 raised in in-kind contributions, and R1 488 767.14 in monetary contributions. The largest cost drivers of the period was the provision of gardeners in Limpopo and the Western Cape, R435 000.00



and R529 200.00, respectively. These salaries were covered by the Expanded Public Works Programme (EPWP) in Western Cape and the Department of Social Development in Limpopo.

Functional and flourishing gardens

One of the greatest successes of the JPI was the establishment of functional and flourishing SFNGs producing a variety of crops in 95% of schools by the conclusion of the pilot. Many of the SFNGs were being used for curriculum integration and produce from the gardens were also used to supplement NSNP meals. The gardens also contributed to school pride due to the greening of the environment. At the time of the external evaluation, many schools were planning on expansion of the gardens and SGBs were factoring in the cost of maintenance and other garden needs. There were reports of principals even participating in the programme themselves and spending their personal funds for seedlings and water pipes.

Infrastructure improvements

Infrastructure improvements have had a strong influence on the higher scores of gardens. In 2019, about 30% of schools struggled to improve due to persistent infrastructure (water and other needs) and gardener challenges. By the conclusion of the pilot, these challenges were resolved in almost all schools and 96% of schools had flourishing SFNGs in June 2022 when the JPI pilot concluded.

The infrastructure assets were procured both through the WesBank/FirstRand Foundation funding as well as Forum members. Gardens-in-a-box from Reel Gardening, water tanks and pumps, shade nets, garden implements (for schools and homestead gardens) and seedlings were procured through WesBank and FirstRand in the Free State. In Limpopo, seedlings, water tanks, a compost shed, garden tools and pipes to improve water infrastructure were either obtained through WesBank/FirstRand Foundation funding or via Forum members such as the Seriti Institute and the Vhembe Biosphere Reserve. The Department of Agriculture in Limpopo also donated drip pipes to some schools in the Vhembe District. In the West Coast District, WesBank/FirstRand Foundation funding made it possible for water tanks, netted structures, aquaponics and hydroponics systems and garden tools to be procured for some schools, while they also supplied wormeries and trees to all 25 West Coast District schools participating in the JPI. The remaining JPI schools that weren't funded through WesBank/FirstRand Foundation were provided water tanks and netted structures through the Western Cape Education Department (WCED) and the Department of Agriculture in the Western Cape. Fencing was supplied through WesBank/FirstRand Foundation funding as well as the Stellar Foundation for two schools. Trees were provided by the Department of Forestry and electric fencing, a garden shed and personal protective equipment for gardeners were provided by the Department of Agriculture in the West Coast.

WesBank grant funding became available in 2020 for farming equipment. Each of the Forums had to submit a grant proposal for equipment they thought would be most useful to the JPI schools in their districts. The Fezile Dabi District Forum in the Free State motivated for a 7-chiesel plough, the Vhembe District Forum requested a tractor, while the West Coast District Forum put a proposal in for rotavators for all 19 schools in that district. All the Forums were successful in their grant applications and the equipment is now the property of those respective Districts.

Homestead gardening

The homestead gardens programme was one of the key means to enhance the status of agriculture in the community and capacitate learners and their families regarding the value of home gardens and agriculture



more broadly. The concept was not immediately accepted by the NSC when introduced to it by the Vhembe District Forum in 2018 but the Forum took it upon itself to source external funding for this component. In 2019, the West Coast District Forum also implemented the homestead programme and by 2020, the NSC saw the benefit of the programme and allowed for District funding from the FirstRand Foundation to be used for this purpose. During the COVID-19 lockdown, this element of the JPI flourished. The homestead garden programme indicated improvement of food security at the household level and by the conclusion of the pilot, there were 61 and 65 homestead gardens in the Free State and Western Cape respectively, while Limpopo had established an impressive 260 homestead gardens since the inception of the programme.

Objective 3: Develop human capacity and skills

Training facilitated on a number of occasions throughout the pilot by various providers is believed to have contributed to the success of the JPI in all the provinces. The training partners included the Agricultural College in Limpopo, the University of Stellenbosch training in aquaponics, the Department of Agriculture in all three provinces and training of teachers by the Wildlife and Environment Society of South Africa (WESSA) in the Free State and Limpopo. A Forum member, PowerPonics offered hydroponics training in the Western Cape during the COVID-19 lockdown, attended by principals, West Coast District Forum members and JET staff.

Objective 4: Embedding Curriculum Integration

One of the main objectives of the JPI was to design and demonstrate methods to integrate the SFNGs into curriculum delivery and thus the SFNGs were envisaged to be used as a curriculum delivery resource for meaningful and quality education. A curriculum working group was established comprising of NSC members as well as the three PCs. The group developed a curriculum integration document by subject and grade specification. This document was shared with schools in order to assist them in integrating the SFNG with the curriculum. The West Coast District Forum championed the curriculum integration efforts by developing an interactive infographic for the foundation phase which is discussed in further detail under the provincial spotlight section.

Objective 5: Advocacy and knowledge management

In efforts to elevate the status of SFNGs, a number of activities were undertaken under the advocacy and knowledge management objective including SFNG and homestead garden competitions in all three Districts. Quarterly newsletters were published by the NSC as well and distributed amongst the schools and other stakeholders. A Facebook page dedicated to the JPI was established and to date has 2684 likes and 2723 followers. Videos showcasing the various SFNGs and also homestead gardens were curated and posted to YouTube.

Gardeners in Limpopo and the Western Cape also connected via WhatsApp and formed communities of practice, engaging and learning from each other frequently.

Challenges

A number of challenges were experienced during the pilot which are highlighted below:



- COVID-19 restrictions affected delivery of the JPI. District flexibility allowed for some activities to continue. Further investment in online platforms and the training were effective, and budgets were redirected to alternative areas.
- A lack of Forum and school engagement in the Free State had resulted in slow progress of the Initiative in this province. After a client relationship specialist from JET was onboarded to assist with building and managing stakeholder relationships in the Free State, senior stakeholders started showing a keen interest in supporting the Initiative.
- The focus on sustainable livelihoods in the final project year was unexpected, however the project team leveraged the assistance of the FirstRand Foundation Volunteers, established connections with the relevant SETAs, and the beginnings of enterprise development were achieved in Limpopo through the establishment of feeder nurseries which is discussed further under the provincial spotlight section.
- The change in the FirstRand Foundation's strategy quite late in the pilot meant that sustainability, scale and efforts to approach other funders happened in a contracted time period. A long-term funding partner could not be secured in Limpopo; however, Food and Trees continues to support some of the Initiative schools in the Free State and Stellenbosch University is supporting the West Coast Forum to date.
- The retirement of key DBE personnel without a clear, engaged replacement meant that the DBE was not as active in the management of the project as it ought to have been. The DBE curriculum unit was also not onboarded to support the curriculum integration efforts of the Initiative.

How the pandemic affected the project

It must be noted that the worldwide COVID-19 pandemic had impacted everything from international trade to personal habits, and the JPI was no exception. School closures significantly affected programme roll-out as teachers and students focused their efforts on recovering lost curriculum time even after lockdown periods ended, limiting the Initiative's ability to invest in curriculum integration in a project year which was intended to heavily centre this objective. In addition, varying degrees of restrictions on gatherings and travel affected the three Provinces in different ways, and implementers as well as beneficiaries were impacted personally by losses related to the pandemic as well as the general stress of restrictions and isolation.

A number of measures were put in place to mitigate the effects of the pandemic on Jala Peo teams and the implementation of the Forum's programmes. In brief, these measures included:

- Provision of additional data, personal protective equipment (PPE) and training on collaborative online platforms for PCs.
- Provision of sanitiser and restrictions in place for all gatherings, meetings and events.
- Transitioning to remote meetings, including a mixed-medium Annual Review held partially remotely.
- Limiting travel of PCs and other project stakeholders, and in some cases reduced school visits.
- Bi-weekly team meetings to improve morale and ensure team members were emotionally supported. Generous leave policies where applicable.
- Wellness sessions and social activities held for all JET staff.
- Redistributing Forum funds to projects such as infrastructure and homestead gardening which could be pursued during the period.



The actions that were taken during the course of the pandemic to mitigate the negative impacts and take advantage of the new ways of working which everyone had to find and adapt to, made sure that there could be successes to count at the end and of course mitigate those elements that were inherently going to exist.



Provincial Spotlights

Leveraging diverse stakeholders to alleviate poverty through SFNGs (Free State)

Ms Nelly Komape – Fezile Dabi District Forum PC

One of the initiatives of the South African government to alleviate poverty was to create vegetable gardens in schools. In the Fezile Dabi region, Free State, a number of stakeholders put their heads together to see that every school had a school food garden and was able to maintain it in order to eradicate poverty.

The Parys region is known to be a water-scarce area; the Ngwathe Municipality took it upon itself to deliver water to schools to water their garden. A local Farmer Mr Bassie Kumalo, trained school gardeners on gardening skills development so that they could go back to their school gardens and implement what they had learned from his farm. Several jobs had been created, through the SFNGs.

Community Work Programme (CWP) workers got an opportunity to work in the school food gardens, there was a total of 90 CWP personnel who earned a salary through working in the school food gardens and were able to take care of their families. Some community members in schools such as Boiphihlelo Secondary, Aha Setjhaba Primary, and Mokwallo Primary had taken over the school gardens, producing different types of nutritious vegetables and also make a living for their families. Learners were able to take vegetable parcels home during the harvesting periods.

Chris Van Niekerk Primary school garden fed about 15 families around the Mokwallo village in Vredefort, every school holiday. This was all made possible by the commitment of the school garden coordinators and the learners who maintained the school food garden.

The Boiphihlelo Community garden supplied the NSNP kitchen at the school with different types of vegetables to supplement their menus. This added a wider variety to an overall nutritious meal. Governmental departments such as the Department of Agriculture also took part in fighting poverty by offering food production workshops to teachers, gardeners and learners. The Department of Economic, Small Business Development, Tourism & Environmental Affairs (DESTEA) was also part of the strategy to eradicate poverty. DESTEA facilitated a curriculum integration workshop for teachers in the Fezile Dabi region. The WesBank foundation played a vital role by sponsoring the Forum activities for the success of the school food nutrition programme.

Reel Gardening together with Shoprite had sponsored 130 boxes of a whole year's seeds to homestead learners. The learners passed on what they learned from their school gardens to their families at home. The seeds were converted into food for the families that lasted them the whole year.

One will look back and identify these opportunities that have been created by the school food nutrition. Learners will no longer experience malnutrition, they will pay attention in the classrooms, and absenteeism will be low. The collaboration of these stakeholders will improve social development and in return schools will source locally produced food from their gardens and save money. Learners who receive vegetable parcels from their schools will help ease the pressure off their parents when they're unable to afford food. The school food nutrition garden has assisted in bringing all stakeholders together and is proactively working towards eradicating poverty in South African schools.



Curriculum integration in the West Coast schools (Western Cape)

Ms Sunet Anderson – West Coast District Forum PC

Using food gardens for teaching and learning

One of the outcomes envisioned for the JPI was to use food gardens for teaching and learning. A functional and sustainable school food garden and teachers equipped with the required knowledge and skills are part of the enabling factors.

With approximately 90% of the initial 19 West Coast schools participating having achieved a functional food garden at the end of 2019, the West Coast Forum agreed that the focus of 2020 would be on curriculum integration. Curriculum integration was advocated at quarterly cluster meetings with Principals and during Forum meetings from the start of the project. Posters with the emphasis on curriculum integration as one of the purposes of the school food garden were distributed to all schools.

The theme for the School Food and Nutrition Information Day held in March 2020, was curriculum integration. The day was attended by 70 phase coordinators, principals, WCED representatives and Forum members. The Head of WCED Curriculum presented on sensory learning, Life Skills in the food garden and several schools shared best practice ideas of how they use the food garden for teaching and learning. The day included an exhibition of practical lesson ideas from schools. These lesson ideas were summarised as a teacher resource for West Coast teachers.

An engaged Forum

The West Coast Forum, established in 2018, was instrumental in mobilising the resources to schools to achieve these outputs. Forum members were engaged in curriculum integration in several ways and played a significant role in enabling curriculum integration.

The dietitian from the Department of Health delivered health talks related to Curriculum Assessment Policy Statements (CAPS) topics to the Foundation Phase and it also involved teacher training and tools to continue these lessons in the future.

Another Forum member, the WCED Curriculum Coordinator for the Foundation Phase, used the food garden to teach as the focus for the 2019 Life Skills Conference. From this and ideas shared at the information day, a curriculum integration infographic with linked teacher resources followed. Teacher resources were developed by Subject Advisors which included worksheets and videos captured by schools of lessons in the gardens. Videos include a lesson on soil types by Nieuwoudt Primary, following instructions in your home language by Steilhoogte Primary and data handling by Vredendal North Primary. The infographic was mobile phone friendly and was rolled out to teachers in May 2021.

Beacon schools

The West Coast based its model on clusters of schools according to geographical areas with beacon schools in each cluster. Some of these schools are specifically the beacon schools for curriculum integration. Vredendal North Primary, for example, uses the food garden for teaching maths (e.g. data handling, measuring, etc.) and Arts and Culture (e.g. shades of green, shapes of leaves, etc.).



Graafwater Special School offers agricultural studies to teach skills to learners with special educational needs. With the assistance of the Jala Peo initiative, they developed a food garden that is used as the practical component of teaching agriculture. Three learners and the agricultural teacher joined a soil preparation and vegetable production course arranged in collaboration with the Department of Agriculture. These skills are being applied in the garden.

A group of grade 4 and 5 Natural Sciences teachers visited Kirstenbosch Botanical Gardens and saw how a garden can be used to teach curriculum topics. On their return, the teachers of Kleinrivier Primary incorporated the school's food garden in several of her lessons, including vegetable gardening as economic activity in a Social Sciences lesson.

Steilhoogte Primary, Nieuwoudt Primary, Rietpoort Primary and St. Boniface Primary actively involve learners in lessons on several subjects.

Innovative developments allowed for curriculum integration

Schools received worm farms to improve soil quality and these were placed in classrooms at many of the schools where learners get involved in caring for the systems. In collaboration with Stellenbosch University, also a West Coast Forum member, aquaponics were introduced to 9 schools on an experimental basis. Steilhoogte Primary made videos as examples to other schools of how they incorporate the aquaponics system in their grade 6 and 7 lessons on energy sources and systems. Schools also attended a tutorial on hydroponics after which the Project Coordinator demonstrated building a small-scale hydroponic system for learners at Rietpoort Primary, St. Boniface Primary and Steilhoogte Primary. At Steilhoogte Primary each learner built their own system from recycled plastic bottles and the lesson focused on plant structures and recycling.

Conclusion

The main enabling factors for the progress with curriculum integration in the Western Cape are inspired teachers and an engaged Forum. The WCED curriculum division played a significant role when they took the inspiration from the project and developed an innovative infographic to give teachers a user-friendly tool to make going out into the garden for lessons achievable.





Figure 4: Steilhoogte Primary learners feeding earthworms in the class wormery

The importance of the outdoor classroom cannot be overstated. School gardens are effective resources to be used to teach key curriculum content effectively.

CAPS topics that can be linked to school gardens to encourage the use of the outdoor classroom. [Click on a topic for ideas and resources.](#)

Gr. 1	Gr. 2	Gr. 3
Weather	What we need to live.	Healthy eating
Pets	Seasons	Insects
Plants & seeds	Healthy living	Life Cycles
Food	Animals	Pollution
Water	Creatures in water	Recycling – making compost
	Animal homes	Products & processes
	Soil	Animals & creatures that helps us.
	People who help us.	

Figure 5: Curriculum Integration Infographic developed by the WCED





Figure 6: Steilhoogte Primary uses the aquaponics system to explain different energy sources to grade 6



Figure 7: West Coast teachers were guided on how to use a garden for lessons on water during an excursion to Kirstenbosch



Figure 8: Learners from St. Boniface Primary building small scale hydroponics systems





Figure 9: A video of a data handling lesson in the food garden at Vredendal North Primary as a teacher resource



Figure 10: Learners from Graafwater Special School applying skills they have learned at gardener training on soil preparation and vegetable production

Creating a District Value Chain through SFNGs (Limpopo)

Dr Ronald Mudimeli - Vhembe East District Forum PC

The Vhembe East District of Limpopo participated in the Jala Peo school food and nutrition gardens (SFNGs) programme. In June 2022, the Vhembe East District had 42 participating schools in four circuits. Each circuit comprises about 20 schools. The value chain resource centre (VCRC) model aimed at identifying four schools in every circuit to serve as a prototype for teaching and learning resource centres. Vhembe is a rural district in which the majority of schools fall within poor quintile areas where teaching and learning infrastructure still require considerable support. Therefore, establishing the four SFNGs resource centres was an advantage in the district.

The first identified school was resourced with the necessary infrastructure for cultivating vegetable seedlings. The vegetable nursery established at Dzingahe Primary school had proved to be functional and beneficial to



the community and to other schools in the Sibasa circuit. Due to the high unemployment rates in the area, the majority of parents survive from substantial farming. These farmers get water from the Mutshundudi River which runs through the village. Hence, they are reliant on the school nursery for vegetable seedlings. The nursery also provided vegetable seedlings to more than 250 learners who were participating in the Homestead programme. The school was also encouraged to grow indigenous vegetables. These indigenous vegetables are consumed and enjoyed locally. Yet, many such species have received little scientific attention to date (Keatinge et al., 2015). The School governing body had pledged to assist learners and educators with indigenous knowledge relating to vegetable production which is curriculum orientated.

The second school, Konanani Primary, was resourced with medicinal plant seedlings, a nursery and other related material for championing the medicinal nursery in the Sibasa circuit. During the peak waves of COVID-19, community members were making income by harvesting and selling the herbs for steaming to prevent the spread of the virus. Unfortunately, such practices led to over-harvesting of useful plants and thereby threatening vulnerable species to extinction. According to Chen, 2016 *et.al*, medicinal plants are globally valuable sources of herbal products, and they are disappearing at a high speed. The medicinal plants nursery that was established at Konanani Primary helped to replicate the herbs that are of educational, nutritional, medicinal and cultural importance. Some of the benefits of establishing medicinal plants nursery at schools include:

- To engage parents, the community, learners and educators an opportunity to deliberate on issues relating to indigenous knowledge systems (IKS) and herbaceous plants.
- To integrate the school with institutions of higher learning such as the universities, FETs and Colleges with respect to botanical topics such as nomenclature.
- Assist learners and educators to conduct practical lessons relating to botanical themes in various learning areas such as Agriculture, Life sciences and Natural sciences.
- To inspire the love and care for plants and the environment to all the participating stakeholders.
- To process the produce into useful products from medicinal plants and also to transfer the skills to the next generation.

The third school specialised in indigenous trees and fruit trees. A nursery to cultivate indigenous trees and fruit trees was constructed at Mamali Primary school. Further to conserving the endangered nutritional and cultural trees, Mamali Primary school had become the centre for practical lessons with respect to cultivating indigenous trees, fruit trees and agro-processing of plant material. Apart from providing food, indigenous trees are environmentally friendly since they use less water and have natural enemies as compared to exotic species. The resource centre provided learners with hands-on opportunities to practise the themes they learned in class such as crafting, budding and other propagation techniques.

The last school was organised as a centre for soil science. Phaswana Secondary School in Sibasa was equipped with resources for a soil science generic laboratory and a composting shed for soil treatment. The school promoted integrating the school curriculum with the SFNGs by assisting learners and educators to conduct practical lessons relating to soil themes in various learning areas such as Agriculture, Geography, Life sciences and Natural sciences and Technology. The study conducted by Adan (2020) revealed that the learning by doing method enhances student participation and retention of the learning content.

Other benefits of soil science school include:

- The school is able to conduct soil analysis for other schools and local crop producers as well as to transfer soil analysis skills to learners.



- The school becomes a resource supply centre for treated organic compost and grower media to other schools, farmers and vendors.
- The school helps to engage parents and the community with learners and educators to deliberate on soil issues relating to IKS and crop production.

General benefits of the value chain resource centre schools:

- Sustainable environment
- Research niche for schools, colleges, universities and research councils.
- To supplement school funds (sell seedlings, vegetable and agro-processing products).

Forum member perspective

Mawethu Nyakatya - Manager: Research Partnerships, Stellenbosch University

Experience during the pilot

Stellenbosch University was one of the founding members of the multi-stakeholder forum that governs the Jala Peo School Food and Nutrition Garden Initiative in the Western Cape. The Jala Peo Initiative (West Coast Forum) sought to improve the status of agriculture in under-resourced communities in the West Coast Region of the Western Cape. Selected schools in the West Coast Region were targeted for the establishment and maintenance of food and nutrition gardens that could be used to supplement those schools' feeding schemes, as educational resources for the schools, and as training grounds to build human capital around agriculture in those communities.

Stellenbosch University is still represented in the multi-stakeholder Forum by its Division for Social Impact whose role is to facilitate and maintain purposeful partnerships and inclusive networks to ensure the University is relevant also to the surrounding communities. The University's involvement and contribution in such initiatives is on the basis of its academic knowledge, expertise, and advice to address challenges facing communities. This knowledge-based approach of the University to initiatives such as the JPI, is proof that Stellenbosch University is committed to its vision of being a world-class university that is locally relevant, a University in and for Africa.

The University's Faculty of Agriculture, the Department of Education, and the Department of Human Nutrition were engaged at different stages of the initiative. The Faculty of Agriculture facilitated a training workshop on urban farming, which was presented to school gardeners and interested teachers. The faculty also introduced mini Aquaponics Systems to selected schools to promote the use of new technology and systems in schools and home gardens in that region. The University departments of education and human nutrition are interested in the process of incorporating school gardens into the school curricular, and in giving advice on nutritious crops and healthier ways of crop selection and meal preparations.

The continued presence and involvement of the University in such initiatives (beyond the pilot phase) that are in line with social or community development also benefit the university to be able to deliver on its mandate of engaging communities and effecting social impact.



Conclusion

As noted previously, the inclusion of diverse and committed stakeholders that bring with them a high level of collaboration adds immense value to the Initiative. Across the three provinces there were university partners, agricultural colleges, government departments, local farming co-ops, NGOs/NPOs, corporates and private businesses within the Forums, and also beyond who extended resources (monetary and otherwise) for the benefit of the pilot. Stakeholders in all three provincial contexts shared ideas and provided resources that led to the improvement of SFNGs, in quite innovative ways. The development of a value chain resource model related to soil quality, medicinal plants, fruits and indigenous trees and seedlings in Limpopo and the exploration of hydroponics and aquaponics, as well as worm farming in the Western Cape are just some examples. In the Free State one of the most surprising stakeholders, the Department of Correctional Services, added immense value in readying many of the school gardens for planting.

The commitment from the community has indicated that leveraging on community resources and skills play an important role in the maintenance of SFNGs and making use of indigenous knowledge as in Limpopo, thus building local hubs of knowledge. Communities also embraced the homestead gardening component of the Initiative widely in Limpopo and the West Coast, especially during the COVID-19 lockdown.

The Forum itself did not have legal status and thus it was found that securing additional funding for the JPI beyond the pilot was challenging, unless the Initiative had an institutional home. It is recommended that future iterations of such an initiative should partner with an institute of higher education early on who not only provide funding opportunities but can also act as a bursar for the Initiative and direct external funding accordingly.

The recruitment of the PCs in the provinces could be considered the cornerstone of the JPI success. All three Coordinators were highly regarded and respected and came with their own expertise and networks which brought a lot of success to the Initiative. In the Free State, the Project Coordinator was particularly resilient and successful against significant odds that included lack of buy-in by the district office Director and officials. Committed government departments were also critical to the success of the pilot.

As with most pilots and collaborative efforts, operational flexibility, planning and problem-solving skills impacted greatly on the project's success. The Jala Peo model has been extended by JET through the Anglo American South Africa (AASA) Whole School Development Programme, which has a component dedicated to parental and community involvement and the establishment of SFNGs falls under this component. In the AASA iteration, a District Forum was not established but appointed coordinators worked with the mining Business Unit close to AASA operations.

List of instruments used during the pilot

Instrument/tool	Description
Baseline survey	The baseline survey measures the state of the garden at the inception of the project. It identifies critical resources needed by the schools so that support can be contextualised.



Periodic survey	The Periodic Survey was created as a semi-annual survey conducted every two years in the pilot schools to capture key information. It was developed based on an extensive baseline survey, which was significantly revised to reduce the length and provide more targeted questions and information linked to monitoring and evaluation indicators. Key indicators have remained consistent to allow for comparisons between the baseline and the periodic survey.
M&E framework	A robust M&E framework was developed, including a theory of change (including a revised version), key indicators, and various monitoring tools
Forum functionality tool	Determines how well the Forum is functioning in its current capacity. Rubric based on a number of indicators which the Forum needs to rate itself on.
Forum payment approval form	The purpose of the payment approval form is to ensure accountability for the disbursement of Forum funds. It details the budget activity, as well as the nature of the expense and Forum member responsible for it. The supplier's banking details have to be completed and original invoices and other necessary documents must accompany the payment approval form. It is signed off by the provincial coordinator, the responsible Forum member as well as the Forum chairperson.
SFNG monitoring tools	Provincial project coordinators evaluate the SFNG of their schools on a quarterly basis using a rating scale. A database then collates all the schools information, producing the overall "dashboard" of schools' scores. This data can be used to measure progress of the SFNGs over time as data is collected on a quarterly basis.
SFNG competition evaluation forms	These rubrics were developed to assist with the adjudication of SFNGs during the garden competitions as well as homestead gardens.
Monthly report template	All Provincial Coordinators submitted monthly reports to Provincial Managers using a standardised template. In the interest of transparency, these reports were made available to the NSC through a shared Google folder.
Event report template	Event reports are short, informative and reflective narrative exercises which are completed after a Forum or NSC activity or event. These reports provide photographic and documentary evidence (in the form of attendance registers).
Newsletters	Quarterly newsletters were developed and disseminated. These newsletters provided short, descriptive updates of progress on the ground in the provinces, and included a foreword from the NSC as well as a page dedicated to curriculum integration resources.
Curriculum integration infographic	An interactive infographic developed in the West Coast which contains teacher resources such as worksheets and videos captured by schools of lessons in the gardens to enable easier integration of the SFNG into the classroom.

Table 2: List of instruments used during the pilot

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