

JALA PEO NEWSLETTER

PLANT THE SEED

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LETTER FROM THE STEERCOM

Graeme Wilkinson - Chairperson
Jala Peo National Steering Committee



It turns out that advancing equal opportunity and economic empowerment is both morally right and good economics, because discrimination, poverty and ignorance restrict growth, while investments in education, infrastructure and scientific and technological research increase it, creating more good jobs and new wealth for all of us. - William J. Clinton

There is nothing as powerful as a school. Sure, it's bricks and windows, roofs and fencing stand in fierce opposition to the wind, the baking sun and the rain. But the window panes shatter and the fence fails, unless there are people to maintain them. The power of a school is in the work of the people inside the school. Every day, teachers and learners lay the foundation of our country's future. Brick by brick, experience by experience, learning outcome by learning outcome, the school builds and shapes the minds and character of our future leaders.

Nowhere else on the school grounds, can William J. Clinton's vision be more aptly realised, than in the school food and nutrition garden. Investing in your school garden is an investment in a piece of infrastructure that is core to the purpose of the school. Within this outdoor classroom, this living laboratory, teachers and learners alike can advance education in real and practical ways to embrace science and technology and research! All of these priority competencies can be developed and honed in the school garden. But outcomes in education, science, technology and research can only follow investments in the school's experiential-education infrastructure.



The garden needs investments in soil, in protection against pests and the harsher elements (some communities are blessed with an abundance of sun, others, wind), and in the provision of water. Some of these require substantial one-off investments, such as the installation of a rain-water harvesting system, or an aquaponics unit. Some, like the soil, require ongoing investment of care (and of water, compost and fertilizer). These investments, matched by the capacity of the teaching staff to use the garden to teach, do hold the promise of eventual harvests that will last far into the future. To extend William J. Clinton's argument, by making investments in your school garden, your school advances equal opportunity and economic empowerment!

Profile : Nelly Komape

Provincial Coordinator
Fezile Dabe District - Free State

Nelly Komape grew up in and was schooled till matric in the Moletjie Village of Limpopo. She graduated in 1998 from the University of the Western Cape with a Bachelors of Administration degree. She further obtained an honours degree from UNISA. Thereafter, she specialized in Project and Strategic Management.



Ms Komape ventured into the Education sphere where she obtained her Post Graduate Certificate in Education from the University of Limpopo in 2011. She honed her skills in both the Banking and Education sectors. She is now residing in Parys, Free State and is the mother of two boys and two girls.



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NEWS FROM THE VHEMBE DISTRICT

TOWARDS IMPROVING SFNGS INFRASTRUCTURE IN THE LIMPOPO PROVINCE

Dr Ronald Mudimeli - Limpopo Provincial Coordinator
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Drip pipes at Mmbara Primary School

Previous findings concur that School Food and Nutrition Gardens' (SFNGs) infrastructure plays a major role in both learning and increasing the garden produce. Laurie et al. (2017), in their study concluded that addressing the major constraints such as SFNGs infrastructure enhances the sustainability of school gardens. In light of this background, Jala Peo Sibasa Forum in Limpopo is committed to improving the infrastructures of SFNGs in the 29 participating schools.

Most of the infrastructure required in the Vhembe District relate to water usage due to the scarcity of water in the different areas. The annual (longitudinal) study conducted by the Jala Peo Sibasa Forum in 2020, reveals that some schools receive municipal water only once per week. Therefore the need for enough water tanks to cater for both consumption and SFNGs activities does not need further emphasis.

Some of the 29 Jala Peo participating schools in the province were fortunate to benefit from the SFNGs infrastructure support. Five schools received 500m of drip pipes each. The drip pipes were donated by the Department of Agriculture which is also a member of the Sibasa Forum. The schools are Ngwenani Primary School, Tshivhulani Primary School, Christ the King Primary School, Lutandale Primary School and Dimani Secondary School. Agricultural practitioners argue that drip irrigation conserve water since it is delivered directly to the plant's root zone.



Dr Mudimeli with officials from the Department of Agriculture

One school, JR Tshikalange Primary School received a 5000 liter water tank. The donation of the tank was made possible through redirected funds which came from the Jala Peo National Steering Committee. Dzingahe Secondary school received the equipment for establishing a nursery that will benefit all the schools in the circuit, as well as the neighbouring communities. Some of the equipment was sourced from the Jala Peo National Steering Committee as part of the First Rand Foundation funding. Other materials were sourced from the Department of Education and some were obtained from the profit of sales of seedlings from the Vhembe Biosphere Reserve.

NEWS FROM THE WEST COAST DISTRICT

INFRASTRUCTURE IMPROVEMENT IN THE WEST COAST SCHOOLS

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Harsh climate conditions in the West Coast such as the low average rainfall of 150mm/annum and high summer temperatures, often around 40°C, pose challenges for maintaining thriving food gardens. Early on, the Forum agreed on set of minimum standards to establish and maintain a thriving food garden. It was felt that in order to monitor the progress and ensure success in establishing a sustainable food garden it was important to create a "level playing field" as some of the schools were in a better position than others. A robot matrix (green, amber and red) was used to show the level of importance of each standard in securing success.

Serious risk - almost guaranteed to cause failure
Medium Risk - potential to cause failure
Mitigated risk - should not pose problems





Net structures and electrical fencing sponsored by Department of Agriculture at Rietpoort Primary

Forum members and other community members invested heavily in school food garden infrastructure over the first two years of the initiative. A baseline survey established that the need at most schools were shade net structures and tanks to collect rainwater to minimize the cost of municipal water and/or store canal water.



Aquaponics system used for curriculum integration at Steilhoogte Primary

Funds available for redirection by the WCED were made available to set up net structures at 13 schools and provide 10 schools with 10 000L water tanks and fittings. A sub-committee from the Forum advised schools what to source. Tanks were also delivered free of charge by Kaap Agri. A Forum member, the LGO, also donated an additional tank to Ebenhaeser Primary School. Several schools in the West Coast District receive help and input from the community. Neighbouring farmers give advice and make infrastructure such as second hand irrigation pipes, manure and labour available. Schools with a supportive relationship with neighbouring farmers include Trawal Primary School, Nieuwoudt Primary School, Kleinrivier Primary School, Steilhoogte Primary School, Naastdrift Primary School, Lutzville Primary School, Booyesdal Primary School and Spruitdrift Primary School. Training by Department of Agriculture equipped gardeners with the skills to install drip irrigation systems.

NEWS FROM THE FEZILE DABE DISTRICT

INFRASTRUCTURE PLAN FOR FEZILE DABE

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The Fezile Dabi Forum has identified six schools that qualify for water tanks as a result of continued water shortages in the Ngwathe Municipality. These schools put in a lot of effort to improve and extend their school food gardens, even though they are experiencing water shortages. The learners from AM Lembede Primary School are actively involved in garden activities but because of a lack of water they do not harvest quality vegetables and become despondent.



SS Paki Primary School produced a good harvest under strict water restrictions that have been implemented by the municipality.



Mokwalo Primary School had an opportunity to extend their vegetable garden but as a result of continued water shortages the school is struggling to produce a good harvest and to maintain the garden.

Some schools are experiencing serious water challenges and as a result they are struggling to maintain their gardens and to produce quality vegetables. Looking at the challenge, the Fezile Dabi District Forum considered the need to procure water tanks for the identified schools to improve the quality and status of their gardens. The tanks will be procured and installed by professionals within the first quarter of 2021.

The water tanks will benefit the struggling schools and the surrounding community with the following:

- School rooftops will potentially collect hundreds of litres of rain water during a single rainfall
- Water tanks will also serve as a reservoir for irrigating all vegetable gardens on the school premises
- This will also enable learners to see how water harvesting is working
- This awareness will help raise a generation that is less wasteful of water and educate the community about rainwater harvesting
- Learners will in turn educate their families about water harvesting and help to implement it at school

CURRICULUM INTEGRATION

Hydroponics for school food gardens

Hydroponics is a method of growing plants without soil in nutrient rich water. Optimal use of smaller space and saving up to 90% water are some of the advantages that make it a very viable option for schools. Small scale, do-it-yourself systems are however more viable than larger, advanced systems. Complex systems could become costly, require expertise, pose risks with power and water supply failures and require constant monitoring. With hydroponics the nutrients are added to the water. There are many liquid and dry powder form nutrients on the market.

For a basic hydroponic system the following is needed:

- Container with nutrient-rich water
- Grow medium to “hold” the plant (e.g. coconut coir, rockwool, leca or even gravel) in net pots
- Light source (sun or artificial)
- Oxygen supply (air)



Figure 2 Kratky pots can grow on the window sill



Figure 1 Seedlings planted in net pots with grow media

A proven recipe for a basic system such as Kratky pots or a basic deep water system, is as follows:

Hygrotech 2 Part Powder Mixture
Hygrotech Hydroponic = Nutrient A
Hygrotech Solu-Cal Hydroponic = Nutrient B

Due to differences in climate and water uptake in plants, the winter and summer recipe differs slightly. In summer one would use 0.5gram of each nutrient per litre of water. In winter the solution should be stronger with 1gram of each nutrient per litre of water.

Maintenance of a basic system includes the following close up inspections and tasks:

- Water change - once per month.
- Keep an eye on plant health and get help if diseases or pests develop.
- Top-up the water once per week or as required.
- Wash roots and container from algae ± once a month.
- Preferably, check the pH (between 5.5 – 6.5) and EC (between 0.5 – 3.5 ms/cm³) weekly.
- If possible cover the system with a small hoop system with shade net for harsh sun and plastic for cold weather.

A VIEW FROM THE GARDEN

Free State Stakeholder Partnership

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It is a commonly held idea that effective partnerships and stakeholder engagements contributes to a better understanding of processes and inevitably leads to effective joint management of programmes. It is against this backdrop that organisational goals are crafted which leads to effective strategy development. The Fezile Dabi District has invested considerable time and effort to regain the buy-in and support of the district and key role players in taking the process forward. Fruitful engagements were held across the board and advocacy of the programme assisted. It can be suggested that discovering the point of consensus or shared motivation helped the stakeholders to arrive at a decision and ensures an investment in a meaningful outcome. The process also underlined the importance of curriculum integration and the value of a real life “external laboratory” to support the process of quality teaching and learning. It can be said that the stakeholder engagements in the Fezile Dabi district will lead to a sense of ownership and continued sustainability of the programme in the province and its impact on the communities we serve.

“If you want to walk fast, walk alone. If you want to walk far, walk together”. **African Proverb**

Jala Peo is an initiative of

