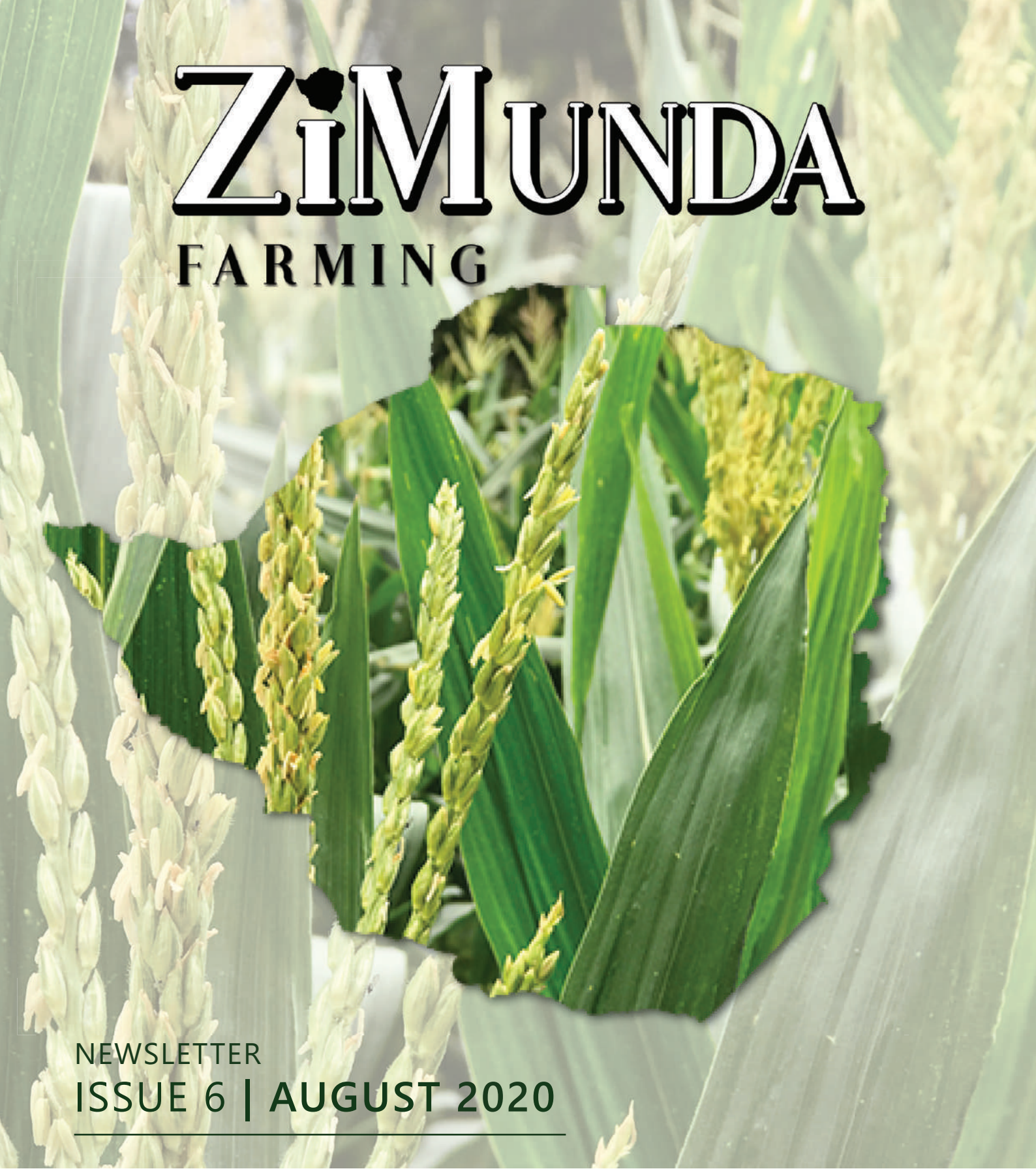
# ZiMUNDA FARMING



NEWSLETTER

## ISSUE 6 | AUGUST 2020

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Bindu Media

# A New Way Ahead

## The Livelihoods Issue

Publishing the Livelihoods Issue of the Newsletter marks a milestone for the ZiMunda Farming magazine and Bindu Media.

Not only has the magazine taken a new look and outlook into a digital newsletter, but has also taken a step further into coming up with our first Livelihoods Issue of the Newsletter. The developments at ZiMunda farming aim to strengthen the magazine position in the dynamic and challenging field of agriculture.

> **"Enhancing Zimbabwean farmers' livelihoods from working the fields to growing Zimbabwe."**

The Zimbabwean agricultural sector in all its multifaceted diversity is steadily growing through a wide array of efforts that are being put forth by farmers, academia, companies, organisations and the government. Agricultural development has a significant positive impact on the smallholder farmers who make up the larger portion of the farmers in Zimbabwe and whose livelihoods are depended on their agricultural income. The Livelihoods Issue will be showcasing the efforts by Non-Governmental Organisations (NGO) in and across Zimbabwe towards Agricultural Development.

The issue is bringing you informative insights on livelihoods programs as they are shared by NGO's Communication personals and consortium representatives. The programs are mainly between the NGO's in partnerships with the Ministry of Agriculture and /or consortium bodies, which are all involved in multi-stakeholder engagement programs who's aims are to alleviate poverty, secure food and nutrition, forge economic stability for smallholder farmers, and support agricultural development in Zimbabwe. The Newsletter will be reporting on different projects and programs, showcasing technological innovations, agronomic and livestock production initiatives and social inclusion strategies in agricultural development.

Building onto the publisher's passion of sharing knowledge, disseminating information and community engagement, the ZiMunda Farming team works together as a single unit in order to create a broad base of knowledge of farming methods, skills, and practices and provide access to this knowledge through regular articles which identify ways to improve the systems. Given the complexity and the scale of the task in sharing relevant and timely information to farmers, we at Bindu Media are looking forward to broadening our partnerships through multi-stakeholder engagement as we embark on a journey of resourcing for and sharing information across and beyond Zimbabwe.

*Vimbai*



Have something to share? We are always happy to receive articles, photos and letters. Please email us at editor@zimunda.co.zw for a possible feature.

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COVER
Maize crops in Christonbank, Mazowe by Melissa Katunga

# The Orange-Fleshed Sweet Potato Program

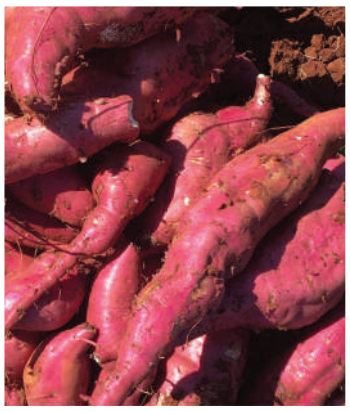
BY THE BRITISH EMBASSY, HARARE

*Name a food crop that is tasty, easy to grow even when there's little water available, rich in Vitamin A and can be baked and pureed?* Easy, it's the Orange-Fleshed Sweet Potato or OFSP.

Scientist Mazvita Chiduwa is the head of the Agronomy Research Institute at the Department of Research and Specialist Services, Zimbabwe. She is working closely with UKaid partners to introduce this crop to Zimbabwean farmers. She talks to UKinZimbabwe:

*Tell us more about the OFSP project.*

**Mazvita**: I am excited to be working on introducing OFSP, which is a strategic crop with a potential to improve food security and household household nutrition in Zimbabwe. The OFSP project that I am involved in is a joint effort involving ***the Ministry of Lands, Agriculture, Water and Rural Resettlement***, which I work for, ***FAO and HarvestPlus***, which is a technical partner of the #UKaid funded Livelihoods and Food Security Program. We are testing OFSP varieties for agronomic performance at research stations, as well as directly with farmers. This project will allow us to understand farmers' preferences of the OFSP varieties which we would like to use to address both food and nutrition security in the smallholder communities.



*How can OFSP help fight malnutrition?*

**Mazvita**: OFSP is special because of its high nutritional density. OFSP varieties we are testing are high in beta-carotene, which supplies essential vitamin A, and helps prevent malnutrition in poor farmers and communities. The varieties being introduced have potential yields from 16.6 t/ha to 25.9 t/ha. The varieties are expected to produce high yields in regions where production is constrained by low moisture and high temperatures; an important consideration in this era of high climate variability. The varieties are easy to integrate into family diets because they are tasty and can be used in many ways, including baking and purees. This means there is potential for commercial production towards commercial processing. The value chain is rife with opportunity.

*Turning to rhizobia, which you've been working on for your PhD; are these bacteria really 'fertiliser factories'?*

**Mazvita**: Rhizobia are naturally occurring soil bacteria that can form a special relationship with legumes. Rhizobia can enter the roots of legumes such as soybean and cowpea, and form nodules, where the rhizobia will live. When inside the nodules, rhizobia are able to take nitrogen from the air and turn it into a form that the legume can use. In this way the rhizobia supply free nitrogen fertilizer to the plant - free N farming. So yes, you can think of rhizobia as fertilizer factories. As an innovation in agricultural science, we culture the correct rhizobia for each legume crop and supply it to the farmers to inoculate their legumes. This ensures that a legume finds the correct rhizobia in the required quantities. It is an environmentally friendly, inexpensive approach to supplying nitrogen, which is one of the most limiting crop nutrients in farming systems.

*Rhizobia clearly have a crucial role to play in soil health; more generally, what advice can you give to Zimbabwean farmers on ways of improving 'good soil'?*

**Mazvita**: Good agronomic practices enhance soil health and support sustainable production. Farmers are encouraged to add appropriate amounts of organic and mineral fertilisers (they should make use of soil testing services before applications), practice multiple cropping and rotation, and use soil conservation methods such as minimum tillage.

*Furthermore, under the UK-funded Livelihoods and Food Security Program, in partnership with Harvest Plus and the CGIAR, biofortified crops are being introduced to Zimbabwe to fight the hidden hunger of micronutrient deficiencies. Researchers have found a natural way to ensure the food we eat is even healthier – and helps tackle nutrition challenges experienced in the country.*

*Images provided by Mazvita Chiduwa*

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# Making a Livelihood Against the Odds

BY SARA DAVIES AND KUMBIRAI DUBE

*"I finally got the answer to stop starving after spending decades of years working tirelessly without production in my field. I thought dryland cropping is a waste of time, with this disastrous climate change which is destroying many people and important resources,"* says Mwadaro Chieza, a farmer living in Shati Village in Ward 2 of the Chimanimani District.

Managing to eke out a livelihood in this semi-arid part of Zimbabwe is a continuous struggle for its population of rural farmers.

Chieza was about to give up dryland cropping when he came across PORET, an NGO based in Chaseyama, Jinga Village, not far from where he lives. Standing for *Participatory Organic Research Extension and Training Trust, PORET* has grown from a homestead project to a professionally run non-profit organisation working with 25 villages across four wards in the district. It is run by Julious Piti and his team of outreach officers whose aim is to share knowledge about agroecological methods of farming, working with nature to deal with issues of pests and soil fertility, rather than reaching for expensive chemical inputs.

With an average of 300-400mm of rainfall a year, the farmers in this area are hard pressed to get a good harvest. Years of poor land management has also led to desertification in the area. The soil is rocky, dry and largely infertile. To deal with these challenges, PORET runs a wide variety of courses to enable farmers to learn techniques to support their livelihoods. This includes the annual in-depth 5-day *Permaculture Design Course*. Permaculture is a design system that aims for food production to be sustainable and regenerative. Over 40 participants flock to PORET's Learning Centre for the course, a combination of class-based learning and practical in-field lessons. Armed with the knowledge they gain, farmers return to their villages to share the techniques with others.

PORET's focus on *farmer-saved seed* is a central element of its work and its annual Seed Fair offers a valuable opportunity for farmers to meet and exchange seeds. Seed is crucial for sustaining the livelihoods of agricultural communities. Food security is dependent on seed security. A food processing workshop, held prior to the Fair, trains farmers on how to add value to their products.

PORET was also instrumental in setting up the *Chaseyama Permaculture Club (CPC)* in 2006, starting with 32 farmers. CPC members carry out a wide range of projects designed according to their needs, including:

- seed production
- nursery skills and management
- land use designs
- soil and water management,
- holistic livestock and watershed management.

Each village runs its own CPC led by village chairpersons. The village CPCs then give updates on their plans to the 7-member central committee as well as on any matters that arise within their areas. The central committee take actions if they can, or they share the issue with PORET to find a suitable solution. There are now 385 CPC members in the 25 villages.

*(Above) On-site training and learning how to make biofertiliser, Bokashi*

*(Left) Class based learning during the permaculture design course 2019*

The CPC is, essentially, the engine of PORET. It is critical for project implementation. PORET staff assist with technical support. CPC members also organise field days, carry out resource mobilisation to support their work, and conduct exchange visits to learn from others in and outside the district.

Now a CPC member for the last two years, Chieza says, *"I will never stop agroecological farming for I have proved its success on my own. This has improved my living, food sovereignty and diversity through learning and organic farming. It has transformed the quality of my life from the bottom of my poverty. This is a step to minimise dependence."*

*Images provided by PORET*

*Find out more at www.poret.org*
*Julius Piti +263 773 025 438*
*poret.zimbabwe@gmail.com*

CHASEYAMA PERMACULTURE CLUB


## Onion - Capricio

For both fresh and dry market

| | | | |
|---|---|---|---|
| **TYPE** | Open pollinated | | |
| **MATURITY TYPE** | Early short day | | |
| **MATURITY IN DAYS** | 190 - 200 | | |
| **PLANT CHARACTERISTICS** | Bulb: | Shape | Deep flat round |
| | | Firmness | Moderate |
| | | Exterior colour | Medium straw |
| | | Interior colour | Cream white |
| **DISEASE TOLERANCE** | *Pyrenochaeta terrestris* | | |

## Wheat - Peregrine

1. Variety - Peregrine
2. Maturity- very early 113days.
3. Very good standability, about 90cm height.
4. Very good disease package
5. High yielding - 7-9t/ha.
6. Protein content -11.2%7. Adaptibility - both high and low potential areas


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# Indigenous Chickens Contribution to Rural Livelihoods

BY DR. NATHANIEL F. MAKONI & MICHAEL T. NYAMAJIWA

African Breeders Services TCM (Pvt) Ltd is among the Action Aid led Zimbabwe Valley Alliance consortium that is implementing the Zimbabwe Resilience Building Fund. The program is funded by UNDP and is working in Binga, Kariba, and Mbire districts. The project work is focused on improving rural cattle productivity through artificial breeding increasing offtake of rural beef cattle through beef feeding lot programs and linkages to commercial abattoirs, improving goat breeds through cross breeding, programs and increasing production of indigenous poultry by introducing solar powered egg incubators.

In Zimbabwe, all the classes of rural household residents, particularly the disadvantaged women and youth, own chickens. The reason being low capital and labor inputs are required to set- up and maintain a chicken enterprise. Furthermore, chicken can be a key initial asset that is at the base of the livestock asset pyramid. Quite often, the trajectory of asset growth starts with poultry that will earn sufficient capital to acquire larger livestock such as small ruminants that in turn can be used to buy cattle. Because of the low initial capital and limited land size required for raising poultry, women and youth can be easily organized to develop and run poultry projects. Such projects create employment and increase income that in-turn reduces poverty, particularly in vulnerable households.



*(Left) Egg incubation at Siakobvu Crop and Livestock Improvement Centre in Kariba District*

In Zimbabwe, productivity of indigenous chickens is low and can be improved using simple *egg evaluation and brooding technologies*. For example, in this regard, egg fertility is assessed using simple candling techniques and locally made but efficient low-cost incubators are now widely used. In addition to creating employment opportunities, the locally made low cost incubators can increase egg hatching and chicken productivity, and substantially increase incomes of smallholder farmers and urban backyard producers including hatching of other poultry breeds eggs. Given these technological advances that can successfully address the key constraints to rural commercial indigenous chicken production in Zimbabwe, the Action Aid led Zimbabwe Valley Alliance program on indigenous chicken production is being piloted in Binga, Kariba and Mbire districts to increase smallholder women and youth farmer incomes, reduce poverty and enhance rural development.

*Solar powered incubators* have been a game changer within the three drought prone districts. Artificial brooding is known to increase chicken production to provide protein, eggs and meat for the family, and sales income. This initiative has increased livelihood and resilience options for smallholder farmers in the face of adversities such as perennial droughts and intermittent floods. Nine solar powered incubators were distributed and installed in the three districts. The cumulative total indigenous chicken eggs incubated in the target districts thus far is 3,381. The project continues to work with early adopters to demonstrate and establish standard sanitary operating procedures that include biosecurity that starts from the egg supplier farms, to egg incubation centres and strict adherence to best practice hatchery protocols and poultry vaccination schedules.

Given the above background on the potential of indigenous chickens to raise smallholder farmer income, the positive experience in the target districts pilot programs in the latter regard, anchored on the experience and expertise of chicken production, the Action Aid led consortium, will continue to develop markets for indigenous chicken eggs and meat, out scale the activity and engage smallholder farmers, particularly disadvantaged women and youth, in commercial indigenous chicken production and complementary activities. Also, there is need to encourage development of low-cost solutions and equipment that can be fabricated locally and to anchor all production and complementary activities on identified or developed, stable commercial markets.

*Images provided by African Breeders Services*

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ZIMBABWE VALLEY ALLIANCE PROGRAM

# Tackling Constraints Faced by Small & Medium Scale Pig Producers

BY ZAGP VALUE PROJECT COMMUNICATION & POLICY OFFICER

**About the VALUE project** - The Value Chain Alliance for Livestock Upgrading and Empowerment (VALUE) is a four-year European Union funded project under the Zimbabwe Agricultural Growth Program. The project is targeting to positively impact on the economic opportunities of 56,000 pig farmers, primarily small-scale producers who are currently stuck at different suboptimal stages of commercialization and economic growth. Addressing the mix of binding constraints, the project is working with private sector players to integrate a significant proportion of these small-scale pork and goat producers into the mainstream economy.

Under the Pork Value Chain, the project is implementing activities in eight districts namely Mhondoro Ngezi, Chegutu, Makonde, Zvimba, Goromonzi, Murehwa, Marondera, and Seke in a bid to upgrade and empower small and medium scale farmers to commercial pig production. The integration of small and medium pig producers is being driven by self-organising pig producer groups titled the Pork Producer Business Syndicates (PPBS) which will offer value adding business services to members through collective business strategies and leverage on economies of scale. Two PPBS will be established for Mashonaland East and Mashonaland West provinces under the VALUE project. On its part, the project is facilitating access to viable markets, conducting trainings on commercialisation and good farming practices.

**Addressing constraints related to inferior breeds** - Prevalence of tired pig genetics amongst small and medium pork producers has resulted in poor feed conversion ratios, increased susceptibility to diseases resulting in lower carcass weight, and poor-quality meat thus affecting profits. In response to these production level constraints, the project imported 245 pig breeding stock from South Africa supplier, Danbred consisting grandparent and parent stock of Duroc, Landrace and Large white breeds. Danbred is proving the project with after sale extension through the Pig Vision application and some scheduled visits. A health schedule was developed by VALUE together with Danbred and the Department of Veterinary Services.

The breeding stock has been entrusted to the Pig Industry Board and the two private sector integrators namely, Shamiso Farm and Braford farming for production. The progeny will be available through the producer syndicates. Semen tapped from the boars is available through artificial insemination services. Addressing challenges at the production level through the injection of new top-quality breeding stock will improve production and market competitiveness in the commercial supply of safe quality-assured pork and meat products from the operational marketing corridors. To this regard the VALUE Team Leader, Newton Chari commented that *"The breeding stock will largely address breeding level system constraints that have otherwise affected our farmers in attaining the desired productivity, organisational efficiencies and market competitiveness".* The Managing Director of Braford Farming, George Mudanga added a note on the implementation strategy advising that initially they are going to breed the pigs and avail semen as well as the progeny to farmers within the pork producer business syndicates in order to boost production.

**Support to Young and women farmers** - Under the pork value chain, the project registered 600 women and young farmers to benefit from training on pig production, smart subsidies and a weaner to finisher scheme which is being supported by integrators (Shamiso farm, Braford farm and the Pig Industry Board) to upscale domestic production. *"We are working to correct ownership patterns to ensure that women and youths are visible and have decision making roles within the value chain. Through the weaner to finisher programme, opportunities will be created to help women and youth from production to right up to marketing hence nurturing their skills in agribusiness,"* said Shamiso Chauruka the Managing Director of Shamiso Farm – the Mashonaland East Integrator.

*Image provided by The VALUE Project*

*For more information on this project contact:*
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VALUE CHAIN ALLIANCE FOR LIVESTOCK UPGRADING AND EMPOWERMENT

# The Black Soldier Fly

## A Lower-Cost Protein Source Alternative for Feeding Fish

BY DONALD T. CHIDOORI, COMMUNICATIONS SPECIALIST

Intensive fish farming relies on the use of properly balanced feeds which in turn, are based on a variety of high-quality ingredients such as soyameal, fishmeal and fish oil. However, following challenges in securing soya meal in 2019, farmers had difficulties in accessing feed as prices soared beyond their reach. To help reduce the cost and accessibility of fish feed for farmers in Zimbabwe, the Zimbabwe Livelihoods and Food Security Program (LFSP) with funding from Department for International Development (DFID) and collaborating with Chinhoyi University of Technology (CUT) is leading an initiative to promote the use of Black Soldier Fly (BSF).

*"This initiative will help reduce the cost of feeding fish by utilizing the much cheaper BSF protein in diets for fish. Feed constitute up to 80% of the production costs of poultry and fish. Any cuts in production costs will thus result in improved margins for farmers,"* says Ali Said, FAO Chief Technical Advisor for the LFSP.

The Black soldier fly - *Hermetia illucens* is a common and widespread fly. Of note is that the BSF is not a vector of diseases or a pest like the regular housefly. Instead, the BSF produces a quality protein, which is similar to fishmeal, as it contains a lot of essential amino acids. In addition, BSF larvae has a high oil content of 30%, which can substitute fish oil in fish diets. The conversion efficiency of black soldier fly typically ranges between 12 and 20% depending on the type of organic waste. This translates to roughly 6kgs of fresh pig manure giving 1kg of fresh larvae. *"Such yields, combined with the need to find cheap and reliable protein feed for fish present a big opportunity for the BSF,"* says Willie Masimbiti a Livestock Specialist, with FAO, Zimbabwe.

*(Above) Lovers cage and feeding bins*

*(Right) BSF in organic waste*

Program Implementation - *"So far we have worked with CUT and consultants from Kenya to train 45 public and program extension workers in BSF production. We are also in the process of establishing demo sites across all LFSP districts,"* added Ali. To date 120 sites have been identified and lure bins have been set up to attract initial BSF colonies from the wild. 28 lure sites have already been colonized and these will be used to distribute starter cultures to the other sites across clusters. By December 2020, a total of 200-demonstration sites would have been established in the three geographic clusters where the program is being implemented by Welthungerhilfe, Practical Action and World Vision; directly benefitting an estimated 2000 households.

What to Feed the BSF Larvae - The BSF grows well on organic waste such as fresh manure (cattle, pig, goat and poultry), fruit and vegetable waste. Most of these organic materials are normally available at farm level, which makes it easy and cheap for farmers to produce black soldier larvae.

Performance of Fish Fed on BSF Larvae - For fish, the larvae may be fed live directly to the fish or incorporated into commercial diets. Recent trials with salmon fish have shown that BSF can replace fishmeal 100% with no adverse effects on performance in terms of growth rates and final mature weights. This however is still a new area and research on optimal inclusion levels for different fish species is still on-going

Production Costs - BSF production does not require specialized infrastructure. The initial production costs are the construction of dark and lovers cages for the adult breeding flies and the construction of feeding bins for the larvae. An estimated USD62 is needed for the initial setup. Once the simple production infrastructure is in place the only costs will be labour and the cost of delivering the waste substrate to the farm.

*Images provided by The Zimbabwe Livelihoods and Food Security Program*

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# Renewable Energy Empowering Women Farmers Project

## A Case of Women Farmers in Matobo

BY JUSTICE NCUBE, THE COMMUNICATIONS OFFICER

Women farmers in Matobo have displayed some commendable effort towards ensuring their household food sovereignty and economic empowerment. Through technical support from Fambidzanai Permaculture Centre (FPC) in partnership with Practical Action, the smallholder farmers are keenly working towards halving hunger and raising standards of living through horticultural production. The project named Renewable Energy Empowering Women Farmers (REEWF) is funded by the Isle of Man government.

While Zimbabwe is currently grappling with climate change and economic turmoil; the REEWF project is engaging farmers in Matobo in adapting and mitigating to climate change using renewable energy and locally available resources. Nine agroecology nutrition garden projects distributed across their respective areas are expanding their capacity to feed their families and send their kids to school. The ultimate goal of the project is to cushion women farmers against the effects of climate change so that household food and nutrition security is achieved. The farmers have been given small plots of land for growing fresh vegetables. The small plots are sustained by permaculture principles. They are refashioning their land and revitalising their soils using locally available organic soil amendments. The land is designed to allow more water seepage than runoff. Water trapping mechanisms like swales and water retaining pits have been adopted into their farming practices.


*(Above) Sitheni Moyo (48) a successful women farmer*

Water Management - FPC and the community members are combining efforts towards safeguarding water and moisture loss. Solar-powered boreholes are installed on each garden as a reliable and durable means of ensuring a continued supply of water. Ground water is pumped and filled into two large tanks before being piped into the gardens. For water conservation, farmers use the mulching method in their gardens. In addition, they are equipped with substantial knowledge on practical skills to employ in collecting and storing rainwater. The project is complementing the farmers' priceless efforts on lessening water woes by funding the construction of a sand dam in Mabundazulu area, Ward 18. The infrastructure will support the boreholes by capturing and storing water beneath ground resulting in additional groundwater storage capacity.

Why Women? - FPC has been working with both male and female farmers in Matobo for quite a long time. It was, however, later discovered that, male participation in most interventions declined as time went on. Many communities have become female-dominated because throngs of able-bodied men (most of them breadwinners) usually leave their homes to seek for jobs abroad. The exodus has mainly been influenced by the people's loss of trust on agricultural production and the skyrocketing unemployment rates that are manning the country currently. Most societies in Matobo, hence, end up constituting more females than males.

Sitheni Moyo (48) one of the successful women farmers in the project built her son a beautiful single bedroom from her earnings on tomato sales. She managed to sell thirty-four buckets of tomatoes from a small plot, less than 500 square metres. To routinely remember her success, she decided to build her son a single bedroom from the profit she made. Sitheni said, *"After discovering the joy of gardening and the viability of agroecology, I decided to build my son a little house that shall stand as a motivation to him as he is growing up"*.

In the face of the incessantly changing climate, practical solutions to regenerate soils and refill underground water must be prioritised. Heightened agricultural production can ascertain us household food sovereignty and long-term income generation. Women in Matobo have shown us that it indeed works.

*Images provided by Justice Ncube & Mbakisi Nyoni*

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FAMBIDZANAI PERMACULTURE CENTRE

# Improving Smallholder Farmers Productivity & Market Linkages

## Through Digital Apps

TAWANDA HOVE, DIGITAL AGRICULTURE COORDINATOR

70% of the Zimbabwean agriculture sector growers comprise of smallholder farmers, and the lack of mechanised services and market driven extension have been major limiting factors to realising their potential. Agrishare and Kurima Mari apps have been developed as utility digital tools which help to address these needs.

Agrishare is a smartphone-based solution that enables smallholder farmers to access mechanised services such as tractors, lorries, and processing equipment by means of a rented service. Similar to Uber, Agrishare is premised on the shared economy principle where farmers who own equipment can earn off farm income by renting out their equipment via Agrishare whilst farmers in the surrounding areas can access the equipment simultaneously creating a win-win situation. The application is a Welthungerhilfe innovation, which was incubated by the World Food Program Innovation accelerator in Munich. The application has over 12000 registered users in Zimbabwe and is in the process of being scaled to Uganda. It is currently being promoted in Zimbabwe by Welthungerhilfe's implementation partner Community Technology Development Organisation (CTDO).

The benefits of Agrishare are as follows:

- Accessibility of mechanised equipment to farmers who ordinarily could not access mechanised services.
- Off-farm income for equipment owners in smallholder farming localities.
- Cost transparency for farmers seeking mechanised equipment.
- Opportunities for cluster hiring, which enhances farm equipment utilisation.
- It is time and financial saving for farmers searching for equipment as they can search for the equipment and hire it from the comfort of their homes.
- Secure mobile money payments guarantee protection for both equipment owners and the hiring farmers.

The application has been popular with farmers with specific regards to transportation. In an interview with Shamiso Manyange, one of the driving field managers she stated that *"Logistics inefficiencies affect farmers ability to gainfully engage markets, having an on-demand service that helps farmers hire the most affordable transport provider is a big value add which the app brings. Previously, farmers would have to either walk long distances in search of service providers or make multiple calls for price comparisons. However, thanks to Agrishare, from the comfort of their homes, farmers can search for transporters, tillage service providers and the like which is really disruptive"*.

I believe that the macro-economic instability and inconsistency in the monetary policy make such innovations difficult to rapidly scale. An example are the restrictions towards the use of mobile money, which affects the convenience the app brings to the smallholder farmers who predominantly have bank accounts. This means that the product requires too frequent iterations which make it difficult for the smallholder farmers to keep track with. In spite of the macro-economic instability and inconsistency in the monetary policy, the application generally is gaining momentum.

The Kurima Mari app is a digital solution that enables smallholder farmers to gain market driven extension and link with a host of markets. The app is designed with a market place where farmers can advertise their produce and willing buyers can either purchase directly from the app or contact the them. The app also, enables farmers to directly link with major private sector off takers and open market committee members through an elaborate national agriculture e-directory. The app also, empowers farmers to


*(Below) WHH ICT4D Officer Nigel Gambanga explaining about the Agrishare app to a farmer in Gokwe.*

negotiate better with farm gate buyers as they are well informed of national market prices. The application empowers farmers from a production perspective by providing in-depth information for multiple value chains and by providing a free library of manuals. The application can be used offline thus, enabling the farmers to use it for the extension and advisory section with limited cost.

## VALUE PROPOSITION OF KURIMA MARI

- Extension and Advisory information for 33 value chains which include Maize, Soya, Sugar Beans, Groundnuts, Sesame, Tomatoes, Cabbages, Butternut, Potatoes, Sweet Potatoes, Lettuce, Mung Beans, Carrots, Garlic, Onion, Sunflower, Sorghum, Pearl Millet, water Melons, Cowpeas, Beef Fattening, Goats, Pigs, Broilers, Roadrunners, Layers, Rabbits, Turkey, and Fish.
- Market contacts for specific commodity buyers.
- Area specific contact details for extension officers, agro-dealers and input suppliers.
- Area specific weather and climate change information.
- Customised gross margin calculators for both crops and livestock.
- Nutrition tutorials for Nutrition Sensitive Agriculture.
- A market place which enables farmers to advertise their commodities for free.
- Videos and podcast which provide an alternative learning system for farmers and extensionists.

Key Milestones - Currently the applications have over 30 000 users located across the country. The content has been developed by a joint effort involving the Agricultural Technical and Extension Services (AGRITEX) - Crop and Livestock Department, and the Vet Department, under the Department for International Development (DFID) Livelihoods and Food Security Program fund managed by the Food Agricultural Organization of the United Nations (FAO). A summary of the value proposition is as follows:

Key challenges - One of the greatest challenges in recent times has been the access to mobile internet data by farmers. The application has certain features which need mobile internet data for current updates such as weather. The high cost of data has limited farmers from updating such content. There is need for government policy to facilitate the zero rating of such applications as they support the backbone of the sector.

*Images provided by Tawanda Hove*