Shashe Agroecology School: A true centre of Agroecology and practical food Sovereignty

Introduction

The experience of the Shashe community in Masvingo Province, Zimbabwe, is a microcosm of the broader vision of La Via Campesina (LVC). Shashe is a community of peasant farmers who gained their land first through a land occupation, and were then benefitted by the Fast Track Land Reform Program implemented by the Government of Zimbabwe in 2000. The land that they now farm was formally the landholdings of absentee cattle ranchers, and today this land produces far more food than ever before, food produced largely through ecological farming practices. Thus Shashe shows that the dream of LVC is possible: land reform and agroecological peasant agriculture as building blocks of food sovereignty.

The peasant families in Shashe are members of the Zimbabwe Small Organic Farmers Forum (ZIMSOFF), which represents peasant families practicing organic, traditional and agroecological agriculture in Zimbabwe. ZIMSOFF has developed processes of participatory ecological land use planning and management, and encourages value-added artisanal transformation to improve the welfare of its members. The organization has some 19,000 smallholder farmers organized in four large groupings, namely the western, eastern, northern and central clusters. These clusters are made up of 64 local smallholder farmer organizations (SFOs), which nurture dynamic alliances. This profile focuses on the Shashe SFO, in the central cluster, and where the peasant Agroecology School of Zimsoff and La Via Campesina is located.

The Shashe SFO farmers are a group within the 380 official land beneficiaries who resettled in 2000 at the Shashe block of farms, which covers about 15,020 hectares. Of this area, about 23% was allocated for residential and arable purposes, and the rest for grazing. The area is generally dry, receiving about 400mm of annual rainfall, and was mainly used for ranching by the former white farmers. The new, formerly landless African peasant farmers, have broadened the land use, as they are now producing both crops and livestock. The Shashe Agroecology School is part of the La Via Campesina's network of over 40 Agroecology schools around the world, and promotes the exchange of experiences through horizontal learning, to disseminate agroecological and sustainable peasant agriculture practices. They have collectively developed key resistance strategies to fight against dependence on agro-chemicals and fertilizers, and to survive climate change.

Description of the Agroecology system

At Shashe SFO, farmers employ various agroecological practices to ensure food sovereignty, mitigate climate change effects and reduce dependence on purchased agro-inputs, thus keeping farm income in the family's purse. These practices include the use of organic manure, mulching, minimum tillage, multiple cropping, the exchange and use of traditional seeds and open pollinated varieties, among others. Such practices are the foundation to build a new agricultural future for the farmers, not only at ZIMSOFF, but globally.

Case study provided by La Via Campesina Africa
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Promoting organic fertilizers and mulch: reducing dependence on chemical fertilizers

Organic fertilizers have been used by peasant farmers in Zimbabwe for generations, and thus indigenous knowledge of these abounds. The benefits of manure, for example, are well documented in literature. The Shashe SFO famers use manure from cattle and goats to fertilize their fields and gardens. Some of the farmers also use enriched composts (various plant materials mixed with poultry manure).

Crop residues, particularly from maize, are commonly used to bulk the manure. These are put into the cattle corral after harvest and trampled by the animals, mixing with dung and urine. The manure and maize stalk mixture is dug up and heaped up before the rain begins. The further decomposition destroys weed seeds and increases nitrogen content, and then it is broadcast in the fields before ploughing. Some farmers, who lack sufficient manpower, directly apply the manure to the fields, but this practice allows undestroyed weed seeds to germinate and propagate. Some farmers overcome this challenge by organizing working parties to exchange labour, to dig and empty their corrals of manure.

To completely destroy the weed seeds, and significantly increase nitrogen content, some farmers, like Mr Mavedzenge, allow complete decomposition of the manure under anaerobic conditions in a completely sealed pit for at least one rainy season. This boosts the nitrogen content three times over. Again, this organic manure is weed free, cool, and ready to be used by the plants.

According to Mrs Mudzingwa, a farmer at Shashe SFO, the plants that grow from organic manure are as good as or better than those that grow from inorganic fertilizers. So there is no need for them to spend large sums of money buying chemicals. Moreover, she said, the nitrates in artificial fertilizers are soluble and leach easily, causing soil imbalances affecting soil organisms and fertility.

Beside the organic manure and compost, they also use liquid manure. 40-50kg of manure is put in a sack and suspended in a 300-litre drum partially filled with water for 10-14 days. The manure is sometimes mixed with legumes and leaves to increase the nitrogen content. The nutrient rich water is then diluted and applied to vegetables. According to Mrs Mudzingwa, the farmer's effort is to feed the soil, which in turn feeds the plants, that finally feeds people.

Building a firm foundation for seed sovereignty through seed sharing and exchange

In their effort to build seed sovereignty at Shashe, the farmers visited and gathered traditional seeds and open polluted varieties from different parts of Zimbabwe. Mr. Mpofu and his wife Elizabeth Mpofu, the General Coordinator of La Via Campesina, keep and multiply a wide variety of seeds collected from different areas through exchange and sharing with other farmers. They have more than 15 different varieties each of maize, sorghum, millets, beans, round nuts, ground nuts, cowpeas, pumpkins, melons and many other traditional crops. Most seeds have been shared with other farmers within the SFO. For instance, Mr Mpofu has kept his maize seed for 8 years, and most farmers come to him to get certain traditional maize varieties which they no longer have. As representatives of the farmers, they continue to scout for more suitable seeds, particularly traditional and open pollinated varieties, to benefit the local farmers.

The Agroecology School also produces seeds for most vegetables they grow. They allow the plants to flower and produce seed. This practice was learned from other farmers through horizontal exchanges of knowledge.

Conservation farming methods

Most farmers are employing various conservation farming methods, to help cope with aridity of the area. Mr Abmelek Mutsenhure's homestead is located on a sloping rocky area. He uses contours to reduce run-off, and also practices minimum tillage. The soil dries fast and he thus uses mulch to prevent loss of soil moisture on hot days, and to retain rain water in the soil, allowing crops to grow normally even during long dry spells. Mulching is done, using maize stalks, when his crop is knee high. He practices multiple cropping whereby maize, legumes and other traditional plants are planted together in the same field.

When he moved to Shashe, his first and second crop harvest was poor due to run-off and quick drying of soil. That's when he decided to use both contours and minimum tillage, and his harvests have improved a lot. The contours are made of stones which are abundant locally.

Capacity building: Horizontal learning and dialogues

Shashe SFO uses farmer to farmer methods to learn and share new farming practices. Mr Abmelek Mutsenhure is the extension promoter at the Shashe Agroecology School, and he leads by example, by farming and experiencing the challenges the farmers face. This helps him to understand and be a better teacher to share the art of agroecological organic farming. According to Mrs Mudzingwa, farmers don't listen to field officers (government agricultural extension officers) who rely on abstract theory to teach them about farming, but prefer to learn from each other, because the SFO farmers have tangible and practical knowledge to share, especially via demonstrations on their own farms. Farmers at Shashe SFO keep records of all their farming activities to help them to track changes and improvements on their farms.

Food production: self-sufficiency and healthy food

Growing culturally appropriate food crops for own consumption

Most farmer households at Shashe SFO have small kitchen gardens, located very close to the homesteads, where they grow vegetables, onions and tomatoes for their own consumption. The crops grown in these gardens constitute a critical part of the stew they call "relish". Other dietary components, such as starch and proteins, come from a wide variety of cereals and pulses that the farmers grow on the bigger fields. These include the cereals, maize, sorghum, and millets, and pulses such as cowpeas and beans. Mrs Mudzingwa said that small farmers ensure household food security by growing different types of small grains, which give meaningful yields even during droughts. These crops include sorghum, pearl millet, sunflower, groundnuts, and cowpeas, which are easy to grow and require less manure.

Figure 1. Maize harvest

Multipurpose garden: feeding the school, income generation and training

The Shashe Agroecology School has a sizeable garden where all the families pool their resources, particularly labor, to grow various crops through the year with irrigation. The irrigation water is drawn, using a diesel operated water pump, from a nearby borehole, and stored in a large concrete cistern located on a rise. Gravity is then used for irrigating the crops.

According to Albert Ngonese, a youth at Agroecology School, the garden is divided into two, one section is worked by the women and the other by the youth. The women's portion has various vegetables such as rape, chomolia, cabbage, carrots, cucumber, tsunga and herbs. These vegetables are either sold to raise money for women's activities, or used to prepare meals for visitors at the school. The youth use their part of the garden to grow crops which they sell to raise funds for different activities. During our visit, they had grown maize, which they intended to sell in December as green mealies.

Gardening for commercial purposes

Mr Mavedzenge and his wife have a sizeable (0.4 ha) garden under tomatoes, spinach and Chinese cabbage, which they sell to supermarkets in Masvingo. They water the crops using drip irrigation, and use organic manure to fertilize the soil. During our visit they had planted about 15,000 tomato plants and spinach.

Figure 2. Livestock

Livestock

In addition to growing crops, most farmers keep a wide variety of livestock such as cattle, sheep, goats, pigs, donkeys, chickens, turkeys, ducks, guinea fowl and rabbits. The beef and milk, chicken, guinea fowl and goat meat are commonly consumed sources of protein. According to Mrs Mudzingwa, the chickens are easy to keep because they do not compete with humans for food, but eat food which humans don't eat, such as insects and weeds.

Food processing, storage and preservation

The Shashe SFO farmers use traditional methods to preserve vegetables, and use pumpkin and cowpea leaves to make dried vegetables (mufushwa) which can be stored for long periods without spoiling. They also process crops such as sunflower and groundnuts to make cooking oil and butter respectively. For instance, Mr Mutsenhure owns a hand operated oil presser and a peanut butter machine. He said that farmers in Shashe grow sunflower because they know that there are machines that produce oil. Cooking oil is expensive for most farmers, and most of them cannot afford it, so it's

cheaper for the farmers to bring their sunflower for processing at his homestead. The sunflower cake produced from the extraction of oil is used as animal feed, mainly fed to the chickens.

Creating a vibrant local market for produce and strengthening

Figure 3. Processed oil and peanuts

According to Mr Mudzingwa, farmers grow what they eat, so they are the first market; the neighbour is the second market. Thus, they are building local markets for the local produce. This reduces the need to transport and sell produce to towns, and retains most cash within the farmer's purse. Other produce traded locally includes protein rich sources such as meat and milk and chickens. The cereals, particularly maize, are usually sold to the Grain Marketing Board (GMB) in times of good harvest. The farmers keep adequate amounts of maize grain in their granaries to feed their families. During times of grain shortage, farmers with surplus grain sell to those who are in deficit. Again, farmers tend to exchange grain for labour, particularly during ploughing and weeding. The other cereals such as sorghum and millets are sold locally, mostly to farmers who brew beer.

Living with and benefiting from nature: stone walling and solar energy

Farmers at Shashe have mastered the art of living with nature, and also of benefiting from it. Some parts of Shashe are rocky and the farmers have found useful ways to use the rocks to stop soil erosion in gardens and homesteads. Some have used the stones to make perimeter fences at homesteads. The farmers said that stone walls are durable, strong and inexpensive to make. Some farmers use them for building purposes, while others use them to terrace the contours in the gardens. The farmers also conserve local trees, from which they also get their medicines, usually administered by Dr Nago, a traditional healer and kraal head, who is a member of the Shashe SFO. Some also grow moringa, a common medicinal tree used to boost a person's immune system. The moringa leaves are used as relish.

In sum, the experience of Zimsoff at Shashe, shows that if landless peasants can get access to land, they can use Agroecology to grow healthy food at low cost, in harmony with nature, for their families and for the market.

Message from farmer to farmers

"The farmer's effort is to feed the soil, which in turn feeds the plants, that finally feeds people."

— Mrs Mudzingwa, farmer at Shashe SFO