Agroecological practices of the small scale farmers of Ramiene in Nampula province, Mozambique

Introduction

An overview of Mozambique

Mozambique has a population of about 25 million people. Most live in rural areas and rely on farming for all or part of their household income. Located on Africa's south-eastern seaboard, the country encompasses biodiversity sites of great significance. Mozambique was in the past a colony of Portugal. The Portuguese settlers were allocated large pieces of land, while most of the working population engaged in manual labour. Agricultural production was focused on increasing the supply of raw materials to Portugal. In the two years following independence in 1975 and prior to the outbreak of civil war in 1977, the new Mozambican state concentrated on the agricultural sector making provision for inputs, controlling prices and setting up marketing channels. Today agriculture is said to account for 25% of Mozambique's gross domestic product (GDP) and the sector employs 80% of the workforce. Women constitute 60% of those working in agriculture (ACB, 2015).

About Nampula province

Nampula is one of ten provinces, located in the northern region of Mozambique. Its capital is Nampula city, located about 2150 km north of Maputo, the capital of Mozambique. Under Portuguese rule Nampula province was named Mozambique but with independence, the name Mozambique was used for the entire country and the province renamed for its capital. Ilha de Moçambique, an island in the province, was declared a UNESCO World Heritage Site in 1992. Massive refugee movements due to 15 years of civil war have destroyed a unique coexistence of many cultures on this island. The province is a major producer of cotton, and the cotton producing area is known as the Cotton Belt of Nampula. Nampula also produces cashew nuts, tobacco, gems and other minerals. Many of the cotton and tobacco farms in Nampula Province are privately-owned.

Figure 1. A sisal farm where people were recruited to work during the colonial period

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The community of Ramiene-Itoculo in Manopo, Nampula

The community of Ramiene-Itoculo was founded by people coming from different parts of Mozambique. The people were recruited by the Portuguese colonial government to work at the sisal company. Once they arrived in the region the people were not allowed to return to their homeland. The actual population living in the community is thus a result of a forced immigration of people coming from Niassa, Zambezia, Nacala a Velha, Nampula and a smaller number from Maputo Province. The new generation of small scale farmers, free from the slavery that their ancestors were victims of at the hands of the Portuguese colonial government, has created the Forum of Producers of Ramiene-Itoculo (FABRI). The forum encompasses nine small scale farmer associations and the place is known as the major producer of maize, beans, sesame, peanut, pea and sorghum.

Description of the Agroecology system

Agroecology in Ramiene-Itoculo community

Agroecology is a system of food production that is well known by the small scale farmers of Ramiene-Itoculo. Their ancestors that built the community used agroecological practices to produce food for their own use and these practices were transmitted to the new generation. Therefore, some agro-ecological practices used by small scale farmers are inherited from their ancestor while other practices were learned subsequently. To produce organic fertilizer and spray, the community uses local materials. A soup of ash to spray the crops and drive off insects from the farms is one of many techniques used by the farmers. To produce this, the farmers mix ash, houseboy soap and water. The soap, cut into small pieces, and ash are added to a container of 10-20 litres of water. The farmers then stir the mixture over a fire and the container is then removed from the fire to cool down. When the mixture is cooled, they remove waste and solid particles. Finally, the farmers take three litres of compound and put it into the sprayer and add thirteen litres of plain water. Farmers use this compound to spray crops and drive off insects on the farms.

Figure 2. Soup of ash produced. This compound is used to spray the crops and drive off insects from the farms

In addition to this practice, the farmers of Ramiene-itoculo use simple manure on their farms. This is produced from ox, chicken and goat manure. The dung of animals is dipped in a container of 20 litres and left for ten days. At the end of ten days, the waste products are separated, and later on, they take it to the farm. Upon reaching the farm, the peasants take three litres of manure and put into the sprayer and add thirteen litres of normal water. This fertilizer is used by farmers to improve the

development and growth of crops. The peasants of Ramiene community also use composite manure. This compound is prepared with leaves of beans and distilled sugarcane. These materials are inserted into a bucket of 20 litres and remain there for a period of fifteen to twenty days and it must be kept away from the children. The fertilizer is also used to promote the development of crops. Bocashi is another practice used by the community. This consists of mixing charcoal, sweet potatoes, virgin soil (which has been untouched for three years), cassava, bran, eggshells and distilled sugarcane. This technique is used by the community to produce organic fertilizer. This organic fertilizer replaces urea.

The techniques mentioned above were transmitted to the small scale farmers by Zené Martines a former staff member of the National Association of Small Scale Farmers of Cuba (ANAP). The facilitator was hired by Uniao Nacional de Camponeses (UNAC - National Farmers' Union) in partnership with Oxfam to teach small scale farmers of Ramiene on agroecology techniques. The group benefited from this training included old and young farmers of 18 to 30 years and now they are using these techniques on their farms to produce healthy food.

The cooperation between UNAC and ANAP started through La Via Campesina in 2006, when UNAC projected to implement agroecology practices based on the Campesino to Campesino model. La Via Campesina gives political and moral support to national member organizations (such as UNAC) to promote agroecological practices among small scale farmers as a sustainable way of producing a healthy food. The Campesino to Campesino process consist of recruiting promoters, local farmers, who will get practical training on agroecological practices. After being more familiar with the practices and techniques, the promoters will teach other farmers on agroecology. Their farms are their classrooms, and other farmers will visit the farms to learn. The promoters receive no financial compensation, they are considered good role models. If they were to be paid, other farmers might not believe in their technologies, but rather think they promote it as a way to make money.

The Campesino to Campesino model started to be implemented by UNAP in Cuba and then became a standard model in developing countries such as Mozambique. UNAC, with technical support from ANAP and financial support from Oxfam, organized a training sessions on agro-ecology practices facilitated by Zené Martines in 2006. In 2016, with financial support of Oxfam, UNAC has once again hired Zené Martines, now as an independent consultant to train the small scale farmers of Nampula on Agroecology practices based on the Campesino to Campesino model.

The high costs of synthetic fertilizer and certified seeds have led the community to learn agro-ecological techniques and to use local varieties of seed. According to Angelina Manuel, a farmer in the area, commercial seeds are very expensive and small scale farmers do not have financial capability to buy. As an alternative, they use their local seeds that are well adapted to agroecological practices. The local varieties of seeds grow well without synthetic fertilizer, they don't need too much water and are tolerant to the droughts. So, by applying organic fertilizer and with a little bit of rain, the farmers can get high yields. The seeds can be kept for a long time in the barn without the need to apply chemicals and are not affected by weevils. In addition to the high cost of certified seed, commercial fertilizers in Monapo district are also expensive and beyond the reach of small scale farmers. They therefore use the agroecological practices using local materials that do not require a lot of money.

Outcomes of the practices

Political space

The effort of small scale farmers to use the agroecological techniques to produce healthy food do not have the official support of the Mozambique government, extension workers or Mozambique Institute

of Agriculture Research (IIAM) officials. However, according to the small scale farmers, the District Director of Agriculture and Food Security has visited farmers' plots and encouraged the food producers to continue using the agro-ecological practices to produce food. The non-intervention of the government is due to a reduction in the number of extension workers. At the community there is only one extension worker to respond to and assist 5,000 small scale farmers. Mozambique does not have regulations to promote the use of agroecological practices. Government officials only speak about sustainable agriculture, which consists in implementing Conservation Agriculture. While this does have elements of agroecological practices, it also promotes the use of herbicides and synthetic fertilizer. For this reason, the community only receives technical support from UNAC and its provincial affiliate, the Provincial Peasants' Union of Nampula.

In a country where the decision makers and private sector promote the use of synthetic fertilizer, the small scale farmers of Ramiene-Itoculo have revealed that this idea is not sustainable. For them, there is one alternative to produce food, which is agroecological practices. The benefits of using agro-ecological practices in Ramiene community did not take time to come. The community has witnessed an excellent yield and increased production and productivity. Improved yields have created awareness amongst small scale farmer to explore and use the local materials for the production of organic fertilizers and sprays. The food sovereignty concept has become the day-to-day conversation in the community. Angelina Manuel said that this year, the community did not witness much rain and the small scale farmers that used agroecological practices had greater production compared to those that relied on the use of synthetic fertilizers.

John Celestino, a farmer of Ramiene community, said that in the past, when he used synthetic fertilizer to increase the production of peanut he only got 8 bags of peanuts from a 1 ha plot. But today, relying on agroecological practices, he collects 20 bags of peanut from 1 ha. John spent a lot of money in buying the synthetic fertilizers and the yield was low, but today he spends almost nothing and the income is higher. The high yield witnessed by John has aroused astonishment in the community and his neighbours sought to know where John had acquired the synthetic fertilizer to boost the productivity. In response, John said that he did not use any synthetic fertilizer, he only used agro-ecological practices, and invited them to experiment with these practices.

Figure 3. Jonh Celestino and his wife Angelina Manuel with a bucket of peanuts produced this year. The bottle in front is simple manure produced from ox, chicken and goat manure.

Message from farmer to farmers

"The successful use of agroecological practices at Ramiene community is attracting several small scale farmers. Today, many farmers are learning agroecological techniques to produce food. For the community, agroecology is a clean food production system which the country and the world should rely on".

—Message from Agostinho Bento, researcher and advocacy officer at ACB