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STAGE IN MALAWI

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I) PERIOD from 28/08/06 to 30/08/06, 3 hours. Introductory speech of agricultural sector: Thondwe village Polytechnic visit.

The Thondwe village Polytechnic is built in the 1998, near Zomba. It represents a real Arts and Crafts school, recognized by Malawian Minister of Education.

Mr. Maonga is the present director of all complexes, which consists of 12 hectare of land and a mill. These resources are destined to student practice and to have little income for the school support. The establishment can accommodate about 100 students. Four formative courses are available: agriculture, joinery, tailoring and building. The students can make use of a library, where there are many books about the lessons topic. Besides they can practice in the experimental area of the complex. The polytechnic as got vegetable garden, where sweet potato, tomato, onion, cabbage, turnip and beet are cultivated. Here they are studying biological systems to fight the parasites. In the polytechnic land there are also an orchard with passion fruit, jack fruit, papaya, mango, orange tree and banana tree. In an other area of polytechnic there are demonstrative terrains where the students experiment with different composts, which are: Chinese method, polling method and filled in method. At the end of courses the students spread these compost methods in their village.

More over Thondwe village has experimental breeding, which are:

- Bovine breeding that is composed by some cow in calf Frisian breed of cattle and some interbreed cattle.
- Swine breeding that is composed by some local breed and some European breed, where they try creating interbreed.
- Goat breeding that is composed by two groups, one for the meat production and the other, composed by the interbreed of Saanen and local goat, is developing for the milk production.
- Poultry breeding, this well developed, because it is known on small scale from long time in Malawi.
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At the Polytechnic there is a nursery where Agro forestry plants are cultivated (Tephrosia, Leucina and Gliricidia). Besides there is artificial dam, that is used to irrigate experimental maize and beans area. For this irrigation the traditional methods are trade pump and watering can. There are micro-irrigation systems that serve cabbage, onions and tomato with excellent results. These different methods of irrigation are very important to teach the water use to Polytechnic **students**.



Photo: Tread pump

II) PERIOD, from 31/08/2006 to 01/09/2006, 18 ore DISTRICT AGRICULTURE DEVELOPMENT OFFICE, Zomba Mr Kabuluzi.

The structure of planning system for Agriculture section in Malawi is decentralized

There are 5 sections:

- Crop development
- Agriculture Extension Services
- Irrigation & Rural Development
- Land Resources & Conservation
- Animal Health & Livestock Development

In Malawi there are 8 Division (ADD) with 8 programme managers and going down we find 28 District Agriculture Development Office. We find more 300 EPA headed by extension coordinators.

In all Malawi we can find about 3000 Agriculture Extension Development Officer (AEDO).

EPA (Extension Planning Area), they work in “model-villages” through a ground implementation level in which the demands come from the smallholders, so the needs come from the ground level.

How do they get information? This is through a Participatory Rural Approach (PRA) as an extension tool. The idea behind is to stimulate desires of the farmers on their vision and inspiration. They make village-plan using a time-frame with the assistance of the extension officers (sent by NGO or by governmental organizations).

AEDO every year organizes annual week plan & budgets, in other words meetings with the chiefs of the village to ask for their needs and priorities. In this way about 4-5 main problem areas come out and these need an elaboration and a setting up before the arrive of the NGO or Government. There is the formulation of an annual plan for each Section at the EPA level, and all the EPA meet for a District plan (Master Plan, some NGO can choose some of these projects and carry on them). ADD consolidates for the Ministry

ZOMBA District

There is 1 District Commission and 1 District Agriculture Office. There are Subject Matter Specialist (SMS) responsible for each technical matter:

- Land resources conservation (soil & water, soil fertility and education)
- Crop production (cereals roots and tubers, horticulture, plant protection, farm management)
- Animal health and development of livestock
- Irrigation development
- Management & Direction
- Human resources
- Finances
- Planning & Evaluation
- Extension & Training

In Zomba District there are 8 EPA offices headed by 8 AEDC (Agriculture Extension Development Coordinators) in Thondwe (344 villages) Dzaone, Ngwereno, Mpakwa, Malosa, Chingale, Msandale

OBJECTIVES

The main objective is the FOOD SECURITY through

1. crop diversification
2. Search of markets
3. Keeping food for own consumption

Food security can be achieved by food availability, food accessibility and affordability and food utility. They train how to reach these purposes.

Millennium-Development-Goal (MGoal)

Inside this project there is the “Millennium Village Project”. It is a 5 years project that focuses on the development of model-villages. The implementation of the project is divided in two phases, the first one aim at the food security through the development of agriculture sector (start-pack aid, innovations and training), at education sector (building of schools to achieve 80-90% of the people have education), at health (building of health facilities) at market village (trade assistance) and at good management and organization (good structure of committee and good leadership). After this, there is a second phase which tries to create open-generating activities through association and creation of bank accounts.

Concerning agriculture section the procedure adopted foresees to provide a start-pack aid of about 4,000 Kw once a year (during the dry period) in order to buy hybrid seeds and fertilizers. So considering that each smallholders has an average of land surface of about 0.55 ha split in 0.15 for house and garden, and the remain 0.4 ha for field crop (maize), the objective is to reach an average production of 60 bags of maize (50 Kg each bag). Of these, a family composed by 5 members (each member consume per year an average of 6 bags) it means that 30 bags are destined to auto-consumption. Other 5 bags are kept for emergency situation (funeral or wedding etc). The remained 25 bags are destined to the selling for cash.



Photo: Extension activities

In Zomba area there is one of this Millennium Village Project called “Mwandana Village”, involving 5 villages (Mwandama, Kusamba, Nyosani, Kamalo and Matchado). In the future it is planned to have a Millennium Promise Village Project that involves 91 villages around this area, totally the families that are going to be involved are 11,000. The start-pack will be given for 3 years in order to ensure these smallholders family to achieve food security and a certain income from the selling of the maize. In this way when the assistance will stop they will be able to benefit from the previous good yields trying to maintain that yield standard through a good land management. Each family during the first years has to give back 2 bags of maize; the community sells them and opens a bank account.

III) PERIOD, from 02/09/06 to 05/09/06, 27 ore THONDWE VILLAGE POLYTECHNIC.

EPA (extension planning area) is an agency present in every town centre, whose office have the mission to popularize the most common agricultural technical for the good grow crops. The primary object is creating the development in the village’s area, without changing radically the local traditional methods. During Thondwe’s EPA visit, I have known the director Mr. Sugar, who has explained the agricultural and irrigation techniques, which are spreading at the present time in Thondwe’s villages. Regarding irrigation, the most used techniques are those on a small scale, for example Bucket

irrigation, gravity irrigation and trade pumps. The most expensive technique, for example the irrigation with diesel pump, is less used.



Photo: Nursery, Experimental area.

Mr. Sugar thinks that the better method for irrigation, to promote in every village, is the irrigation through the canalization. This system is both efficacious and economic.

Recently, about the agricultural cultivations, cassava, pigeon pea and ground nuts are the most diffused. EPA has got an experimental area of these cultivations, that farm worker can visit for learning the new cultivation technique. During my visit I have seen an other plant, sugar potato, which, as cassava, is propagated through cutling. The cassava's cutling is 30 cm and is planted in the soil with 45° angle; instead the sugar potato's cutling is 5 cm and for 3 cm is planted under the soil.

Besides I have attended a Mr Sugar's lesson, which explained to the delegates to spread the innovation on the village, about the methods of soil preparation for the seed sowing during rain season. For this reason it's necessary to use a particular soil system; the ridges and hollow construction form this system. The instrument for realizing this, are A-Frame, Lino Frame, Line Level, that can be built easily with spirit-level, stones, board, machete and lace, easily available in every moment.

EPA's offices carry out research about monitoring of cultivation variety introduced and their environmental impact.

CULTIVATION

Cassava is one of the main support cultivation for the village. There are many kind of cassava: local or improved, precocious or belated. EPA has constituted demonstrative areas to advertise this cultivation to the villagers. During formation courses the experimental areas are demonstrated and cultivation characteristics are explained: forwardness, productivity, resistance.



Photo: Cassava cultivation.

In the available to EPA soils there are nursery, where better variety of small plants is cultivated. Before the harvesting the branches are cut to do 30 cm cutling. In a first time the cutling are planted in EPA's soil, then they are transplanted in the village's soil. So the villagers verify the property and the productive result. In the EPA nursery the improved varieties are:

- Mocondasy that has productive cycle of 15-20 months, with sowing at January and February and harvesting in April in following year (biennial plant).
- Mbundumali, which has productive cycle of 12-15 months, this variety is very sweetness and it has a good price in the local market.
- Sauti, that is cultivated in the north region where it has an important role for the villager's survivor.

Pigeon pea is a leguminous plant, very diffuse. It is often used with maize for its fertilizing characteristics. It is sowed in January and February and harvesting in August and September. This plant is available in a village's market. Besides pigeon pea is an important protein source in the villagers' diet. Only local varieties are cultivated into the village. EPA aids the villagers to cultivated improved variety, resistant to Fusarium. The villager can take free improved variety seed in the EPA centre.

Ground Nuts, is frequently used in the village. It is cooked with other cultivation (Mgaiwa) for feeding the children, because it is very rich of vitamin. There are many varieties, local and improved, of this cultivation. The most used variety is CG7. It's important for greater forwardness, bigger production and for its tolerance to Rosette. Unfortunately this cultivation has a problem, in fact it deteriorates on account of higher contents of oil. For this reason in the village the less productive local variety is often utilized.



Photo: Women at work.

Sweet Potato is a plant propagated with 5 cm cuttings. It's much diffused in the village thanks to easiness of cultivation and self-radication. Many variety of this crop are cultivated on EPA's nursery.

IV) PERIOD, from 14/09/06 to 16/09/06, 27 ore, Irrigation system and cultural method study in Mkulumba, Mberwa, Mwandana, Malosa and Chileca village.

IRRIGATION. In Malawi there are several technique of irrigation, because this area has got different economic and water resorts. In the village the manual system is the most known and used. Instead the irrigation system for gravity is less known. This system canalizes the water from raised basin, or it diverts the river over irrigations area, with the use of local material (wood, ground, brick, stone, etc...).

The most use method consist of conducting the water, during rain season, in a artificial basin, and later in dry season this water is used trough the trade pump that needs human work for their activation. This allows transporting the water from the container to the arid land.

The previous methods regard irrigation on a small scale, suitable in the village for kitchen-garden.

In Malawi the irrigation on a large scale is used in the estates with diesel pump, but it is very expensive, in fact there are only two farms in the EPA's Thondwe area that are able to use this method.



Photo: Man at work

I visited the village supported by U.E. and U.N., with Mr. Sugar, specially I went to the Mklumba village and Mberwa village for studying the development project funded by U.E., that supply them with fertilizers and seeds for increasing their agricultural production. So this help allow them have a greater income to buy fertilizers and seed

following years, assuring them some independence. During dry season, this village uses a kind of maize irrigation that canalizes a river. Instead during rain season the original watercourse is preserved not to destroy the canalization.

An other village is Malosa helped by an English association; here the canalization is formed by brick without cementation. Malosa isn't the only village that uses this system. For this reason there is an important irrigation program to organize water use.

The Mwanda village is different, because it has both a micro-irrigation system, and new agronomic techniques that include the combination of maize and legume. Besides there is only one family that cultivate the groundnuts. Here this cultivation is considered very expansive.

In the Chileca village I saw a different irrigation system, because it uses the windmill to pump water from a well. This method is new, but at present time it's difficult to found in the Malawi's market, even if the situation is changing.



Photo: Street sale