Best Practices in Sustainable Agriculture 2021

Farm productivity all year round

Mr. Buyungo Joseph Mary
Bukakimu Farmers' Group
Kkonkoma Village, Mpigi Town Council

MUTUBAGUMU MPIGI FARMERS ASSOCIATION (MUMPIFA) - Mpigi district

Mr. Buyungo is a multi- skilled farmer who employs a famer family learning and working approach in engaging in a variety of enterprises, both perennial and seasonal crops with all year round production. He operates on a 30 acre farm that mainly produces coffee, bananas, and maize, passion fruits integrated with livestock (cows, goats and pigs). Other smaller enterprises that supplements his daily income include red pepper, milk, cassava, trees, pasture and local chicken.

He acknowledges significant contribution of having strong links with partners like ACSA, Caritas and district local government that have enabled him reach greater heights in sustainable agriculture. The farmer employs conservation farming techniques for soil and water conservation as soil fertility measures including composting, bio slurry, mulching, terracing and enterprise mix. His farm is located on a gentle slope extending down to the wetland. Cultivations and planting are done on a gentle gradient with graded channel terraces.

Fallowing and rotations are another well established and simple practices that the farmer has employed to maintain fertility, pests and diseases control. He has successfully integrated cereal crop with legume such as beans and groundnuts together with other practices like mulching using crop residues. This encourages water infiltration with limited run-off of surplus water at low velocities. Harvesting water runoff has enabled him to plant seasonal crops for 3- 4 times a year including beans and maize due to sufficient water he is able to sustain the ready markets even at off season, a market secret that every farmer should adapt.

Major enterprises on the farm; The key performing enterprises adopted on the farm are banana and coffee, in addition to beans that are most desirable on the market but grown as single crop with the application of bioslurry as a fertilizers. Notably coffee in its early stages is also intercropped with cassava and yams but once they are harvested, the farmer prefers to maintain coffee as a single crop, while deeds are suppress and moisture maintained adequately in the soil using mulched, in addition to green manuring using leguminous plants for nitrogen fixing abilities as well as acting as feeds at maturity.

Passion fruits is another lucrative enterprise at his farm planted with barrier tree plants in the edges to protect them from strong wind. Given the nature of passion fruits being climbers, a well raised trellis was constructed for support. Regular pruning of passion fruits to remove of tendrils is done, to prevent vines from entanglement and to ensure that the lateral branches hang down freely to produce good fruits.

Passion fruit and Sweet potato Intercrop; This is another unique feature where the intercropping of passion fruits is done with leafy sweet potatoes to ensure control weeds, a practice other ACSA members and farmers can learn from to maximize profits per unit area. However, the choice of leafy sweet potato is based on the attribute of low nutrient requirement making them better soil cover to suppress weeds, provide additional income and at the same time are nutritious feeds to his pigs.

Integration of livestock in the farming system; This has highly supplemented household incomes as well as providing organic manure at the farm. The livestock include the rearing of goats, pigs, cows and sheep using a zero grazing system. Various pastures are grown as perennial and annual grasses, legumes, and fodders to avail animal feeds all year around.

A practice of alley cropping with breaks of bands of crop gardens with pasture to control run off and preserve both water and soils. Legumes are also intercropped with bananas, coffee and wood lot to provide addition feed for livestock as well as grasses that increase milk production in lactating animal, which are alfalfa, brewer's yeast and another grass locally known katulula. Another complementing enterprise is a bio gas plant, which utilizes animal waste to generate renewable energy for cooking and organic manure inform of liquid manure (bio slurry) and waste residue manure. The farm is self-sustaining through the different enterprises both short and long term with simple irrigation technologies to ensure production in season and out of season. This has transformed the image of the farmer and the farm in general in the entire his community, hence acting as a model and agro ecological farm among local government, civil society and farmers for exposure learning visits and experience sharing.

Improving Community access to Coffee seedling through coffee elite and clonal nursery establishment and management

Ms. Namuleme Margret
Lulagala Village, Nakibanga Ward
Mityana central division
Lulagala Development group- Mityana district

Mityana Mubende District Farmers` Association (MMUDFA)



A challenge of access to quality coffee planting materials became an opportunity for Margret, who believed that propagating coffee through cutting would provide a solution to such a challenge. When government through the OWC continued giving farmers elite and clonal coffee seedlings, many farmers claimed that the seedlings did not meet their expectations with respect to quality and appropriateness for the area. Hence Margaret leveraged on this inadequacy and set up a nursery that meet the needs of the farmers in her community. Her propagation of seedlings is done in consideration of specific coffee characteristics, high productivity, fruit quality, stability, architecture uniformity, higher and escalated cropping.

Cuttings are generated from her mother garden for the cuttings, which is kept without flowering to avoid risk of pollination to maintain gene purity. The mother garden is well mulched to control weeds and is sparsely intercropped with bananas to provide some needed shade. This is integrated with goat rearing, which produce manure that is composted and used in potting the cuttings. A one the few farmers engaged in propagating coffee through cutting, there are some limitations with respect to production capacity to meet demand for large scale farmers. Cost of each seedling depends on the season and ranges from UG. Shs. 1500(dry season) to UG. Shs. 2000 (rainy season) and she sells between 200-250 seedlings a month and total sales of UG Shs. 300,000=

Hedge planting for soil conservation and land security; She has multipurpose trees as a hedge for soil conservation, acting as wind breakers, prevention of encroachers as well as providing fuel wood and building materials. She has planted trees and fruits along the boundaries of farm which have acted as wind breakers to other enterprises

Enterprise mix for maximum yield

Mr. Joseph Baseka
Buyege Village
Kasanje Town Council, Wakiso

Caritas Kampala

Enterprise mixing for sustained income generation is always a challenge to many farmers – an area a farmer Joseph Baseka of Caritas Kampala has mastered well. He has integrated bananas, coffee, vanilla, cassava, passion fruits, oranges, vegetables, cows, goats, pigs, chicken and ducks on only 3 acres of land. His most precious commodity of vanilla has thrived well under the shade of both bananas and coffee supported by Jatropha curcas trees instead of dried tree materials. The Vanilla roots attach themselves to the rough bark of these trees and draw nourishment from the organic matter and moisture in the bark.

He has also planted a number of insect repellant crops like tobacco and red pepper which he occasionally ferments and mix with ash and urine to make pesticides for his crops as management and control pests. The farmer is very well knowledgeable in composting animal waste to make manure, which is applied to his farm and has effectively managed to keep the soils fertile annually. As an entrepreneur, he is engaged in agro-processing business and blends fermented banana juice with sugarcane bagasse which are then distilled to produce a homemade gin (ethanol) that's marketed as a raw material for sanitizer industry. The farmer has managed to educate all his 6 children by the proceeds from this farm, who have now graduated from universities and the last one being in secondary school.

Vegetable production to supplement organizational staff diet

Caritas Lugazi

Caritas Lugazi under the agriculture project supported by the Scottish Catholic International Aid Fund (SCIAF) started vegetable demonstration garden with an objective of demonstrating how to produce vegetables organically as well as availing Caritas staff with safe fruits and vegetables for healthy lunch meals. With the increasing use of toxic chemicals on vegetables, the organizations is focusing on tracing the source of food in their cafeterias. Compound vegetable gardening came in handy as a demonstration and for growing nutritious food crops especially vegetables for inclusion on their menus as a way of improving staff health for assured productivity and staff performance.

The garden has been divided into small plots where different vegetables are grown in a particular season and a rotation is done for the next season as a mechanism to prevent and control pests and diseases build up in the garden.

The success of vegetable growing is highly dependent on availability of water adlibitum. Therefore a rain water harvesting tank has been established to provide water for irrigation of vegetables twice a week. But in order to conserve water and reduce the need to irrigate, some vegetable gardens are mulched with straw or crop residues. The mulch reduces the rate of water loss from soil and suppresses weeds. Some vegetables (like tomatoes, cabbage, celery, eggplant etc) are heavy feeders, which means they require lots of nutrients.

Additionally, Caritas Lugazi uses composted manure to ensure that vegetables receive adequate nutrients with manure application tailored specific vegetables in each garden. Generally, composted manure preserves and improved soil texture to the loam texture that is needed by most vegetables. In summary growing vegetables as an institution has increased the consumption of organic vegetables among the Caritas Lugazi staff and also saved the organization the money that was previously spent on purchasing vegetables and fruits.

Turning COVID 19 Lock down into opportunities

Robinah Bukirwa
Kakunguru Women's Group
Kakunguru-Kawempe I

Nnina Olugero Foundation

Industrialization comes along with infrastructure development and increasing social amenities, which is evident with the suburbs of Kampala city, which is now expanding to the nearby districts thereby transforming them to have semi urban. This has led to the increasing reduction in land under agriculture. Many urban dwellers are switching to urban agriculture by turning their compounds into home gardens to optimize the small spaces at their disposal.

Robinah Bukirwa, a 47 year old woman in Kakunguru 1 zone, Kawempe Division Kampala district used to think that vegetables were a poor man's food especially the traditional varieties. After participating in the training organized by NninaOlugero Foundation during Covid-19 lockdown, her perception toward vegetables growing and consumption changed. Having realized how her small kitchen garden supplemented diet for her five family dependents during COVID-19 lockdown in terms of food and income, Robinah turned her 15 decimal homestead into a food production basket beyond imagination. She has fully utilized her small compound by intercropping a number of enterprises including bananas, eggplants, leafy cabbages, spinach, onions and tomatoes among others. She grows a few fruit trees including passion fruits, guava and strawberries with 3 goats and 12 local chicken.

Robinah emphasizes that most fruit vegetables like tomatoes, eggplants and peppers require a lot of sunlight, hence positioning them where they can receive at least 6 hours of direct sunshine every day. In less light areas, she grows mainly leafy vegetables that can work with less sunshine. She collects chicken manure and organic waste from neighbors, which together with organic waste from her homestead are composted to make organic manure. Her home has become a demo for the community and Kakunguru Women's Group making her a role model to most of group members and a group leader. Her income has increased substantially and hence self sustaining

An integrated Ecological Organic Agriculture Training center at Kulika Uganda

Kulika Uganda demonstration farm

Kulika training Centre
Namayumba -Wakiso

KULIKA demonstration farm provides a sound agro ecology environment for diversification of crops and livestock. Sound agroecological and sustainable agriculture practices demonstrated on the farm include: kitchen gardening, double digging, compost making, growing of different types of vegetables, natural pesticide, seed grafting and budding, pig castration and chicken debeaking among others. The farm is self-sustaining through a value chain approach process and products are sold on the local market to generate income.

The diversity of seasonal and perennial crops grown like maize, beans, potatoes, cassava, bananas and coffee complement each other to provide regular income for the farm. The farm income is also reinforced by livestock production of pigs, goats and poultry in addition to an ecologically maintained pine woodlot, fodder and fruit trees.

Other lucrative enterprise include; poultry production for food and nutritional security, mushroom cultivation and beekeeping or additional income. In order to address the continuous market challenge for organic products, Kulika established an enterprise and units for skilling farmers in value addition and product standardization and through this the organization has created a new honey and wine brand called "**Katu**"

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