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Homestead Nutritional Garden for nutrition Security for farm families

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Introduction

Sustainable family farming is the key sustainable model for development in agriculture. 70 percent of the people living in extreme poverty worldwide live in rural areas, and the vast majority of hungry people in the world are small scale farmers. Women also have a key role in agriculture and this has been widely recognized by the international community. Family is at the heart of our society. Sustainable improvements in the nutritional status of women and their children will only be possible when their diets provide all the macro- and micronutrients they need. Narrowing the nutrition gap requires "nutrition-sensitive" food and agriculture systems that explicitly incorporate nutrition objectives. Fruits and vegetables from the homestead nutritional gardens are good source of micronutrients especially in the poor households. Rural areas have ample space and establishing a homestead garden so that proper utilization of space will be there to grow vegetables and limited food crops.

OBJECTIVES

- Improve household access to high quality nutritious food and dietary diversity in a refugee setting which is densely populated and stressed environment.
- Enhance utilization of nutritious foods and support health and well-being of beneficiaries within the campus.
- Provide capacity building opportunities.
- Promote environmental and health benefits through camp greening.
- Enhance local vegetable production in order to alleviate anticipated 50-60% annual vegetable deficiency
- Food-based interventions promote diversification of household food production.

OPTIONS

Over the recent years there has been growing interest to strengthen and intensify local food production to mitigate the adverse effect of global food shocks and food price volatility; consequently, there is much attention towards home garden as a strategy to enhance household food and

nutrition security. Cultivation of fruits and vegetables by gardening in a systematic manner in small piece of land available in household is known as "Nutrition Garden". Nutrition gardening is one of the world's most ancient food production practices. Homesteads are the resources that provide major share of livelihood especially for poor farmers. It not only meets the daily dietary requirement but also utilizes the available resources. The nutrition garden ensures to healthy diet with adequate macro and micro-nutrients at door steps. A scientifically laid out nutrition garden helps to meet the entire requirements of fruits and vegetables for a family all the year round. Establishment of nutrition garden is found that it is a low cost sustainable approach for reducing malnutrition, increasing awareness of vegetable production, increasing working hours and achieving food, nutrition and economic security for rural families.

CHARACTERISTICS OF HOMESTEAD FOOD PRODUCTION COMPROMISE

- Small scale production system around the house primarily for domestic consumption, although often partly for sale as well.
- Vegetables, fruits, spices and other plants: mixed cropping.
- Inexpensive; minimal use inputs (labour, cash and others).
- Maintained by family members, often women, elderly, children.
- Use of simple technologies, sometimes added with livestock.

ADVANTAGES OF HOMESTEAD FOOD PRODUCTION

- Can be done on small plots of land, both in rural and urban areas even for people who don't own land.
- Increases availability, accessibility and utilization of nutritious food, offering a supplement to staple foods on a continuous basis.
- Homestead gardening has the potential to decrease 'hidden hunger'.
- Can easily be combined with day-to-day domestic activities and employment patterns of women. Therefore, it can contribute to the empowerment of women and the nutritional situation of women and children by increasing consumption of fresh fruits and vegetables.

Economic benefits:

Growing your own fruits and vegetables is less expensive than buying products from markets. In addition to that it provides livelihood opportunities and an additional source of income to household.

Environmental benefits:

Delivers a range of ecosystem services, especially when ecological friendly approaches are used. This is often the case, since little external inputs are used. Gardens are often diverse, growing multiple crops and plants and indigenous species, hereby contributing to biodiversity and conservation of natural resources. Gardens can provide a habitat for animals and organisms, contribute to nutrient recycling, land conservation and fertility, a reduction of soil erosion and enhances pollination. The use of plant material as fodder for animals and animal manures as

compost to fertilize plants reduce the needs for chemical fertilizers. Thereby, gardens can provide a source for kindling and alternative sources of fuel, manure, building materials and animal feed.

Introducing applied techniques and improve knowledge can make home stead food production more beneficial, efficient and effective.

AREAS AND ISSUES TO FOCUS:

It includes:

- Market appraisal: meeting market needs, transportation, develop marketing strategies and understanding demand and supply.
- Storage possibilities: to increase 'shelf life' and cover needs during shortage period.
- Selection of garden products: involve everyone in the household on what to grow to meet household needs and preferences within the boundaries of available resources.
- Adding value: through storage and small-scale processing: increasing the livelihood options for rural households.
- Marketing: knowing the customer and the market and improve entrepreneurial skills.
- Organizations: organize and plan the division of tasks, complexity of the garden and products.
- Service and input availability/ development: skills and techniques, seeds, cuttings and seedlings. Fertilizers and other inputs and equipment, packaging material, market information.

DIFFERENT PRODUCTION METHODS

Bed Planting- It is a piece of plain to mild slopy natural land with no above-ground structure

•On higher alleviation to facilitate drainage and good access to sunlight.

• Requires soil tilling, depending on crop species selection.

• Mix compost and / or cow dung with soil and practice mulching for moisture conservation in reducing irrigation costs.

• Raised beds may be prepared and separated by a trench for proper drainage.

• Not suitable under highly stressed edaphic and non-edaphic environment.

Pit Planting

• Enclosed smaller separate beds sitting on with a full or partial basal connection to the land surface. Pit sides may be enclosed with a bamboo frame and bio-degradable polythene sheets

• Mix compost and / or cow dung with soil and practice mulching for moisture conservation in reducing irrigation costs.

• Suits stressed edaphic (such as soil salinity, hard and stony soil, and unfertile soil) and non-edaphic (such as water logging and water salinity) environments as it does not use natural land.

Sack Planting

• Similar to pit planting except sacks are used as enclosure material, which do not have a direct attachment to the land surface, and the system is moveable.

• Mix compost and / or cow dung with soil and practice mulching for moisture conservation in reducing irrigation costs.

• The seeds will be sowed / seedlings will be planted on the soil surface and the sack will be placed at the homestead that is

exposed to the sunlight and safe from water logging in the rainy season.

• Suits stressed edaphic and non-edaphic environments as it is not connected to natural land.

Trellis Growing

• Similar to bed planting except a horizontal bamboo structure a bamboo framed structure will be erected around the pits or sacks that will later support the canopy of the creeping vegetables.

• Limits crop species choice as non-creeping crops experience a various degree of shadow from crops spreads on the above-ground structure.

• Mix compost and / or cow dung with soil and practice mulching moisture conservation in reducing irrigation costs.

• The use of pit planting or sac planting at the base can be adjusted depending on surrounding soil conditions.

Vertical Growing

• The vertical growing structure will be made with the support of bamboo poles and frame – the structure should be self-supported and secure and not rely on shelter structure.

• Structure placement and securement should consider wind direction/velocity.

• Mix compost and / or cow dung with soil and practice mulching for moisture conservation in reducing irrigation costs.

• The seeds will be sowed / seedlings will be planted on the soil surface and the sack will be placed at the homestead that is exposed to the sunlight and safe from water logging in the rainy season.

• Limits crop species choice as non-creeping crops experience a various degree of shadow from crops spreads on the above-ground structure.

• The use of pit planting or sac planting at the base can be adjusted depending on surrounding soil conditions.

Multilayer Growing

• Combination of a soil bed at the bottom layer, a bamboo framed structure (i.e. trellis) at the middle layer, and a nylon net spread horizontally as the upper layer above the trellis.

• Raised beds may be prepared and separated by a trench for proper drainage. May require soil tilling, depending on crop species selection.

• Mix compost and / or cow dung with soil and practice mulching for moisture conservation in reducing irrigation costs.

• Framed bamboo structure will support the canopy of the creeping vegetables on the middle and top layers of the structure.

• A nylon net can be spread onto the middle and top layers of the bamboo structure. The net will be tightened with the bamboo poles of the trellis and rope to protect from wind and support the weight of the vegetables.

• Up to three or four species of vegetable seeds can be sowed / seedlings will be planted considering vegetables that can grow in bed planting (bottom layer), creeping types of vegetable species on the trellis (middle layer) with heavy fruit weight, and light fruit weight on the upper layer. • Not suitable under highly stressed edaphic and non-edaphic environment

SEASONAL RISKS/NATURAL HAZARDS

- Homestead gardening is directly impacted by natural calamities such as monsoon season or summer dry season and the availability of inputs with irrigation sources.

- During the rainy season or continuous heavy rainfall, raising vegetables' seedlings is difficult. Additionally, high wind velocity damages the vegetative part of the plant, and fruits drop.
- Continuous rainfall can lead to flash floods which wash out surface soil and impacts bed plantation. All these risks decrease during winter cropping.
- Some contagious pests and diseases (i.e. mosaic virus, aphids, fruit fly, etc.) may spread rapidly from one household to another in the dense plantation areas during the summer season.
- Due to scarcity of irrigation water in the summer season, some seedlings may be damaged or their growth may be slowed.

CONCLUSION

Homestead Nutritional Garden improves nutritional status as a whole. It will provide an additional source of household income, improves the nutritional status of women as it is primarily a female activity, a way to conserve biodiversity. It improves the natural environmental status through recycling, good source to utilize family labour, best way to utilize leisure time, easy availability of fresh and nutritious fruits and vegetables. The achievement of food security for all, and especially for the most deprived, requires Policy Coherence for Development at all levels. Coherent action should be implemented by advanced economies, emerging economies and developing countries, as well as civil society and international organizations. Without everyone pulling in the same direction, the challenge of raising incomes, ensuring sustainable and improved agricultural production and equitable consumption can never be achieved.

REFERENCES

Nutri gardens' improving dietary diversity and nutritional status of rural women in Odisha, Gaon connection, 7 July 2020

Nutrition in backyard gardens: Odisha's tribal women show the way, Down to Earth, 8 March 2021

Nutri-Gardening Initiative Promises Better Nutrition for Tribal Women Farmers, The Wire, 18 February 2021,