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GROW YOUR OWN FOOD: MASTERING KITCHEN GARDENING FOR YEAR-ROUND HARVESTS

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INTRODUCTION:

Climate change is very much intertwined with agricultural sectors (including allied sectors), food security and nutrition. Different sectors of agriculture are not only affected by climate change, but they also contribute to it through greenhouse gas emissions through deforestation, methane emissions from livestock rearing and rice farming, the use of biological and synthetic fertilizers etc. Global emissions must be drastically lowered in order to meet the Paris Agreement's goals of limiting global warming to 2 °C. However, by lowering greenhouse gas emissions and boosting carbon absorption in biomass and soils, agriculture can help to combat climate change. The conditions in which agricultural operations are carried out are changing substantially because of climate change, directly, by altering environmental physical properties viz. temperature, precipitation frequency, intensity, and distribution, the acidity of the marine environment etc., and indirectly, by altering ecosystems and interspecies relationships, particularly through affecting pollinators, parasites, weeds, illnesses etc. Macked with vitamins, carbohydrates, salts, and proteins. Vegetables are becoming more common in everyday meals due to increased health awareness (Solankey *et al*. 2021).

Indigenous vegetables are the cheapest source of vitamins, minerals and other biochemical factors which act as a barrier to most of the diseases including cancers and some degenerative diseases (Boeing *et al.*, 2012). Vegetables are the only source to increase not only the nutritive values of foods but also their palatability. For a balanced diet, an adult should have an intake of 85g of fruits and 300 g of vegetables per day according to the dietary recommendation of nutrition specialists (Singh and Singh, 2017). A kitchen garden is a type of area

surrounding the house where vegetables as well as other herbs are planted for family consumption. It can be done in little plot near the house for producing a variety of vegetables according to the season and choice of household. A kitchen garden gives a household the opportunity to cultivate its own food. The household can assure that the food it consumes is fresh and seasonal, and that it was cultivated organically (without the use of harmful chemical pesticides or fertilizers). A kitchen garden can supply fruits and vegetables for a family all over the year. Home gardens, sometimes referred to as kitchen gardens, are areas where food is grown nearby for domestic use. Mixed gardens, backyard plots, farmyard areas, compound gardens, and homestead gardens are some of the several types of these gardens. The earliest and most common way of producing food in the world has historically been found to be kitchen or home gardening. Essential dietary staples like fruits and vegetables are especially important for expanding populations in developing countries like Bangladesh, Pakistan, and India. Homesteads that produce fruits and vegetables provide households with direct access to vital nutrients that might not otherwise be available owing to financial limitations (Halder and Pati, 2011).

NEED OF KITCHEN GARDEN:

A nutritious diet is essential for people's overall health. A nutritious diet includes a balanced mix of grains, bread, legumes, vegetables, herbs, and fruits. Vegetables are crucial for providing energy and illness defense. Growing veggies without chemicals promotes overall wellness.

- Grow healthy, fresh vegetables yourself.
- Cultivation in a small area facilitates the methods of controlling pests and diseases through
- the removal of affected parts and non-use of chemicals.
- This will only facilitate successful production of our own requirement of vegetables.
- To save the cost of buying vegetables and herbs.
- Waste resources such as sweepings, kitchen scraps and dirty water can be recycled onto the garden.
- Vegetables harvested from home garden taste better than those purchased from market.
- Gardening gives dual benefits of food and income generation.
- Gardens provide fodder for household animals and supplies for other household needs (handicrafts, fuel wood, furniture, baskets, etc.).

NUTRITIONAL VALUE OF KITCHEN GARDEN:

Initiatives to raise nutrition knowledge emphasize the value of including locally accessible fruits and vegetables including papaya, mango, guava, and lush greens, into regular meals. As a result, every household or individual needs to turn the empty ground in their neighborhood into a productive kitchen garden where they can grow fruits and vegetables that are in season. A nutrition garden's main goal is to provide the family with fresh, nutrient-rich veggies every day. A well-planned nutrition garden may meet the family's annual fruit and vegetable needs. Since many native plants have advantageous chemicals with anti-inflammatory, anti-mutagenic, and antioxidative qualities, promoting the production of local plants is an efficient way to boost vegetable intake in a particular area (Chavasit, 2013). While fruits and vegetables are commonly

purchased from markets, it may not be feasible for small and marginal families to include them in their daily diets. Initiatives tailored to a particular area, such as the development of nutrition gardens, can make a substantial contribution to the fight against malnutrition. The concept of a nutrition garden uses available space and household waste through organic practices, coupled with water management, to guarantee a consistent supply of produced veggies to keep your family supplied throughout the year. Shukla *et al*. (2012) state that family members must work together to create and maintain a nutrition garden, which is often run by a woman or housewife.

BENEFITS OF KITCHEN GARDEN:

Fresh and Organic Produce: One of the main reasons people start a kitchen garden is to have access to fresh, organic produce. By growing your own vegetables and herbs, you can be sure they are free from harmful pesticides and chemicals. You can also harvest produce at its peak, ensuring maximum flavour and nutritional value.

Cost-Effective: Once established, a kitchen garden can significantly cut down your grocery bills. A small investment in seeds or seedlings can result in a continuous supply of vegetables, fruits and herbs.

Environmental Benefits: Kitchen gardening helps reduce your carbon footprint by cutting down on the transportation needed to bring produce to your home. It also helps reduce plastic waste from packaging, which is common in store bought produce.

Stress Relief and Physical Activity: Gardening is a therapeutic activity. It encourages mindfulness and relieves stress, all while keeping you physically active. Spending time outdoors in your garden can also boost your mood and improve mental well-being.

Improvement of Nutrient cycle: Kitchen gardens use eco-friendly approaches for food production and conserve biodiversity and natural resources. Kitchen gardens usually have diverse flora and fauna (Galhena *et al*., 2013). Such gardens are complex agricultural production systems which promote biodiversity conservation. In home gardens, livestock, plants, and household humans all

coexist in a symbiotic connection. The family receives food and other benefits from the kitchen garden's plants and animals, while the latter tends to the former. Animal dung is utilized as compost to fertilize plants, and plant waste is fed to animals (Mitchell and Hanstad, 2004). Thus, a kitchen garden enhances an area's ecological balance and nutrient cycling.

Air Quality Enhancement: Many plants absorb pollutants from the air, thereby improving overall air quality. This contributes to a more pleasant urban environment and aids in diminution the urban heat island effect.

Education and Awareness: Highlighting kitchen gardening as a way to mitigate the urban heat island effect in cities raises awareness about the environmental challenges posed by excessive urban heat. Educating individuals about the benefits of green spaces and plants in cooling urban areas can lead to more informed and sustainable urban planning and development strategies.

Thermal Insulation: Plants serve as natural insulators, creating a barrier between buildings and the external environment, thereby reducing heat transfer into buildings during hot weather. This can lead to a decrease in the need for air conditioning, consequently lowering overall energy consumption.

MAIN POINTS WHILE MAKING KITCHEN GARDEN:

Site selection: There will be limited choice for the selection of sites for kitchen gardens and the final choice is usually the backyard of the house. The area where sunlight come from, can be easily accessed from the house. This is convenient as the members of the family can give a constant care to the vegetables during leisure. When these are kept in mind, site selection can be done and making garden is easier.

Protection: The kitchen garden area needs protection. It should not be possible for livestock to enter the area. A permanent fence should be made. Thorny plants can be cut and used to make a fence, but the best method is to plant a living fence to protect the garden.

Land preparation: Proper soil mix is crucial for plant health due to nutrient content. Use cow dung to keep everything organic. Use sweeping pits, liquid

manure, mulching, and green manure to improve soil fertility. First, a thorough spade is used to dig to a depth of 30-40 cm.

- Stones, bushes and perennial weeds are removed.
- 100 kg of well decomposed farmyard manure or vermicompost is applied and mixed with the soil.
- Ridges and furrows are formed at a spacing of 45 cm or 60 cm as per the requirement.

  Flat beds can also be formed instead of ridges and furrows.

Sowing and planting: The main objective of a kitchen garden is the maximum output and a continuous supply of vegetables throughout the year. Direct sown crops like bhendi, cluster beans and cowpea can be sown on one side of the ridges. Amaranthus (meant for whole plant pull out and clipping) can be sown by broadcasting in the plots. Small onion, mint and coriander can be planted/sown along the bunds of plots. To protect transplanted crops such as tomatoes, brinjal, and chillies from ants, sow seeds in nursery beds or pots one month ahead of time. Cover with top soil and dust with 250 grams of neem cake. The perennial plants should be located on one side of the garden, usually on the rear end of the garden so that they may not shade other crops, compete for nutrition with the other vegetable crops. Planting seeds and seedlings too far apart wastes space and promotes weed growth. Weeds deplete water and compost resources and need more effort to control.

Watering: Enough moisture must be supplied for the kitchen garden. Check the soil's moisture content with your fingers to ensu re your plants are receiving the right amount of water, and then water the plant as needed. There probably won't be enough water to irrigate the kitchen garden if the primary food crops aren't being watered. However, more water is saved and less is required if water conservation techniques that save rainwater are applied. It may be sufficient to gather and use kitchen waste water to irrigate the garden. Irrigate at night or in the evening during the hot season rather than throughout the day.

CONCLUSION:

Climate change has made formidable challenges in every sphere of human life; food system is also one of them. Effect of climate change in food production-distribution consumption has made all the value chain actors to reorient or bring changes in their usual activities. Kitchen gardening is one such practice which enhances households' resilience. The importance of eco-literacy through incorporation of suitable kitchen gardening programme, suitable competency-based skilling during volunteering *etc.* Kitchen gardening comes out the better way for enhancing and building local food systems.

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