

Impact Of Homestead Garden On Household Food And Nutrition Security Of Women

¹Priyanka Nath, ²Mridula Saikia Barooah

¹Assistant Professor, ²Professor (retd.)
Department of Food Science and Nutrition,
College of Community Science
Assam Agricultural University
Jorhat, India.

Abstract- Homestead gardening is a traditional method of gardening that helps the poor and rural communities survive. Traditional forestry has given way to homestead forestry in the last 30-40 years. Homestead gardening refers to farming or gardening in your own backyard. Homestead gardening can be done by growing crops and vegetables in the space around the house. Homestead gardening assisted rural poor people in growing vegetables that would provide them with the nutrition they required. It engaged rural women and improved their food and nutrition as well as that of their families. Participation in an HFG programme, according to our findings, reduced food shortages among rural households by up to 41.5%. More rural households must be encouraged to participate in the programme by policymakers. Domestic gardening programmes that give women a voice and sell their full participation in home life can make a significant contribution to community development.

Index Terms- Homestead Gardening, Women, Nutrition, Home Gardening.

1. INTRODUCTION

1.1. The Concept of Homestead Gardening

Gardening and agriculture are as old as human civilization. The hunters- gatherers moved from place to place in search of food. Lately, human civilization has settled near river banks and started growing crops for themselves. Our ancestors significantly began gardening. Homestead gardening is the traditional method of gardening that contributes to the livelihood of the poor and rural communities. In the last 30- 40 years, traditional forestry has been replaced with homestead forestry [3]. Homestead gardening is a concept developed for farming or gardening in your backyard. Homestead gardening can be done by utilising the space around the house to yield crops and vegetables [1]. The competition over recent years and land prices has encouraged many rural people to grow vegetables near their houses, which would save them time and expense.

1.2. Characteristics of Homestead Gardens

Homestead gardening is easier and anyone with some space around their house can start homestead gardening [1]. However, homestead gardening needs some effective planning-

- Space would determine the homestead technique and the quantity of crops, gardening can be managed even with a smaller space with effective planning.
- The plants should be planted carefully, so that there would be no too much sunlight and too much shed.
- Trees near Homestead gardens would provide better shade and moisture for the plants planted in the garden.
- Plants should be watered regularly. Thus, before starting the homestead garden, a water supply must be arranged.
- Homestead gardens need a lot of labour. Families establishing homestead gardens need to give them regular attention.

1.3. Components of Homestead Gardening

Gardeners and growers can leverage the minimal space around a residence and maximise the manufacturing of fresh produce and other food sources by making plans in advance. The garden's design is incredibly significant-

- CRS has recommended home gardens in Lesotho, with 4 most important components:
- Two to a few keyhole gardens produce small leafy vegetation like spinach in addition to small root crops like carrots and onions [4].
- A minimum of 4 trench gardens for small vegetation or large plants like tomatoes and inexperienced beans.
- Conservation agriculture plots 30 m x 30 m for small-scale production of maize, sorghum, or beans.

1.4 Benefits of Homestead Gardening on a Household

What could be better than growing vegetables for your own family. Homestead gardening was initiated by the rural communities who could not afford private lands for agriculture. Therefore, they began growing crops and vegetables near their homes that supplied food for themselves as well as earnings to meet their basic requirements in life. [5] The effects of backyard vegetable gardens on the food security and economic empowerment of women. Homestead gardening helped the rural poor people grow vegetables that would provide them with the required nutrition. It engaged the women of rural areas and improved the food and nutrition of those women as well as their families. Homestead gardening benefited rural communities by making the financial

system stronger to meet their life's expectations. According to the study, 60% of people with homestead gardens consume fresh vegetables directly from their home gardens [4].

1.5 Importance of Homestead Gardening on health and nutrition.

Micronutrients are significant in kitchen garden fruits and vegetables, especially in low-income households. It was stated that beginning a kitchen garden is much easier because farm families are concerned with agriculture [6]. Homestead gardens have been shown in research to enhance children's nutrition and meal options. Homestead gardens have been demonstrated to significantly raise fruit and vegetable consumption, as well as trading to improve adolescent fitness. Furthermore, gardening has the potential to increase children's physical interest as well as nutritional intake. A study conducted in New York state schools discovered that school gardens can increase physical activity while decreasing sedentary behavior [7].

1.6 The role of women in Homestead Gardening.

Women play an important role in home gardening. House gardening is fundamental to the concept of home gardening. Homestead gardening enables women to be self-sufficient and effective. It illustrates that, with proper guidance, women can significantly contribute to increasing yields from home vegetable farming and, possibly, improve the entire farming machine [1]. They can also help to boost family earnings and improve the nutritional status of rural families. Even though women play such an important role in smallholder farming and family financial planning, including them in any prevalent experiment on agriculture development and food security is essential.

2. RELATED STUDIES

The purpose of this research is to assess the additional benefits of a home growing vegetables programme designed to combat the deficiency of vitamin A in Bangladesh [1]. Data on women's food safety and social standing were gathered from 2,160 households of active and former gardening programme participants, as well as management companies. Over three months, approximately 64% of participants actively generated an ordinary lawn income of 347 taka (US\$1 = 51 taka), which was primarily spent on meals. The landscape production and income levels of individuals who had access were significantly higher than those of control families after programme help was discontinued.

The effects of backyard vegetable gardens on the food security and economic empowerment of women was investigated [5]. Ten families have been chosen at random from the adopted villages (Devispeta, Veguru, and Amamcherla, Nellore district, Andhra Pradesh, India). The common monthly income generated by the homestead vegetable garden was approximately 133,410.4 rupees. A massive distinction ($p < 0.001$) has become located in household earnings and vegetable intake.

[4] South Africa's government has implemented homestead meal option garden (HFG) applications to increase food production and thus reduce food insecurity, malnutrition, deprivation, and starvation. According to the findings, involvement in an HFG programme significantly reduced food shortages among rural households by up to 41.5%. Policymakers must encourage more rural households to participate in the program. Trying to make credit, agricultural extension, fertiliser, irrigation systems, and land more accessible are some of the policy options for empowering farmer involvement in HFG programmes.

The modern-day look was accomplished in 4 districts of Western Uttar Pradesh (Muzaffarnagar, Baghpat, Bulandshahr, and Gautam Budh Nagar). In every district, kitchen gardens had been set up, involving one hundred sixty farm families. In 2011-12 and 2012-13, the average vegetable weight in kitchen gardens was observed to be 403.4 kg. The average quantity saved was Rs 9870.25. Women's empowerment via kitchen gardens addresses a priority place of poverty alleviation at the same time as additionally providing widespread socioeconomic returns via lower health and welfare costs, decreased fertility, and lower maternal and infant mortality rates. Thus, the simultaneous effect of domestic gardening programmes in terms of giving women a voice and selling their complete participation in home existence can make a good sized contribution to community development [6].

3. DISCUSSIONS

3.1 A case study on homestead gardening in Bangladesh

According to the risk management frameworks in the literature [1] regarding history's meals, nutrients, as well as food security, are a main issue in Bangladesh. Only a tiny proportion of the entire population has access to well-balanced meals, while the vast majority is forced to subsist on poorly balanced basic sustenance diet plans devoid of important dietary substances. Health and nutrition risks are greater for dispossessed and marginal farmers than for larger families. These households have lower grain availability per capita and relatively high rates of child malnourishment. The much more believable and lengthy remedy to the nation's malnutrition dilemma would be to start encouraging the sowing and consumption of gardening vegetative cover (fruits, vegetables, and fresh herbs) capable of meeting the primary nutritional and natural resource requirements. Crop production, especially vegetable and fruit production, could be the solution to Bangladesh's ability and malnutrition problems. Diet can be avoided for a baby. Deficiency can be avoided by having eaten a spoonful (33 g) of coloured green vegetables each day. According to [8], farmers in Bangladesh have an outstanding chance to cultivate a wide variety of horticultural crops through homestead gardening. These plants are perfect for expanding in your own garden. Through the consumption and production of a wide range of vegetables, all of the house's microhabitats, from of backyard garden to the organic gardening, as well as the rooftops of 8 houses, make a contribution to the investment of the weekly grocery regimen. Nutritional additives from domestic gardens are attributed to a few to forty four% of total calorie intake and four to 32% of dietary status in the Bangladeshi areas studied. Despite the truth that one-half of pre-faculty-elderly children and pregnant women in the ones countries suffer from micronutrient malnutrition, Helen Keller International's family garden tasks in Bangladesh have been proven to be effective in growing the manufacturing and consumption of weight loss plan A-wealthy plant assets and in diversifying the diet [9]. If extreme malnutrition is to be eradicated, concerted efforts should be made to grow the production of culmination and veggies thru intensification in their domestic

manufacturing gadgets. In Bangladesh, greater than 100 and fifty styles of end result and vegetables are grown in homesteads and farmer's fields, but their availability lags a long way at the back of the call for.

3.2 Food and Nutritional benefits to families through Homestead gardening

In the article of [5], it is stated that- Agriculture-based approaches to combating micronutrient malnutrition are increasingly being promoted, and women's empowerment in agriculture influences not only the most effective agricultural decisions, but also nutritional outcomes in the own family. Women can play an important role in altering intra-household dynamics, which can have far-reaching fitness and nutrient consequences, particularly for children. Food-based total strategies are primarily aimed at increasing the bioavailability of the micronutrients in question. 'The amount of a nutrient that is potentially available for absorption from a meal and, once absorbed, used in the body's metabolic techniques is referred to as bioavailability [10]. Home gardens should be promoted as an environmentally friendly, long-term agricultural practice to improve dietary protection and financial gain. Home gardens fulfill socioeconomic, cultural, and financial stability while also providing ecosystem services. Following a global food crisis and rising food prices, there has been a strong focus on enhancing and establishing local food systems. Housewives face numerous constraints that jeopardise their health. Insurances that aim to empower them, for example, by increasing livelihood opportunities, do not always result in improvements in other areas, most notably their dietary reputation. In fact, many current indicators of girls' autonomy have vague friendships with indices of nutritional fame. This is most likely due to the fact that current empowering sensors and actuators frequently focus on facets that are rather oblique from components that have an impact on vitamin supplements. In this frame of reference, there is a stronger focus on agricultural production and income generation through home gardens [2]. Recognizing the importance and possibilities of home gardens for improving food production and livelihoods, innumerable programs have been launched in India by government agencies that are giving assistance and constructing capacity to increase productivity and scale up home garden operations.

3.3 Women being the Primary Gardeners and enhancing their Economic conditions through Homestead gardening

In the discussion of [7], it was stated that the yard kitchen gardening involvement was chosen for the tribal women growers who are implicated and have outside space within the assimilated tribal village. As part of the FLD programme of KVK, Seoni, approximately 110 kitchen garden kits were distributed to tribal ladies recipients of Setewani hamlets in Khurai block in 2019-2020. Out of the forty respondents, 22% were illiterate, 41% had a basic education, and 37% had a middle-elegance education. Each kitchen garden kit contains 23 unique vegetable seeds from ICAR, IIR Varanasi, and IARI, New Delhi. Backyard kitchen gardening in tribal regions reduces vegetable expenditure, increases the provision of numerous greens and green leafy vegetables within the weight-reduction plan, and strengthens network connections. Vegetable manufacturing and consumption increased by 218.25% and 95.40%, respectively, resulting in a growth in iron consumption of 32.70% and 40% [11]. It not only saves time and money, but it can also provide a healthy, beneficial, and environmentally friendly activity for the entire family. Home gardens, especially when combined with a compost pit, can help with household waste recycling. Growing a variety of ingredients in the backyard is one of the simplest ways to ensure access to a healthy diet rich in macro- and micronutrients. Direct earnings are generated by the sale of surplus manufacturing, whereas indirect earnings are generated by the financial savings realised by not purchasing the same products from the marketplace, as well as This accelerated trade as produce was exchanged with others from the neighbourhood. Based on the findings of this study, it's far more plausible to conclude that the established order of kitchen gardens played a significant role in addressing the problem of malnutrition and micronutrient deficiencies in rural areas [12]. Women are the primary gardeners, and having a kitchen lawn empowers them, ensures better use of income for meals, and improves family welfare. Kitchen gardening lowers vegetable expenditure, expands vegetable supply range, It expands crop variety area of kitchen gardening, boosts self-esteem and motivation, boosts network connection after beginning kitchen gardening as a pastime, and improves social surroundings.

3.4 Role of Women and their families in Homestead Gardening in providing household food and nutrition

The tradition of growing vegetables and fruits on the homestead provides women, who make up half of the population and are the most disadvantaged group in society, with a fantastic chance to work independently in income-generating activities. One of the primary motivators for home gardeners to maintain family food and nutrition security may be the possibility of gender parity in backyard garden people caring and associated with positive. Family labour, which included male, female, and inactivity, was primarily used in household gardens. While female members were more involved in providing irrigation, mulching, and harvesting vegetables, male farmers were more involved in preparing vegetable beds, planting, weeding, staling, fencing, crop protection, and selling [13]. Children assisted their parents and took part in all of the tasks. According to them, male and female labour involvement was about equal, with male involvement being higher than female involvement. Equity issues within the family and in society were positively impacted by the increasing participation of women in agricultural operations. Women and children handled about 34% of the planting tasks; in fact, 17 of the horticulture techniques were decided mostly by women. They used the money they generated by marketing garden fruit to pay for their children's school expenses, tiffin fees, pens, and writing pads, among other things. Although each family member makes a small effort in farmhouse farming, women provide the majority of the effort. Based on socioeconomic and religious considerations, their positions can differ greatly. It has been demonstrated that in comparison to other types of families, landless families' female labourers contributed the most time. They increase family income by devoting roughly one among their period to homesteading activities. Even though women are heavily involved in household administration and output, there is still a huge chance to enhance home productivity by expanding their expertise and competence [11]. Therefore, Women must be given the information and skills necessary to participate more actively and meaningfully in homesteading tasks. For borderline and small-scale farmers, home gardening is essential to income. It raises household income.

3.5 Beneficial effects of Homestead Gardening to Rural Women and their families of different cultures

According to a case study from Zimbabwe, nutrition gardens have a beneficial effect on lifestyle because they offer stable incomes and reduce diet-related disorders. Cheap vegetables from kitchen gardens lower the cost of everyday eating while also preserving the earth. Fruits and vegetables cultivated in backyard gardens are significant contributors to meeting dietary needs because they allow access to products that may be collected, cooked, and eaten by relatives. [14]

The research showed that the area of Mesoamerica, which experiences extreme poverty and hunger, relies on household gardens for both money creation and basic food needs, thus boosting food production. In addition to increasing the variety of cereals, pulses, and green leafy vegetables available for consumption, the kitchen garden also helps women's haemoglobin levels. The research from remote Tanzania found that growing food in kitchen gardens offered a potential way to combat food instability and malnutrition by producing fruit and vegetables. [15]

Meanwhile, research in Cambodia found that families had expanded their vegetable usage, expanded the range of their eating regimens, and had a diminished risk of fever in small kids younger than five. The rate of hindering in youngsters was demonstrated to be decreased in light of the fact that to admittance to society sustenance medications including kitchen gardens and an expansion in food creation, as per comparable discoveries from one more review directed in Western Kenya [16]. As well as tending to destitution easing and creating financial advantages through lower medical care costs, kitchen cultivates additionally engage ladies. Related to wellbeing and sustenance instruction, the United Nations-ESCAP has upheld the advancement of reasonable home or kitchen cultivation as a technique for social security. By giving the relatives simple admittance to food, lawn cultivating guarantees the security of the food supply in the home [17]. To increase food security, work potential, open doors, and reduce the occurrence of illnesses connected to hunger, UNICEF's people group drove Nutrition Gardens in Chhattisgarh to provide a positive model.

A home nursery model that was attempted in Bangladesh homes has uncovered diminished costs for vegetables, expanded utilisation of new leafy foods, as well as the capacity to create cash through the offer of the produce [18]. A meta-examination of 22 homegrown/local area gardens' contextual analyses from around the world shows that there is a drawn-out expansion in friendly, mental, and actual wellbeing. Nutri-gardens have a critical potential to lessen the occurrence of youngsters' unhealthiest.

Terrace gardens are used by ranchers in rustic Odisha to develop occasional products of the soil, which has expanded female support and advanced financial circumstances through the offer of additional produce [12]. Gujarat has likewise made a fruitful patio kitchen cultivating the idea that endeavours to help ranch ladies in driving better, more prosperous, and feasible lives. Ladies in Odisha's high-lack of healthy sustenance regions watch out for kitchen cultivators so they can take care of their family steadily without spending any additional cash.

4. CONCLUSION AND FUTURE DIRECTION

Homestead gardening is the traditional method of gardening that contributes to the livelihood of the poor and rural communities. Homestead gardening can be done by utilising the space around the house to yield crops and vegetables. The competition over recent years and land prices has encouraged many rural people to grow vegetables near their houses. Homestead Gardening was initiated by the rural communities, who cannot afford private lands for agriculture. Homestead gardening helped the rural poor people grow vegetables that would provide them with the required nutrition. Rural areas have a lot of space, and beginning a kitchen grass is much easier because farm families are concerned with agriculture. Nutrition is best achieved through a strong family farm garden programme. This education will help to increase vegetable production and consumption. Homestead gardens are an extremely potent way of selling negative people's long-term livelihood dreams. Homestead efficiency and profits have increased as a result of intervention with appropriate vegetable cultivation. Unused and underutilised residence areas were put into intensive production. The culture of growing vegetables and fruits at the home affords girls, who make up half of the humans and are the maximum disadvantaged organisation in society, with a first-rate risk to work independently in income-producing sports. One of the primary drivers of persevering with family meals safety achieved via domestic gardeners can be the egalitarianism for involvement in backyard garden care and reward sharing is a potential. Family labour, which included male, female, and kid inaction, become broadly speaking used in family gardens.

REFERENCES:

1. Bushamuka, V. N., de Pee, S., Talukder, A., Kiess, L., Panagides, D., Taher, A., & Bloem, M. (2005). Impact of a homestead gardening program on household food security and empowerment of women in Bangladesh. *Food and nutrition bulletin*, 26(1), 17-25.
2. Talukder, A., Haselow, N. J., Osei, A. K., Villate, E., Reario, D., Kroeun, H., ... & Quinn, V. (2010). Homestead food production model contributes to improved household food security and nutrition status of young children and women in poor populations. Lessons learned from scaling-up programs in Asia (Bangladesh, Cambodia, Nepal and Philippines). *Field Actions Science Reports. The journal of field actions*, (Special Issue 1).
3. FOOD, C. T. I. H. (2010). Homestead food production model contributes to improved household food security, nutrition and female empowerment—experience from scaling-up programs in Asia (Bangladesh, Cambodia, Nepal and Philippines). *Nutrition Bulletin*, 8(1).
4. Tesfamariam, B. Y., Owusu-Sekyere, E., Emmanuel, D., & Elizabeth, T. B. (2018). The impact of the homestead food garden programme on food security in South Africa. *Food security*, 10(1), 95-110.
5. Vijayalakshmi, K., Swamy, G., & Jyothi, G. L. S. (2020). A study on nutritional security and economic empowerment of women through homestead nutrigardens in Nellore District of Andhra Pradesh. *Pharma Innov. J*, 9, 207-212.
6. Arya, S., Prakash, S., Joshi, S., Tripathi, K. M., & Singh, V. (2018). Household food security through kitchen gardening in rural areas of western Uttar Pradesh, India. *Int. J. Curr. Microbiol. App. Sci*, 7(2), 468-474.

7. Bhandari, S., Yadav, P. K., & Rijal, S. (2021). Home Garden; an Approach for Household Food Security and Uplifting the Status of Rural Women: A Case Study of Saptari, Nepal. *Turkish Journal of Agriculture-Food Science and Technology*, 9(10), 1792-1798.
8. Afari-Sefa, V., Rajendran, S., Kessy, R. F., Karanja, D. K., Musebe, R., Samali, S., & Makaranga, M. (2016). Impact of nutritional perceptions of traditional African vegetables on farm household production decisions: a case study of smallholders in Tanzania. *Experimental Agriculture*, 52(2), 300-313
9. Van den Bold, M., Quisumbing, A. R., & Gillespie, S. (2013). Women s empowerment and nutrition: an evidence review.
10. Ebile, P. A., Phelan, L., & Wünsche, J. N. (2022). The role of home gardens in empowering minority women and improving food and nutrition insecurity: a case of Mbororo community in Cameroon’s Northwest region. *Agroecology and Sustainable Food Systems*, 1-23.
11. Galhena, D. H., Freed, R., & Maredia, K. M. (2013). Home gardens: a promising approach to enhance household food security and wellbeing. *Agriculture & food security*, 2(1), 1-13.
12. Kulsum, U., Rahman, M., & Hasan, M. (2019). Participation of Rural Women in Homestead Agricultural Activities and Its Impact on Family Income: Evidence from Sadar Upazilla of Rangpur District in Bangladesh. *Journal of Science and Technology*, 45, 58.
13. Dragojlovic, N., Michaux, K. D., Moumin, N. A., Li, K. H., Talukder, Z., Hou, K., ... & Lynd, L. D. (2020). Economic evaluation of an enhanced homestead food production intervention for undernutrition in women and children in rural Cambodia. *Global Food Security*, 24, 100335.
14. Suza, M. K., Hasan, S. S., Ghosh, M. K., Haque, M. E., & Turin, M. Z. (2021). Financial Security of Farmers through Homestead Vegetable Production in Barishal District, Bangladesh. *European Journal of Humanities and Social Sciences*, 1(4), 65-71.
15. Baliki, G., Brück, T., Schreinemachers, P., & Uddin, M. (2019). Long-term behavioural impact of an integrated home garden intervention: evidence from Bangladesh. *Food Security*, 11(6), 1217-1230.
16. Olumakaiye, M. F., Popoola, B. R., & Abioye, B. (2019). Influence of women's empowerment on household food security. *International Journal of Home Economics*, 12(1), 45-54.
17. Raihan, M. J., Farzana, F. D., Sultana, S., Saha, K. K., Haque, M. A., Rahman, A. S., ... & Ahmed, T. (2018). Effect of seasons on household food insecurity in Bangladesh. *Food and Energy Security*, 7(3), e00136.
18. Du, L., Williams, T., Hawkins, A., McClung, S., Fisseha, T., & Danton, H. (2018). The effect of farmer nutrition schools on household food production and women's dietary diversity in Bangladesh. *World Nutrition*, 9(2), 89-108.