

A Guide to Mainstreaming Home Garden for Improved Nutrition and Income of Smallholder Farmers



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Photo: Lal Kumar Jirel/LI-BIRD Photo Bank

According to the Nepal Living Standards Survey 2011, 42% of children under five are stunted and 31 percent are underweight in Nepal. The Government of Nepal addresses the problem of malnutrition with nutritional supplementation, food fortification, nutritional education and dietary diversification. These options were mostly feasible for people living in accessible areas rather than the rural poor. Agriculture based dietary diversification, especially through household level interventions, is being increasingly considered as a more sustainable strategy in addition to other approaches to address malnutrition, as it is economically feasible, culturally acceptable and women friendly. LI-BIRD has demonstrated that an integrated home garden approach promoting biodiversity management at household levels is an effective means to improve the nutrition of smallholder farmers.

A Home Garden approach can easily be integrated into existing livelihood projects and programmes, due to its low cost and suitability for all community members, especially disadvantaged families. LI-BIRD has therefore prepared this 'Home Garden Integration Guidelines' drawing from 12 years of experience in implementing Home Gardens.

Introduction

A home garden is a land use system situated around a homestead, where traditional and improved varieties of vegetables, fruits, fodder, spices, ornamental plants as

well as livestock, fish, mushroom, honey bee and other components are maintained by the household members. The produce generated by a home garden is primarily intended for daily family consumption, although many farmers also sell some of their surplus produce. Alongside this additional income, the increase in food diversity and integration of livestock contributes to an improved nutritional status of the families. According to a survey conducted by LI-BIRD, 44% of an average Nepali farmer's family food requirement is covered by fruits and vegetables, of which almost 60% is supplied from a home garden at the household level. Therefore improving the production potential and crop nutritional value of Home Gardens is of great importance both nutritionally and as an alternative source of income.

Within Nepal, Home Gardens have been called various different names, including *Ghar bargaicha*, *Karesa bari*, *Goth bari*, *Kothe bari*, *Dumna*, or *Berabari* etc. Technically, many people confuse Home Gardens with Kitchen Gardens, whereas in actual fact, a Kitchen Garden is just one component of a Home Garden. A kitchen garden typically has a few seasonal vegetables that fulfill the household vegetable needs over a short period of the year. However, a home garden is intentionally designed by the household members to fulfill the household's fruit, vegetable, spices, protein, vitamin and other nutritional needs over the whole year.



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Home Garden project experience

LI-BIRD has implemented the Home Garden project in 16 districts spanning different physiographic and developmental regions of Nepal. The project was financially supported by the Swiss Agency for Development and Cooperation (SDC) from 2002 to 2013 in three phases. External reviews of the different phases (2005; 2008 and 2012) validated that home garden interventions have been highly successful in reaching and improving the family nutritional status of Disadvantaged Groups (socially excluded and economically poor) through diversifying their dietary sources. Average species consumed by the target beneficiaries rose to 28 (SD=8.86, n=1162, N= 7700) in 2013 from 13 in 2009. Home gardens are also found to be successful in reducing economic vulnerability through the sale of surplus products and reducing expenditure for vegetables, fruits and meat. Monitoring of the Home Garden project revealed that 56% of the total 7700 households involved, have reduced expenditure on vegetable purchases by 75% after three years of participation. In addition, 5400 (70%) households have received cash income from their home gardens, and, up from 3% in 2009, 49% of households are now earning more than NPR 5000 per year. An external review in 2012 also highlighted an improvement in household's resilience to climate change impacts, owing to an increased diverse portfolio of home garden species that are adapted to biotic and abiotic stresses.

Benefits of mainstreaming Home Gardens into existing livelihood projects

Home Gardens are able to complement other livelihood projects and programmes especially by helping them to address the urgent needs of the most disadvantaged groups in the community through improved:

1. Family nutrition, by diversifying diet and contributing to food security
2. Economic security, by selling surplus produce

Home garden intervention is low cost by design to allowing projects and programmes to reach large number of beneficiaries, especially in the disadvantaged groups. Consequently, It employs local resource based low input agriculture techniques, such as the use of local seeds, sustainable soil management practices and integrated farming. These methods are easy to adopt as they do not require a high level of technical skill. .

Recommendations on how to integrate a Home Garden approach

1. Beneficiary Selection

From LI-BIRD's experience, Home Garden initiatives have been found to be most successful when working with women groups. It's also important to note that although we target the most resource poor, our experience has shown that including non-discriminated groups and economically better off households within the target group, tends to lead to better community cohesion and increased seed diversity. But we need to be focused on technical advice rather than material support to more economically better off households.

2. Preliminary assessment of home garden biodiversity

Understanding the current status of homestead agricultural biodiversity is crucial for identifying the gaps in the annual availability of nutritious food. This allows for informed decision making when deciding on the set of vegetable crops to be included in the seed composite

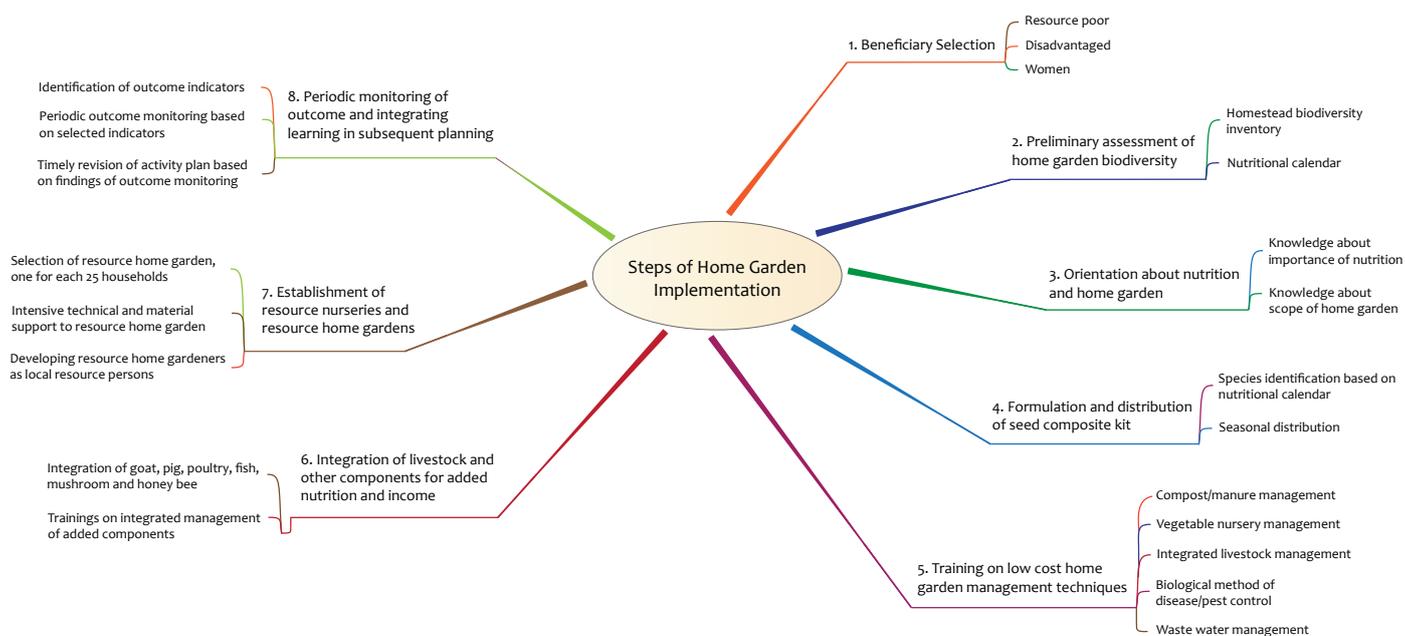


Figure 1. Steps of home garden integration

kits or list of fruits need to be added in the home gardens of a particular community. Such assessments also help monitor the change in diversity, as well as the nutritional status throughout the programme. This assessment can be done via a 'nutritional calendar', which identifies the monthly deficiency of specific nutrients in the households' diets. By analyzing this calendar, one can ascertain the nutrients and corresponding crops required to be grown for each season. In addition, a baseline household survey of homestead species diversity should be considered. This will also help to measure project outcomes at the end of the project.

3. Orientation about Nutrition and Home Gardens

Recognizing the importance of nutritional diversification and the ability of a home garden to contribute to family nutrition is imperative for the beneficiaries to understand. Due to this importance there must first be an overarching training on human nutrition, macro and micro nutrients, functions of various nutrients, sources of micronutrients, and the ability of a home garden to provision such nutritional sources (diverse crops/livestock). Working with Female Community Health Volunteers in this training can add effectiveness and sustainability.

4. Formulation and distribution of seed composite kits

An appropriate set of crops should be identified and distributed as guided by the homestead baseline survey and the nutritional calendar. The seed composite kits' are season specific and include both vegetable and fruit seeds/

saplings. While formulating the kits, one should take into account the climate, geography and available area of the home gardens. Local and/or improved seeds should be distributed and sustainable crop management principles should be considered. Based on the resources available, fodder and medicinal and aromatic plants may also be included in the seed composite kits.

5. Trainings on low-cost home garden management techniques

Trainings should be provided to improve the quality and quantity of crop production and space utilization. These trainings should be delivered based upon the principles of integrated sustainable agriculture. In addition, one should consider trainings on low cost management techniques such as, waste water management, biological insect and pest control, compost/manure management, vegetable nursery management and integrated livestock management.

6. Integration of livestock and other components for added nutrition and income

In addition to crop production, one can also integrate other components into a home garden to improve nutrition and income, such as livestock, mushrooms, off season vegetables, fish and honey bees. These additional components can be added in multiple ways, for example distributing animals directly, or by contributing plastic sheeting with which the farmers can construct a small greenhouse on their own. These contributions can be made in full or in part, or even as a loan. However, it is important to include practical demonstrations.



Photo: Lal Kumar Jirel/LI-BIRD Photo Bank

7. Establishment of resource nurseries and resource home gardens

Local demonstration sites or, 'resource gardens' should be established in each community to help educate and inspire gardeners to improve their own home gardens. In general, one resource garden for every 25 households has been found to be effective. Selected potential home gardeners can be supported intensively from the beginning to develop their own home gardens into resource gardens. In addition, home gardeners should be encouraged to create a local nursery to help maintain the seed and sapling supply, which will also act as an extra source of income for them.

8. Periodic monitoring of outcomes and integrating learning in subsequent planning

SMART indicators (specific, measurable, attainable, relevant and time-bound) for existing project outcomes should be identified at the beginning of the project, and suitable annual targets should be fixed. The targets should be based on the baseline data for each outcome indicator. Periodic measurement of the progress of these indicators should be carried out by household surveys; however it is important to note that some indicators may require

a more comprehensive monitoring mechanism. When monitoring, one should take into account the change in home garden crop diversity, dietary habits of the impact group, home garden management practices, the number of integrated components, income earned from the home gardens and any other special change directly attributed to Home Garden interventions. Learnings derived from the monitoring should be integrated into plans for subsequent years.

LI-BIRD can provide additional technical backstopping services to organizations that are interested in mainstreaming HG in their regular or new programmes and projects. We also offer a five days training package on Home Garden designed to help professionals/practitioners from such organization to understand and implement home garden in their won context.

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