

A Report on

**EXTERNAL REVIEW OF HOME GARDEN
PROJECT PHASE III**

**Prepared for SDC
Kathmandu, Nepal**

By

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August 2012

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Abbreviation/Acronym

ASC	Agriculture Service Centre
CEAPRED	Center for Environment and Agriculture Policy, Research, Extension and Development
CBO	Community Based Organisations
DADO	District Agriculture Development Office
DAG	Disadvantaged Group
DAT	Directorate for Agricultural Training
DDC	District Development Committee
DLSO	District Livestock Service Office
DOA	Department of Agriculture
FGD	Focus Group Discussion
GON	Government of Nepal
HG	Home Garden
HMRP	Hill Maize Research Project
INGO	International Non Government Organisation
LIBIRD	Local Initiatives for Biodiversity, Research and Development
LILI	Local Infrastructure for Livelihood Improvement
LRP	Local Resource Person
MDG	Millennium Development Goal
MOAC	Ministry of Agriculture and Cooperatives
NARC	Nepal Agriculture Research Centre
NGO	Non Governmental Organization
NLSS	Nepal Living Standard Survey
PVSPR	Promotion of Vegetable Seed for Poverty Reduction
RHDP	Rural Health Development Project
SDC	Swiss Development Cooperation
SSMP	Sustainable Soil Management Programme
VDC	Village Development Committee

Acknowledgements

We would like to express our deep sense of gratitude and sincere thanks to the Embassy of Switzerland, Kathmandu, Nepal for entrusting us to undertake the External Review of Home Garden project. During the entire process of this assignment starting from designing to submission of the final report, many people and organizations helped the Review Team by furnishing information and facilitating information gathering from the project sites. We gratefully acknowledge their cooperation. In particular, we would like to thank Dr. Bimala Rai Paudyal, Senior Programme Officer, Embassy of Switzerland, Kathmandu, Nepal for her valuable suggestions related to undertaking the assignment and preparation of the report.

In this endeavor, we had meetings with the pertinent officials of the Ministry of Agriculture, Department of Agriculture, LI-BIRD, and the implementing organizations such as CEAPRED, TUKI-Sunkoshi, and other organizations such as RHDP, LILI, VSP and SSMP/Helvetas working in the SDC cluster. Similarly, during our field visits, we had meetings with the personnel from District Development Committee, District Agricultural Development Offices, District Livestock Office, Village Development Committees in the project districts. We found the outcomes of all these meetings very useful for the preparation of this report. We are highly obliged to all of them for their time and invaluable suggestions.

Mr. Suman Manandhar, Senior Programme Coordinator and Ms. Subhechhha Sharma, Project Officer from LI-BIRD, Pokhara were with us during the visits to the project stakeholders as well as the sites in the districts. We would like to extend our special appreciation to both of them for their untiring support to us. Similarly, we are grateful to Dr. Ram Bahadur Rana at LI-BIRD, Pokhara for his invaluable input in the first draft report.

Our visits to different project districts provided us with ample opportunities to interact with the beneficiary participants and observe the ground realities. In this regard, we would like to acknowledge the assistance received from Mr. Madhav Paudel and Mr. Krishna Bahadur Thapa in Sindhupalchowk; Ms. Mama Maya Gurung in Ramechhap; Upendra Raj Joshi and Ms. Bagmati Bishta in Dadeldhura; Mr. Mani Raj Pandey in Kanchanpur; Mr. Indra Bahadur Thapa Magar and Mr. Resham Chaudrari in Kailali; and Mr. Shambhu Basnet, Ms. Narayani Acharya and Ms. Man Kumari Mahato in Rupandehi for setting all appointments, arranging necessary site visits and coordinating with the Home Garden project beneficiary groups in the project districts. Mr. Chandra Gurung from LI-BIRD Office at Pokhara drove us safely and comfortably to all designated places. He deserves our special thanks.

Finally, we would like to express our heartfelt thanks to the members of Home Garden Groups for their active participation in the discussions conducted during our field visits. The information and suggestions provided by them have been extremely valuable for the preparation of this report.

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Executive Summary

The Home Garden Project

The Home Garden (HG) project has been implemented in 16 districts, covering different ecological and development regions of Nepal, with the support of the Swiss Agency for Development Cooperation (SDC) Nepal since 2002 and now it is running through its third phase (1st April 2009-16th July 2013). The Local Initiatives for Biodiversity, Research and Development (LIBIRD), a national NGO based in Kaski district has got responsibility to implement the project. The project has hitherto supported a total of 115 beneficiary groups and their 8,929 households. Of the total households, about two-fifths were directly beneficiaries, of which 86.1 percent included the women and nearly two-thirds the Disadvantaged Groups (DAGs). Of the total DAGS three-fourths belonged to the socially excluded groups such as Janajatis (49.3%) and Dalits (24.2%).

Based on the lessons learned from the Phase II, the running Third Phase has focused on providing improved HG technologies to the HG group members, particularly (DAGs) to enable them to improve food security situation by diversifying nutrition at household level, as well as to provide the small farmers, particularly the women with an independent source of income. This has been also to improve the health condition and to reduce economic vulnerability of the poor and disadvantaged groups through improved nutrition and food security.

LIBIRD provided orientation about the nature and objective of the project to the potential HG groups and facilitated these groups to identify the potential and genuine beneficiary (disadvantaged groups) communities to be included in the HG groups both as general members and executive members. Thus the groups were able to select and nominate their members in appropriate positions, irrespective of the sex, caste or ethnicity, wherever available and appropriate. Furthermore, the project also organized exposure visits to the HG group members, with the view of learning from what they would see outside their communities. Other activities of the project included: introduction of drought resistant variety of vegetables and seasonal calendar and provision of home gardening management skill training; the latter being primarily to help HG groups to reduce vegetable scarcity during lean season. The HG project has made substantial efforts to promote biodiversity among the beneficiary farmers, as one of the major activities.

Methods Adopted in the HG Project's External review

The review team adopted both quantitative and qualitative approaches to gather data and information related to the aspects stated above in the field, as well as used primary as well as secondary data sources. Various techniques like interviews, FGDs, stakeholder meetings, workshops, and observations were employed in the field (20th March to 18th April 2012). There were seven project districts being selected, comprising Sindhupalchok (mountain district), Ramechhap and Dadeldhura (hill districts) and Rupandehi, Kailali, and Kanchanpur (Tarai districts), across the east through far west of the country.

The Review Team visited all the sample districts and observed some of the HG group members being engaged in the home garden activities, management, types of vegetables and plants and their species, talked to some members of the HG groups and others during the field visit.

Household Nutrition Security and Income Generated

On the whole, half of the beneficiary HG household members appear to have nutritional security throughout the year. About 42 percent of the beneficiary households have been able to reduce their annual expenditure on vegetables by 75 percent and about 3 percent HG groups earning more than NRs. 10,000 per year from the sale of surplus home garden products. Even though the HG project has been undertaken in a very small scale around the home premises, it has been able to produce relatively larger nutritional security and economic impact on the DAGs and small land holders. Most Home Garden farmers were found to have utilized the money they earned from the sale of their farm produce for the household expenses such as cooking oil, sugar, soaps, cloths, and even their children's education. With the income made from the home garden they seem to be highly motivated to go for scaling up of their farming by expanding the gardening areas as can as possible over various types of land (waste-land, sloppy land, barren, and ridge land) at some distance away from their homes and utilizing their leisure-time, as well as adopting the intensive farming methods for increased production and productivity.

Home garden management and nutrition consumption awareness improved

About 40 percent of the households of the project sites found to have improved their home garden production systems in terms of soil and nutrient management and organic farming and livestock integration. After the implementation of project, the scarcity of vegetables has been reduced over 60 percent of the beneficiary household during the lean period. Over 80 percent of the DAG households became aware of the importance of home garden species, nutritional value and integrated production system. The ratio value of variety of vegetables in the home garden increased from 1.5 to 4.6 after the project implementation. Thus, the HG project appeared to have made significant contribution to maintain the dietary diversity in food consumption pattern among the DAGs families.

For the HG farmers, maintenance and increase in biodiversity has been an adaptation to variability in weather patterns, resulting in availability of some type of vegetable crops in their farm all the year round despite the scarcity of water. The species and varieties adopted by them were of water resistant, draught resistant or 'climate-resilient'. This, in turn, has contributed to enhancing their climate resilience capacity to cope with the climate change-induced adverse events and conditions to a greater extent.

Improving social status and equity

The HG project has accorded high priority to gender and social inclusion aspects by focusing particularly on the women and disadvantaged communities as its beneficiaries, under the '*principle of affirmative action*'. There was a significant representation of proportion, i.e. four-fifths of the women and socially excluded members in the executive committees of the HG groups. The DAGs representation in key decision making positions in the HG groups increased to 59 (51%).

HG project served as a migration resilient

The HG could be considered as ‘migration resilient’, too. It has been an ‘eye-opener’ for the rural people, the government and the development agencies to demonstrate that the magnitude of out-migration could be substantially reduced if some livelihood opportunities were available right in their own place and country.

Constraining Factors for Sustainability of the HG

Major factors constraining the smooth running of HG activities are as follows:

- Inadequacy of irrigation water availability for the home garden farming’ as one of the serious problems affecting their HG production, particularly during the dry season.
- The level of technical capability on the part of HG farmers remained to be inadequate to manage their home gardens in an effective manner.
- Limited technical and advisory supports from the Home Garden Focal Point provisioned at the district level agriculture development division to the HG group members, due to inadequate and incompetent human resources in managing home garden, as well as already loaded with their regular activities of the district focal point.
- Lack of integration of market-linkage component to capture the surplus products of the HG, as well as lack of awareness about the market linkage with the HG producers.
- Uncertainty about the mechanisms or processes of transformation of the responsibility or ownership of the HG project activities after its termination, to the local focal point, and/or to the already created local HG groups.

The Niche of Home Garden that needs to be continued

The Home Garden project possesses a unique quality when viewed as compared to other general agricultural projects, as it has a strong linkage with livelihood and social development for vulnerable communities together. Home garden has gone beyond its original objective to take on food and nutrition security for the poor women and marginalized people. The Home Garden project should also have forward looking intentions such as economic incentive to the producers through the sale of their surplus production. As the success of Home Garden project has a considerable bearing on various climatic factors, the project must be resilient to climate change as well.

Recommendations

Based on the evaluation of the study the review team has provided two sets of recommendations, i.e., (i) General (ii) Specific recommendations. While general recommendations have implications for further improvement of the project and its sustainability as a whole, the specific recommendations are related to the technical and institutional aspects of the project and the roles to be played by SDC, LI-BIRD and its partners for more effective Home Garden improvement activities in future.

General recommendations

- In view of the fact that most farmers have expanded their home garden in terms of the area and scale, there is a need to strengthen the technical capabilities of the farmers for linkage to marketing channels, group marketing and home garden shop etc for selling surplus product (fresh vegetables, seeds/seedlings etc.) as organic home garden product. It is also important to build their capacity to plan for their home gardens independently of project support and devise ways of keeping and acquiring inputs such as seeds.
- The past experience of HG shows that it is one of the effective ways to reach the DAGs. The HG has provided nutrition security and reduced economic vulnerability to some extent by selling the surplus HG products. It is proved that HG is migration resilient and can be made climate resilient too. It is a low cost intervention. With all these qualities, HG has shown greater potentiality to scale up. After the phase out of the project, the government should take lead role to increase the coverage of the HG in all 75 districts.
- Despite the enormous role of biodiversity in the sustainability of Home Garden, the project beneficiaries do not yet seem to be quite aware of this significant phenomenon. Therefore, the project implementers need to make concerted efforts to increase awareness about the likely effects of climate change among the entire the Home Garden community, to demonstrate climate resilient Home Garden as well as water resource management practices. The successful results of these efforts should be integrated into the future project design in order to deliberately respond to the challenges imposed by climate change.
- Nutrition awareness on how to increase the nutrient available to the body from the Home Garden commodities needs to be provided in a very practical way taking examples of the nutrient contents of the locally available products.
- The Home Garden project should also have forward looking intentions such as economic incentive to the producers through the sale of their surplus production. This means, the home garden activities need to be strengthened by improving backward and forward linkages, such as the linkage between producers and local market centres (backward linkage) and the linkage between the local markets or collection centres and the places outside of the villages or district (forward linkage) so as to improve the livelihood of DGAs, thereby reducing their economic vulnerability and economic poverty. This would enable the producers to sell whatever surplus they have above the consumption of their production, as well as increase in the production.

Specific Recommendations

To improve technical aspect of Home Garden

There is a need for linking the Home Garden programme with other sectors of development such as health (nutrition and reproductive health), climate change, education and other development activities (awareness and educational activities on domestic/gender-based violence, institutional development, farm based-micro-enterprises, etc.) in the community. This necessitates policy support on the part of the donor agency at the higher level of administrative structure of the

government of Nepal to guarantee the institutional support for the successful implementation of the programme.

There is also a need of access for each home garden to research in order to reduce technical hurdles and to improve production efficiency of Home Garden by introducing appropriate and low cost technologies. The efforts of research activities should also aim at making the home garden climate resilient, by having year-round farm production from home garden even in the hottest and dry seasons.

To improve deliver, i.e. on modality

Based on the SWOT analysis and given the institutional positions of the implementing agencies currently engaged, and in considering the compatibility among them for effective implementation of the project, the possible modality that emerged for the next phase envisages LI-BIRD to play managing role and involve in providing the backstopping support to other implementing agencies, i.e., local NGOs and DADOs, in stead of playing dual role of coordinator as well as implementer. DADOs should be involved mainly because of their presence over a wider area (in all 75 districts). As DADOs do not seem to have their own programme on Home Garden in all the districts of Nepal owing to their limited human and other resources required for effective implementation of Home Garden activities, their involvement will also be limited in terms of geographical coverage. Wherever the DADOs are not in a position to implement the project, NGOs/CBOs can be mobilized. LI-BIRD as a lead/managing agency would provide technical support to these two types of agencies for creating an enabling environment for implementation of Home Garden programme through mutual works on resource sharing basis. This modality will also help create an opportunity for establishing an institutional structure of public (DADOs) and private sector (NGOs/CBOs) partnership to contribute to the long-term sustainability of the Home Garden Programme.

Role of SDC (as a donor agency)

- Provide policy support at the higher level of administrative structure of the government of Nepal to guarantee the institutional support for the successful implementation of the programme through Ministry of Agriculture.
- Initiate enforcement for Institutionalisation of home garden as a separate programme within the Ministry of Agriculture by the national and district levels authorities with its own identity, status and budget for implementation at a wider scale.
- Home Garden is as seen climate resilient and it is one of means to reach the vulnerable. It should integrate climate change component (with a special focus on educating the communities and training focusing on developing resilience, adaptation, mitigation, etc.) into the future project design in order to deliberately respond to climate changes related challenges/issues.

Role of LI-BIRD (as a Lead Implementing Agency)

Since LIBIRD is the pioneer organization for implementation of Home Garden project, the organization is now in a better position to take lead role. Therefore, LI-BIRD may be given the single role of managing the project (not as one of the implementer) and providing technical backstopping to the implementers. Such a role may entail the following:

- Designing the project implementation plan in close consultation and participation of Home Garden stakeholders including the beneficiary communities.
- Linking the Home Garden groups with the government (by registering the groups with the government service providers (DADO/ASCs, DLSO), and VDCs (regular agricultural budget 15% for Agriculture Forest & Environment Committee).
- Developing resource centre at the community/VDC level, together with LRP/Village experts being developed from among the home garden group members aimed at seed production especially for self-pollinated crops, multiplication and distribution by the communities themselves rather than relying on the external sources (development agencies, or private business enterprises like agro-vets, etc.).
- Organising workshop/seminars/ fairs / publications by bringing the successful cases and experiences of home garden from the present project activities at the national and district level. Organising extension activities: e.g., dissemination of home garden practices through live demonstration plots at the farmers' field and other publicly accessible areas (schools, health-posts, etc.) in the form of 'farmer-to-farmer extension'. One of the side activities could be distribution/sale of vegetable seeds (with some costs) during the event.
- Developing market linkage for home garden for better incentives (given the scaling up of Home Garden by the farmers themselves (e.g. selling surplus). LI-BIRD should identify the scope of selling surplus Home Garden products. Market promotion of Home Garden products in the areas where Home Garden products can get more value. Eg. Rupandehi's Home Garden groups' commodities sale in Butwal.
- Organising awareness activity about the likely effects of climate change on the entire the Home Garden community through launching of specific activities related to demonstrating climate resilient Home Garden practices and identification of climate change resilient species.
- Continuing support to implement Home Garden project as an advocacy process towards addressing the agricultural development needs of the smallholders, DAG and particularly the women farmers. Establish the Home Garden demonstration plots as a means of advocacy; also by publishing booklets on Home Garden: what, when to grow what, where, how – calendar of crop and operation, implementation guidelines.
- Monitoring of the project progress and report to the relevant stakeholder

Role of Partner Organisations

(With technical and institutional support from LI-BIRD)

- Implementation of the Home garden project as per the plan jointly prepared by the stakeholders
- Monitoring of the filed level project progress and report to the relevant stakeholder, especially the LI-BIRD
- Promoting only the successful and potential crops (vegetables, fruits, herbs, etc.) and livestock must be promoted at a particular locality/district. Home Garden farmers of Siupal Home Garden Group at Bheta village in Ashigram VDC- 9 in Dadeldhura faces the problem of wild-animals destroying crops; they suggest spice crops like Ginger, Turmeric, garlic, onion, etc. which are root crops and with pungent (repelling effect) not affected by the wild animals (deer, porcupine, wild-boar, monkeys, etc.).
- Organising training on vegetable cooking to the women participants as one of the key activities of the project. This is because most women beneficiaries were not exactly aware of the nutritional aspects of vegetables, and lack of knowledge about the ways of proper cooking of vegetables to conserve the nutrition content in them,
- Launching awareness programs for the project field staffs and beneficiaries about the climate change issues, and diversity of climate change resilient species in Home Garden communities.
- Carrying out action researches in collaboration with the LIBIRD and project partner/implementing agencies to solve the field related problems.
- After the phase out of the project, DADOs should take lead role to promote the Home Garden activities in all 75 districts, in collaboration with the local NGOs/CBOs.

1. Background

Home Garden (Home Garden) project is being implemented with the financial support from Swiss Agency for Development and Cooperation (SDC) since 2002 and is now in the 3rd phase (1st April 2009-16th July 2013)¹. LI-BIRD (Local Initiatives for Biodiversity, Research and Develop), a national NGO based in Kaski district, implements the project in 16 districts (exception Dolakha from Phase 3 onwards) covering different ecological and development regions of Nepal. In addition, LI-BIRD also provides technical support to District Agriculture Development Offices (DADOs), other SDC-supported projects and partner organisations to integrate Home Garden elements into their existing livelihood support programmes. Annex-1 provides details on the geographical coverage, partners and working modalities of the project for the current (3rd) phase.

The concept of Home Garden (HG) consists of traditional land use system around a homestead, where several species of plants are grown and maintained by the household members and their products are primarily intended for the family consumption (Sthapit et al., 2004). Although HGs cover only 2-11% of the total land holdings, they supply 60% of the farm family requirements for vegetables, fruits and spices, i.e. the source of nutrition (Gautam et al., 2004). Despite its importance in the rural livelihoods; technical robustness and social reach of Home Garden vary across class, caste and gender (LI-BIRD 2011). Current mandate of the project is to increase the access of Disadvantaged Groups (DAGs)² to Home Garden technologies and input and to ensure equitable share of benefits as well as to mainstream HG in government extension system.

The current 3rd phase was developed from the learning of Phase II that adoption of Home Garden technologies not only enables the DAGs to improve food security situation by diversifying nutrition at household level but also provides an independent source of income for small farmers, particularly women. However, to maximise the impact, Home Garden element needs to be integrated into other livelihood interventions. Therefore, the current phase of the project focuses on expanding the coverage of Home Garden and on integrating Home Garden elements into the governmental and non-governmental organization-implemented livelihood interventions. In addition, the project also strengthens voice and capacity of DAGs, mostly women, to access the inputs and services required to participate effectively and benefit from the use of Home Garden technologies. Similarly it strengthens capacity of District Agriculture Development Offices (DADOs), Government of Nepal, to provide input and services to the DAGs for Home Garden improvement.

As the current phase of the project ends by 16th July 2013, an external review is foreseen to make an overall assessment on the achievements made by the project against the objectives and to

¹Though the project agreement for 3rd phase was made for the period 01 April 2009 to 31 March 2013, the duration is extended till 16th July 2013 in order to align with the GoN fiscal calendar.

² SDC defines DAG as "groups of economically poor people that also suffer from social discrimination based on gender, and caste/ethnicity. Economically poor is understood that people living with food sufficiency up to 6 months of time period." Source: Disadvantaged Groups (DAG) Mapping – Dolakha, Ramechhap and Okhaldhunga.

provide strategic direction and recommendations to SDC for future Swiss engagement in Home Garden improvement initiatives. SDC thus seeks the service of a consultancy company/team of independent consultants with a proven track record to undertake the review. This report is the direct outcome of the external review of Home Garden actions undertaken by independent consultants.

1.1 Objective of Home Garden project Phase III and envisioned outputs

The current phase of Home Garden aims to ‘improve health and reduce economic vulnerability of poor and disadvantaged groups **through improved nutrition and food security**’. The project has two specific outcomes:

Outcome 1: Small holders³ and Disadvantaged Groups adopt Home Garden for improved nutrition through diversified dietary sources

Key outputs related to outcome 1 include:

- Home Garden farmers increased diversity of Home Garden products and are aware of species of nutritional value
- Home Garden farmers are aware of the productivity potential of their surplus products for their income generation
- Members of disadvantaged groups are involved in decision-making of Home Garden groups and adopt inclusive group governance

Outcome 2: District and national level partners adopted Home Garden policies in their programme and respond to the demands from Home Garden groups

Key outputs related to outcome 2

- DADOs make special plans and programmes for promotion of Home Garden activities
- Local Resource Persons (LRPs)⁴ trained and mobilised by DADOs have expertise to promote Home Garden
- Local government bodies ensure inclusion of Home Garden promotion plans in Village Development Committee (VDC) planning
- Department of Agriculture (DOA) is aware of importance of Home Garden element for small holders and DAG farmers

³ National Planning Commission defines small holders as those farmers who cultivate less than 0.5 ha.

⁴ LRPs include local resource persons trained by DADO and other programmes such as SSMP

2. External Review of the Project

The review involves reflection on current phase and is forward-looking. The review also refers to recent Agriculture Impact Assessment especially in terms of complementarities with other agricultural initiatives on outcomes and modalities. The review provides forward-looking strategic recommendations in views of the new Swiss strategy period (2013-2017) and in changing economic, social and institutional context of the agriculture sector in Nepal.

2.1 Purpose of the Review

The main purpose of the external review is to make an overall assessment on the achievements of the project in line with the outcomes and related outputs (mentioned above).

2.2 Scope of the External Review

The report follows the format and structure in line with the Terms of Reference (ToR) set for the assignment (Annex 2). This approach was adopted to make the report more reader-friendly and specific to task assigned to us.

3. External Review Methodology

3.1 Review Approach

The Review Team adopted quantitative and qualitative approaches to review the overall performance of the project. Most of the quantitative information was obtained from the project related documents provided by LI-BIRD. The qualitative enquiries were done through interactions and discussions with the relevant stakeholders. Enquiries were carried out based on the 'checklists' prepared for the purpose of focus group discussions (FGDs) with members of the home garden groups in their villages and detailed interviews with concerned authorities at district and national levels as well as with the project personnel. Besides, discussions were also held with the male members of the communities.

The review was conducted during the period from 20th March to 18th April 2012. The duration available for the field visit was 12 days, including the travel days. The methodological procedures employed for undertaking this assignment basically comprised of three aspects: (i) Pre-fieldwork (Review of the project related documents and consultation) (ii) Field reconnaissance which include (a) FGD with the project beneficiaries, (b) On-spot observation of selected home gardens in the project districts and (iii) Consultation with the personnel working in the relevant government, non-government organizations and the project's partner organizations.

3.2 Pre-fieldwork consultation

Prior to going to the selected project districts (Sindhupalchowk, Ramechhap, Dadeldhura, Kailali, Kanchanpur and Rupandehi) for field study, the basic preparation was done by reviewing the documents related to the project, and in consultation with the Senior Programme Officer at the SDC in Kathmandu and concerned personnel at LI-BIRD in Pokhara. The review of the documents provided with an opportunity to understand the project context, in which it was implemented. The project documents reviewed included the project proposal, internal assessment reports (outcome monitoring summary reports), documentation of case studies, publications of HG cases in national and local newspapers, and district line agencies reports. **It must be mentioned here that the Review Team did not repeat the investigation of the matters on which the secondary information are already available.** However, the team verified some of the findings during their field visits with different stakeholders including direct beneficiaries. The relevant project documents being reviewed and consulted are presented in Annex 3.

3.3 Field Reconnaissance

The field reconnaissance for the External Review included (i) FGD with the project beneficiaries; (ii) On-field observation of home gardens and interaction with individual project beneficiaries; (iii) Consultation with the personnel working in the relevant government and non-government organizations including the project's implementing partners, and (iv) Stakeholders' way-forward workshop.

3.3.1 FGD with the project beneficiaries

In all, 11 FGDs were conducted with the members of Home Garden groups in 6 of a total of 16 project districts, i.e., Sindhupalchowk (2), Ramechhap (1), Dadeldhura (2), Kailali (2), Kanchanpur (1) and Rupandehi (3). During the field visits, open discussions were conducted with the project target groups/beneficiaries in order to collect relevant information in line with the Review objectives. At the end of discussion with each group, the conclusions (results) of the discussions were also presented to them in order to confirm that the information gathered was valid and meaningful.

3.3.2 On-spot Observation of Home Gardens and Interaction

The Review Team also visited a number of HGs that have standing crop species and some livestock, together with the implementing partners and the home gardens owners. The visit provided an opportunity to observe the gardens for triangulation with information gathered during the FGD and review of project documents. During on-spot observation of home gardens, review team members interacted with owners of home garden on certain aspects of home garden to better understand their knowledge and rationale of maintaining certain species and a combination of species in their home garden and the concept of integrated home garden. The names of home garden participants and their groups are given in Annex 4.

3.3.3 Consultation

A series of meetings were also held with personnel working for relevant Government (DADO/DLSO, DDC, and VDC) and Non-government Organizations, INGOs and the project partner organisations. Consultation meetings were organized to understand how the concept and practice of home garden have been ingrained in their regular programmes. Close consultation was also made with the personnel (Home Garden Focal Point) at the Department of Agriculture in Kathmandu. The pertinent comments and suggestions received from them have been incorporated into this report. The names of personnel and organisations contacted are given in Annex 5.

3.3.4 The Way-Forward Workshop

The Review Team also availed the opportunity to gather relevant information during the workshop held at Bhairahawa in Rupandehi district. In this workshop, the Review Team also debriefed the study conducted thus far. Annex 6 provides the proceeding of the workshop.

4. Results of External Review of Home Garden Project

4.1 Overall Impression on the Project Achievements

The project has already completed two phases, and experiences and good practices of the previous two phases have been scaled up in the third phase. The coverage of the phase II of the projects has been expanded to 16 districts across the Eastern-and Far-western Development Regions of Nepal. By and large, the project was found to be highly impressive from the perspective of achievement of its objectives. The overall impression has been assessed in line with the objectives of the Home Garden Project, especially relating to Outcome 1 by comparing the 'After Project Situation' with the 'Before Project situation'. A summary of the overall impression is presented in Table 1.

Table 1: Overall Impression on the Project Achievements at the Household Level

Particulars	Before project situation	After project situation
1. Food & Nutrition Security	Mainly cereal-based food as the staple food, with very little vegetables	Production and consumption of different types of seasonal vegetables increased
	Vegetables enough for less than 3 months in a year	Vegetables adequate for 12 months a year
	The average vegetable security situation (enough for less than three months)	Contributed to food security due to Home Garden (Adequate for more than six months)
2. Income from Home Garden	Used to buy vegetables (costly) from local markets	No need to buy; Vegetables available round the year from home garden (hence, saved

		money = income)
	Inadequate quantity, and available only for a few months; hence had to rely on Gundruk, etc.	Adequate fresh vegetables, and available round the year; limited reliance on dried vegetables
	Farmers have no practice of selling household produce from small plots	Some households even sold the surplus (contributed to household income)
3. Biodiversity	Very limited with few crop species and varieties grown; herbs, fruit trees, mushroom, fish integration in HG limited	Increased agricultural biodiversity (mainly vegetables together with fruit trees and herbs, poultry, small livestock, bees, apiculture, mushroom)
4. Land use/ coverage pattern (around home premises)	Dominated by few major staple crops such as rice, wheat, maize (with low productivity) or barren lands	Different types of vegetables and fruits, contributing to increased food and nutrition security and household income to some extent
5. Knowledge about crop production and management	Little technical knowledge on vegetable production and management	Gained more knowledge and Skill about improved production and management of crops (vegetables, mushroom)
6. Concept of Home garden	Often confused and equated with the concept of Kitchen Garden	More clarity made at policy level for the purpose of implementation
7. Institutionalisation of Home Garden	Not officially endorsed by the government as a component in development project/programme	Institutionalised by the government of Nepal (Department of Agriculture)
8. Home Garden and Climate change*	Not realized very well	Recognition made that home garden can reduce climate vulnerability by increasing climate resilient species
9. Migration*	Not realized very well	HG accepted as a migration resilient technology

Source: Field visit 2012

*Note: * These two issues were not explicitly mentioned in project proposal/documents, however, consultants attempted to explore the resiliency of HG technologies to climate change and migration.*

The project supported 8,929 households (direct as well as indirect) represented by 115 beneficiary groups. Table 2 provides the description of the types of beneficiaries by gender and caste/ethnicity. Of the total beneficiary households, about two-fifths directly benefited and the remaining were indirect beneficiaries. The gender-wise analysis of the beneficiaries shows that a great majority (86.1%) of them included women. Similarly, among the directly benefited

beneficiaries, nearly two-thirds were DAGs. While analysed the directly benefited households from the caste/ethnicity perspectives, about three-fourths of them belonged to the socially excluded groups such as Janajatis (49.3%) and Dalits (24.2%) (OMS Report 2011).

Table 2: Project Beneficiaries by gender and caste/ethnicity in Home Garden project

Beneficiary coverage	Households (HHs) benefited		Directly benefited by gender		Directly Benefited HHs		Directly benefited HHs by caste/ethnicity			
	Direct	Indirect	Male	Female	DAGs	Non DAG	BCTN	Janajati	Dalit	Others
Number Household benefited and (%)	3607 (40.4)	5319 (59.6)	502 (13.9)	3105 (86.1)	2441 (67.7)	1166 (32.3)	933 (25.8)	1777 (49.3)	872 (24.2)	25 (0.7)
Total Households	8926		3607		3607		3607			

Source: LI-BIRD, Database 2012

Note: the figures in the parentheses indicate percent; BCTN means Bahun, Chhetri, Thakuri, Newar

As it appears from the assessment, the implementation of the Home Garden project indicates that the majority of its activities contributed to substantial and positive social and economic changes in the lives of women and other socially excluded groups. In other words, most of the project activities have, at large, directly benefited the poor, particularly the women, socially and geographically excluded segment of the society.

4.1.1 Home Garden improving HHs food and nutritional security

Despite the unprecedented political changes⁵ in recent times, the poverty, injustice and poor governance still persist owing to deep-rooted socio-economic and political exclusion of some groups of people coupled with uneven geographical development and poor governance. Patriarchal structure prevalent in the Nepalese society has placed women in a discriminated position regardless of class, caste, ethnicity, religion and age. A huge gap persists between men and women both in terms of opportunities for employment and income generation. Similarly, geographic location has been a strong exclusionary factor in Nepal, particularly for excluded groups. The government alone has not been able to deliver services or offer effective outreach to the most remotely located communities. Given this context, the implementation of Home Garden Project in 16 districts of Nepal can be considered as one of the contributing steps for narrowing down the existing socio-cultural, economic and institutional gaps.

⁵This, among others, includes the 1990 people's movement against the then political system known as Panchayat System, and the election to the Constituent Assembly and the end of the 240 year old monarchy with the formal declaration of Nepal as a federal democratic republic on 28 May 2008 by the first meeting of the Constituent Assembly (CA).

As mentioned earlier, the Home Garden project has contributed to enhancing the food supply (from less than three months to more than six months per year) and nutritional security of the target beneficiaries. The available project documents also show that household food and nutritional security has improved in the project districts among the direct beneficiaries as at least 3-5 nutrition rich species are being grown in the home garden of each household of beneficiary group (LI-BIRD/OMS, 2011).

One of the reasons is that the participants of the project have grown 10 types of crop/plant species per year. In place of their earlier food habit of taking cereal-based food with very little vegetables, they have started consuming vegetables all year round. The available information depicts that a total of 3,491 (42%) of the Home Garden beneficiaries have grown at least 10 types of home garden products per year. Similarly, at least 4,405 (53%) households of the Home Garden groups have improved their nutritional status due to consumption of fresh home garden products (LI-BIRD/OMS, 2012). Further, the reports such as OMS report (prepared by LI-BIRD, based on Dietary survey and 24 hours recall method), progress report and site level monthly report indicate that 4,407 (48%) households have increased their consumption by growing more than 6 types of the home garden products. On the whole, the progress report of the project states that 48 percent of the Home Garden households appear to have nutritional security throughout the year (LI-BIRD/OMS, 2011).

In order to assess the significance of the Home Garden in improving households' food and nutrition security, the beneficiaries were asked to describe the before-project farming situation with respect to land utilization, types of crops grown, food and nutrition situation, etc. One very notable outcome of the project implementation was the sense of empowerment they gained by understanding as what made them healthy and how they could maintain their health. During the FGDs, there were some breastfeeding women beneficiary participants with their babies on their laps. These women were of the view that the inclusion of different types of vegetables produced from their own home garden in their daily diet substantially contributed not only to their own health but also to their babies' growth.

Beneficiary of the Home Garden project and awareness

The beneficiary communities of the Home Garden project have become aware of the fact that different types of vegetables, fruits and animal products are the sources of various types of nutrients, and vitamins. As already mentioned, they also realize the effects of increased Home Garden product consumption on the improvement of their health status. However, they are not exactly aware of which products of Home Garden provide which nutrient or vitamin. In their local colloquial language they expressed: '*Tarkari Khayera Dhrerai Taagat Aaundo Rahechha*', which literally means 'we get lots of strength by eating vegetables.' This strength and energy is required for work and nurturing the fetus during pregnancy and the baby during lactating period.

Box 1: Consuming fresh and green vegetables

During the focus group discussion in Thumpakhar of Sindhupalchowk district, one woman member Ms. Patali B.K, succinctly shared her experience by saying: ‘Consuming fresh and green vegetables by human is something like feeding the milching buffalo with fresh and green fodder’. She was also recalling her past days when she had to consume only *Gundruk*’ (a recipe made of preserved dried leafy-vegetable) owing to lack of fresh vegetables within her reach. She also said ‘I am now better able to nurture my baby with the consumption of fresh and green vegetables, available instantly in my own garden all the time’. During the field visit, the Review Team also heard similar expressions from the women participants in Dadeldhura and Ramechhap districts.

From the expression of the women participants, the Review Team came to a provisional conclusion that they might have had adequate vegetables in their daily diet. However, an effort to educate them, especially the women, about the nutritional requirement and the types of vegetable and other crops that contain different types of essential elements and vitamins is desirable for their benefit. Similarly, as the women also lacked knowledge about the ways the vegetables should be cooked in order to prevent the loss of nutrition from them, giving some kind of training or practical tips on vegetable cooking to the women participants seems to be extremely desirable.

The FAO (2001) guideline states that the minimum amount of vegetable consumption required per person per day from the perspective of nutrition security and health is 200 gm. Based on the interaction with the Home Garden participants during the field visit, it appeared that many of them might have been able to meet the FAO requirement (Annex 7a). Based on the discussion with the women of the Home Garden groups, the Review Team has come out with the results as shown in Annex 7a as an example of list of the vegetables consumed frequently by the household members including women during pregnancy and lactating period. The amount of nutrients such as iron, calcium and Vitamin A required for a person at different stages of the life varies greatly. For instance, pregnant and lactating mothers require 3 to 4 time higher amount of iron, calcium and vitamins than adult men or women (Annex 7b). The state of nutrient contents present in the food should be in absorbable form. Higher the nutrient content in absorbable form the more nutrient one can get. It is because even if the vegetables contain high concentration of nutrient if it is in non-absorbable form then the body may not get the expected amount of nutrients. This is one of the common problems of malnutrition. For example even the concentration nutrients like iron, calcium and vitamins are high in some food but they may not be available to body at all. Dietary diversity plays significant role in maintaining the nutrition security and some combinations like consuming iron rich food with lemon enhance its absorbing capacity. The absorption of nutrients by human body varies with the species of foods and the way they are consumed. Hence the awareness on how to increase the nutrient available to the body from the Home Garden commodities needs to be raised in a very practical way, taking examples of the nutrient contents of the locally available products.

Because of direct and great contribution of Home Garden to health, Ministry of Health and Population (MOHP) has realized its importance and reflected in “National Nutrition Policy and

Strategy 2004". The document has emphasized the nutrition education activities and promotion of home garden, which are to be carried out utilizing various communication media and agents, such as community-level health workers and agricultural extension workers. It has also focused attention for promoting the consumption of Vitamin-A rich foods and balanced diet through nutrition education.

Home garden and dietary diversity

Home garden has made significant contribution to maintaining the dietary diversity in food consumption pattern among the DAGs families. Besides vegetables from the Home Garden they also obtain nutrients from consuming fish, chicken, goat, buffalo, sheep, rabbit, honey and mushroom produced in their HGs (Annex 8). It is seen that their dietary diversities and nutritional requirements are being fulfilled by consuming the Home Garden products throughout the year. The most commonly grown vegetables in the winter are Rayo (*Brassica juncea*), Radish (*Raphanus sativus*) and Bean (*Dolichos lablab*) and in the summer are sponge gourd (*Luffa cylindrica*), snake gourd (*Trichosanthes cucumerina*), bitter melon (*Momordica charantia*), pumpkin (*Cucurbita pepo*), common bean (*Phaseolus spp.*), cowpea (*Vigna unguiculata*), cucumber (*Cucumis sativus*), bottle gourd (*Lagenaria siceraria*), chilli (*Capsicum annum*), brinjal (*Solanum melongena*), and tomato (*Lycopersicon esculentum*) (LI-BIRD booklet 2007).

The LI-BIRD report (2011) shows that more than 80% of DAGs households are aware of the importance of home garden species and their nutritional value (Annual report 2011). The Home Garden beneficiaries are provided training to produce different types of organic manure including vermicompost and organic pesticide to produce organic home garden products. The Home Garden farmers have integrated their production system such as soil and nutrient management, organic farming and livestock, which has been accounted for about 40% of household of the project sites.

Home Garden project has also provided training to about 2% of the total households residing along the road side for the production of value added products such as pickle, lemon juice and concentrated citric acid (*chuk*) for the future use as well as for marketing (OMS Report 2011). However the traditional value added products such as *Gundruk* and *Masayura* are given less value. In terms of nutrition, they are rich in essential nutrients and people need to be encouraged to produce such products from the surplus vegetables so as to use during lean period of the year.

Comparison of status of vegetable types before and after project intervention

A total of 362 sample beneficiary households from the project districts, viz. Bardiya, Gulmi, Ilam, Jhapa, Kailali, Kanchanpur, Rupandehi and Ramechhap were selected randomly. A comparative analysis of vegetable scarcity before and after Home Garden project intervention was carried out. The detail of types of vegetable added in each district is given in Annex 9. Table 4 shows the overall situation of vegetable scarcity before and after the project implementation by month. The maximum number of sample households 234 i.e. about 65% had experienced vegetable scarcity during the months of April – June. These months lie in the pre-monsoon and are characterized by dry season. The scarcity of vegetables at beneficiary households has been reduced after the implementation of project. The project has introduced drought resistant varieties in different crops, distributed seasonal calendar and provided skills of home garden

management to beneficiaries, which has helped to reduce the vegetable scarcity. During October-April the scarcity found to be less, ranged from 3-17% and 0.8-2% before and after the project in the sample households respectively (Table 3). The average scarcity of the vegetables ranged from about 32% and 9% before and after implementation of Home Garden project respectively (Annex 9).

Table 3: Scarcity of the vegetable types before and after Home Garden projects by month

(n= 362)

Month Nepali (English)	Households facing scarcity			
	Before		After	
	Number	%	Number	%
1. Baisakh (Apr-May)	234	64.6	141	39.0
2. Jestha (May-Jun)	222	61.3	85	23.5
3. Asar (Jun-Jul)	174	48.1	40	11.0
4. Shrawan (Jul-Aug)	226	62.4	41	11.3
5. Bhadra (Aug-Sep)	205	56.6	42	11.6
6. Asoj (Sep-Oct)	158	43.6	14	3.9
7. Kartik (Oct-Nov)	62	17.1	7	1.9
8. Mangsir (Nov-Dec)	23	6.4	6	1.7
9. Poush (Dec-Jan)	23	6.4	5	1.4
10. Magh (Jan-Feb)	11	3.0	4	1.1
11. Fagun (Feb-Mar)	13	3.6	3	0.8
12. Chaitra (Mar-Apr)	33	9.1	8	2.2
Average	115	31.9	33	9.1

Source LI-BIRD Data source 2012

During discussion on the “Way Forward Workshop” held in Rupandehi, during May 2012, LI-BIRD field officer of Gulmi and Rupandehi Mr. Shambhu Basnet shared the impact of Home Garden in his areas “Medical personnel, Chief of Eye Camp (2011) in Gulmi informed that the incidence of eye diseases among children and adult (male and female) has decreased. According to him the eye diseases in this area have been decreased as per their observation based on the past years. It can be argued that one of the reasons of reduction in eye diseases could be the consumption of vegetables and fruits containing high Vitamin A produced in the home garden through Home Garden project. The information can be powerful in raising awareness of the community about the value of Home Garden. It is suggested to record and validate such information by action research and use it for creating greater awareness.

Awareness level of the beneficiary households appears to have increased in understanding about the importance of nutrition from vegetable sources as well as from the animal sources. Keeping this in view, the project provided management training on rabbit integration, apiculture and livestock, soil nutrient management and organic farming practicing to the Home Garden groups.

The review of project documents revealed that about 80 percent of DAG households were aware of the importance of home garden species, nutritional value and integrated production system. About 40 percent of DAG households have increased the home garden products by integrating livestock into the farming practice (LI-BIRD/OMS, 2011).

Table 4: Added vegetable species by Home Garden project in the districts

District	Number of vegetable species		Ratio
	Before	Existing	
1. Bardiya	23	57	2.5
2. Dolakha	30	53	1.8
3. Gulmi	24	75	3.1
4. Ilam	35	72	2.1
5. Jhapa	36	53	1.5
6. Kailali	25	37	1.5
7. Kanchanpur	14	53	3.8
8. Ramechhap	8	37	4.6

Source: LI-BIRD Data Base (2012)

The dietary diversity of the Home Garden has been increased, which is evident from the number of types of vegetables being grown by the households over their previous number (Table 4). The number of species increased has been shown by the ratio obtained by dividing the existing number with the baseline figures with increase from 1.5 to 4.6 times (Table 4). The common vegetables and fruits provided to the beneficiaries in all the project districts included egg-plant, cowpea, broccoli, chilly, coriander, lime, mango, radish, pomegranates, tomato, peach, cress, carrot, autumn-beans, guava, winter-beans, spinach, mustard, swiss chard, etc (detail in Annex 10).

The biodiversity analysis of the home garden indicates that the number of types of vegetables grown in the Home Garden now have been increased than before the implementation of Home Garden project. Figure 1 shows for instance that before the project implementation, the households growing 26-50 species were only about 54%, which now has increased to 72% and likewise there was only 1 percent HH growing over 50 species of vegetables, which after the project intervention grew to 10 percent (LI-BIRD 2011).

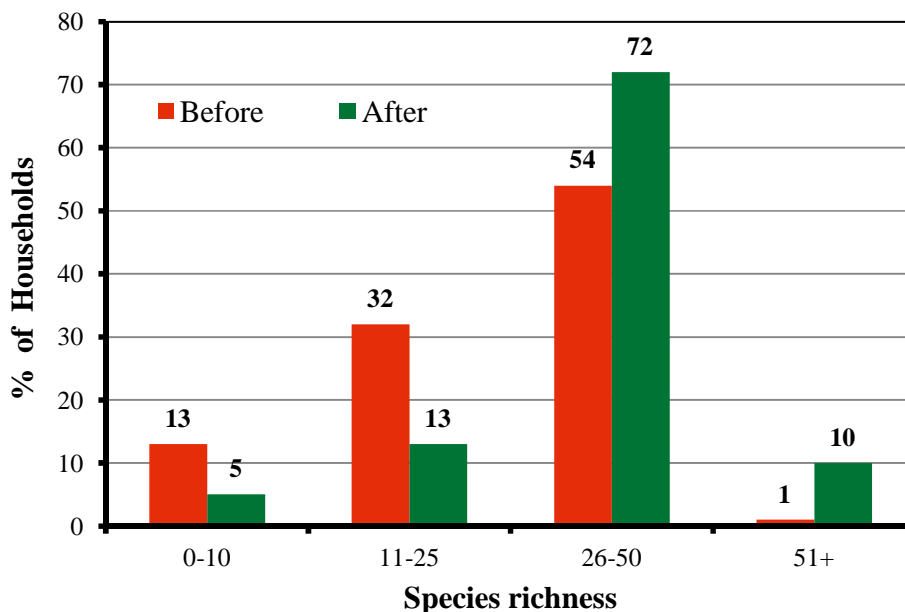


Figure 1: Number of species grown by HHs before and after HG project intervention

During the field visits, the Review Team visited a number of home gardens for observation of the standing crop species. It was learned from the visit that all the diversities of the crop species that included vegetables, fruits and herbs the farmers were on the increasing trend which corroborates to LI-BIRD’s research findings (Gautam et al., 2004, Sthapit et al., 2008). Besides the crop species (especially vegetables) provided by the project, they have also cultivated different types of local vegetables and herb species on their own initiation. The crop calendar provided to the beneficiary households with instruction has added more confidence to their traditional knowledge to increase biodiversity in their HGs. One example of vegetable calendar used by Home Garden beneficiary of Kailali is given in Annex 11.

Table 5 shows that the number of products has increased in the sample home garden groups of all six sample districts after the implementation of the project than before. However, there was variation in the number of vegetables cultivated in the home gardens among the districts which might be due to multiple factors such as geographical condition, knowledge, practice, culture, etc.

Table 5: Status of species of products before and after grown by Home Garden groups/farmers

District	Vegetables		Fruits		Fodder		Herbs		Spices	
	Before	After	Before	After	Before	After	Before	After	Before	After
Sindhupalchok	3	14	NA	6	NA	4	NA	10	NA	6
Ramechhap	5	18	2	14	1	5	1	10	1	7
Dadeldhura	5	16	2	8	2	5	NA	5	2	6
Kanchanpur	4	15	2	10	1	4	1	5	1	5
Kailali	10	17	7	14	NA	4	NA	4	2	5
Rupandehi	26	44	13	26	7	8	4	6	7	10

Source: Home Garden Farmer Groups in Project districts; March-April 2012;

Note: NA = Not available

Individual members of the Home Garden groups seem to be interested in cultivating a number of varieties, as well as adding up product species for consumption. Some home gardens have become resource gardens in terms of growing diverse vegetable species and to demonstrate their success to others in the village.

4.1.2 Household Income Generated Through Sale of Surplus HG Products

A huge gap exists between the population of various segments of the society, both in terms of opportunities for employment and income generation. The Home Garden Project has targeted mostly the income poor, unemployed women and smallholder farmers. Even though Home Garden activity has been undertaken in a very small scale around the home premises, it has produced relatively larger economic impact on the DAGs and small land holders, thereby reducing the vulnerability of these categories of people to greater extent.

With the introduction of Home Garden, a total of 3,172 (42%) beneficiary households have been able to reduce their annual expenditure on vegetables by 75 percent. Figure 2 indicates that the Home Garden group members earning more than NRs. 10,000 per year from the sale of surplus home garden products accounted for about 195 (3%). Similarly, the number of Home Garden members selling surplus products increased to 1,440 (17.2%) from just 406 (5%) at the time of baseline (LI-BIRD/OMS, 2011).

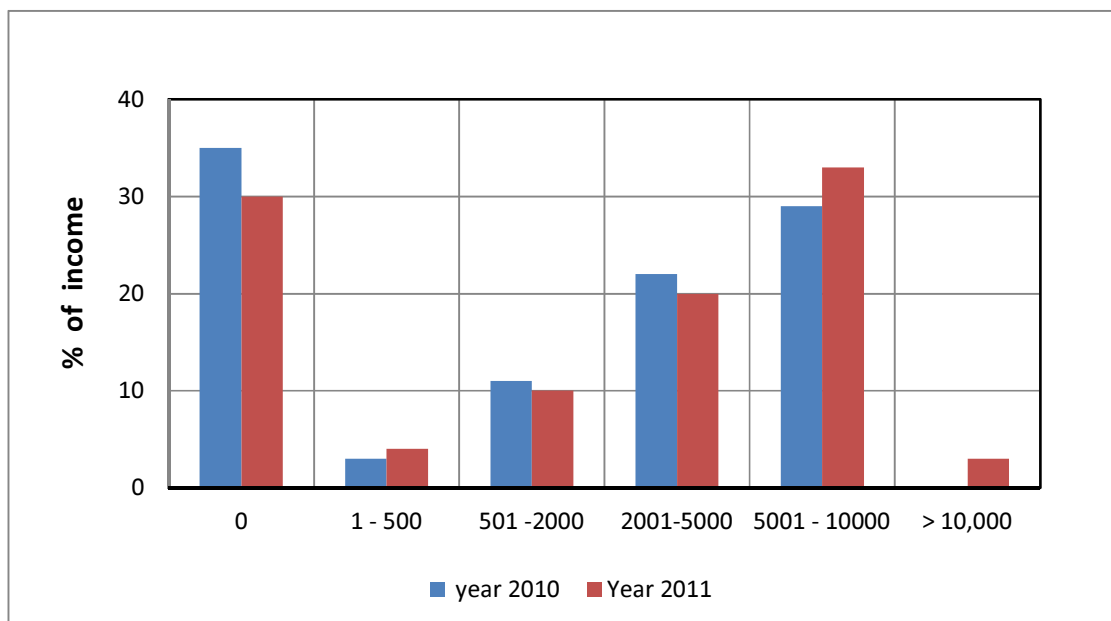


Figure 2: Income generated by beneficiaries through selling surplus HG products (n= 362)
(Source: OMS 2010 & OMS 2011)

During the field visits, the Review Team also came across with some farmers who reported of selling the surplus. Most home garden farmers said they sold only the surplus. It was encouraging to note that all the 18 members of Kopila Home-garden Group at Dhopka village of Thumpakhar VDC – 5 of Sindhupalchowk said they earned some amount from the sale of surplus vegetables. Ms. Krishna Maya Nepali, a member of this group, says: “Last year, I sold vegetables for NRs. 500.00 and I still have a few packets of coriander seeds to be sold”. Similarly, Mr. Lal Bahadur Damai, a Dalit farmer of Bheta village in Ashigram VDC - 9 of Dadeldhura, said he sold part of his home garden produce when he very urgently needed the money for household expenses. This implies that Home Garden has also been a great help at the time when the poor really needed support to solve their other household related financial problems.

Reduction in Vegetable Purchase

Almost all the beneficiaries who used to buy vegetables from market have increased their self-sufficiency and reduced the amount of money going out of the family for daily used vegetables. Figure 3 shows that the number of HHs who used to spend between 0-1000 has been increased and the number of HHs who spent above 1000 has been reduced. Major shift was observed in those households who used to spend 1001-5000 annually on purchasing vegetables. In this category, the percentage figure has gone down from about 68% to about 33 percent with project intervention, thus saving a chunk of household income on buying vegetables, which farmers utilize in meeting various household needs. The number of households spending more than NRs. 5000 annually on vegetables has also gone down from about 7 percent to 2 percent with the project interventions, thus indicating that the project has been very successful in increasing self sufficiency in vegetable at household level.

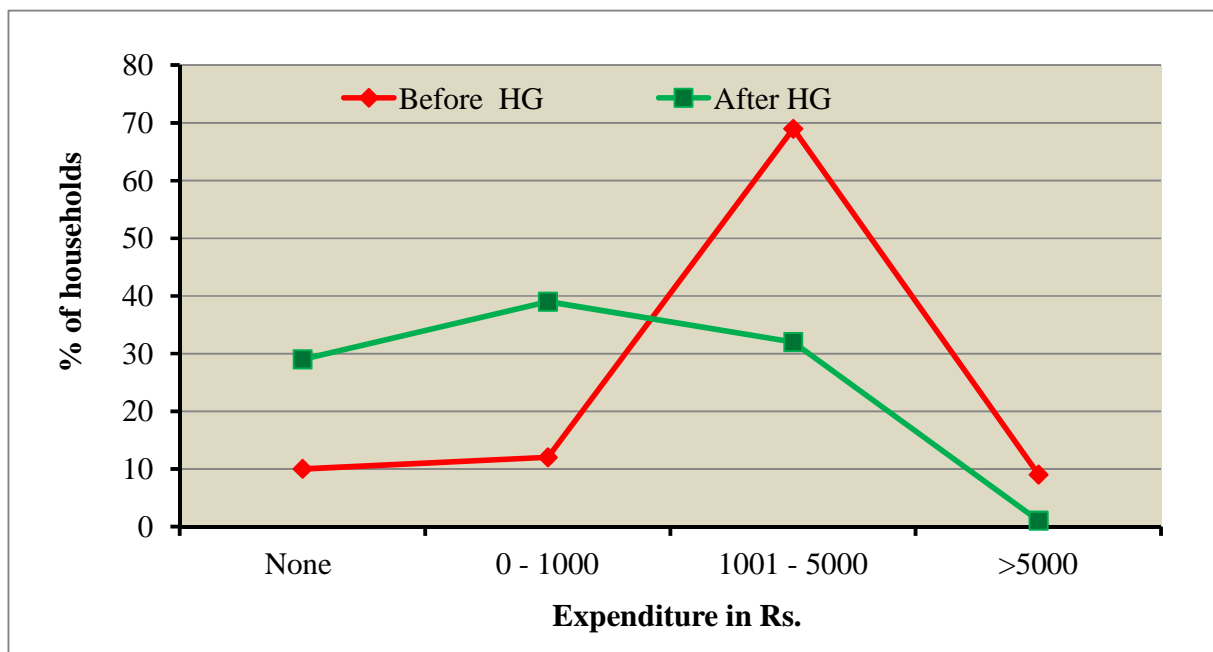


Figure 3: Expenditure on buying fresh vegetables by HG beneficiaries (n=362)

Source: Wrap up survey Home Garden II, 2009

Most farmers reported that they utilized the money earned from the sale of their farm produce for the household expenses, e.g., buying cooking oil, sugar, soaps, and clothes and even for their children’s education. With the income made from the home garden they seem to be highly motivated to go for scaling up of their farming by expanding the area as far as possible for increasing production and productivity. Review Team during the field work also observed the expansion of the home gardening area by bringing various types of land (waste-land, sloping land, barren, ridge land, etc.) under home garden.

4.1.3 Synergies with other (agricultural and non-agricultural) Projects

The review of the project documents as well as interaction with the personnel working in other projects and agencies during the field visits revealed that the collaborative effort has been substantially productive. Home Garden project appears to have implemented sustainable agriculture supportive activities in collaboration with all other SDC funded agricultural and non-agricultural related projects such as HMRP, PVSPR, SSMP and LILI in the home garden districts to produce impact in a perceivable manner.

In the SDC cluster, an integrated approach was observed in some of the projects with Home Garden. In implementing the activities of various SDC projects, RHDP was strongly linked to Home Garden with aspects of nutrition and diet of women and children, SSMP with the sustainable management of land and seed production, NSCFP in providing facilitation in using community resources and establishing income generation enterprises such as NTFP, cultivation of grasses for livestock, value addition etc and LILI for increased production with the availability of irrigation facility. It is seen easier to integrate different development activities by the Home

Garden projects because all the projects funded by SDC also work in collaborative manner with the respective DADOs.

Table 6: Home garden groups worked synergy with other projects in Okhaldhunga

Name and address of Home Garden group	Number of group (n = 12)	Other projects
1. Dhurbatara agriculture group- Salleri	1	DADO,SSMP,RHDP
2. Sishnekhola Pokhari WG- Barnalu 4 and simdhara Pakha WG- Barnalu 2	2	LILI,SSMP,RHDP
3. Sarswoti MG	1	SSMP,RHDP,PAF
4. Chetanshil Mishrit samudaya- Katunje	1	SSMP,RHDP,PAF,CEAPRED
5. Dalit Uthan group K, Kuntadevi 9, Dalit Uthan group Kh, Kuntadevi 9, Sunaulopiplatar, Kuntadevi, 2	3	SSMP,RHDP,HMRP
6. Himchuli Janjati WG, Kuntadevi 4	1	LILI,SSMP,RHDP,HMRP
7. Nutrition health mother group - Baruneswaor 2, Mahangkal WAG- Baruneswaor 3, Kamaldip Mishrit C G	3	SSMP,RHDP

Source: LI-BIRD Database (2012)

The home garden project in Okhaldhunga has added a good experience to Home Garden project in terms of achieving its objectives of working with other groups (Annex 12). The groups were also working together with the multiple projects having objectives to enhance the livelihood options (Table 6). The project has provided technical supports and trainings to the farmers who are working with other projects as well in a call basis. It was found that only trainings and capacity building were not sufficient for DAG households to adopt any new technology, but material support was also essential as shown in Table 8.

Table 7: Home Garden Project's synergy with LILI (for irrigation) and SSMP projects

Place of Home Garden group	No. of Home Garden groups (n =7)	Support	
		SSMP	LILI
1. Kathajor, Ramechhap	3	Seed, Bio-pesticide , plastic tunnel	NA
2. Mane dada, Ramechhap	2	Seed, Bio-pesticide , plastic tunnel	Water collection pond for irrigation
3. Naghdaha, Ramechhap	2	Seed, Bio-pesticide , plastic tunnel	NA

Source: LI-BIRD Data base 2012; NA = not applicable

With experience in Okhaldhunga, the Home Garden project has worked together in SDC cluster in seven Home Garden groups with SSMP and two groups with LILI. As shown in Table 7, both projects provided supports (seeds, biopesticides and plastic tunnels), which are basic elements for home gardens.

With the impression from the home garden project, the other development projects have also started integrating the home garden components with their other regular activities. For example, this year, the SDC-funded Rural Health Development Project (RHDP) has allotted NRs. 348,000 in Ramechhap and NRs 350,000 in Okhaldhunga for nutrition and home garden management training to DAGs of road corridor. The RHDP has sought help from the home garden project in recommending vegetables and fruits plantation in Home Garden for daily dietary requirement of the resource poor DAGs who cannot afford to buy fresh vegetables regularly.

As it appeared, despite the huge potential of synergies with other projects, the biggest constraint is the diverse interest and objectives of the agencies working in a cluster. This implies a need for exploring the possible institutional collaborations and co-financing with other governmental and non-governmental development agencies working in the field of agriculture, irrigation, soil fertility management, crop pest management, human health and nutrition. The Review Team feels that the initiation for such collaborations and co-financing should come from higher level, rather than leaving this aspect with the implementing agency alone.

Integration of Home Garden in LI-BIRD's and Partners' own Programmes

Home Garden has already been proved to be a means to address the needs of smallholders and DAGs for their livelihood enhancement. LI-BIRD's Strategic Document (2012-2016) identifies impact group that also corresponds to Home Garden beneficiaries, i.e. rural poor and marginalized smallholder farmers, especially women, who depend primarily on agriculture, biodiversity and natural resources for their livelihoods. The impact groups are being supported through various programmes on biodiversity and ecosystem management, community resilience to climate change & agriculture innovations for livelihood security. There are various projects within these programme units that have integrated Home Garden as an integral component such as CBM South Asia, CBM Resilience, CBM Nepal, WTLCP, RESMISA, Eco health, HDI, PROLINNOVA/FAIR 2, LINEX-CCA (Annex 13).

Similarly, CEAPRED reported during the Way Forward workshop in Rupendehi district that the organization has integrated home garden in their new projects where relevant. TASK also highlighted that the organization is integrating home garden in new programmes especially related to maternal and child health supported by different donors. Similar case was reported for SAHAS-Nepal where the organization introduced home garden in their new projects. These evidences clearly demonstrate that lead agency (LI-BIRD) and partner implementing agencies are vigorously pursuing home garden integration in their programmes, which effectively implies that home garden's worth has been fully internalized by the organization.

4.1.4 Unintended Outcomes

The implementation of Home Garden project has produced some unintended results. During the field work, the Review Team observed four key unintended, yet positive, results.

(a) Earning by Seeing and Learning

In all the districts the Review Team observed a tendency among most beneficiaries to 'earning by seeing and learning'. During the regular monthly meeting the Home Garden group members often discuss about various ways for increasing the production and productivity of the crops they grow and about enhancing their own capacity to undertake home garden activities more efficiently and effectively. Those who had been on exposure visit have articulated that such visits have been beneficial to them in a variety of ways.

Box 2: Earning by Seeing and Learning

Ms. Krishna Maya Nepali from Kopila Home Garden Group at Dhopka village of Thumpakhar VDC – 5 of Sindhupalchowk collected some Marigold flower seeds from Ilam during the Exposure visit organized by the project (Tuki-Sunkoshi). Upon her return, she planted these seeds in the following season. The result of this flower gardening became so successful that she could earn Rs. 1,000.00 from the sale of the flower at Khadi Chaur (Sindhupalchowk) during the festival time (*Dashain/Tihar*). She has a plan to continue more marigold flowers cultivation next year too. Having seen such a result, some of her fellow friends also think of initiating such an undertaking in the days to come.

(b) Home Garden Changes the socio-economic status of poor farmers

Many Home Garden farmers have a tendency to turn their garden into Commercial Farm mainly because of the immediate cash income it fetches. During the field visits, the Review Team came across with many beneficiaries, particularly women, who have expanded their farm area under Home Garden with the objective of producing more and earning more as a result of technical capacity they have developed from the participation in the Home Garden project activities. Home garden beneficiaries are of the view that Home Garden is an appropriate activity for farmers to utilize their under-utilized or wasteland and leisure-time. Many of them now have home gardens, which are away even from their homes.

Box: 3 Home Garden raised the socio-economic status of DAG

Mr. Jagannath Chaudhari (Jagriti Group at Padau village, Laxmipur VDC – 4, Kanchanpur) has been able to transform his home garden into commercial vegetable farm with the technical support from LI-BIRD and farm inputs from DADO Kanchanpur. With income earned from the home garden, he has been able to buy 2 Bighas (1 Bigha \approx 0.68 ha) of additional land, and his family cultivates vegetables in all of his farm land. The cropping intensity of his farm is 400 percent, i.e., four crops (Rice-Winter vegetable-Autumn vegetable-Summer vegetables) in a year. He says that he is able to earn four times more profit from vegetable farming as compared to cereal crops (rice, wheat, maize, etc.).

Reviewers noticed during their field visits and interaction with beneficiaries that there is an increasing tendency among beneficiaries to treat home garden as a stepping stone to gradually move from home gardening scale to semi-commercial to commercial production of vegetables specifically catering to the demands of the nearby market. This is an encouraging phenomenon, and should be treated positively, that would have profound impact on livelihood of DAGs. However, once these households climb up the socio-economic ladder they no longer should be treated as HG beneficiaries receiving subsidized material support.

(c) Spillover Effect

The Review Team also observed some spillover effect of the project. The project has provided subsidized inputs to the households involved in the groups. Among the groups, more than 64% of the households receiving subsidized inputs belong to DAG category. However, the project has provided technical supports to households belonging to other than the project groups. It was observed that promotion of home garden was also done among the households not within the project groups, which can be considered as spillover effect. Similar examples were observed in Kanchanpur. For instance, Mr. Jagannath Chaudhary found to have inspired his neighboring farmers to initiate vegetable farming. There are several other similar examples across the home garden sites. These evidences point to the fact that HG technologies are easily adopted even by the households having minimal resources, thus greatly increasing chances of replication within and between organizations, provided that there is policy support from the government and some additional funding to reach DAGs.

(d) Going beyond the Concept of Home Garden

Home Garden is also emerging as the platform of social learning, enhancing community resilience through integrated home gardens and a strategy to meet MDG 1, which is outcome of the project. From group interaction it was observed that HG groups are utilizing the monthly meeting as an important forum to discuss and decide on other pertinent issues of their members indicating that these groups can be used as an entry point to implement development interventions in the community.

4.1.4.a Biodiversity Maximization

Table 8 provides the record of biodiversity maintained by selected Home Garden groups/farmers in the project districts. The details of the plant species has been presented in Annex 8. The example of biodiversity maintained by the beneficiary Households during the field visit is described in Box 4.

Box 4: Seeds of different plant species preserved by Ms. Radha Devi Kathayat at Khamaura village in Malakheti VCD - 4 of Kailali

Ms. Santoshi B.K. and Ms. Radha Devi Kathayat in Khamaura village of Malakheti VDC - 4 of Kailali had set out their gardens for the last two years. In April 2012, they prepared an inventory of the species they planted in their home gardens. As per the list Ms. B.K and Ms. Kathayat have been growing variety of species (vegetable, fruits, and herbs) of 46 and 91 respectively. In addition, Ms. Kathayat had preserved about 30 kinds of vegetable seeds (see *photo*). Both of them also have small fish-ponds in their home gardens.



Randomly observed HGs of Kailali district showed the average diversity not only in vegetables but also other species such as medicinal plant, fodder, fruit tree, spices etc (Table 8). Reviewers' field observation corroborate the findings generated by the LI-BIRD through OMS, hence we conclude that there has been significant increase in species richness in home garden due to project intervention.

Table 8: Species and Number of Products Grown in Home Gardens

Products	Number	Percent
1. Vegetables	46	44.2
2. Medicinal plants	16	15.4
3. Fodder species	10	9.6
4. Fruits	19	18.3
5. Spices	13	12.5
Total	104	100

Source: Field visit 2012

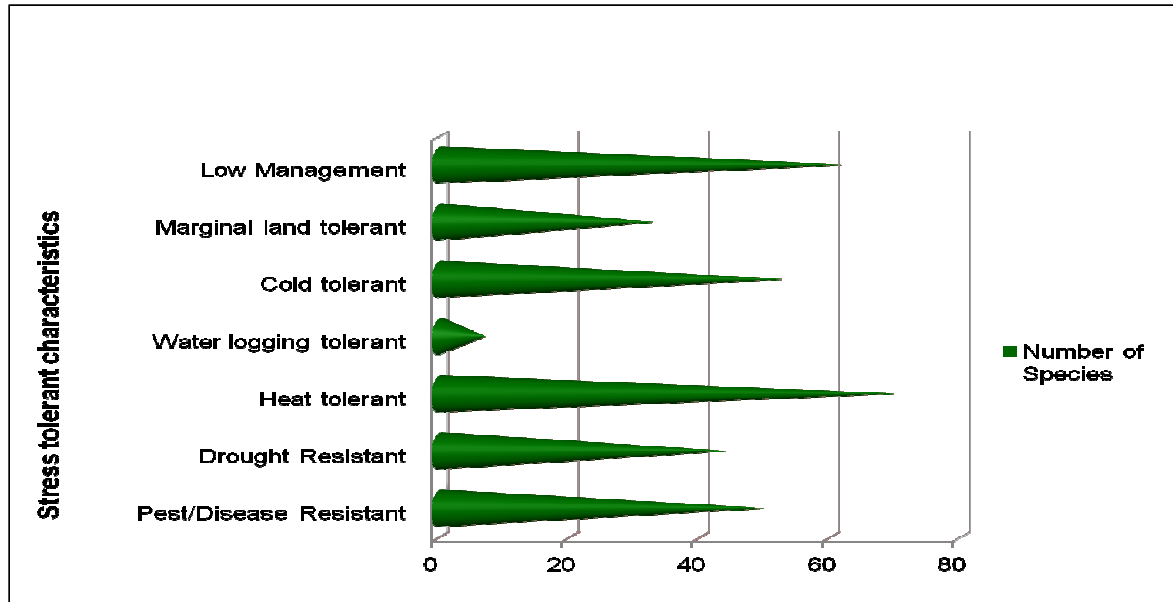
4.1.4.b. Resilience to Climate Change

The phenomenon of climate change manifested with extreme and frequent droughts and floods in different seasons seems to be posing a serious threat to the Home Garden farmers as well. As mentioned above, the period the Review Team visited the Home Garden project sites was during March-April, which is considered to be the peak dry season in Nepal. It was quite apparent that the Home Garden farmers mentioned ‘Inadequacy of water availability for farming’ as one of the serious problems affecting their Home Garden production.

The Home Garden project has made substantial efforts to promote biodiversity among the beneficiary farmers as one of the major activities. As the Review Team observed during the field visit, all Home Garden farmers have been maintaining the biodiversity, particularly the floral-biodiversity. For the Home Garden farmers, the maintenance and increase in biodiversity has been something like adaptation to variability in weather patterns. Consequently, as the farmers say, they have some species of vegetable crops all the year round in their farm despite the scarcity of water (Annexes 14 and 15). This clearly infers that home garden is more resilient to climate change than the conventional farming practices.

Figure 4 provides a list of products varieties adopted by the home garden, which can withstand poor management, cold tolerant, adapted to water logged/excess water, drought, heat tolerant and do well under disease and pest pressure. Apparently, the maintenance of biodiversity has rendered the project beneficiaries less vulnerable to changes with respect to availability of water resources resulting from climate change. This, in turn, has contributed to enhancing their climate resilience capacity to cope with the climate change-induced adverse events and conditions to a greater extent. Nevertheless, the project can invest some time and resources (action research) in project sites to indentify, document and test adaptive crops/varieties for further promotion to make communities resilient to climate change impacts.

Figure 4: Distribution of stress tolerant species in the home gardens of Gorkhe, Ilam in 2009 (n=76).



In addition, despite the enormous role of biodiversity in the sustainability of Home Garden, the project beneficiaries do not yet seem to be aware of this significant phenomenon. The Review Team, therefore, feels that the project implementers need to make concerted efforts to increase awareness about the likely effects of climate change among the entire Home Garden community, demonstrate climate resilient Home Garden as well as water resource management practices, and integrate the successful results into the future project design in order to respond to the challenges imposed by climate change.

4.1.4.c. Resilience to migration

The Nepal Living Standard Survey (NLSS 2010) indicates that the people from the rural areas of Nepal have a tendency to migrate to other areas for employment. The Review Team, during the field visits, also learned that similar situation existed in all the villages visited.

s, of Thumpakhar, been possible for our n's education, if my ch women (e.g., Ms. Ms. Basanti Damai, similar expressions.

In terms of the impact of male out-migration, the female household members said that they have not experienced any noticeable social and economic adverse effects. Rather they expressed that there have been positive impacts on their families because of the remittance money sent by their male counterparts. The women farmers seemed to be happy with their Home Garden, as they have been able to utilise most of their time in productive visible activities, which they previously used to spend just in invisible works. Interestingly, most women participants said that the Home Garden project has also given them with the opportunity of becoming more active - taking part in community activities and articulating to share their views during the meetings.

Given the fact that Home Garden is too small in scale and the main purpose being to provide food and nutrition security rather than income, it would be unrealistic that HG can prevent out-migration from rural areas. However, it's worth noting that even with the current extent of migration and where relevance of agricultural interventions is being questioned due to shortage of labour, Home Garden project has not experienced any adverse effect on its implementation. This is because Home Garden is usually done in small scale around homestead that is easily accessible. Women do not have to sacrifice the whole day working in their home garden rather they can attend to home garden whenever they feel they have the time and energy to do so. The Review Team interacted with 12 Home Garden groups during the field visit and learned that approximately 70 percent males were working within and outside Nepal; e.g., district headquarters, big towns, Kathmandu valley, and countries like India, Malaysia, Qatar, UAE, etc. Even under such circumstances, the implementation of Home Garden project was found to be successful to a greater extent. One of the significant reasons for such a successful implementation is that women constitute majority of the project's participants and beneficiaries, who stay at home and utilise their free time for undertaking the farming activities. Viewed from this perspective, the Home Garden can be considered as 'migration resilient' too. However, one of the significant impressions the Review Team got from the assessment of the project, particularly from the interaction with the male household members in relation to out-migration, was that development programme like Home Garden has been an 'eye-opener' for the rural people and development agencies including the State need to demonstrate that the magnitude of out-migration could be substantially reduced if some livelihood opportunities are available right in their own place and in country.

Among 15 home garden project districts, Gulmi, Jhapa, Kailali, Kanchanpur, Okhaldhunga and Rupandehi are more affected by migration (Table 9). In these areas, mostly male members of the family go outside village sometimes outside the country for money to support their livelihood.

Table 9: Tendency of migration in Home Garden districts

District	Migration status				Total number of sampled HHs
	Not migrated	Bothe Male and female	Male only	Female only	
Dolakha	62	10	17	2	91
Gulmi	29	18	47	0	94
Illam	51	2	6	0	59

Jhapa	75	10	49	1	135
Kailali	19	13	28	0	60
Kanchanpur	43	2	15	0	60
Okhaldhunga	24	9	26	1	60
Ramechhap	28	20	11	1	60
Rupandehi	27	4	26	3	60

Source: Home Garden Project baseline survey, 2009

No doubt that temporary outing of labour capital from home most of the time of year has become a serious threat to agriculture and other development programmes. The project postulated that home garden also requires family labour and hence there is a chance of being negatively affected by migration. Therefore, the OMS 2011 report collected data on biodiversity of the HG maintained by the beneficiary HG, which indicated increasing trend that could be attributed to low management cost of home garden and more responsibility taken by females in absence of their males (Table 10).

Ten households from each village were taken, 5 from each migrating and non-migrating category. Three major aspects were compared such as; (i) diversity (vegetable and fruit), (ii) economy and (iii) home garden management (Table10). The above components compared in both home garden were found more or less similar. The result of the comparison shows that home garden is migration resilient and can become equally effective in migration prone areas for livelihood enhancement of disadvantaged communities.

Table 10: Comparison of HG between non-migrating and migrating households

Project site	HH Type	Home Garden Average size (m ²)	Vegetable and fruit diversity (No. of sps.)		Income (Rs.)		Expenditure on vegetable (Rs.)		No. of Integrated components*
			Before	After	Before	After	Before	After	
Kanchanpur (Laxmipur)	Non migrating	373	37	49	120	8560	840	60	11
	Migrating	508	36	47	75	7750	1050	200	11
Kailali (Godawari)	Non migrating	339	13	28	0	0	2500	175	5
	Migrating	325	16	29	0	0	2917	250	5
Rupandehi (Dudrakshya)	Non migrating	440	18	36	0	2400	2400	140	6

	Migrating	406	22	34	0	3300	2300	100	7
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Source: Baseline 2009, Outcome monitoring survey 2010 and 2012.

*Following components were considered as integrated components

1.Vegetable 2.Fruit 3.Fodder 4.Goat 5.Fish 6.Poultry 7.Pig 8.Mushroom 9.Rabbit 10.Duck 11.Honey bee 12.Pigeon
13.Nursery management 14.Seed production 15.Value addition

4.1.5 Success factors relevant for future

There are various factors contributing to the success of the Home Garden project. The key factors that have implications for future undertaking of home garden projects are described as follows.

- (a) **Targeting and selection of the beneficiaries:** The careful selection of the beneficiaries (the women, poor and DAGs) who are really looking forward for some development opportunities for improving the quality of their life (e.g., through increased food and nutrition security). Given the small scale nature of the home garden activity, it is genuinely appropriate for the land-poor, small holders and marginalized farmers, who somehow cannot afford for large scale farming.
- (b) **Local capacity building:** Capacity building of the beneficiaries through knowledge, skill, inputs, etc., project staffs and stakeholders (DADO, NGO Partners, etc.). The project supported to develop 151 Local Resource Persons (LRPs), which also include local resource persons of DADO led groups (LI-BIRD/OSM, 2009) and their mobilization has contributed to successful implementation of the project.
- (c) **Beneficiaries' Genuine participation and Ownership:** participation in general and women's participation in particular (because of male-out-migration and project's focus to women). It is in fact the commitment and hardworking of women that contributed to keep the Home Garden project alive and give continuity to it. It is women members, who feel more ownership over the project activities.
- (d) **Integrated approach:** All the project modalities encompass an integrated approach combining basic but essential components such as production inputs such as seeds, materials for arranging irrigation water supply, etc., technical skills training, and considerable socio-psycho counseling for mobilization of the beneficiary groups to undertake Home Garden activities. Whether implemented by the NGOs or DADO/ASCs, the technical support was rendered to the beneficiary participants. During the interaction at the DADOs office in Ramechhap, they appreciated the technical support (materials such as seeds, water-canes, plastic sheets, plastic drums, and training, etc.) provided to the target beneficiaries.
- (e) **Institutional Support:** The Department of Agriculture has officially endorsed the home garden as part of its programme: hence, home garden can be undertaken by DADOs as one

of their program activities. The local government bodies, VDCs in particular, are increasingly coming forward to allocate separate funds to support Home Garden initiatives at the community level. It has been reported that four VDCs in the project districts have already established VDC Home Garden management fund⁶. Home garden model has been considered by DADOs as part of their regular program for the farmers.

- (f) **Cost-effective and low risk:** There are no sophisticated technologies and risks involved in the implementation process of the project as well as in the practice of home garden. The cost of production (labour, bio-fertilizer, seeds/seedlings, pest management, etc.) is within the affordability of the target beneficiaries. Moreover, the promoted technologies and practices are engrained in local knowledge and local products thus eliminating the need to invest scarce capital resources while adopting home garden. Thus, the home garden is ideally suited to DAGs who have limited risk bearing capacity.
- (g) **Social acceptance:** The Home Garden, irrespective of the caste/ethnicity and class, has been accepted by the communities as being very appropriate for meeting their food and vegetable/nutrition needs. The communities (both participants and non-participants) in the project districts have positive attitude towards the project.
- (h) **Optimistic Incentive to the households:** There has been some level of increase in household food and nutrition security besides the cash income for some Home Garden project beneficiaries; a form of positive and quick incentive. This is one of the major reasons attributable to the success of the project.

4.2 Project Approaches and Modalities

The project adopted a systematic approach for implementing the activities, which involved consultation and collaboration with the stakeholders including partner organizations, selection of target beneficiaries, capacity building of the project staffs and the beneficiaries (through transfer of technology) and regular supervision & monitoring of the project's activities through bi-annual or annual monitoring and field activities.

The review of project documents and FGDs conducted during the field visit revealed that the project followed a bottom up approach for implementing the activities. Therefore, the implementation modalities are based on the real needs of the beneficiary farmers. Before the implementation of the project personnel made consultations with the potential beneficiaries and the DADOs. Additionally, analysis of local situation (household socioeconomic, and feasibility for undertaking home gardens) was also done. During the design stage of the project, the appropriateness of the project activities to the home garden groups and their members and sustainability aspects were seriously considered.

The project has been implemented through four types of modalities. The types of modalities, project districts, and implementing partner organizations are presented in Table 11.

⁶ Ibid

Table 11: Implementation Modalities of Home Garden Project

	Modality	Project district	Collaborating Partner/Organization
I	Implementation by DADO with LI-BIRD's technical backstopping	Kanchanpur	DADO
II	Implementation by NGO partners with LI-BIRD's technical and financial input	Sindhupalchowk, Dadeldhura, Kavre, Baitadi, Surkhet, Okhaldhunga	Tuki Sunkoshi, CEAPRED, SAHAS-Nepal
III	Direct implementation by LI-BIRD	Kailali, Rupandehi, Bardiya, Jhapa, Ilam, Gulmi	LI-BIRD
IV	Integration with other existing livelihood projects with LI-BIRD's technical inputs	Ramechhap, Okhaldhunga, Khotang	Other livelihood projects existing in SDC Cluster areas

In order to assess the effectiveness of the modalities adopted to implement the project, the Review Team discussed about the way the projects were initiated and modalities with the members of the home garden groups, personnel working for DADOs (e.g., Ramechhap, Dadeldhura, Kailali, Kanchanpur, Rupandehi, etc.) and implementing organizations (LI-BIRD, Tuki Sunkoshi and CEAPRED).

It is known that the DADOs provided a financial support of NRs. 10,000.00 to each home-garden group and NRs. 4,500.00 for on-spot training (NRs, 1,500.00 for 3 trainings per year). Besides, the DADOs also provided some basic materials such as seed, sapling, plants, materials required for arranging small irrigation, e.g., poly-pipes, drums, plastic sheets, etc. in the form of subsidy.

The stakeholders (e.g., DADO, DDC/VDC, etc.) including the implementing partner organizations appreciated the project for its effectiveness. The Review Team felt that the project would have been further impressive had it been not constrained by the limited access of Home Garden farmers to irrigation water. In other words, the effectiveness of the Home Garden project could be further enhanced with the provision of irrigation water. For this, the lead implementing agency of this project in general and the donor in particular may initiate negotiations with the potential and relevant agencies (for example, Divisional Irrigation Office, DADO, LILI). Though strictly speaking, home garden will not require investment in irrigation means rather tapping waste water, rain water harvest or drip irrigation might suffice the water requirement for home garden. It is likely that when beneficiaries were talking about irrigation needs they were referring to their ability to extend their cultivation and move to semi-commercial production of vegetables to improve their livelihood.

Changes needed in the project modalities

The existing project objectives and implementation modalities are quite appropriate for the context and purpose it was designed initially. However, keeping in view the present local context where the beneficiaries have gone a little beyond the concept of Home Gardening with the utilization of entrepreneurial skill they have learned through their own experiences and with the expansion of the land under home gardening to the extent possible, some improvements seem essential for these modalities to be more effective.

An integration of market-linkage component to the modality would add to its effectiveness. This is because the review of the documents (e.g., Outcome Monitoring) related to the project by the Review Team and the demand indicated by the farmers (as observed in most project districts) having surplus produces implies a need for an arrangement to link the Home Gardening with the market. However, addition of such a component in turn calls for a business literacy class on the part of the Home Garden farmers.

- Rather than implementing in a ‘stand alone’ manner (e.g., LI-BIRD implemented project in SDC-cluster areas), it could perform more effectively if implemented in collaboration with the other relevant development agencies (e.g., RHDP, LILI, SSMP, VDCs, etc.) concurrently operating their programmes in SDC cluster of the project districts.
- Tremendous potential exists for home garden. In order to harness this potential the implementing agencies should follow three-pronged strategies: (i) technical support to beneficiaries’ home-gardening skill enhancement, (ii) institutional development, i.e., beneficiaries’ group strengthening and (iii) Extension (through demonstration plots, i.e., at farmers’ field, at schools, etc. for wider dissemination among the non-participant communities and like-minded development agencies.
- The visibility of the Home Garden, despite its substantial positive social and economic impacts on the communities, seems to be somewhat inadequate in terms of household coverage. The project should now move to newer districts for wider coverage and visibility, by systematically pulling out of the matured districts. Dissemination of the project-related results to a wider audience through various media and organizing extension activities such as ‘farmer fair’ while the gardens are in good shape would also help promote its publicity and adoption.

4.2.1 Strength, Weakness, Opportunity and Threat (SWOT) analysis of Home Garden project implementation modalities

I. LI-BIRD

Strengths

- Internalization and clear understanding of the core value and objectives of the project, and its long-term socio-economic and environmental impacts on the target beneficiaries.
- Organization with motivated staffs to undertake projects of this kind (home-garden)
- Addresses the most vulnerable, poor, woman and marginalized women
- Technical and managerial capacity

- A practice of applying lessons from the experience to the present work in order to make it more effective
- A positive impression given to the stakeholders with regard to the project implementation
- Coordination at all levels (macro, meso and micro) including with the local partner organizations and beneficiary groups
- Participatory implementation of the project activities with the project beneficiaries
- Regular supervision and monitoring of the project activities
- Sticking to the spirit of the Home Garden project focusing on biodiversity, food and nutrition security and beyond (e.g., income)

Weaknesses

- Inadequacy of field staffs in quantitative terms for implementation and monitoring of the project activities – vast areas (especially in the hills) to be covered by a limited number of staffs within limited time;
- Low managerial capacity of the field level staffs for effective coordination with the meso- and micro level stakeholders

Opportunities

- Adequate provision of resources and organizational environment for technical and managerial capacity building of the project staffs
- Existence of institutional relationships with relevant development agencies at all levels for coordinated and collaborative actions and creating synergies
- Integrating and implementing Home Garden with other development projects of the organization, which is already happening
- Responsive project beneficiaries to undertake the Home Garden activities

Threats

- Lack of clear exit strategy of the project (which should speak of the project duration and organizational capacity building of the beneficiaries) may adversely affect the sustainability of the project activities

II. PARTNER ORGANIZATIONS

Strengths

- Advantage of being local to implement the project in their own localities; hence easily accepted by the beneficiary groups
- Good working and institutional relations with the beneficiary groups leading to effective implementation of the project activities
- Capacity of mobilising target beneficiaries for effective implementation of the project.
- Good coordination with the stakeholders at the meso and micro levels
- Sticking to the spirit of the Home Garden project focusing on bio-diversity, food and nutrition security and beyond (e.g., income)

Weaknesses

- Relatively poor understanding and internalization of the project's cross cutting themes such as gender and social inclusion, environment, health and nutrition, etc.
- Inadequacy of technically competent field staffs in quantitative terms for implementation and monitoring of the project activities – vast areas (especially in the hills) to be covered by a limited number of staffs within limited time;
- Inadequacy of managerial skills on the part of the partners' field staffs for making the beneficiaries technically competent to access the development services from the district level line agencies and non-public service providers.

Opportunities

- Adequate provision of resources as well as technical and managerial capacity building of the project staffs
- Responsive project beneficiaries
- Existence of development stakeholders for collaborative actions
- Establishing linkage with local stakeholders for the continuation of the Home Garden activities even after the phase out of the project (by virtue of being local)

Threats

- Lack of clear exit strategy of the project (which should speak of the project duration and organizational capacity building of the beneficiaries) may adversely affect the sustainability of the project activities

III. DADO

Strengths

- Recognition and realization of Home Garden as an appropriate programme to reach the un-reached as well as from food and nutrition security perspectives for the poor and marginalized farmers
- vast network of service centres to reach many households/beneficiaries

Weaknesses

- Home Garden not undertaken as a regular programme all over the district despite the institutional provision for Home Garden
- Inadequacy of technical staff to look after Home Garden at the district level
- Lack of enthusiasm in coordinating with other development agencies for undertaking Home Garden
- Deviation from the concept of Home Garden (Home garden activities often implemented in the form of kitchen garden focusing more on vegetable crops and expanding to large scale farming, instead of focusing on small holders, DAGs, land-poor, etc. for their food and nutritional security)

Opportunities:

- MoAC (now MOAD) has approved the norms of Home Garden, and issued the directive to selected District Agriculture Development Offices to carry out the home garden as pilot programme so as to develop it as a regular programme in future.

- Existence of non-governmental development organizations implementing Home Garden projects for collaborative and coordinated actions

Threats

- Inadequacy and Transfer of staffs (responsible for Home Garden) at DADOs may hamper the smooth implementation and sustainability of Home Garden activities.
- Limited human and other resources of DADOs may impede in reaching DAGs in remote and difficult areas of the districts (especially in the hill districts) with Home Garden activities

IV. Integration with SDC Cluster

Strengths

- Augmented capacity of diverse resources (human, financial, material, etc.)
- Development agencies working under one authority (donor); hence easy for mobilisation of development activities

Weaknesses

- Diverse priority (health, irrigation, forestry, soil management, etc) of the development agencies and target beneficiaries; may divert them from the core value of Home Garden
- Home Garden may be deemed as too small an investment to warrant their attention

Opportunities

- Access to a pool of resources (human and financial) from a number of development agencies
- Provision of co-financing and cooperation among the stakeholders for resource sharing for joint implementing of project of common interest (e.g., soil management, human nutrition, irrigation development, bio-diversity, etc.)

Threats

- Political interference in the project may lead to deviation from the core objective of Home Garden.

All the four modalities have been found to be effective in terms of achieving the objectives envisioned by the project. The strength of all the modalities is the involvement of the (i) communities in general and women in particular, (ii) linking the project with the food and nutrition security, (iii) home gardening skill development, and (iv) education on nutrition and significance of including various types of vegetables in human diet for a healthy life.

However, the Review Team found some deficiencies in all these modalities. Firstly, the project implementation seems not giving considerable emphasis on the Right-based approach to development, particularly in terms of capacity development of the Home Garden beneficiary groups. Rights based approach of pro-poor development is founded on the conviction that each and every human being is a holder of rights. Development of capacities of the Home Garden groups from the perspective of Right-based approach development is imperative in order for them to enable them claim their rights to development (getting basic services such as food, livelihoods, health, education, drinking water, etc, from the State (duty bearers). During the field

visit, it was found that only a limited proportion of the Home garden beneficiaries were aware of their rights to development.

Secondly, the component of ‘institutional development of Home Garden groups’ seems to be fairly inadequate. As was observed, many home garden groups, irrespective of how-old they are, were still expecting the project to be continued for few more years. The key aspects of institutional development that needs to be strengthened include: (i) human capital (technical expertise, knowledge about biodiversity based nutrition, etc.), (ii) social capital (networking among Home Garden groups, linkage with local public and non-public institutions and development organizations for accessing resources available with them, and (iii) financial capital (linkage with local market, credit institutions, etc.).

Thirdly and lastly, there is a subsidy mentality on the part of the Home garden groups. The project has provided (and has been providing) the Home Garden groups with essential materials like seeds, irrigation management related materials (poly-pipes, plastic drums, plastic sheets, water-can, etc.). However, even at this point of time of the project, the beneficiaries are still demanding for supports (especially seeds) to their groups. Not all the groups (group members) have maintained the seeds of what they grow in their gardens. The farmers and their groups should be encouraged to maintain the seeds (to the extent possible in the local context) to reduce the level of dependency on the external agencies.

4.2.2 Contribution of the project to promote caste and gender equality in the communities

The Home Garden project, since its inception, has accorded very high priority to gender and social inclusion aspects by focusing particularly on the women and disadvantaged communities as its beneficiaries. With a view to make the project inclusive, it has implemented and monitored the project activities from gender and social inclusion perspectives to have a mandatory representation from women, and other excluded communities across the geographical regions. Table 14 provides the representation of various social groups in the executive committee of the Home Garden groups (Annex 16). The executive members meet regularly to discuss about the development of their own areas and the problems they faced.

The data as shown in Table 12 indicates that there was a significant representation of (about four-fifth) women and socially excluded members in the executive committee. Explicitly, as it appeared, the implementation of Home Garden project has been vehicle for combating a wide range of social and economic development problems facing the women and other people especially from the excluded communities of the project areas.

Table 12: Home Garden Executive Committee Composition by Caste/ethnicity

Clusters	Sex		Total	BCTN	Janjati	Dalit	Total
	Female	Male					
1. Eastern	57	5	62	38	19	5	62
2. Western	208	37	245	43	109	94	245
3. Ramechhap	17	5	22	3	17	2	22
4. Khotang	76	44	120	8	77	35	120

5. Mid-Far western	61	0	61	11	28	22	61
Total	419	91	510	103	250	158	510
Percent (%)	82.2	17.8	100.0	20.2	49.0	31.0	100.0

Source: LI-BIRD, 2012

From the field visit it revealed that the project substantially contributed to improving the social and economic status of the women beneficiaries and socially excluded groups. Most project activities such as provision of farm inputs (seeds/seedlings and saplings), materials such as ploy-pipes and drums, plastic sheets for irrigation management, training on technical skill development and group operation, financial and technology support as well as socio-psychological counseling to the home garden groups have on the whole benefited the poor, women, socially and geographically excluded segment of the society.

Box 6: Social and Gender Integration through Home Garden

Ms. Laxmi Deupa, who holds the position of chairperson of Pragati Women Home Garden Group in Kailali district, says ‘we have Dalit members in our group, but we do not practice the age-old caste-based discrimination’. Similarly, Kopila Home Garden Group composed of Dalit women in Dhopka of Thumpakhar VDC – 5, Sindhupalchowk district has included Ms. Putali Tamang and Shanta Bhandari as the members of this group. Ms. Tamang and Bhandari say ‘we have comfortably been accommodated in the group by our fellow Dalit sisters’. Under the project, many Home Garden groups have been created: for example, Ghanteswar Mandir Women Home Garden Group at Khamaura village in Malakheti VDC – 4 of Kailali district, Pragati Women Home Garden Group in the same village (*Tallo Gaun*), Kalika Home Garden Women Farmers Group in Rupandehi to site a few, which are composed of mixed caste/ethnicity (Dalit, Janajati, Bahun/Chhetri, etc.).

Even though most of the project beneficiaries are women, their male counterparts have also been involved in home gardening activities. Some home garden groups operated by women (e.g., Ramechhap and Rupandehi districts) have male members as advisors, facilitators, etc. It was inspiring to note that the men in the communities have also been helping their female counterparts in the operation and management of not only the home garden groups but also the gardening activities. “It would not have been possible for me to participate in the exposure visit if my husband had not supported me. Since he agreed to look after the family and the garden, I could leave the family to join the visit”, says Ms. Krishna Maya Nepali of Kopila Home Garden Group in Thumpakhar, Sindhupalchowk.

In the project areas, the gender-and caste-based discrimination is still rampant, as elsewhere in Nepal. The project areas are characterised by social and economic inequality, as well as political and institutional exclusion; thus resulting in socio-political hostility and disappointment among the people. However, due to the increased sensitization on inclusion and participation in development programmes, the hostility and practice of discrimination and untouchability seems to be gradually reducing among the home gardeners community. The project activities provided opportunity for the women and men in the community to participate in the home garden groups and their activities on equal footing; thus giving them a sense of feeling of the equal social status.

The introduction of the project has contributed to reduction in thinking and practice of gender and caste-based discrimination, to some extent. Such an environment has been perceived by the communities in the project districts as a kind of respect and social justice to the Dalit people who had vulnerable situation previously due to discriminatory practice by excluding them from the mainstream development process. Various training and sensitisation activities conducted by the project has increased awareness for the communities' rights and responsibilities and have helped the participants understand the context, society and the need for living as well as working together for their own development. One of the significant roles the home garden project has played is that it opened up an avenue for the Dalits, who were excluded from the opportunity to involve in the development activities. The introduction of Home Garden project provided opportunity to work together in diverse ethnicity/caste groups and also to work in group/team.

Box 7: Home Garden brings Changes in the Life style of Ms. Shanta Bohara

Ms. Shanta Bohara (Nepali), a Dalit single women (as her husband left her with three daughters), holds the position of chairperson of 'Kalika Home Garden Women Farmers Group' at Chamkipur village of Dudrakshya VDC – 4 in Rupandehi district. Besides holding the key position in the group, she is also an innovative farmer. She has conducted a farm trial on her own to examine the efficacy of micro-organisms (a kind of liquid organic fertilizer) on the growth of cabbage crop. She goes around the village with a basket-load of vegetables (she has grown on her 3 *Kattha* of farm land and other vegetables being collected from her fellow farmers including the non-participants of Home Garden Project) to sell in local market. She has been selling the vegetables in this fashion for the last two years. In last year alone, she was able to sell the vegetables worth NRs. 8,000.00. As she found 'home gardening' more lucrative, she has replaced her small patch of land, which used to be covered with less productive traditional cereal crops for certain period of the year, with different types of vegetables all round the year. Before the introduction of Home Garden project in their village, Ms. Bohara used to sell self-made local liquor in the village for sustaining her family of four members. But now with the advent of the Home Garden project, she says: "Previously, I used to make my money by selling the home-made liquor; but now I make money by selling Home Garden made vegetables" to sustain my family. She feels socially and economically empowered by being on the decision-making position in the group and with the income she has earned from the sale of vegetables.

4.2.3 Sustainability of the outcome and processes including enabling and constraint factors for sustainability

Like any other development project, the Home Garden project is not free from factors that limit its successful implementation. Among them, the major constraining factors are as follows.

- (a) There appears inadequacy of the access to irrigation water for sustaining their garden in the long run, particularly during dry season. Most farmers put 'inadequacy of irrigation water' as the most serious problem.
- (b) The level of technical capability on the part of home garden farmers does not seem to be adequate to manage their home gardens in an effective manner. This is one of the reasons why most of the home garden groups demand that the Partner Organizations

should continue to support (technical capacity strengthening) them for an extended period.

- (c) While the joint action is a desirable step, DADOs/ASCs have limited human and other resources to engage them in Home Garden activities. On the one hand they are already loaded with their regular programmes, they also do not have adequate human resources with competencies in managing home garden. As provisioned of a Focal Point at the central level, there is also need to have someone as a Home Garden Focal Point at the district level from the part of DADO.
- (d) There is a narrow and low level of networking of the Home Garden project with multi-stakeholders operating at the district level. The project should go beyond its collaboration with the organizations operating within the cluster areas for producing complementary and supplementary effects.

Conceptual training on home garden

The project provided the conceptual training on home garden approach to the staffs from DADOs. LI-BIRD organized a four-day training-workshop on home garden entitled “Conceptual training on Understanding Home Garden” to the staffs from DADOs from **26-29 August, 2010**. Altogether 15 horticulture farm managers and 16 SMS (subject matter specialist) of 16 districts had participated in the training-workshop organized in Pokhara (Annex 15).

LI-BIRD’s home garden training module designed for farm manager, SMS and agri-government officers was followed while providing training by LI-BIRD in close collaboration with other professional members of LI-BIRD and Bioversity International. The training package was centered more on the concepts and principles of home garden (Annual Technical Report April 2010-September, 2011). Recently, Khotang has been a new Home Garden district in SDC cluster. The following training has been completed (Table 13)

Table 13: Capacity building training in Khotang District

No. of Training	Participants	Topic of orientation/training
2	DADO and other concerned participants	Home garden
4	DDC & other district stakeholders (WDO,DFO,DLSO,DADO...etc)	Home garden
2	8 VDCs*	Home garden
1	SDC in-house projects	Home garden

Source: LI-BIRD data set 2012

*Diktel, Nunthala, Rajapani, Buipa, Batase, Lichkiramche, Bamrang & Bijayakharka

By and large, the implementing partners have acquired the basic and essential technical and social skills required to launch home garden project in a systematic way. However, as it appeared

from the inquiry with the staffs working for various implementing partners including the technicians working under the DADOs that they need strengthening their skills. This is mainly because integrated home garden is a new concept to them and they have experienced some technical difficulties while working with the beneficiary communities. They expressed the need for further strengthening of their technical capabilities so that they could better perform their duties in assisting the farmers in a more effective way. In view of the difficulties they faced during the project implementation and working with the beneficiary groups, the project staffs working under various NGOs and GO (DADO) realized the need for building/strengthening the skill related to the following aspects: (i) Gender Equality and Social Inclusion, (ii) Technical knowledge and skills related to agriculture (especially home garden), (iii) Group facilitation, (iv) Negotiation skills to deal with various stakeholders for coordination/collaboration (v) Professional writing (for writing field monitoring and progress reports). For more efficient and effective implementation of the project, the project, especially the Lead Partner (LI-BIRD) will have to play a still bigger role in strengthening the capacity of partner organizations in coming days.

Looking at the positive evidences to demonstrate the sustainability of home garden, some of the HG sites from Phase II we visited showed that HG interventions were fully taken over by the beneficiaries. With some demonstrative effects from Resource Home Garden, some community members have initiated home garden of their own. However, it might be a right time for SDC to commission an impact study to measure the success of the project (sustainability) in areas where project has phased out. Perhaps the study will explore the enabling and constraining factors for success or otherwise of HG interventions and the sustainability of HG groups.

4.3 Policy influence for Integration into the Government's plan and programme

The evidence is that Home Garden project has been able to make a policy influence in order to integrate the Home garden component into the government plan and programme as one of the appropriate activities to cater the needs of the poor, DAGs and small holders for improving their nutritional status, if not as a source of livelihoods. The effort of LI-BIRD has been instrumental in influencing the government. Consequently, Home Garden has become the government's regular programme, and DADOs have been implementing Home Garden. It is now that the Ministry of Agriculture Development (MoAD) has approved the norms for home garden establishment and management and issued a circular to DADOs in all 75 districts.

4.3.1 Contribution to policy development related to pro-poor Home Garden initiatives

It was revealed from interaction with project team members from lead agency and with government officials that significant progress has been made in mainstreaming HG in respective organizations' programme (Outcome 2). All agencies realize that HG initiatives are specifically designed and suited to serve pro-poor beneficiaries and there is an increasing tendency amongst organizations to embrace HG as a means to reach hard-to-reach groups. It is recommended that lead agency and partner organizations as well as SDC give more focus and attention to expanding the programme in more integrated ways so that HG is embedded in any livelihood

and/or health and nutrition programmes. It might be a good idea to organize a national level workshop on finding ways and means of mainstreaming HG in relevant organizational programmes.

4.3.2 Integration of Home Garden into the government plan and programme

The Department of Agriculture⁷ has internalized the Home Garden component by integrating into its programmes such as ‘*Agricultural Biodiversity Conservation and Utilization*’ and ‘*Poverty Alleviation and Food Security*’. The integration of Home Garden in the DOA’s programme has opened up the opportunity for the DADOs to undertake Home Garden activities along with other agricultural extension activities to cater to the needs of the farmers. The home garden model has been adopted by the DADOs and considered as part of their regular programme. While the integration of Home Garden in the Department’s programme contributes to the project’s sustainability, it might also help in systematic exit of the project. Nevertheless, Home Garden has been implemented as pilot programme covering only a few groups in each district for gaining experience. Table 14 provides a glimpse of home garden activities in selected districts.

Table 14: Home garden activities DADOs in selected districts

District	No. of Home Garden Groups	Total budget Allocated (NRs.)	Remarks
1. Ramechhap	3	30,000	3-5 % of the total budget allocated for Home Garden activities
2. Rupandehi	3	30,000	
3. Gulmi	3	30,000	
4. Bardiya	5	50,000	
5. Kailali	4	40,000	
6. Kanchanpur	4	40,000	

Source: Deepa Singh, 2012; District Agriculture Annual Reports (2011)

With the continued implementation of the Home Garden project, it has also been developing a critical mass of followers and professionals at all (project, district, department and ministry) levels. To illustrate this, the registration of the Home Garden farmer groups with DADOs in project districts is on the increasing trend.

Home Garden project can also be considered as a means of advocacy as well both at the policy and programme levels by setting itself as an example of appropriate strategy of agriculture development programme to reach the un-reached. This is because the project is exclusively designed to benefit the farmers who are resource-poor; hence are neither able to afford for improved agricultural inputs and technologies on their own, nor have been able to access the development services available with the agencies due mainly to socio-cultural, economic and political reasons.

The enabling and limiting factors, based on the study, are described as follows:

⁷ *Krishi Prasara Karyakram Nirdeshika* of 2066-67, Department of Agriculture, Directorate of Extension

Enabling factors

- (a) The prevalence of Home Garden Norms at the Directorate of Agricultural Extension, Department of Agriculture, that has provisions for (i) Financial support (NRs. 10,000 per group), (ii) On-spot training (NRs. 4500.00 for 3 trainings per year @ NRs. 1500.00 per training) and (iii) Subsidy for seed, sapling, plant, small irrigation, plastic sheet, etc.
- (b) DoA has already opened up an avenue for the DADOs to implement Home Garden activities under any one of its major programmes (e.g., 'Agricultural Biodiversity Conservation and Utilization' and 'Poverty Alleviation and Food Security').
- (c) The lead Implementing Organization's effort through signing of the Memorandum of Understanding with the DoA can be considered as one of the enabling factors for integration of Home Garden activities in District Agriculture Development programmes. The campaign for home gardening advocacy should be carried out through demonstration plots in the farmers' fields, school premises and public places (health posts, etc.) besides the formally organised agricultural fairs at district and national levels.

Limiting Factors

- (a) The DADO is already loaded with its regular programmes to be undertaken with its limited human and other resources.
- (b) Inadequate number of staffs and inadequacy of technical competencies on the part of the staffs also appears to be a constraint to launch the home garden activities in an effective manner.
- (c) Difficulty in implementation due to duplication of Home Garden with the DADOs' Kitchen Garden programme (for which the above mentioned Home Garden norms are applicable).

4.4 Relevance and possibilities for scale up

The relevance of the objectives and modalities of the home garden project is directly linked to the SDC Strategy for Nepal (2009-2012) particularly its focus on livelihoods to ensure equitable access of women and men, in particular disadvantaged groups, to rights, public goods and services. Also the objectives of HG are highly relevant to some of the guiding principles of the new Swiss strategy to Nepal such as Equity and inclusion, Rights- based approach among others as these are not mutually exclusive. The country strategy paper states that all Swiss policy and programme activities shall contribute to the removal of institutional barriers and ensure equitable access of disadvantaged groups to decision-making and public services through empowerment as well as incentive and support systems. Also the strategy paper has focused on the rights based approach where it states that the new strategy aims to support the duty bearer (state) in developing its capacity and provide the support to empower the rights-holders to exercise their

rights and responsibilities. The review team has found that the approach of HG has been very much matching the principle of rights based approach as the major activities are to empower the land poor and DAGs.

In Nepal, the Government is already promoting different components of HG such as kitchen garden, fishery, and mushroom as separate components in all districts. Now, what government needs to promote is integrated approach where these components comprise integral components of HG. If all these components are presented as a package in DAGs communities, it would be efficient and more effective in changing the lives of the impact groups (DAGs) for better. Therefore, the government staff would require reorientation and a shift in their thinking to act in more integrated ways to serve DAGs.

The potential existing partners that can be used for scaling up HG are LI-BIRD, CEAPRED, SAHAS Nepal, TASK. It would make sense to explore different capable NGOs, Cooperatives and CBOs that can also take part in implementing HG in their respective districts of work. Some of the partners could be FORWARD, PAF funded projects etc. The strength of LI-BIRD is the main implementer of HG project and has long and extensive experience and also closely works with the government. High level well experienced technical staff at central level and well experienced field level human resource. Similarly, CEAPRED, SAHAS Nepal and TASK have also long experience working partnership with LI-BIRD.

There is an enormous possibility of integrating Home Garden in DADO's programme in a more elaborative way by bringing the non-public sector (such as I/NGOs e.g. Helen Keller International and private sectors) operating in the country that have mandate of promoting Home Garden related activities under the mainstream agriculture development process. While the government organizations could create an enabling environment by playing a facilitating role, the non-public sectors may contribute financial, technical and material resources for the joint intervention. In some districts, DADO is coordinating all development agencies with similar mandate to build synergy in their programmes and avoid duplication of work in terms of programmes and geographic coverage.

While Home garden project can be considered a successful project in terms of contributing to food and nutritional security, and reducing vulnerability (reduced cost for vegetable and small income sufficient for children's education or to invest and initiate non-farm micro enterprises), it will be difficult for it to produce visible impacts if taken as a 'stand alone' project. Therefore, the project needs to go for an integrated approach collaborating with other projects related to health, nutrition, irrigation, soil management and forestry for synergy and to come to realization of full potential of the project. One of the best things about HG is that it's low investment intervention which any project can 'add-on' with minimal investment that would have profound impact on the DAGs. Therefore, there is high relevance and huge potential to integrate HG in on-going interventions of any project/organization.

Leasehold land based HG farming is recommend for landless people. Home Garden does not require more land, even less than 300m² land is being used by HG members and it is recommend for land poor households. The norms of HG are focused for gender and social equity.

4.4.1 Relevance of the Home Garden Project

The project is highly significant at all levels, i.e. micro: responding to the needs of the poor and marginalized; meso: district level agricultural programmes; and macro: Nepal government's national objective of providing the food and nutrition security.

- (a) **Response to MDGs:** Home Garden project is contributing to achieving Millennium Development Goals, particularly No. 1 (Eradicate extreme poverty and hunger), 5 (improve maternal health) and to some extent to No. 4 (Reduce child mortality) and 7 (Ensure environmental sustainability).
- (b) **Response to inclusive development:** One of the significant aspects of the Home Garden activity is that it focuses mainly on the women, smallholders and near landless farmers who are often excluded by the mainstream agricultural programmes. During the field visit, the beneficiaries of the Home Garden project (Pokhare village in Sindhupalchok) and (Kathjor in Ramechhap) reported that they have never been able to access the services available with the government and non-government development organizations in their districts. In this sense, the Home Garden project's intervention responded to one of the dire needs of the resource-poor and un-reached segment of the rural society, when they are expecting some kind of peace dividend and development service delivery in the changed political context of the country. The Home Garden project has selected the poor, excluded (especially so-called low-caste people), Janajati and women as its main target beneficiaries at the time when the country is striving for an inclusive development. The targeting of women, smallholders and near landless farmers who are often excluded by the mainstream development programmes by the project is in line with the government's commitment to bring them in the mainstream development.

To some extent, the Home Garden project has also demonstrated as an alternative model of cost effective, low risky and inclusive intervention (being responsive to gender, social and Physiographical aspects) through the use of local resources and indigenous technologies for its longer-term sustainability.

- (c) **Response to food and nutrition security:** At the micro level, the project can be considered as one of the appropriate approaches towards the Nepal government's efforts to responding to ensure food and nutrition security. The challenge facing the Government of Nepal is to increase the growth rate of agriculture produces and a limit the soaring food prices. Due to these reasons the government experiences pressure on availability and accessibility of food and the task of ensuring food security to the ultra-poor and rural communities. In this context, the implementation of the project that has contributed, to some extent, to the food and nutrition security of the rural poor, small holders and marginalized people needs to be applauded.
- (d) **Response to climate change and need for adaptation:** As a part of the total agricultural system, Home Garden is one of the sub-sectors that have demonstrated to be quite resilient to climate change impacts. A minor climatic variation can have significant impact in local agricultural productivity and therefore affects food security of the

country. Viewed from this perspective, the project is also highly relevant in the context of the coping with various adverse events and conditions resulting from climate change. Though the project activities are undertaken in a small scale, yet its relevance in the context of climate change is substantial. This is mainly because the project promotes biodiversity by encouraging the beneficiary farmers to grow different kind and varieties of plants and crops so that at least some of them remain in the garden/farm; which constitutes one of the climate change adaptive actions.

- (e) **Response to migration:** For many decades, a large number of Nepali male workers have gone to India during the lean agricultural season to seek seasonal employment. In the recent years, Nepal saw many Nepalese, particularly men, migrating to other countries as well, besides India for job opportunities, education, etc. However, the Home Garden being a women-led activity, it has not been affected by the present phenomenon of migration, which should be taken in a positive note. This is because a great majority of the project's target beneficiaries include women, who often stay at home and engage in household and agricultural works. Instead, extended Home Garden activities (semi-commercial production) might have contributed to reducing the tendency of migration among the male members, as they could also engage in extended Home garden activities; thus sharing the burdens of their female counterparts. However, the link between HG and youth migration needs in-depth research and ways forward to mitigating the consequences in Nepalese agriculture and society.

4.5 Relevance of Maximizing the Potentials of Home Garden Project

There exist tremendous potentials for scaling up of the home garden project. In order to harness these potentials the implementing agencies should work by aligning its programme along with the programmes of other agencies. The opportunities that exist at various levels for scaling up the home garden project are as follows.

Policy level

- (i) There exists ministerial level policy (at MoAD), i.e., Agriculture Biodiversity Policy, which emphasizes on biodiversity conservation, sustainable utilization and income-generation and can accommodate Home Garden
- (ii) The Department of Agriculture possesses Annual Programme Planning guidelines containing 'Biodiversity conservation and utilization' which can include Home Garden activities
- (iii) Appointment of a Home Garden Focal Person at the Department of Agriculture to deal with home garden programmes
- (iv) Prevalence of Home Garden Norms (*described already in this document*) with the Directorate of Agricultural Extension under DoA

Programme level

- (i) Vegetable Development Directorate's Annual Programme Planning guidelines, which mentions: "Propose a programme on 'Home Garden and Community managed biodiversity' in collaboration with LI-BIRD
- (ii) Directorate for Agricultural Training (DAT) has started providing orientation training on Home garden to the extension officers
- (iii) Devolution of funds (VDCs allocating 15% of its total budget to agriculture related programme, which makes home garden activity a mandatory)

Home Garden Project Beneficiary Level

- (i) Development of Home garden-related skill (capacity built) on the part of the beneficiaries communities
- (ii) Expansion of the farm land area under home garden by the farmers
- (iii) Communities have accepted home garden as source of food, nutrition and family income

4.5.1 Lessons Learned

Based on the current review, we would like to highlight some of the lessons learned in the process, which might be useful for the implementing team as well as the SDC.

- Building/strengthening of local capacity (beneficiaries, staffs and farmers) is important aspect for the effective implementation of the project. Further strengthen the capacities of some potential members of the groups in such a way that they become like Local Resource Persons (Village Experts), and who in turn provide technical services to the group members.
- The components of the Home Garden and technologies to be provided to the beneficiaries should be based on the local social, economic, physiographic and climatic contexts. This is because not all the project sites of Home Garden have the geographical and climatic conditions (soil, water availability, micro-climate, etc.) conducive to grow all types of vegetables and fruit crops.
- Creation of beneficiaries' mixed groups composed of Dalit and non-Dalit communities gives a sense of socio-psychological empowerment on the part of Dalit members.
- Exclusively focus on the DAG or women by adopting the '*principle of affirmative action*' rather than considering them just as any other target beneficiaries, if the benefits of the project are to reach them.
- Ownership over the project and incentives (short- and long-term) on the part of the beneficiaries are important aspects of the project's effectiveness and sustainability.
- Focus the project more on women farmers, in view of the growing trend of feminization of agriculture for project's effectiveness and sustainability.

- More advocacy/campaign activities at all levels are required to popularize the concept and practice of home garden on larger scale and among the wider audience.
- Having an ‘exit strategy of the project’ and informing the beneficiaries about the same would facilitate in systematically phasing the project from project sites/districts.
- Home garden is a strategic way to women empowerment. As it was found, more women than men were actively involved in the home garden activities.
- Home garden (because of its attributes, e.g., small scale, low-cost, simple technology involved, quick result/impact, etc.) is an appropriate development approach to reach the un-reached (resource poor, small-holders, etc.).
- Promoting only locally appropriate and feasible crop types is an important element for successful home gardening (destruction by wild animals in Bheta, Dadeldhura; inadequate irrigation water availability in Ramechhap).
- Encourage women from poor and excluded groups (Feminization of agricultural works because of male out-migration; males relatively not that interested in contributing to home gardening).
- The project being implemented with an integrated approach is more efficient and more effective. Farmers have been able to reap a good harvest of vegetables mainly because they received an integrated package of practices (inputs such as seeds, materials, including technical know-how through training) required to undertake home garden in their farms.
- Farmers’ access to the necessary inputs for gardening from a local and sustainable source is an important element for successful gardening. Such inputs include seeds, seedlings and saplings, an irrigation facility, together with soil improvement and pest control techniques.

The Niche of Home Garden that needs to be continued

The Home Garden project possesses a unique quality when viewed as compared to other general agricultural projects. Besides having the food and nutrition security as key components, the Home Garden project also does possess a strong linkage with livelihood and social development (gender based violence, social integration, cooperative formation, collective participation in development programmes) for vulnerable communities. As it appeared, the implementation of Home garden has gone beyond its original objective to take on food and nutrition security for the poor women and marginalized people. Therefore, given the fact, the upcoming project must be responsive to enhancing the socio-economic aspects of their life by incorporating relevant and contextual socio-economic and institutional development activities.

The Home Garden project should also have forward looking intentions such as economic incentive to the producers through the sale of their surplus production. This means, the home garden activities need to be strengthened by improving backward and forward linkages, such as

the linkage between producers and local market centres (backward linkage) and the linkage between the local markets or collection centres and the places outside of the villages or district (forward linkage) so as to improve the livelihood of DGAs, thereby reducing their economic vulnerability and economic poverty. This would enable the producers to sell whatever surplus they have above the consumption of their production, as well as increase in the production.

The success of Home Garden project has a considerable bearing on various climatic factors. Therefore, the project must be carried out keeping in view the likely effects of climate change. In this sense, the filed activities to be continued under the Home garden project must be resilient to climate change as well.

4.6 Recommendations

Based on the evaluation of the study the review team has provided two sets of recommendations, i.e., (i) General (ii) Specific recommendations. While general recommendations have implications for further improvement of the project and its sustainability as a whole, the specific recommendations are related to the technical and institutional aspects of the project and the roles to be played by SDC, LI-BIRD and its partners for more effective Home Garden improvement activities in future.

4.6.1 General recommendations

- In view of the fact that most farmers have expanded their home garden in terms of the area and scale, there is a need to strengthen the technical capabilities of the farmers for linkage to marketing channels, group marketing and home garden shop etc for selling surplus product (fresh vegetables, seeds/seedlings etc.) as organic home garden product. It is also important to build their capacity to plan for their home gardens independently of project support and devise was of keeping and acquiring inputs such as seeds.
- The past experience of HG shows that it is one of the effective ways to reach the DAGs. The HG has provided nutrition security and reduced economic vulnerability to some extent by selling the surplus HG products. It is proved that HG is migration resilient and can be made climate resilient too. It is a low cost intervention. With all these qualities, HG has shown greater potentiality to scale up. After the phase out of the project, the government should take lead role to increase the coverage of the HG in all 75 districts.
- Despite the enormous role of biodiversity in the sustainability of Home Garden, the project beneficiaries do not yet seem to be quite aware of this significant phenomenon. Therefore, the project implementers need to make concerted efforts to increase awareness about the likely effects of climate change among the entire the Home Garden community, to demonstrate climate resilient Home Garden as well as water resource management practices. The successful results of these efforts should be integrated into the future project design in order to deliberately respond to the challenges imposed by climate change.

- Nutrition awareness on how to increase the nutrient available to the body from the Home Garden commodities needs to be provided in a very practical way taking examples of the nutrient contents of the locally available products.
- The traditional value added products such as *Gundruk* and *Masayura* need to be encouraged to produce from the surplus vegetables which can be used during lean period of the year.
- The Home Garden project should also have forward looking intentions such as economic incentive to the producers through the sale of their surplus production. This means, the home garden activities need to be strengthened by improving backward and forward linkages, such as the linkage between producers and local market centres (backward linkage) and the linkage between the local markets or collection centres and the places outside of the villages or district (forward linkage) so as to improve the livelihood of DGAs, thereby reducing their economic vulnerability and economic poverty. This would enable the producers to sell whatever surplus they have above the consumption of their production, as well as increase in the production.

4.5.2 Specific Recommendations

To improve technical aspect of Home Garden

There is a need for linking the Home Garden programme with other sectors of development such as health (nutrition and reproductive health), climate change, education and other development activities (awareness and educational activities on domestic/gender-based violence, institutional development, farm based-micro-enterprises, etc.) in the community. This necessitates policy support on the part of the donor agency at the higher level of administrative structure of the government of Nepal to guarantee the institutional support for the successful implementation of the programme.

There is also a need of access for each home garden to research in order to reduce technical hurdles and to improve production efficiency of Home Garden by introducing appropriate and low cost technologies. The efforts of research activities should also aim at making the home garden climate resilient, by having year-round farm production from home garden even in the hottest and dry seasons.

To improve deliver, i.e. on modality

Based on the SWOT analysis and given the institutional positions of the implementing agencies currently engaged, and in considering the compatibility among them for effective implementation of the project, the possible modality for implementation of Home Garden project for the next phase is as follows:

In this modality, LI-BIRD would play a managing role and involve in providing the backstopping support to other implementing agencies, i.e., local NGOs and DADOs, instead of playing dual role of coordinator as well as implementer. This is because the Midterm Review

team found LI-BIRD more appropriate for working as a lead managing agency. DADOs should be involved mainly because of their presence over a wider area (in all 75 districts). This will also help in promoting the visibility of Home Garden programme across the country and among the development agencies. However, DADOs do not seem to have their own programme on Home Garden in all the districts of Nepal owing to their limited human and other resources required for effective implementation of Home Garden activities. On the other hand, in all the districts there exists NGOs/CBOs that can be mobilized for implementation of Home Garden programme in the areas where the government may not be in a position to implement the programmes due to its own limitations. In such areas the local NGOs/CBOs could be mobilised for programme implementation. Moreover, the NGOs/CBOs are rather flexible in terms of their movement within and outside a particular district. LI-BIRD as a lead/managing agency would provide technical support to these two types of agencies for creating an enabling environment for implementation of Home Garden programme through mutual works on resource sharing basis. This modality will also help create an opportunity for establishing an institutional structure of public (DADOs) and private sector (NGOs/CBOs) partnership to contribute to the long-term sustainability of the Home Garden Programme.

Role of SDC (as a donor agency)

- Provide policy support at the higher level of administrative structure of the government of Nepal to guarantee the institutional support for the successful implementation of the programme.
- Initiate enforcement for Institutionalisation of home garden as a separate programme by the national and district levels authorities with its own identity, status and budget for implementation at a wider scale.
- Home Garden is as seen climate resilient and it is one of means to reach vulnerable. It should integrate climate change component (with a special focus on educating the communities and training focusing on developing resilience, adaptation, mitigation, etc.) into the future project design in order to deliberately respond to climate changes challenges/issues.

Role of LI-BIRD (as a Lead Implementing Agency)

Since LIBIRD is the pioneer organization for implementation of Home Garden project, the organization is now in a better position to take lead role. Therefore, LI-BIRD may be given the single role of managing the project (not as one of the implementer) and providing technical backstopping to the implementers. Such a role may entail the following:

- Designing the project implementation plan in close consultation and participation of Home Garden stakeholders including the beneficiary communities.

- Linking the Home Garden groups with the government (by registering the groups with the government service providers (DADO/ASCs, DLSO), and VDCs (regular agricultural budget 15% for Agriculture Forest & Environment Committee).
- Developing resource centre at the community/VDC level, together with LRP/Village experts being developed from among the home garden group members aimed at seed production especially for self-pollinated crops, multiplication and distribution by the communities themselves rather than relying on the external sources (development agencies, or private business enterprises like agro-vets, etc.).
- Organising workshop/seminars/ fairs / publications by bringing the successful cases and experiences of home garden from the present project activities at the national and district level. Organising extension activities: e.g., dissemination of home garden practices through live demonstration plots at the farmers' field and other publicly accessible areas (schools, health-posts, etc.) in the form of 'farmer-to-farmer extension'. One of the side activities could be distribution/sale of vegetable seeds (with some costs) during the event.
- Developing market linkage for home garden for better incentives (given the scaling up of Home Garden by the farmers themselves (e.g. selling surplus). LI-BIRD should identify the scope of selling surplus Home Garden products. Market promotion of Home Garden products in the areas where Home Garden products can get more value. Eg. Rupandehi 's Home Garden groups' commodities sale in Butwal.
- Organising awareness activity about the likely effects of climate change on the entire the Home Garden community through launching of specific activities related to demonstrating climate resilient Home Garden practices and identification of climate change resilient species.
- Continuing support to implement Home Garden project as an advocacy process towards addressing the agricultural development needs of the smallholders, DAG and particularly the women farmers. Establish the Home Garden demonstration plots as a means of advocacy; also by publishing booklets on Home Garden: what, when to grow what, where, how – calendar of crop and operation, implementation guidelines.
- Monitoring of the project progress and report to the relevant stakeholder

Role of Partner Organisations

(With technical and institutional support from LI-BIRD)

- Implementation of the Home garden project as per the plan jointly prepared by the stakeholders
- Monitoring of the filed level project progress and report to the relevant stakeholder, especially the LI-BIRD

- Promoting only the successful and potential crops (vegetables, fruits, herbs, etc.) and livestock must be promoted at a particular locality/district. Home Garden farmers of Siupal Home Garden Group at Bheta village in Ashigram VDC- 9 in Dadeldhura faces the problem of wild-animals destroying crops; they suggest spice crops like Ginger, Turmeric, garlic, onion, etc. which are root crops and with pungent (repelling effect) not affected by the wild animals (deer, porcupine, wild-boar, monkeys, etc.).
- Organising training on vegetable cooking to the women participants as one of the key activities of the project. This is because most women beneficiaries were not exactly aware of the nutritional aspects of vegetables, and lack of knowledge about the ways of proper cooking of vegetables to conserve the nutrition content in them,
- Launching awareness programs for the project field staffs and beneficiaries about the climate change issues, and diversity of climate change resilient species in Home Garden communities
- Carrying out action researches in collaboration with the LI-BIRD and project partner/implementing agencies to solve the field related problems
- After the phase out of the project, DADOs should take lead role to promote the Home Garden activities in all 75 districts, in collaboration with the local NGOs/CBOs.

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