

The home garden initiative has been a successful way of **increasing production, consumption and income** of the rural poor, thereby **enhancing family nutrition** and **supporting livelihoods**.

Bioversity International's series of Impact Assessment Briefs aims to inform readers about the major results of evaluations carried out by the centre.

Home gardens have traditionally played an important role in the production of food, fodder, fuel, medicines, spices, flowers and building materials throughout Nepal.

These small areas of land close to the homestead—often incorporated within a larger farming system—harbour high biodiversity, provide a large share of families food consumption and contribute income.

Due to their small size, however, home gardens have been overlooked as a way of improving the nutritional diversity and livelihoods of poor rural communities. The 'Home Garden Project' in Nepal, set to turn this around.



The project

Initiated in 2002, the 'Home Garden Project' in Nepal was led by Bioversity International and implemented by Nepalese NGO, LI-BIRD.

Phase I (2002-2005) focused on villages in four districts of Nepal to promote technologies and methods for the sustainable management of home gardens. The aim was to improve homestead biodiversity, food security, nutrition and income of poor rural farmers.

Impact assessments concluded that Phase I had made a substantial contribution to both biodiversity and improving livelihoods, and Phase II (2006-2008) subsequently focused more on scaling up the approaches and expanded from four to thirteen districts.

Phase III (2009-2013) saw the project expand into sixteen districts, covering other ecological and socially distinct regions of Nepal.



Science for a food secure future

Bioversity International is a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

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Above: Home garden and rural farming communities of Nepal.

Methodology

The methodology to evaluate the project outcomes involved both quantitative and qualitative approaches. This included household surveys, focus group discussions, stakeholder interviews, direct field observations and in-depth case studies.

Comparisons were made both before and after the project, as well as between participating and non-participating (control) households to analyze changes in livelihood, nutrition and homestead biodiversity. Additionally, in order to assess any spill-over effects, households within the same project villages—but non-participating households—were also analyzed.

There is clear evidence that this increased production has widened the choices, and improved the quality of fresh and organic foods available within the household

Results

This initiative emphasizes the benefits of home gardens for biodiversity, nutrition and livelihoods. 164 households from two districts covering 80 participating households, and 84 non-participating households were surveyed.

RESULTS: HOMESTEAD BIODIVERSITY

Biodiversity increased within the home garden of participating households, with 66 species under cultivation as compared to less than 40 before. Similarly, farmers now maintain higher plant diversity on farms and cultivate a greater range of plant groups—vegetables, fruits, spices, medicinal herbs, fodder, ornamentals—and a larger variety of different vegetables—roots, legumes, cucurbitaceous and cole crops.

Spill-over effects were evident in non-participating households who were based in project villages, where the level of species diversity found was 14-29% higher than in villages with no participants. Such spill-over effects can be understood as a result from the informal sharing of seeds, plants and information within communities.

KEY FIGURES

- Number of species under cultivation increased from 40 to 66 species.

RESULTS: FOOD SECURITY

Over 80% of project households adopted most of the recommended home garden practices, and more than 90% adopted some.

By increasing planting density, using higher yielding varieties, and adopting new technologies to allow cropping outside of the regular seasons, the yield from home gardens increased from 300 kg per year, to as much as 900 kg per year in participating households.

There is clear evidence that this increased production has widened the food choices and improved the quality of fresh and organic foods available within the household.

KEY FIGURES

- Yield from home gardens increased from 300 kg to 900 kg per year.



RESULTS: CONSUMPTION AND NUTRITION

A large proportion of the food produced from home gardens is still consumed at home. While the nutritional supply from livestock is limited, this home garden produce provides a major source of nutrition for poor rural families.

The overall consumption of home garden food has doubled among project households, from less than 200 kg to over 400 kg per year increasing the potential nutritionally benefits.

Green leafy vegetables are rich in vitamins and minerals, and the share of their consumption has increased in participating households from less than 25% to as much as 50%. About half of the participating households consume green leafy vegetables regularly, as compared to 20% of non-participant households.

Consumption of vitamin A-rich foods—such as mango and papaya—are also essential for health, and the share of Vitamin A-rich foods has increased by 36%.

Generally, the diversity of nutritional consumption has increased from a small amount of indigenous vegetables and local fruits, to a wider range of vitamin and protein-rich foods.

KEY FIGURES

- The quantity of home garden produce consumed has risen from **200 kg** to **400 kg** per year.



Before the project, Dalit women—who are traditionally land poor—rarely grew fruit and vegetables, and instead relied on provisions from upper caste households in exchange for their labour



**Women empowerment:
A case of Dalit women**

The 'Home Garden Project' has empowered many rural women in Nepal, including those from socially disadvantaged Dalit groups.

One particular Dalit woman, Mrs Parbati from a project in central Nepal, has been able to develop her skills to become a

promising leader in her community. Before the project, Dalit women—who are traditionally land poor—rarely grew fruit and vegetables and instead relied on provisions from upper caste households in exchange for their labour.

Mrs Parbati had limited knowledge of home garden management and virtually no confidence with which to voice her views. However, through the project, she became a member and vice president of a home garden group, and became actively involved in project activities. Gradually she was able to improve her technical skills to manage home gardens and mobilize her fellow Dalit women to adopt home garden activities, which resulted in the formation of a new Dalit women's home garden group, in which she was elected president.

The technical and leadership skills Mrs Parbati gained have been instrumental in promoting home gardens to many Dalit communities in her village. She now feels that the project has made significant changes in her life and empowered her to become a role model in Dalit communities.



Beyond contributing to increased production, consumption and income, the home garden project has also made an important contribution to the capacity enhancement of farmers

Related Reading

MATHEMA, S.B., D. GAUCHAN, Y. SHRESTHA, AND S. RAI. 2005. *Final External Review of Home Garden Project Phase I. Final Report.*

TIMSINA, N. AND D. DEVKOTA. 2008. *Home Garden Project, Phase II, External Review Report.*

LIBIRD. 2011. *Annual Technical Report. Home garden Project, Phase III.*

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Photos: Bioversity International/Bhuwon Sthapit.

RESULTS: INCOME

About 60% of project households were involved in selling home garden products at farm gates and markets, as compared to only 19% of non-participating households. With this, the quantity of sales also grew—from 100 kg of produce, up to 400 kg per household per year. This has significantly increased the income potential from the sale of home garden produce—on average, sales now amount to US\$ 110 per annum per year as compared to US\$ 25 for non-participating households.

The impact on the overall value of home garden foods produced—including market sales, consumption, and exchange—has been calculated at US\$ 271 per household per year, compared to less than US\$ 100 for control groups and before the project commenced.

KEY FIGURES

- Home garden produce sales have increased from US\$25 to US\$110.

RESULTS: CAPACITY ENHANCEMENT

Beyond contributing to increased production, consumption and income, the project has also made an important contribution to the capacity enhancement of farmers. Farmers have increased their ability to voice their opinion in community groups, and increased their level of awareness, skills and capacity to request information and technical services.

Additionally, about 59% of project participants were women and 40% of farmers were from disadvantaged groups, and both have significantly increased their knowledge, skills and capacity to improve their decision-making power in both households and communities.

KEY RECOMMENDATIONS

Despite the positive performance of the project in improving farmers' livelihoods and on-farm biodiversity, there are still areas where the project could continue to improve:

Wider sectors: Since home gardens are small-scale activities and not highly visible to policymakers and planners in Nepal, its concept should be intricately linked with broader rural development approaches by linking it with irrigation, forestry, livestock, health and tourism sectors.

Market and value addition: Individual farmers and groups could have capacity built to enable the further market development of surplus home garden products. Adding value through developing consumer awareness of home garden produce's nutritional value is currently limited and could be addressed.

Scientific capacity: Scientific capacity could be enhanced, as the lack of influence of the home garden project on national policy is due to limited investment in scientific capacity, and lack of detailed empirical data on the economic, nutritional and environmental contributions to reliably convince policymakers.