

# CHANGE IN STILLS

Home Garden & Food Security in Kumaon

A 'Gene Campaign' Initiative



A Series by

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An ActionAid Publication

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Front Cover Photo: Kamla Devi holding tomatoes and capsicums that she cultivated in her home garden, in the village of Simayal. She is also part of a local women's group that sell surplus vegetables at a local market in Haldwani, 80 kilometres away.

Inner Cover Photo: A view of Village Chakuta, where Gene Campaign, with support from ActionAid India is promoting traditional forms of farming and conservation of seeds

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# Introduction

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Uttarakhand does not face grinding poverty but the state suffers from serious nutritional deprivation, chiefly because of poor diets lacking vegetables, leading to micronutrient deficiencies. According to the last National Family Health Survey (NFHS-3 , 2005-06), 44 % of children under age five years are stunted (too short for their age), indicating prolonged periods of under nourishment. 38 % are underweight, which reflects chronic and acute under-nutrition. Almost 20 % are wasted, or too thin for their height. Anaemia is a major public health concern throughout Uttarakhand. 61 % of all children below 6 are anaemic and 2 % are severely anaemic. Over 55% of the women and 25 % of the men suffer from anaemia.

To improve this state of malnutrition, it is necessary to establish a system independent of government agencies whereby families can become self-reliant and can themselves improve their nutritional intake by growing and consuming fresh vegetables and fruits like citrus. Training programs are required for women and adolescent girls, on the importance of balanced diets and nutrition in physical and mental development

Gene Campaign has worked to establish scientifically planned Nutrition gardens near the family dwelling to ensure vegetables are available throughout the year and the family is getting nutrition from a diversity of vegetables. This approach is particularly important to make up the crucial micronutrient gap from which impoverished families suffer. The woman of the family can add fresh vegetables to the cooking pot, as they become available from the garden, thus adding nutrition at little extra cost.





A view of Village Chakuta, where *Gene Campaign*, with support from ActionAid India is promoting traditional forms of farming and conservation of seeds

Climate change, presence of wild animals (destroying the farms) and cash crops are the some of the other factors which are adversely affecting the biodiversity of the region.

*Gene Campaign*, working in Uttarkhand since 2004, has been making all efforts to revive traditional crops. Its main focus has been on making agriculture and food production sustainable and climate resilient, conserving traditional varieties of crops and setting up seed banks to give farmers more seed choice, improving household nutrition by developing homestead gardens providing fresh vegetables year round and reviving the nutrition rich, wild and semi-domesticated plants like nettles and ferns that were eaten as vegetables earlier but are being abandoned.









Suman Bisht (L) and Dinesh Bisht (R), both 8 years old in the village of Chakuta, one of the many villages where Gene Campaign is reaching out. Pawan, who works with the NGO says, "There is an imbalance of weight-to-height ratio in children in the area. Home gardens are one of the many ways of addressing it".





Given the growing uncertainties in weather and likely turbulence in crop production cycles, food production systems in rain fed areas need to build food resilience by diversifying the sources of food and income, and maintaining homestead gardens so there is a range of supplementary foods for households for year-round food and nutrition security. The setting up of Homestead Nutrition Gardens in rural homesteads homes emerged as an important recommendation during a National Conference on Climate Change and Food Security organised by Gene Campaign. Of the 20 key recommendations that emerged the one related to securing year-round nutrition recommended encouraging small farmer families to set up and maintain homestead gardens. These would play the role of making up deficits in food and nutrition from climate related yield losses.

The nurseries set up by Gene Campaign not only stock planting material of nutritious fruits and vegetable plants, they also serve as demonstration gardens where women, girls and youth from the community are shown how to grow and care for these plants.



ActionAid India is supporting Gene Campaign's initiatives in villages of Dhari Block and Ramgrah block of Nainital District. The initiative focus on establishing homestead gardens for household nutrition, collecting and conserving germplasm and applying principles of System of Rice Intensification (SRI) to millet varieties and evaluating performance.

In the pic: Kamla Devi (50 years) and her daughter-in-law Radha Bisht (29), work in their kitchen garden, in the village of Majera. They grow peas, raddish, bakula, methi, carrot, egg plant and spinach.

"Ever since we joined Gene Campaign, we have started growing more vegetables", says Radha.

Establishing village-level nurseries to support household gardens that can provide supplementary nutrition and make up for crop losses due to climate change is one of Gene Campaign's activities that directly address hunger and nutrition on a household basis.









Kamla Devi has 9 members in the house including two children. Whatever they grow in surplus, goes to the local market in Haldwani which 80 kms from their village. All three women in the house are also the part of the women's group.

Radha, Kamla's daughter-in-law, is serving lunch to her children Sonu and Khimesh inside their kitchen, in Majera village.









Maya Devi, another resident of Majera village, inside her kitchen.

"Most of the plants that people are growing in their home gardens were once developed as 'famine foods' by rural and tribal communities to tide them over bad weather conditions when other crops fail. These crops are hence adapted to do well in sub optimal climate conditions and are valuable crops today", says Pawan from Gene Campaign

Though traditionally these wild plants were consumed by rural and tribal communities, in the present their use has been drastically reduced for a variety of social reasons. Having documented these nutritious plants with help of the elders in the community Gene Campaign is reviving their cultivation to build up a bank of foods for the community for crisis periods. This approach is providing a secondary source of food and nutrition for families.



"I have a poor health. My uterus was removed. I feel weakness all the time. Work all day in the farm. Cook for children. Go to Jungle to collect fodder and woods.

*Gene campaign* gave us a sheet to make a rain tank. Water is a huge issue here in this region. Earlier we had to bring water from very far. We could not grow many vegetables due lack of water. It cost us only Rs 600 to dig this tank and now we can almost grow all the vegetables.' Says Muni Devi, who is now 47 years old.

(R) Muni poses before her kitchen garden.











"I have been working in this region since 1999 and I have seen a drastic change in health of the children in this region. I think it is due to presence of NGOs and mid day meal programs."

Says Rita Joshi, a primary school teacher in Buransi.

(L) Scenes from the local Anganwadi and Primary School in Buransi Village.

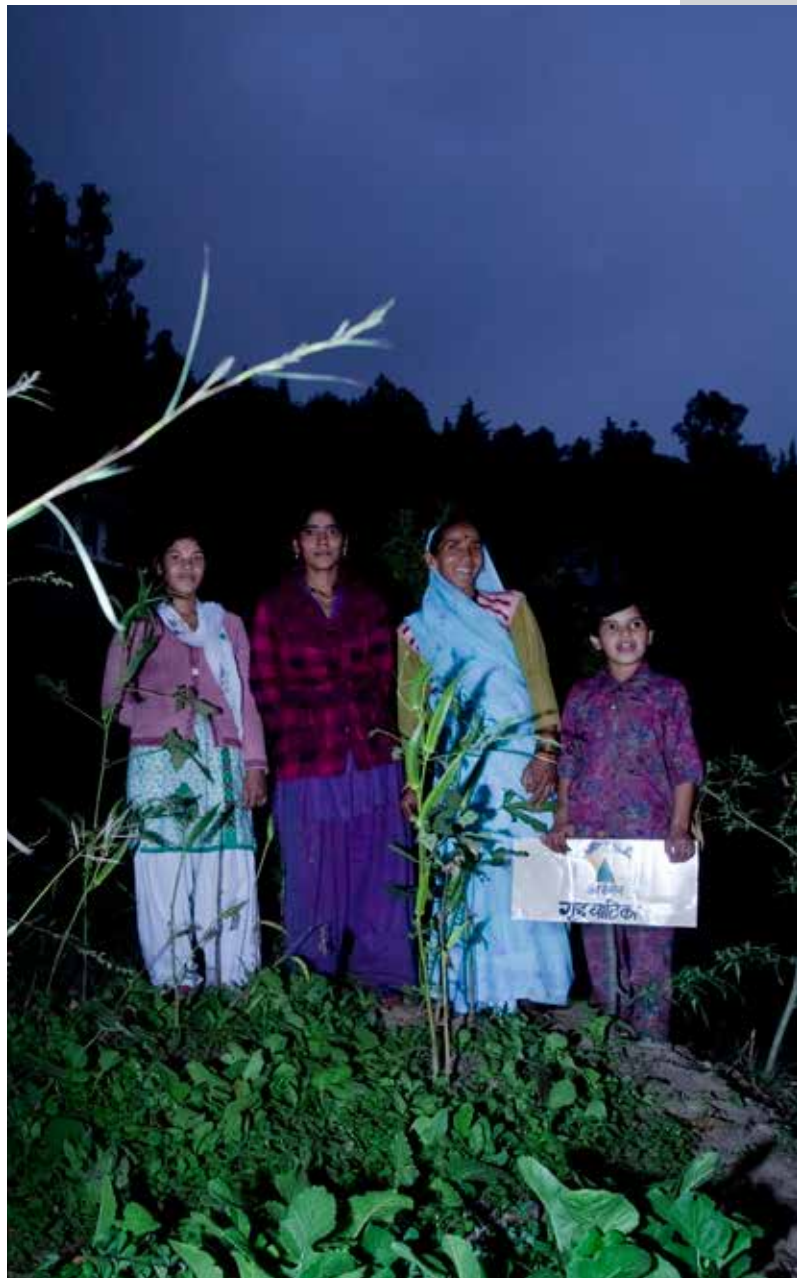




Uma Rakwal has four daughters and one son. She joined Gene Campaign in 2014.

"They have given us a calendar, describing which vegetable to grow in which season and how. I grow peas, spinach, methi, bakula, egg plant raddish and other local green vegetables."

Her eldest daughter Komal says regarding the health status of the region "Like my mother, most of the women don't see weakness as a health issue here. If they go for blood test, there will be very few who will have hemoglobin above 12. Women here work more than men, from sowing seeds to harvesting. Also, looking after the kids and animals. But, they don't get enough nutrients. Under Gene campaign, they encourage consumption of more green vegetables than potatoes, which is a staple diet here."



Womens' group holding a meeting in Majera village. Every month they meet and discuss issues related to agriculture. This collective of women also holds a bank account.

Each member deposits Rs 10 a month and can ask for loan in case anyone needs in the case of emergency.

Beyond this, Gene Campaign also holds training in food processing. To ensure supply of nutritional foods for adolescent girls throughout the year, demos and trainings are conducted with the Food and Nutrition Board, Govt. of India on value addition, processing and preservation of nutrition in leafy greens, vegetables, fruits and pulses.













A community seed bank, established by Gene Campaign caters the needs of farmers for variety of crops and vegetables. It has been working with thousands of farmers of nearly 100 villages of Kumaon region. Providing advanced seeds, value addition, training and imparting knowledge about modern agriculture are main components of it's functioning. Many farm men, women as well as NGO partners have been trained in the collection, characterization and documentation of agro biodiversity across the states.

Community-based administration of the material in the gene/seed bank is done democratically and equitably. Among the activities, they also focus on multiplication of seed samples to create seed source for farmers, developing a protocol for seed dissemination to farmers in tough times and return of seed from farmers to seed bank.

Under the initiative, use of traditional vegetables and cereals in the household diets are promoted. Seeds and planting material of such vegetables like nettle, fern heads, bathua etc are collected from the wild and multiplied and maintained in the nursery. Seeds and planting materials of both traditional and cultivated vegetables, for different seasons were provided to the women. These include traditional vegetables like buckwheat greens (ogal), bichhu, bathua, and chua as well as radish, eggplant, carrots, tomatoes, pumpkin, ridge gourd, bottle gourd, cucumber, spinach, fenugreek, fava beans and sweet potato.











The knowledge, which is held by the farming community, is extensive and detailed and documenting it faithfully provides a wealth of information about the genetic properties of crop varieties. It is farmers who reveal whether the variety performs well under drought conditions, is resistant to disease or has a short or long duration to maturity. This valuable information tells the scientists which traits to look for in which varieties.



# The Way Forward

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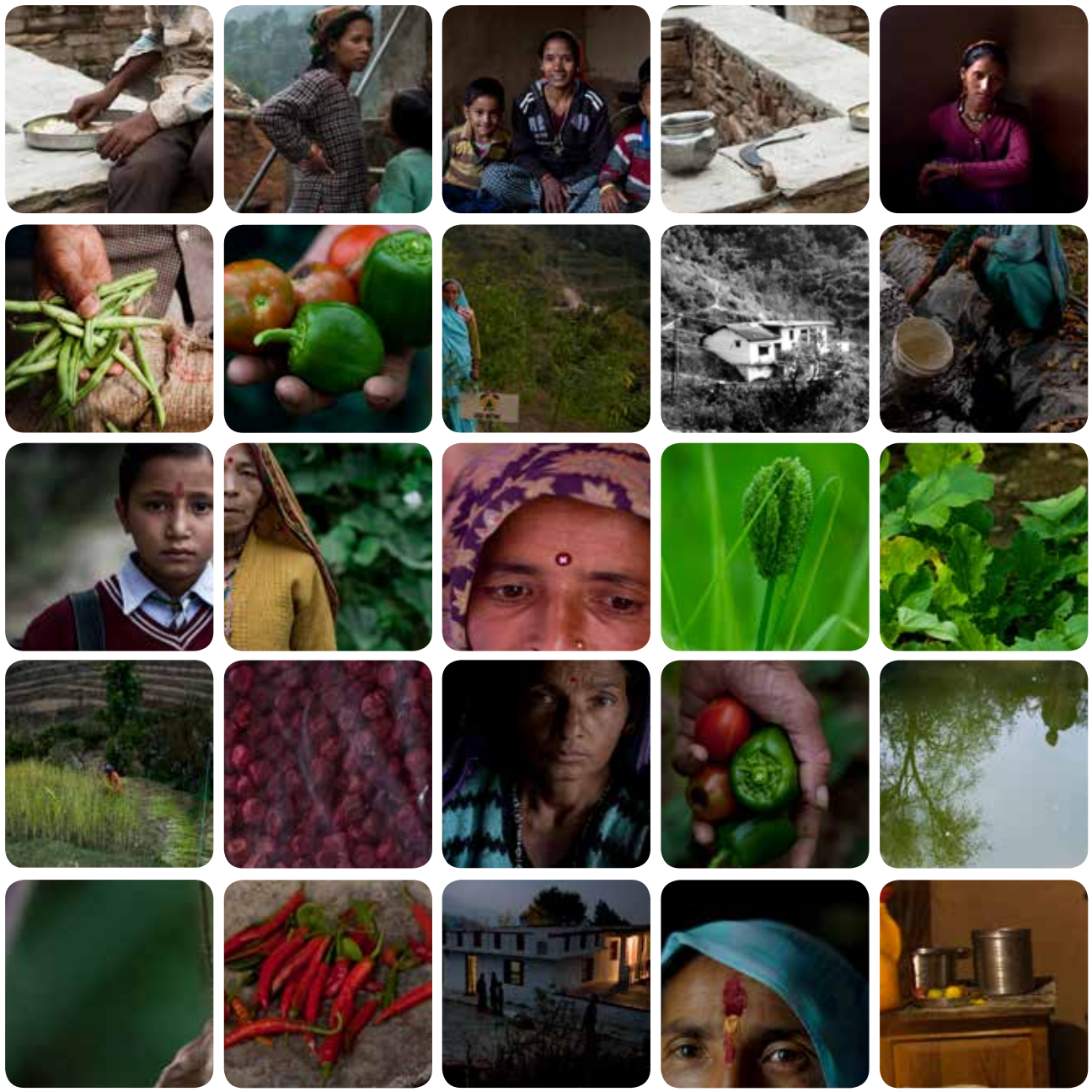
Nutrition gardens significantly contribute in reducing malnutrition by providing a steady supply of vegetables to the households. Nutrition Garden provides the household with direct access to important nutrients that may not be readily available or within their economic reach. In addition, Nutrition Garden increases the diversity of foods, which in turn leads to overall better utilization of nutrients. Equally important is the fact that nutrition garden has also been a source of additional income for the household through the sale of surplus garden produce. Also, nutrition garden contributes in overcoming seasonal availability of foods and promotes household self-sufficiency.

Gene Campaign's promotion of Nutrition gardens as a means of dietary diversity and additional nutrition has been reasonably successful and it plans to extend this important intervention to cover more villages. The goal is to make this a standard practice in most, if not all rural households in Uttarakhand.

In order to make the Nutrition gardens more effective and viable, Gene Campaign feels that nutrition gardens should be supported by a water source in the form of a 'jal kund' that conserves rainwater for later use. The poor quality soil can be made more fertile by the addition of nutrient rich composts that can be prepared by the family, using local biomass and earthworms. Vermicompost prepared in this manner is known to be a great soil fertility enhancer, adding both nutrients as well as organic matter that will improve the water retention capacity of the soil.

Gene Campaign feels the need to strengthen nutrition training programs as there is little awareness about the correct foods for the family's diet and an alarming penetration of junk foods like Maggi noodles.

Along with nutrition gardens, Gene Campaign feels that it would be a good idea to promote millet based foods to improve household nutrition. Finger millet and barnyard millet are available locally and are known to be rich in minerals like calcium and iron.









ActionAid is an anti-poverty agency working in India since 1972, currently reaching out to over 6 million people every year, who belong to marginalised and socially excluded communities. It operates in 25 states and 1 Union Territory.

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