

SAFE-World Project/Initiative Summary

Country: Chile

Project/Initiative Title: CET Organic Vegetable Gardens

Nos. farmers: 10

Hectares: 5

Agro-Ecological Zone: V

Improvement types

1x	2x	3x	4	5	6x	7	8	9
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A. Key Impacts

A1 – Productivity

	Before/Without	After/With	% change
Vegetables	20-30 kg/month	83 kg/month	New crops

A2 – Impacts on natural capital

Increased soil fertility

Increased yields

D. Contact Point for Project/Initiative

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E. Project Narrative

Integrated Production Systems in Chile

A number of NGOs promote the integrated use of a variety of management technologies and practices. The emphasis is on diversified farms in which each component of the farming system biologically reinforces the other components; for instance, where wastes from one component become inputs to another. Since 1980, CET, a Chilean NGO, has engaged in a rural development program aimed at helping peasants reach year-round food self-sufficiency while rebuilding the productive capacity of their small land holdings (Altieri 1995). The approach has been to set up several half-hectare model farms, which consist of a spatial and temporal rotational sequence of forage and row crops, vegetables, forest and fruit trees, and animals.

Components are chosen according to crop or animal nutritional contributions to subsequent rotational steps, their adaptation to local agroclimatic conditions, local peasant consumption patterns, and, finally, market opportunities. Most vegetables are grown in heavily composted raised beds located in the garden section, each of which can yield up to 83 kg of fresh vegetables per month, a considerable improvement over the 20-30 kg produced in less-managed gardens tended around households. The rest of the 200-square meter area surrounding the house is used as an orchard and for animals (cows, hens, rabbits, and improved beehives).

Vegetables, cereals, legumes and forage plants are produced in a six-year rotational system within a small area adjacent to the garden. Relatively constant production is achieved (about 6 tons per year of useful biomass from 13 different crop species) by dividing the land into as many small fields of fairly equal productive capacity as there are years in the rotation. The rotation is designed to produce the maximum variety of basic crops in six plots, taking advantage of the soil-restoring properties and biological control features of the rotation.

Over the years, soil fertility in the original demonstration farm has improved, and no serious pest or disease problems have appeared. Fruit trees in the orchard and fencerows, as well as forage crops, are highly productive. Milk and egg production far exceeds that on conventional farms. A nutritional analysis of the system based on its key components shows that for a typical family, this system produces a 250 % surplus of protein, 80 and 550% surpluses of vitamin A and C, respectively, and a 330% surplus of calcium. A household economic analysis indicates that the balance between selling surpluses and buying preferred items provides a net income beyond consumption of US \$ 790. If all of the farm output were sold at wholesale prices, the family could generate a monthly net income 1.5 times greater than the monthly legal minimum wage in Chile, while dedicating only a relatively few hours per week to the farm. The time freed up is used by farmers for other on-farm or off-farm income generating activities.