Traditional farming systems of south-central Chile, with special emphasis on agroforestry

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Abstract. The paper describes some general structural and functional characteristics of actual Chilean farming systems managed by small farmers (campesinos) with traditional technologies. Campesino farming systems can be divided into two major groups: (a) small-scale (no more than 1 ha) intensive systems with a wide array of tree and annual crops and 3-4 animal species per farm; and (b) extensive semi-commercial systems (5-12 ha) composed of diversified combinations of crops and animals designed to increase production, producing a marketable surplus for the local community. In most systems campesinos include trees (whether for food, fodder, wood, construction materials, fuel, etc.) as integrated elements of farm management constituting agro-forestry systems. Understanding these traditional farming systems, and the rationales behind their management is an important first step towards the ultimate development of appropriate agricultural technologies attuned to the ecological and socio-economic circumstances of the Chilean campesinos.

Introduction

A common goal of small farmers throughout the world, whether in tropical or temperate regions, is to maximize returns from their limited resource base with low levels of technology. While maintaining stability within their farm systems, small farmers do so in a way that prevents the long term degradation of the productive capacity of the land [11, 13].

In most cases these farmers are faced with significant biophysical and socioeconomic constraints on their productive capabilities [7]. Limitations to production may include land marginality, steep slopes, infertile soils, unpredictable water availability, low access to credit and technical assistance, seasonal unavailability of labor and power, distance to supplies and marketing centers, lack of economic incentives due to government policies, etc. [1, 9]. Given the various limiting conditions, and as a result of the experience of many generations, small farmers have evolved or inherited complex cropping systems and management technologies adapted to a specific local soil-climate complex and circumventing socio-economic framework [8, 16].

In mediterranean Chile, low soil fertility, water shortages and fluctuating temperatures, all limit the capacity of small farmers ('campesinos') to produce food. Recent declines in the economy have created new circumstances of costly farm inputs, low capital, and lack of credit forcing 'campesinos' to attune their agronomic systems and to make adjustments in their marketing strategies and social organization [2, 5, 6].

In this paper some general structural and functional characteristics of
actual Chilean farming systems managed by campesinos with traditional technologies are described. Special emphasis is given to systems that integrate the production of trees, whether for food, wood, or fodder with other agricultural enterprises. The information presented was obtained through an exploratory survey conducted during November 20–December 23, 1982 in south-central Chile (Santiago-Temuco). The purpose of this survey was to gather information through direct observation of cropping systems and interviews with campesinos, in order to describe farm designs, crop patterns, use of local resources and farmers’ practices, as well as understanding why, in light of their particular circumstances, Chilean campesinos follow such land use practices and production methods.

The campesino sector

It is estimated that Chile has between 250–300,000 campesino ‘units’, which comprise 90% of all farms, but encompass only one third of the arable land of the country [12]. Assuming five persons per campesino family, together they represent about 14% of the national population. Their history dates back to the colonial period with the arrival of the Spaniards at which time there were two principal groups: (1) the ‘Inquilinos’ (campesinos of the haciendas or fundos) who were obliged to work the land of the owner in exchange for a small piece of land for themselves; (2) the independent campesinos who, due to the necessity of seasonal labor on the Spanish haciendas, were occupying, buying or receiving as donations low value marginal lands at the fringes of the fundos, particularly in the coastal areas and foothills of the cordillera. Only a few were fortunate enough to obtain good land in the central valley close to the central markets [2].

From these two groups has descended the campesino of today, of which there are three types [13]:

1) Those that have sufficient land and resources to completely support themselves from that land.
2) Those who must find salaried work to complement what they can draw from their limited resources. This group is the most numerous and their land has typically been reduced by subdivisions within the family with each successive generation.
3) Those with almost no land at all and who live principally from salaried labor. This is the poorest group and are often ex-inquilinos expelled from ‘fundos’ or ex-agrarian reform units (asentamientos).

Campesinos grow a wide array of crops such as cereals (wheat, rice, barley, etc.), vegetables, ‘chacras’ (potatoes, corn and beans) and fruit (grapes, citrus, apples, pears, apricots, avocados, peaches, figs, loquats, cherries, etc.). The amount of land devoted to growing these crops is dependent upon the size of the land, type of soil, level of technology, access to temporary labor or machinery, size of family and whether the farm operation is for autoconsumption or commercial purposes.