

AGRI-FOOD GLOBALISATION AND RURAL TRANSFORMATION IN CHILE:
SMALLHOLDER LIVELIHOODS IN THE
GLOBAL VALUE CHAIN FOR RASPBERRIES

By

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*For Isabel and Matilda
who shared the journey*

Abstract

As transnational capital continues to penetrate the agricultural sectors of developing countries, agri-food production-consumption is increasingly organised at the global scale. This has profound implications for small-scale farmers in the global South, who are being integrated into a globalising agri-food system geared towards the provision of agricultural commodities to meet the demands of wealthy consumers in Northern markets. Chile is one country that has purposefully inserted itself into the world trading system as an agri-exporter – a strategy that has fundamentally transformed Chilean agriculture.

Framed within an examination of agrarian transformations in Chile and a world-historical account of agri-food globalisation, this thesis critically examines local-global linkages engendered by agri-food globalisation through a case study of export-oriented Chilean smallholder raspberry growers. The study aims to understand the structure and dynamics of the global value chain for raspberries, and to determine the livelihood implications of smallholder growers' participation in it. A detailed, locality case study was conducted in Yervas Buenas – an important site of raspberry production within Chile – combining analysis of the raspberry value chain, and an in-depth survey of grower livelihoods. The value chain component focuses on key chain actors and functions within Chile, examining the role of public and private sector organisations governing and coordinating activities along the chain. The livelihoods component examines the significance of raspberry production within diversified household livelihood strategies, considering key assets, capabilities and mediating factors shaping smallholders' access to the value chain. Additionally, the research seeks to explore synergies and tensions between global value chain and sustainable rural livelihoods approaches, and to consider their integrative potential.

The thesis finds that increasing competitive pressures, particularly arising from the evolving quality requirements of key overseas buyers, are seriously undermining the capacity of smallholder growers to participate in the chain. While existing private and public sector support is necessary for the participation of the smallest growers, it is not sufficient to secure their survival. It is argued that the neoliberal macroeconomic model represents a major barrier to smallholder participation, as the modernising agri-export-led growth strategy that it underpins can not accommodate the degree of intervention or the redistribution of resources required to address socio-economic inequality in the Chilean countryside.

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List of Acronyms and Symbols

Acronyms

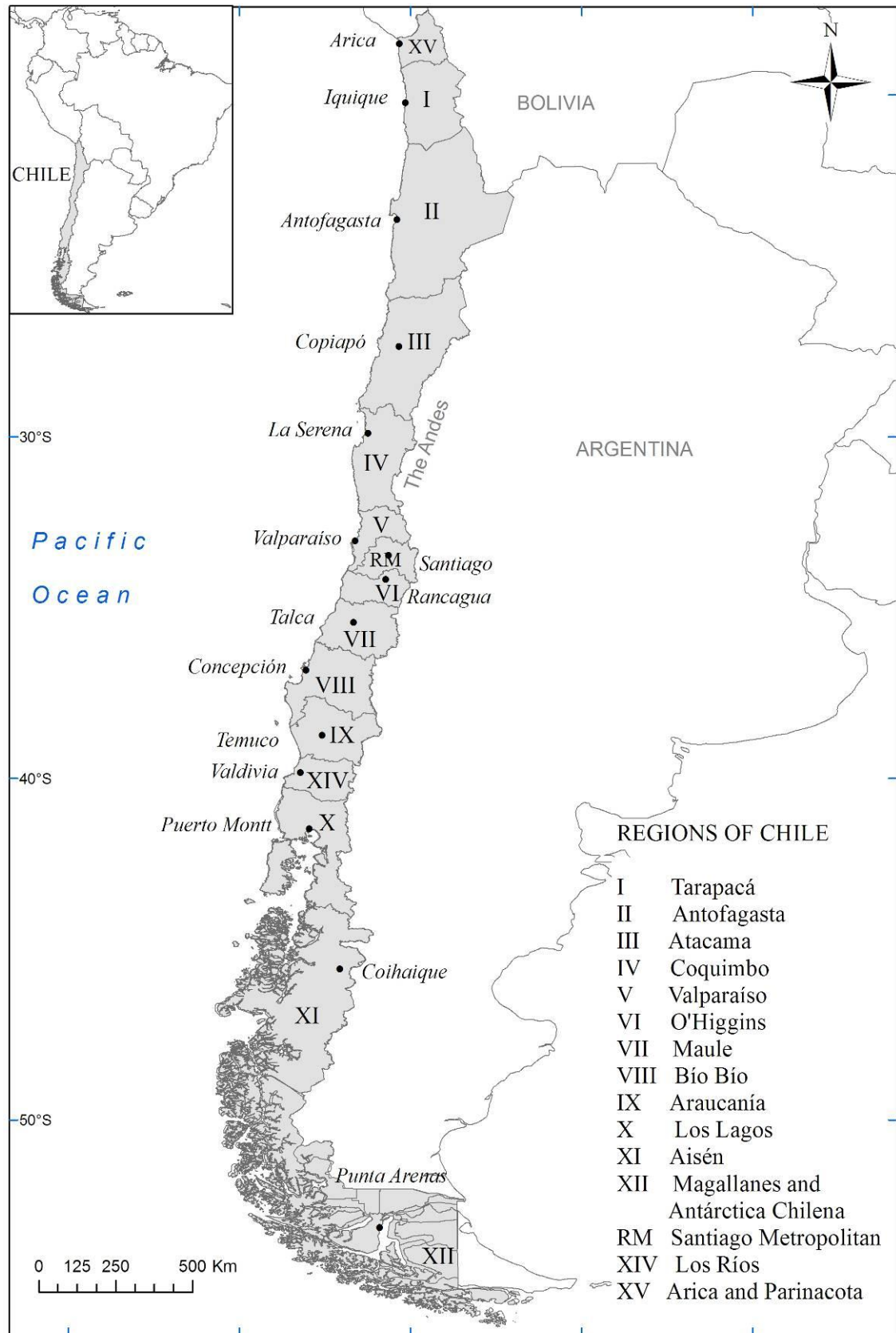
BIH	Basic irrigated hectare (standard unit equivalent to one hectare of prime irrigated land)
BPA	<i>Buenas prácticas agrícolas</i> , good agricultural practices (GAP)
CIREN	<i>Centro de Información de Recursos Naturales</i> , Chilean Centre for Information on Natural Resources
EAC	<i>Empresa asociativa campesina</i> , peasant cooperative business
FAO	United Nations Food and Agriculture Organization
FDI	Foreign direct investment
FFV	Fresh fruit and vegetables
FOB	Free on board
G&S	(Food quality) grades and standards
GAP	Good agricultural practice, <i>Buenas prácticas agrícolas (BPA)</i>
GCC	Global commodity chain
GDP	Gross domestic product
GVC	Global value chain
HS	Harmonized Commodity Description and Coding System
IGO	Inter -governmental organisation
IMF	International Monetary Fund
INDAP	<i>Instituto de Desarrollo Agropecuario</i> , Institute for Agricultural and Livestock Development (Chilean Ministry of Agriculture)
INE	<i>Instituto Nacional de Estadísticas de Chile</i> , National Institute of Statistics (Chile)
IQF	Individually quick-frozen (fruit)
ISI	Import substitution industrialisation
NGO	Non-governmental organisation
NTAE	Non-traditional agricultural export
ODEPA	<i>Oficina de Estudios y Políticas Agrarias</i> , Office of Agricultural Studies and Policy (Chilean Ministry of Agriculture)

PAMC	<i>Programa de Apoyo al Mejoramiento de la Competitividad de los Pequeños Productores de Frambuesa</i> , Programme of Support for the Improvement of Competitiveness of Small Raspberry Producers (INDAP and Municipality)
PROCHILE	<i>Programa de fomento a las exportaciones chilenas</i> , Programme to foster Chilean exports
PRODESAL	<i>Programa Desarrollo Local</i> , Local Development Programme (INDAP)
SAG	<i>Servicio Agrícola y Ganadero</i> , Agricultural and Livestock Service (Chilean Ministry of Agriculture)
SAT	<i>Servicio de Asesoría Técnica</i> , Technical Consulting Service (INDAP)
SRL	Sustainable rural livelihoods
TMSA	Transformational Model of Social Activity
TNC	Transnational corporation
VBM	Vital Berry Marketing S.A. (Company)

Symbols

\$	nominal US dollars (unless otherwise stated)
≈	approximately
>	greater than
<	less than
≥	greater than or equal to
≤	less than or equal to
..	no data

Map of Chile



Source: Drawn in ArcGIS 9

Chapter 1.

Introduction, Aims and Objectives

Aquí estamos los trabajadores y trabajadoras de la tierra, los que nos sentimos honrados de nuestro oficio, los que queremos por sobre todo seguir siendo campesinos y campesinas, orgullosos de nuestra cultura y nuestros valores.

Here we are, the men and women who work the land, who feel honoured in our occupation, who want above all to go on being *campesinos* and *campesinas*¹, proud of our culture and our values.

Coordinadora Campesina de Chile, Santiago, 28 July 2007

1.0. Introduction

In the midst of a world food crisis² and on the verge of a global financial crisis the World Bank released its *World Development Report 2008: Agriculture for Development*. The Report calls for “a ‘new agriculture’ of high-value products, and entrepreneurship and jobs in the emerging rural, nonfarm economy” (World Bank, 2007, p. 1) as an instrument for sustainable development and poverty reduction. According to the Bank, this is to be achieved by (1) increasing the productivity and competitiveness of agriculture in general and creating opportunities for rural non-farm employment, and (2) increasing the assets and capabilities of small-scale farm households, thereby enabling them to both achieve on-farm productivity gains and better seize off-farm employment opportunities. These measures should underpin the “emerging new agriculture [which is] led by private entrepreneurs in extensive value chains linking producers to consumers” (World Bank, 2007, p. 8). The process, as envisioned by the Bank, is driven by the private sector, with the state intervening to

address market failures, regulate competition, and support agribusiness and smallholders through public-private partnerships.

High-value, competitive export agriculture as an engine for economic growth is also at the core of the strategic vision of Chile's Ministry of Agriculture, to transform the South American country into a global 'food and forestry power'. The initiative '*Chile Potencia Alimentaria y Forestal*' is a public-private undertaking which re-brands Chile's long-standing agri-export strategy, with the aim of making Chilean agriculture a 'pillar of national development' and securing a position among the top ten food exporting nations worldwide by 2015. This is to be achieved through the promotion of an industrial agri-food sector underpinned by technological and genetic innovation, improved management of food safety and quality and phytosanitary measures, the development of new markets, and the integration of a professionalised and modernised smallholder agricultural sector articulated into global agri-food chains.

The World Bank's global vision of a new 'agriculture for development', therefore, is embodied in Chile's national drive to become a 'food and forestry power'. Both strategies are extremely marketable and politically palatable in the current era of neoliberal globalisation, as they combine (at least in theory) support to agribusiness and assistance to smallholder agriculture, and promote the virtuous integration of the two in a process that simultaneously underpins dynamic economic growth and sustainable rural development. In this way 'agriculture for development' simultaneously legitimates the neoliberal agenda and assuages popular demands for the mitigation of its human costs. The extent to which economic growth and sustainable rural development can be combined in practice, however, remains to be seen. Certainly history suggests that where developing countries have been incorporated into the global economy as agri-exporters, the social, economic and environmental costs and benefits have been inequitably distributed. Even countries which have, like Chile, achieved high rates of agricultural growth and become major players in the global agri-food system have struggled to address rural inequality and foster sustainable smallholder agriculture (Kay, 2002). Rather, international competition, and the process of modernisation that it induces, has tended to drive consolidation within national agricultures and eliminate smallholder farmers (Araghi, 2009; Bryceson et al., 2000; McCullough et al., 2008).

In the context of Chile's recently articulated (albeit arguably long-held³) strategic vision to become a global food power, this thesis investigates the implications for smallholder

farmers and peasant households of the country's ongoing modernising agri-export drive. In particular it examines the case of smallholder growers in the raspberry sector, and considers the consequences of their integration into the global agri-food system via the raspberry value chain. While raspberries do not begin to approach the importance of Chile's leading non-traditional agricultural export (NTAE) crops, the sector is highly suited to smallholder production and is unique in terms of the exceptionally high rate of smallholder participation. Therefore, although the performance of the sector may not be integral to Chile's overall agri-export performance, shifts and transformations within it have the potential to shape thousands of smallholder livelihoods. In this sense, the development of the sector also represents an opportunity from the point of view of the state, which has declared its intention to support competitive smallholder agriculture, and is keen to showcase its efforts in this respect. Given that raspberries have been held up as potentially a winner crop for smallholder growers, it is important that profound analysis be undertaken into the structure and dynamics of the raspberry value chain, and the terms and implications of smallholder growers' participation in it.

The statement with which this chapter opens is taken from the founding declaration of the Chilean peasants' organisation *Coordinadora Campesina de Chile*. Issued to coincide with the 40th anniversary of the 1967 Agrarian Reform Law (*Ley de Reforma Agraria*), the declaration identifies the neoliberal agri-export model, particularly in its latest guise, *Chile Potencia Alimentaria y Forestal*, as an aggressive and serious threat to peasant livelihoods. Impetus for this research comes from a belief that the lives of smallholder farmers and the role of smallholder agriculture are valuable in their own right, and important in terms of the vitality and integrity of rural cultures and communities, and in terms of the socioeconomic sustainability and ecological viability of rural development. Given the importance of smallholder agriculture in this sense, policy at global and national levels should have more regard for the localised socioeconomic impacts of agri-food globalisation. The following section attempts to justify this concern and underscore the contemporary relevance and importance of the research.

1.1. Contemporary relevance of the research

Commonly reported in 2008 was the fact that the proportion of the world's population living in urban areas had passed 50 percent. As a symbolic landmark in global

demographic transition, this moment underscores and foreshadows many important social and environmental challenges for urban and rural regions alike. However, given that urbanisation has unfolded unevenly in space and time⁴, this fleeting landmark at the global scale really has little more than symbolic significance. Of rather more importance is the extent to which people and communities in different places have been affected by the fundamental social and economic transformations that have driven and underpinned urbanisation and de-ruralisation, particularly in the post-WWII era. Almost half of the world's population, of course, remains in rural areas, and 90 percent of the world's rural population is located in the developing world⁵ (United Nations, 2008). The great majority of these people depend either directly or indirectly on agriculture for their livelihoods. In this sense, the significance of the rural, and of agriculture, is not diminished by urbanisation, as they continue to frame the day-to-day realities of over three billion people. At the global scale, then, poverty is generally higher in rural areas, and rural geographies of the developing world are of great importance.

As the diffusion of free market capitalism has continued, under a hegemonic and globalising neoliberal policy paradigm, so has its penetration of developing world agricultures and its transformation of rural communities. Food production and consumption are increasingly organised globally to the specifications and for the benefit of transnational retailers and agribusinesses (Heffernan & Constance, 1994), and with the acquiescence of non-interventionist or 'market-enabling' states. As a result smallholder farmers are increasingly either drawn into global networks of cross-border agri-food chains, or expelled from commercial production altogether as the domestic agricultural sector responds to international competition. In this way trade liberalisation undermines food security in the developing world, and drives differentiation, depeasantisation and proletarianisation in the countryside. At the same time, and exacerbating these problems, Northern protectionism in an unevenly liberalised world trading system leads to dumping and impeded market access for developing country agricultural exports.

The transformation of developing world agricultures has followed different trajectories over time and in different national contexts. In the case of Chile, the country's emergence as the leading Southern Hemisphere exporter of fresh fruit was built upon state intervention and deliberate promotion of the horticultural sector from the 1960s (Andersson, 2009), and then stimulated by international competition with its forceful

insertion into the world market from the mid 1970s (Hojman, 1990). Table 1.1 compiles a selection of general indicators for Chile and reflects key structural socioeconomic characteristics. Chile is a highly urbanised society and approximately half of its 14 million urbanites are concentrated in the capital city of Santiago and nearby Valparaíso and Viña del Mar. As a consequence, poverty in Chile has become a predominantly urban issue in absolute terms, but it does not follow that rural areas are necessarily better off. Income inequality, which is particularly stark in Chile, is in fact slightly more pronounced in rural areas, and around a quarter of a million rural dwellers remain below the poverty line (MIDEPLAN, 2006) despite a booming agri-export sector. The process of urbanisation in parallel with, and related to, the modernisation and industrialisation of the countryside, has seen the depopulation of rural areas combined with the increasing proletarianisation and semi-proletarianisation of the peasantry.

Table 1.1. Chile: Basic socioeconomic indicators, 2007

Population (millions)	16.6
Urbanisation (%)	87.0
GDP	163.9
GDP per capita (\$)	9,872
Income share of richest 10% (%)	42.5 *
Income share of poorest 40% (%)	11.8 *
Gini coefficient **	0.54 *
Urban poverty (%)	13.9 *
Rural poverty (%)	12.3 *
Net foreign direct investment	10.6
Total external debt	54.1
Total external debt as a proportion of GDP (%)	33.0
Goods and services exports	76.4
Goods and services imports	53.9
Balance of trade	22.4
Primary exports	58.9
Primary exports as a proportion of total exports (%)	77.1
Agricultural exports	5.6
Agricultural exports as a proportion of primary exports (%)	9.5

All figures are billions of US dollars (nominal prices) unless otherwise stated.

* 2006 data.

** Where a score of 0.00 equates to complete income equality, and a score of 1.00 equates to complete income inequality.

Sources: ECLAC (2009), MIDEPLAN (2006), ODEPA (2008a).

Chile is highly integrated into the global economy and, as reflected in table 1.1, is heavily reliant on primary product-based exports, which account for over three quarters of total exports by value. Within this category, mineral exports (particularly copper and copper products) are dominant, themselves representing 60 percent of total exports by value in 2008. The high level of involvement of foreign capital in the mining sector, and degree of dependence on mineral exports combine to amplify Chile's vulnerability to fluctuating external prices. Despite the ongoing dominance of mineral exports, Chile is also a major exporter of forestry (*silvícola*), agriculture (*agrícola*) and livestock (*pecuario*) products (together *productos silvoagropecuarios*). Table 1.2 shows the composition of *silvoagropecuario* exports in 2008.

Table 1.2. Chile: Silvoagropecuario exports, 2008

	Exports	Share of primary or processed exports	Variation (2007-2008)
	(US\$ 000,000)	(%)	(%)
Primary products	4,141.6		20.6
Agriculture	3,704.4	89.4	18.3
Fruit *	(3,255.3)	78.6	17.0
Livestock	88.7	2.1	29.0
Forestry	348.4	8.4	48.7
Processed products	8,555.2		13.1
Agriculture	3,013.1	35.2	23.1
Fruit *	(1,042.2)	12.2	42.0
Livestock	995.3	11.6	17.9
Forestry	4,546.7	53.1	6.4
Total silvoagropecuario	12,696.8		15.4

* Fruit exports as a subset of agriculture exports

Source: ODEPA (2008a, pp. 4, 13, 17)

As reflected in table 1.2, Chile's *silvoagropecuario* export profile is split between primary products and processed products, with the latter contributing a greater proportion of total exports. Within both categories, agricultural and forestry exports are most important, with forestry products dominating processed exports and agricultural products dominating primary exports. The importance of fruit exports within the *silvoagropecuario* complex, however, is clear. Fresh fruit exports of almost US\$3.26 billion⁶ contribute 78.6 percent of primary exports by value. In the realm of processed products, processed fruit exports of US\$1.04 billion account for 12.2 percent of

processed exports by value, and constitute one of the fastest growing *silvoagropecuario* export subsectors. As noted in the previous section, the contribution of raspberry exports to overall fruit exports is negligible at just over 3 percent by value in 2008, but raspberries are the leading frozen export fruit, accounting for over 51 percent of total frozen fruit exports.

Therefore rural Chile is incorporated into the global economy to a great extent as a supplier of fresh and processed fruit and vegetables and agricultural commodities. While agriculture's contribution to national gross domestic product (GDP) is declining, agricultural exports continue to expand, and the sector is in a state of constant flux. The 'rural world' within Chile has always been of great national economic, political and cultural significance, and its ongoing transformation has not diminished this. Rather, rural Chile continues to be a site of competing ideologies and values, and of conflicting visions of the role of agriculture in the nation's development (UNDP, 2008). The themes introduced in this section are taken up in more detail in subsequent chapters, while the following section of this chapter outlines the specific aims and objectives of the thesis.

1.2. Aims and objectives

Having provided the context within which the research is framed, this section lays out and justifies the research aims and objectives, and elaborates upon how these will be addressed.

The core aims of the project are threefold, and are articulated as follows:

- 1) To understand and explain the evolution of and current configuration and dynamics of the global value chain for raspberries emanating from Chile.
- 2) To understand the livelihood implications for smallholder growers of participation in the raspberry value chain.
- 3) To explore how global value chain and sustainable rural livelihoods approaches can be combined for an improved understanding of how smallholder farmers might best participate in the global agri-food system.

Given the breadth and complexity of the project's core aims, eight specific research objectives are identified, which unpack the respective aims and guide the research in its fulfilment of them.

The following three objectives address the first core aim:

- 1.A) To describe the evolution of the raspberry export sector in Chile.
- 1.B) To identify and locate key actors and groups of actors in the Chilean raspberry value chain, and analyse their roles and interactions.
- 1.C) To understand the key mechanisms in the governance and coordination of the Chilean raspberry value chain.

The following three objectives address the second core aim of the research:

- 2.A) To ascertain the significance and costs and benefits of participation in the raspberry value chain for rural households.
- 2.B) To describe the terms on which producers are integrated into the value chain.
- 2.C) To identify opportunities for and barriers to enhanced smallholder grower participation in the global value chain for raspberries.

The remaining two objectives address the third core aim of the research:

- 3.A) To identify limitations of and tensions between sustainable rural livelihoods and global value chain approaches.
- 3.B) To suggest how sustainable rural livelihoods and global value chain approaches might inform each other in order to improve understanding of the local socio-economic implications of integration into the global agri-food system.

The eight objectives identified here require further explanation. The first aim of the research is oriented towards acquiring a historically contextualised understanding of the global value chain for raspberries emanating from Chile. To this end, objective 1.A is

designed to facilitate an account that is sensitive to historical contingencies in the emergence of the raspberry production and export sector in Chile – both in the national context, in relation to key shifts in agrarian political economy and the promotion of agri-export-led growth, and in a world-system context, in relation to the evolution of the raspberry production-consumption complex at the global scale. Objective 1.B is directed towards mapping the configuration of the global value chain (GVC) through placing and characterising key actors and nodes of production, both geographically and relationally within the chain. Objective 1.C is concerned with determining the primary mechanisms by which the chain is organised, and understanding the roles played by key actors in the coordination and governance of geographically dispersed productive functions within the chain. Together these objectives underpin an account that is both *descriptive* of the contemporary structure and geography of the raspberry GVC and, (at least partially) *explanatory* of the chain's structure and geography through the analysis of chain coordination and governance by key actors and institutional agents.

The second aim of the research is to understand the implications for small-scale growers of integration into the GVC. Objective 2.A therefore seeks to establish the role of raspberry production, and the importance of integration into the raspberry GVC, for smallholder livelihoods. In addition to establishing the significance of raspberry production in relation to the on-farm and off-farm activities of grower households, objective 2.A seeks to characterise both benefits and costs to smallholders of undertaking production for export via the raspberry GVC. Objective 2.B is oriented towards understanding the commercial and institutional relationships that characterise and mediate smallholder growers' participation in the value chain, and determining the implications of chain coordination and governance for primary production and primary producers. Objective 2.C then seeks to identify both barriers to sustainable smallholder participation in the raspberry GVC, given the nature of smallholder production and engagement with the value chain, and opportunities for sustainable smallholder participation. Together, then, these objectives support the investigation of aspects of grower livelihoods and value chain dynamics with a view to identifying positive and negative implications of value chain participation for smallholder growers, and considering the extent to which value chain participation can underpin sustainable rural livelihoods (SRLs).

The third aim of the research is to reflect on the theoretical and methodological complementarities of global value chain and sustainable rural livelihoods approaches and, in light of the approach taken here, assess the extent to which GVC and SRL frameworks can be combined to improve understanding of the implications for smallholder farmers of integration into the global agri-food system. In so doing, it is intended that the thesis make a theoretical contribution to ongoing debates over the utility of the respective approaches. Objective 3.A, then, is concerned with tracing the limitations of GVC and SRL approaches and identifying tensions between them. Objective 3.B seeks to outline key complementarities between the two approaches and explore their integrative potential for enriching understanding of the local impacts of contemporary agri-food globalisation.

1.3. Structure of the thesis

Following this introductory chapter, the thesis is divided into 7 further chapters. Chapter 2 discusses the philosophical underpinnings, theoretical framework, methodology and methods employed in the research. The chapter outlines a critical realist philosophy of social science which underpins the research and informs a broadly critical approach. It is argued that this philosophical position supports a historically, spatially and culturally sensitised political economy approach, which holds political economy central but is receptive to social and spatial diversity. Global value chain and sustainable rural livelihoods approaches are introduced as appropriate frameworks which, when adopted in conjunction, provide an investigatory framework that has the potential to guide data collection and analysis for an enriched understanding of the opportunities and barriers that agri-food globalisation presents for smallholder farmers. The methods of primary and secondary data collection and analysis are then outlined, before the chapter concludes with some reflexive observations about the overall research process.

Chapter 3 positions the thesis in relation to key themes in agri-food globalisation and rural development, as reflected in seminal and recent academic literature on these interconnected themes. In particular, it briefly outlines the historical development of capitalist agriculture within a framework of subsequent ‘waves’ of globalisation, before examining the contemporary consolidation (and contestation) of global agri-food value chains. This is followed by a discussion of the implications of contemporary agri-food globalisation for rural livelihoods, and especially smallholder or peasant farmers. As

both GVC and SRL approaches serve dual functions – as investigatory frameworks *and* heuristic devices for representing and understanding reality – they are discussed in both chapter 2 in the context of the theoretical framework, and in chapter 3 in reference to the evolution of agri-food globalisation and its localised implications. Given the breadth, depth and pace of the literature, the review provided is necessarily selective and does not purport to be exhaustive. Rather, it teases out salient transitions and trends that help to situate the case of Chile’s agrarian transformation, taken up in chapter 4, within a world-historical context.

Chapter 4, then, focuses on the case of Chile and provides an account of agrarian change within the context of broader politico-economic transitions since the colonial era. This is presented in two stages. The chapter first sketches a historical political economy of agrarian change through several phases and crises up to 1990. The analysis is primarily concerned with the implications for the Chilean peasantry of the gradual erosion and eventual disintegration of the feudalistic *hacienda* system, and the turmoil of the period of dictatorial rule and extreme neoliberalism that replaced it. The discussion then turns to the continuities and changes of the democratic period, examining the policies of successive Concertación administrations and their impact in the countryside. Important contradictions in the Concertación’s ‘growth with equity’ strategy are discussed in the context of sustained agricultural growth (and notable progress in poverty reduction) counterpoised with persistent socioeconomic inequality and the ongoing dispossession of the peasantry.

Chapter 5 is the first of two results chapters, and presents data on the raspberry GVC emanating from Chile. It draws first on global production and trade data to provide an account of the structure of the global raspberry complex, key shifts in the geography of production and trade, and the roles played by leading exporting and importing countries. The focus then moves to the raspberry sector in Chile and, drawing on national-level statistical data, the expansion of production and key structural shifts within the sector are outlined. The evolution and structure of raspberry exports since the mid-1980s is discussed, and important distinctions are drawn between the production systems and export markets for fresh premium berries and processed or frozen berries. The chapter then turns to an examination of the raspberry GVC. This is approached through a detailed primary case study of the structure and dynamics of the chain originating in the *comuna*⁷ of Yerbas Buenas, an important centre of smallholder raspberry production in

the Maule Region of central Chile. The study maps the input-output structure and geography of the value chain, identifying and placing important actors and groups of actors and tracing the relationships between them. Finally the chapter addresses the governance and coordination of the chain by public and private sector actors and examines key institutional factors that shape and constrain various actors within it.

Chapter 6 is the second results chapter, and presents primary research findings on the livelihoods of growers and the implications of their integration into the value chain. The chapter presents a range of data from an intensive primary research survey of 20 small-scale raspberry grower households in Yerbas Buenas. Drawing on this data, it examines various livelihood assets upon which respondent households rely, and pays particular attention to the assets and capabilities that are critical to gaining (and maintaining) access to the raspberry GVC. Discussion then turns to key factors and processes that influence the distribution and availability of assets and resources, and mediate growers' access to them. The importance of a range of trends and shocks is examined in so far as they present challenges and opportunities for smallholder households' participation in the raspberry GVC. The role played by institutions, organisations and social relations in mediating access to and utilisation of livelihood assets is also examined. The chapter concludes by emphasising the diversification of livelihood strategies among the households in the survey, and by stressing the significance of small-scale commercial raspberry production within this.

Chapter 7 discusses the findings of the research through a systematic engagement with the eight research objectives outlined in section 1.2 above. The chapter moves through three parts, considering: the evolution, configuration and governance of the raspberry GVC; the significance of raspberry production within diversified rural livelihoods, and challenges and prospects for sustainable smallholder participation in the raspberry GVC; and, the potential for research integrating global value chain and sustainable rural livelihoods approaches. Some recommendations for policy are also offered.

Chapter 8 concludes the thesis, returning to the core aims of the research and drawing connections between the project's key findings and global-scale trends and challenges posed by the ongoing process of agri-food globalisation. It is here that the broader questions introduced at the beginning of this chapter, concerning persistent rural underdevelopment and the erosion of smallholder agriculture in the face of global agri-export growth and agribusiness consolidation, are considered.

Chapter 2.

Theory and Methodology

2.0. Introduction

All academic research has a philosophical foundation, whether explicitly acknowledged or implicit and latent. Over the last four decades the discipline of human geography has, like other social scientific disciplines, witnessed a heightened engagement with the philosophies underlying research. This ‘philosophical turn’ (Graham, 2005) has generated ongoing debate over ontological and epistemological positions, but also a greater appreciation of the importance of philosophy in human geographical research. An engagement with the philosophical underpinnings of research is valuable for at least three interrelated reasons. First, such an engagement is essential if the methodologies and methods that are employed, and the theories that are generated from research are to be congruous and coherent. Second, an explicit acknowledgement of the philosophies underlying research is important in making clear the positionality of the researcher. All research is fundamentally shaped by the views of its practitioner(s), and these play an important role at each stage of research design, execution and reflection (Kitchin & Tate, 2000). The worldview of the researcher extends, of course, beyond perspectives on appropriate philosophies of science to include personal beliefs, values, politics and morals – all of which percolate the research process. Third, and related to the politics and morals motivating the researcher, any critique or normative judgement to emerge from the research must stand up to scrutiny in that the standpoint from which it is made ought to be able to be justified and defended (Sayer & Storper, 1997).

It is in the interests of clarifying my own ideological position and accounting for the methodological/theoretical approach taken that this chapter proceeds. This is not an esoteric exercise, and indeed I share the concern expressed by Cloke (2002, p. 589), who suggests that increasing theoretical complexity in human geography may come at the cost of a critical political edge: “our ability to offer imaginative and practical guidelines for doing something about anything appears to be diminishing” (See also Jackson, 2000). On the other hand, however, Lee and Smith (2004, p. 7) make an important and timely call for the reassertion of ‘moral geographies’ in a world “in which the pace of technical innovations seems constantly to be outstripping advances in the

ethical understanding required, literally, to evaluate humankind's increasingly complex interaction with nature as well as changing social relations." This requires philosophy and philosophically-informed theory and methodology that avoids the dual pitfalls of excessive complexity and self-indulgence on one hand, and universalism, atomism and ahistoricism on the other. It requires a balanced and pragmatic approach that is geared towards a nuanced understanding of social realities. As Sayer (1984, p. 78) notes: "Truth is neither absolute nor purely conventional and relative, but a matter of practical adequacy."

The chapter is organised as follows. First, the philosophical underpinnings of the research are examined. In particular, the relevance of a critical realist philosophy of social science is considered. Second, the theoretical framework employed and the methodological approach taken are outlined. Specifically, global value chain (GVC) and sustainable rural livelihoods (SRL) approaches are introduced as frameworks for exploring the localised, concrete implications of globalisation processes for peasant households. Third, the research methods and techniques employed in the collection of both quantitative and qualitative primary and secondary data are outlined. Fourth, the chapter considers the applicability and limitations of the overall investigatory framework, and reflects briefly on ethical and political dimensions to the research.

2.1. Philosophical underpinnings of the research

Many of the debates to have characterised the philosophical turn in human geography (and in the social sciences more generally) have their origins in ontological points of contention between broadly positivist and broadly idealist/hermeneutic philosophical positions. Oppositional assumptions about the nature of existent reality – as material or mental construct respectively – have proven difficult to reconcile. This rift is mirrored in the epistemological domain as positivists claim that empirical observation can be objective and value-free, while idealists maintain that it is necessarily subjective and value-determined. Consequently, research often either rejects normative questions altogether, or is incapable of incorporating them due to a retreat to social relativism. It is argued here that research in human geography has the opportunity, and indeed a moral responsibility, to contribute to uncovering and undermining the social relations and institutions that produce and reproduce domination and inequality. In order to orientate research to this end, an approach is required that both avoids the shortcomings of

positivistic and idealistic paradigms, and offers a critical conception of social phenomena.

2.1.1. Critical realist philosophy

A realist philosophy of science offers a constructive entry point for critical scholarship in human geography. In particular, philosopher Roy Bhaskar's articulations of 'transcendental realism' (Bhaskar, 1978) and 'critical naturalism' (Bhaskar, 1979) as philosophical perspectives on the natural and social sciences respectively, have been developed together (by Bhaskar and others) as a *critical realist* philosophy of science.⁸ In explicitly rejecting the excesses of both positivism and hermeneutics, yet retaining some of the crucial insights offered by these approaches, critical realism secures some middle ground from which to embark upon pragmatic and critical social scientific research. However, from the outset it must be emphasised that, as subsequent discussion will illustrate, critical realism is not a residual category or concessionary position in relation to positivism versus idealism or structuralism versus hermeneutics, but an independently and robustly theorised (albeit contested) philosophy of science. In addition, because realism claims, in effect, to already implicitly underpin much social scientific research, it is sometimes rebuked as being overly obvious and unoriginal (Sarre, 1987). It is argued here, however, that the existence of traces of realist philosophy in much social scientific theory and methodology does not imply that critical realism is widely understood, nor does it justify leaving critical realism buried and undeveloped in the research process. Rather, an explicit engagement with critical realist philosophy forms a more stable base for the elaboration of theory and methodology and research practice.

In ontological terms, critical realism is consistent with structuralist approaches in general, in so far as it maintains that there exists a real world independent of our individual conceptions of it, even though significant aspects of this reality are not immediately observable to us. The underlying causal mechanisms and structures that create the observable world of appearances are only knowable to us through our concepts of them (Cloke et al., 1991) but despite this, their existence is not concept-dependent. This is an important point of departure from hermeneutic approaches – a critical realist approach acknowledges that our values and concepts play important roles in how we *construe* reality, but we do not *construct* reality with our ideas (Sayer, 1984).

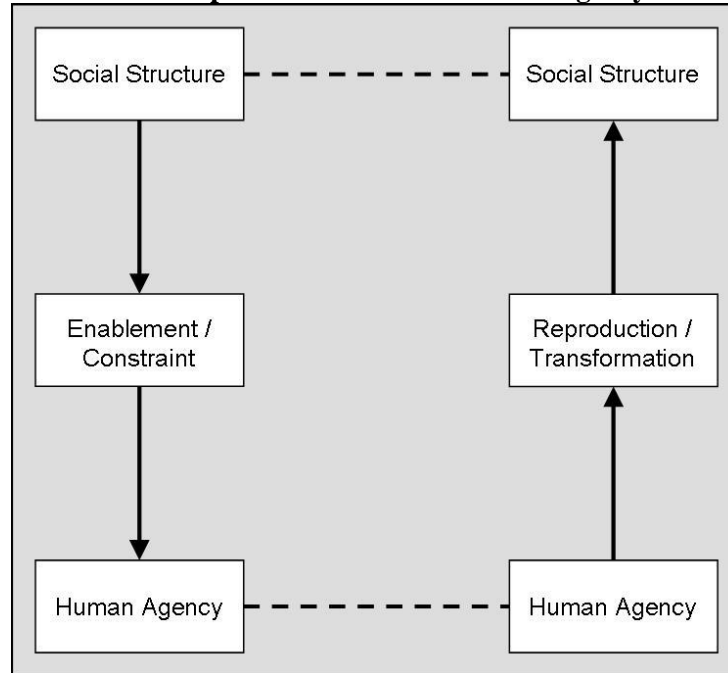
As Maxwell (2008, p. 165) observes, in this sense critical realists “retain an ontological realism, while accepting a form of epistemological constructivism and relativism”. Knowledge of ‘concrete’ observable objects can be obtained in part through (value-laden) empirical observation, while knowledge of ‘abstract’ structures and underlying causal mechanisms must be derived through the development of theories and concepts that seek to both explain them and account for observable social reality (Johnston, 1986). In fact, for realist social science, the core epistemological objective is to derive theories that provide “causal explanations of observable phenomena, and of the regular relations that exist between them... [making] reference to the underlying structures and mechanisms which are involved in the causal processes” (Keat & Urry, 1982, p. 32).

Critical realism and social transformation

Critical realism also offers an important contribution to our understanding of the interaction between social structures and human agents in society. In rejecting deterministic interpretations of structure and agency, Bhaskar develops a ‘transformational model of social activity’ (TMSA), which posits a dialectical relationship between the two (see figure 2.1). The TMSA preserves important insights of humanism and structuralism, but seeks to provide a credible alternative to both (A. Collier, 1994). Following the model, social structures shape human agency through constraining or enabling human activity and, in doing so, influence their own reproduction and transformation. Similarly, by reproducing or transforming social structures, human agency influences its own future transformative capacity. In this view, both social structure and human agency (or praxis) are ascribed a dual character:

Society is both the ever-present condition (material cause) and the continually reproduced outcome of human agency. And praxis is both work that is conscious production, and (normally unconscious) reproduction of the conditions of production, that is society (Bhaskar, 1979, pp. 43-44)

The TMSA, by introducing the notions of ‘duality of structure’ and ‘duality of praxis’, establishes a model for social activity and change that neither reifies structure nor human behaviour, but envisages both as being subject to mediating processes. While human social activity arguably most often unconsciously reproduces society, people may also, individually or collectively, play transformative roles. In this sense, social structures are sustained and undermined at the hands of human agents.

Figure 2.1. Critical realist conception of the social structure/agency relationship

Source: Redrawn from Harvey (2002, p. 173), after Roy Bhaskar's transformational model of social activity.

Similarly, society provides the material basis for human action, and the reproduction or transformation of social structures, the sustention or subversion of institutions, can engender social domination or emancipation. Collier (1994, p. 10) suggests that:

[if] societies and their institutions have inner structures which generate and by the same token constrain their powers, then we can ask, first of all, what sort of thing can be done given existing structures and what cannot; second, what different sort of things could be done given different structures; and third, how one sort of structures can be transformed into another.

The critical realist conception of society in the TMSA is consistent with historical materialism in its recognition of the significance of underlying structures, but departs from more traditional structuralist conceptualisations as it attributes a less deterministic role to structures and more capability to human actors. The TMSA also has important points in common with structurationist social theory, advanced most prominently in sociology by Giddens (1984). Structuration emerged out of a critique of the alleged excesses of structural and interpretive sociologies, but in more general terms sought, like the TMSA, to avoid an over-emphasis on structure or agency in accounting for social phenomena. It too attributes a dual character to both structure and agency. While structuration has been the object of criticism from various quarters and may be seen by some as a “poverty-stricken compromise... combining the uncombinable” (Cloke et al.,

1991, p. 95), critical realism has perhaps been better able to defend its theorisation of social activity, having recourse to an independently philosophised standpoint. As Collier (1994, p. 151) claims: “the TMSA is no mere compromise” – it is an original theory grounded in an account of how society and individuals interact.

From a critical realist philosophical perspective, reality is stratified and ‘ontologically deep’ (Hoggart et al., 2002), and social phenomena play out in complex, open systems. Reality is stratified in that it is constituted by a “lattice work” (A. Collier, 1994, p. 140) of interrelationships between people, observable events and underlying structures and mechanisms. People take on emergent properties and powers as a function of their place within, and relationship to, social structures and strata – “Even though social structures exist only where people reproduce them, they have powers irreducible to those of individuals” (Sayer, 1984, p. 109). Social systems are subject to *openness* (as opposed to *closure*, which may be approximated in the natural sciences), and are not subject to control by the researcher. Social systems are open primarily due to the actions of people on two counts: firstly, people constantly act and interact to modify systems, and secondly, different observers (who are, after all, part of society) interpret material conditions differently (Sayer, 1984). Therefore, “[t]he events that we can ordinarily observe are not invariably preceded or followed by any other constantly conjoined event” (A. Collier, 1994, p. 34), and the intervening contingencies inherent in open social systems mean that any given social phenomenon is “the outcome of a multiplicity of causes in a continually changing configuration” (Manicas, 2006, p. 39).

The characteristics that typify open systems in society, and from which social systems derive their complexity, can be expressed as caveats or conditions on our ability to observe and understand social phenomena. Drawing on Bhaskar, Harvey (2002, pp. 170-171) cautions that explanations in social science are subject to at least three caveats: (1) they are *activity dependent* in that individuals within society can influence social structures and institutions; (2) they are *concept dependent* because social production and reproduction is dependent on individuals’ interpretations and conceptions; and (3) they are *space-time dependent* in so far as social structures vary in time and from place to place. In this sense, from a critical realist standpoint research cannot yield laws as such, but offers up ‘tendential statements’. Consequently, it is held that all knowledge is inherently fallible.

2.1.2. Critical scholarship and critical geography

Critical scholarship seeks to expose social relations that produce and reproduce inequality, exploitation and domination. Additionally, critical research may help to identify the intellectual tools that can be employed to contribute to real and beneficial social change (Johnston, 1986). Critical theory, stemming from the Frankfurt School of neo-Marxist critical theorists, has had increasing influence in the social sciences over the last half century. In particular, Jürgen Habermas, perhaps the most influential post-War proponent of critical theory, has argued for a return to inter-disciplinary critical social science (cited in Outhwaite, 2000). Habermas makes this call in response to structures and relations of domination evident in society, where “markets and bureaucratic power relations combine, in varying configurations, to reduce individuals’ freedom to act both as individuals and collectively” (Outhwaite, 2000, p. 656). Given the potential for the transformation of such power relations, as reflected in the transformational model of social activity, surely research should be orientated towards this general goal. Engaged in this task, critical research “becomes a transformative endeavour unembarrassed by the label ‘political’ and unafraid to consummate a relationship with an emancipatory consciousness” (Kincheloe & McLaren, 1994, p. 140).

The influence of critical theory in human geography has been particularly conspicuous through the ‘cultural turn’ in social science, and has been especially associated with the subsequent rise of ‘critical geographies’. However, much of the ‘materialist’ or ‘structuralist’ political economy that characterised human geography through the 1960s and 1970s, and to which the cultural turn was a reaction, also had a radically critical edge.⁹ The turn to culture has promoted greater pluralism in human geography, and a focus on multiple (non-class) dimensions of difference (Barnett, 2009) that were previously largely neglected, but it has also been the target of criticism. It is in this sense that Hubbard et al. (2002, p. 62) suggest that the rise of critical geography was “[l]inked to the ‘cultural turn’, but also something of a reaction to it”. That is, much of the geography of the cultural turn was critical of, and a corrective to (Barnes, 1995), the economic determinism of earlier approaches. On the other hand, the excesses of ‘culturalist’ approaches (particularly the alleged widespread abandonment of ‘the economic’) have stimulated further counter-critique. For example, as Sayer (2000, p. 166) observes:

[The cultural turn] freed us from treatments of patriarchy, racism and other forms of non-class oppression as secondary to or derivative of capital... [however,] at times it seems as if there has been a shift from 'vulgar materialism' to 'vulgar culturalism' which is as dismissive of or reductive about economy as vulgar materialism was about culture.

It is argued here (and elaborated upon in the following section) that a critical political economy approach is consistent with the tenets of critical realist philosophy, and a highly appropriate theoretical framework upon which to base critical research in human geography.

Given the complexity and stratified nature of reality that follows from the critical realist conceptualisation, research in this vein needs to adopt an approach that is able to accommodate open systems and contingent relations, and negotiate different strata on the continuum between concrete/observable events and abstract/unobservable structures and mechanisms. Further, given the position taken here, that scholarship should seek to uncover relations of domination and undermine exploitative structures and institutions, a critical approach, accountable to normative and moral imperatives is required. Barnes (2002, p. 11) suggests that the task of the critical economic geographer is to "show how taken-for-granted worlds are the product of complex temporal and geographical processes of power... which can be exposed by various kinds of critical theory". The following section outlines an appropriate theoretical framework, methodology and methods for this purpose.

2.2. Theoretical framework

In line with the foregoing discussion, the research adopts a political economy-informed theoretical framework, underpinned by a critical realist philosophy of science and envisaged from a critical theoretical ideological standpoint. The point of departure in formulating this theoretical framework is a Marxian conception of the nature of social (re)production, its economic basis, and its political implications, within which:

economy is understood in its broad sense as social economy, or way of life, founded in production. In turn, social production is viewed not as a neutral act by neutral agents, but as a political act carried out by members of classes and other social groupings (Peet & Thrift, 1989, p. 3).

In the current disciplinary climate, where Marxist political economy has been eclipsed by cultural and postmodernist approaches as the prevailing source of critical geography

(Peet, 1998), various authors have called for a reassertion of political economy. It is argued (as suggested in the previous section) that the ‘turn to culture’ has gone too far, and in fact become, in some cases, a preoccupation with culture, recklessly discounting or ignoring the role of capital and class and the importance of economic and political structures and systems. The implications of this academic trend are substantial, particularly as it has coincided with an era of unprecedented hegemony of the global economic Right (Castree, 1999). It is contended that if critical geographies are to meaningfully challenge the global politico-economic orthodoxy (rather than be complicit in its dominance), they must retain a critical political economy edge and hold capital and class central to explanations of social phenomena. Current approaches to human geography, and especially rural geography, must avoid becoming overly focused on cultural particularities in Eurocentric contexts, and continue to engage with the political economy of globalisation and uneven development.

While many approaches to and applications of Marxist political economy can justifiably be criticised as being overly Eurocentric, patriarchal, economistic and structurally deterministic, this need not be the case. Indeed, Peet and Thrift’s (1989) notion of political economy, outlined above, does not preclude consideration of the roles of culture and meaning in society. What is needed, rather than political economy *or* culture, is a culturally (as well as spatially and historically) sensitised political economy – analogous to what has been termed a ‘renewed Marxian political economy’ (Castree, 1999), or a ‘critical cultural political economy’ (Sayer, 2001).¹⁰ Castree (1999, p. 141) suggests that, to this end, ‘class’ can be re-thought as a ‘domain of social heterogeneity’, so as to “[retain] the Marxian claim that it is a key axis of social inequality as well as a central vehicle for political organisation, yet without closing it off to other forms of social identity”.

A critical realist philosophy of science supports the production of *a posteriori* knowledge of society (Yeung, 1997). That is, knowledge of social phenomena is based on experience, and arrived at via a recursive process of empirical observation followed by theorisation, reflection, critique and reappraisal. Neither purely deductive nor inductive approaches are appropriate for the generation of theory from a critical realist standpoint, as neither can cope with the causal relationships between observable phenomena and unobservable underlying mechanisms that critical realist research seeks to understand (Keat & Urry, 1982). Rather, critical realist research requires a

‘retroductive’ approach to theory generation, which seeks to formulate models or theories of underlying causal structures based on the observable, concrete phenomena they create and the social and historical context within which this occurs. This means of theorising fits within a broader overall research strategy that is iterative in its approach – which continually revisits theory in light of ongoing observation (see section 2.3.4 and figure 2.3). It is also compatible to some extent with the aim of ‘grounded theory’ (Glaser & Strauss, 1967) to encourage the generation of theory (as opposed to the mere testing of theory) as part of the research process.¹¹ Critical realist research therefore goes some way towards balancing the testing of theory and the generation of theory as well as the importance of empirical observation and theoretical abstraction. After all, as Graham (2005, p. 31) contends, “it is only through a dialogue between theory and practice that knowledge and understanding will be advanced”.

2.2.1. Investigatory framework

In light of the potential benefits of a critical political economy that is receptive to culture (socio-cultural differentiation and diversity), history and space, there is a need for explanatory meso-level theories of observed social reality that adequately incorporate these aspects. This research employs a conceptual framework that attempts to integrate two approaches to understanding the nature and implications of peasant household integration into the capitalist global agri-food system. First a global value chain approach is employed to conceptualise the integration of Chilean peasant farm enterprises into the global agri-food system. Second, a sustainable rural livelihoods approach is adopted in an effort to understand the implications of participation in GVCs at the household and community levels. Both of these approaches will be explored in more depth in chapter 3, but it is useful here to make some brief comments regarding the appropriateness and applicability of each in light of the philosophical and theoretical argument thus far.

Global value chains and sustainable rural livelihoods

The global value chain approach seeks to move beyond both sector-level investigation and cross-national comparison to explore the complex transnational networks of actors that emerge to bring about the production-consumption of particular commodities. The GVC approach has its heritage in two distinct but complementary bodies of work on commodity chains (Hopkins & Wallerstein, 1986) and commodity systems (Friedland,

1984), which emerged out of earlier work on the political economy of the world system and agricultural sociology respectively. The concept was advanced substantially in the 1990s under the ‘global commodity chain’ (GCC) banner from the work of Gereffi and colleagues (see Gereffi & Korzeniewicz, 1994), which stressed the significance of chain governance, and the role played by lead firms in ‘driving’ value chains.

Sustainable rural livelihoods research has evolved out of cross-disciplinary development research over several decades, and was advanced as an increasingly coherent framework from the mid 1990s (see Scoones, 2009). SRL approaches take as a starting point the tendency of rural households¹² to engage in a diverse range of activities in the process of securing and sustaining a livelihood (Ellis, 1998). This is particularly true for, though not exclusive to, smallholder rural households in developing countries. Various members of a household may be occupied in different forms of income-generating farm and non-farm work, as well as drawing upon localised and dispersed social and kin networks for the maintenance of a livelihood. The strategy deployed by a given household in securing and sustaining a livelihood can be conceptualised as the mobilisation of different assets at its disposal. These assets can be distinguished as human, physical, social, financial and natural ‘capitals’ (Carney, 1998a; Scoones, 1998), and may be drawn upon in various combinations in the pursuit of a ‘livelihood strategy’. The availability of assets, claims and access to them (Chambers & Conway, 1992), and the conditions of their use are locally and culturally dependent, and significantly mediated by social relations and institutions like gender and class, and local norms and customs (Ellis, 2000).

Naturally, both GVC and SRL approaches have been subject to ongoing critique, defence and revision, which has mirrored important debates in human geography and the social sciences more broadly. In fact, contestation over both approaches has been embroiled in wider debate at different levels – from philosophical, ideological, political and theoretical standpoints – as discussed above. Of particular relevance to both approaches in this sense have been the broader concerns of the respective roles of human agency and social structure and the insights of political economy perspectives vis-à-vis postmodernist interpretations. The resultant exchanges have seen both approaches re-theorised, re-constituted and re-mobilised to different ends.

Some of the most valid critique of GVC¹³ research over the last two decades has focused on how it has frequently been envisaged with a Eurocentric bias (often as

‘supply chain analysis’) and in an overly linear and structurally deterministic fashion (Bair, 2009; Challies, 2008). Much of this has mirrored the more general postmodernist critique of political economy examined above, and various alternative conceptualisations and reformulations of the GVC framework have incorporated actor-network theory (Busch & Juska, 1997; Murdoch, 2000), circuits of culture (Cook & Crang, 1996; Jackson, 2002) and an emphasis on consumption (Goodman, 2002; Hartwick, 1998; Lockie & Kitto, 2000). Further, GVC research has tended to be firm-centric, concerned with technology transfer and firm upgrading. Only relatively recently have the interests of agri-food workers (Barrientos & Kritzing, 2004; Nadvi, 2004) and small-scale farmers (McCullough et al., 2008; Neilson & Pritchard, 2009; Vorley et al., 2007) been prioritised. Debate and alternative theorisations have made valuable contributions to the GVC framework. It is argued here, however, that rather than necessitating a complete rethinking of the global agri-food system, these insights can be incorporated into the original political economic formulations of GCC/GVC approaches. That is, critique of the practice of particular GVC analyses has been more relevant than critique of GVC analysis *per se*.

Critique of SRL frameworks has also been partly directed at the application of the approach in practice, and partly at some of its core theoretical aspects. Firstly, SRL approaches are broad in scope and, particularly when concerned with the household as a unit of analysis, may uncover a nearly limitless array of activities, interrelations and mediating factors integral to ‘livelihood strategies’. In this sense, SLR approaches risk over-simplification and over-generalisation where they seek to provide exhaustive accounts. Rather, researchers need to be selective about how the approach is designed and employed, and be sensitive to local contexts and contingencies. More fundamentally, the various ‘capitals’ theorised within the framework have come under attack, and particularly the concept of social capital has been challenged (Das, 2004; Fine, 2001). These issues will be returned to in the subsequent chapter.

Notwithstanding the (largely valid) critiques of both investigatory frameworks, it is argued that both are useful means for providing insight into the contingent relationship between the local and the global as manifested in the localised outcomes of agri-food globalisation. If underpinned by a critical realist-informed and culturally/spatially/historically sensitised political economy, GVC analyses and SRL approaches may be usefully integrated to yield improved understandings of the

underlying structures, processes and mechanisms that operate to determine geographies of uneven development in an era of contemporary globalisation.

2.3. Methodology and methods

This section outlines the methodological approach and methods employed in the collection and analysis of data and the formulation of theory throughout the research process. Various attempts have been made to elaborate appropriate methodologies for carrying out social research that is congruous with the philosophical tenets of critical realism. Perhaps the most comprehensive effort has been made by Sayer, who sketched a methodological approach for the social sciences generally (Sayer, 1984), and went on to develop this with particular regard to geography (see for example Sayer, 1997, 2000, 2001, 2006). However, critical realism is first and foremost a philosophy (primarily an ontology) of science, and as such does not prescribe specific research methods. Rather it is necessary to select appropriate methods that can support ‘intensive’ and ‘extensive’ approaches to research (discussed below), and both understand concrete, empirically observable phenomena and uncover their underlying causes and origins (Sayer, 1984). Beyond this there is little practical guidance as to specific approaches, and critical realist methodology remains relatively underdeveloped in human geography. Notable exceptions include useful suggestions made by geographers Lawson and Staeheli (1990), Pratt (1995) and Yeung (1997).

Research from a critical realist philosophical standpoint does not conceive of reality as either (wholly) immediately observable or constructed only by ideas (and thus unknowable). Epistemologically, realist research attributes the nature of observable reality to (equally real but not necessarily observable) underlying causal mechanisms and structures. This has important implications for the selection of appropriate methods. The transcendental line of questioning central to realist research is generally of the format: What must be true in order for χ to be possible? (Where χ is some apparent feature of human activity) (A. Collier, 1994). In slightly less formal terms, researchers ask: ‘What are the underlying causes of this phenomenon?’ Therefore, as opposed to traditional deductive or inductive theory, which proceed with the accumulation of evidence, critical realist research follows a process of ‘retroduction’ which seeks to arrive at models of the underlying mechanisms and structures that generate real world

phenomena “through a process of description, explanation and redescription” (May, 2001, p. 42). This is underpinned by a:

constant interaction between theory and facts [whereby] the theorist seeks to recognize the relationship between the constitution of their propositions and the social context in which they find themselves. This form of reflexivity, upon the conditions of production of theoretical propositions, distinguishes critical from traditional theory (May, 2001, p. 39).

In this sense, critical realist research is grounded in experience, and models or theories are ‘abstracted’ from empirical observation. Sayer (1984) suggests two broad types of research programme that are necessary in understanding and explaining social phenomena – ‘intensive’ and ‘extensive’ research. A summary of the two broad types is provided in table 2.1.

Rather than representing alternative strategies for conducting a given research project, intensive and extensive approaches are better seen as complementary, since each broad type is appropriate for addressing different aspects of the task of explaining real world phenomena. As table 2.1 suggests, both approaches ask different kinds of questions (as they engage with different strata in a stratified world), and therefore produce different types of account – the distinction between the two is not, therefore, a simple one of ‘depth’ versus ‘breadth’ (Sayer, 1984). Each approach is limited in the extent to which it can inform generalisations or support extrapolation or inference, but employed together they can produce ‘practically adequate’ knowledge of social phenomena.

Intensive and extensive research approaches also deal with different conceptions of groups. Extensive approaches deal with taxonomic aggregations of individuals who are similar in some way but need not interact – “Individuals are only of interest in so far as they represent the population as a whole” (Sayer, 1984, p. 221). The individuals who constitute groups within intensive research approaches may be similar or different, but actually relate to each other structurally or causally – “Specific, identifiable individuals are of interest in terms of their properties and their mode of connection to others” (Sayer, 1984, p. 221).

Table 2.1. Intensive and extensive research: A summary

	INTENSIVE	EXTENSIVE
Research question	How does a process work in a particular case or small number of cases? What produces a certain change? What did the agents actually do?	What are the regularities, common patterns, distinguishing features of a population? How widely are certain characteristics or processes distributed or represented?
Relations	Substantial relations of connection	Formal relations of similarity
Type of groups studied	Causal, relational groups	Taxonomic groups
Type of account produced	Causal explanation of the production of certain objects or events, though not necessarily representative ones	Descriptive 'representative' generalisations lacking in explanatory penetration
Typical methods	Study of individual agents in their causal contexts, interactive interviews, ethnography Qualitative analysis	Large-scale survey of population or representative sample, formal questionnaires, standardised interviews Quantitative/statistical analysis
Limitations	Observations unlikely to be generalisable or representative	Observations unlikely to be generalisable to or representative of other populations Potential for 'ecological fallacy' in making inferences about individuals within the population Limited explanatory power
Appropriate tests	Corroboration	Replication

Source: Adapted from Sayer (1984, p. 222).

Both approaches are employed in this research to explore the dynamics of the GVC for Chilean raspberries and the implications of integration into the chain for smallholder growers and their households. The range of different (and globally dispersed) actors in the raspberry GVC constitute a structurally integrated group for the purposes of the research, though their interaction is often remote, codified and mediated through market transactions and various modes of value chain governance. Smallholder raspberry growers, as a group, are regionally concentrated and both vertically integrated into the raspberry GVC and horizontally integrated into a range of social networks. Although not all producers in the case study area are known to one another, or interact directly (though many do), they are related by virtue of their membership of the community and

their collaboration and competition in production. An extensive research approach is taken to position the case studies in relation to relevant regional, national and global trends. This draws upon secondary statistical data, including agricultural census data, and literature to describe and characterise political and economic shifts that have shaped the evolution of Chilean smallholder agriculture, the non-traditional agricultural export complex, and the raspberry productive sector in particular.

Qualitative and quantitative methods are potentially complementary and, in fact, a rigid commitment to one or the other may be highly restrictive (Murray & Overton, 2003). However, the intensive and extensive approaches outlined here draw differently on qualitative and quantitative techniques. In general, qualitative methods tend to be more useful in intensive research as they are more effective in uncovering and explaining causal relationships and understanding people and events in context. Qualitative methods and rich description are also indispensable in understanding what makes the world meaningful for people (Brockington & Sullivan, 2003; Denzin & Lincoln, 1994). Quantitative techniques, on the other hand, can contribute to extensive research in identifying and describing existing patterns, distributions and regularities across space and through time. Similarly, primary and secondary data are mutually reinforcing. Secondary data contextualises primary data gathered in original research (Clark, 2005), and primary data can serve to either corroborate or undermine existing knowledge. This research adopts a mixed methodology drawing on both primary and secondary qualitative and quantitative data as detailed in the following sections.

2.3.1. Delimiting cases and selecting key informants

Both GVC and SRL analyses have been identified as potentially complex – yielding copious interactions and interrelations that the researcher can never fully or exhaustively follow up. Hopkins and Wallerstein (1986, p. 164) point out that the task of tracing all items and relationships in a given value chain “would involve us in an infinite regress and a total description of all conceivable economic activity”. In a similar vein Preston (1994, p. 206) warns that the “complexity of the activities and the inter- and intra-group relations that [household livelihood strategies] illustrate is infinite”. These observations are particularly true where there is an emphasis on qualitative research techniques because, as Sayer (1984, p. 179) notes, “[q]ualitative analysis is liable to encourage the proliferation of variables, and the identification of

interdependence, emergence and distributive unreliability”. In light of these challenges, there is a need to be strategic and selective in delimiting case study groups and identifying key informants.

Given that the core project aims (see chapter 1) are concerned with the terms and implications of smallholder participation in the raspberry GVC, the primary research is focused at the ‘upstream’ end of the value chain, and is concerned with primary production and the initial stages of commercialisation that are embedded in place at the local scale in Chile. However, due to the nature of value chain governance and the unequal (commercial) power relations within the chain, some of the most instrumental actors are ‘downstream’ stakeholders – particularly overseas buyers and retailers. In this sense it was also essential to explore the roles of downstream actors both within Chile and abroad. The emphasis on smallholder growers and their households on the other hand, necessitated a geographically focused case study centred around primary productive operations. In this sense, raspberry producers and productive operations were envisaged as simultaneously socially embedded in place, and *disembedded* (Sayer, 2001) via integration into the globalising agri-food system. Furthermore, it was expected that activity related to the commercial production of raspberries would, for any given household, constitute just one aspect of a diversified household livelihood strategy (Ellis, 1998). Therefore, the primary productive operation of each household required examination in the context of a broader household livelihood strategy, and in relation to overarching (national and local) institutions and social relations as well as in the context of the exigencies of the raspberry GVC.

The research therefore takes a case study approach to explore the complexities of local-global interaction in the particular case of a group of smallholder farmers producing berryfruit in Chile for export to global markets. A case study is defined by Robson (2002, p. 178) as “an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”. Stake (2003, pp. 136-137) distinguishes between ‘intrinsic’ case studies, which are primarily concerned with understanding the particular case, and ‘instrumental’ case studies, which examine a particular case to gain insight into wider processes (reflected in the case) or to refine theory. The two types are usually orientated towards particularisation and generalisation respectively.¹⁴ The present research employs aspects of both types. It is concerned, on one hand, with the challenges faced by those growers and their families who are direct

participants in the research, and interested in the dynamics of the raspberry GVC as it exists at a particular juncture in time and space. On the other hand, the research pursues broader aims in that it seeks to contribute to an improved understanding of the local developmental implications of agri-food globalisation, as reflected in the specific case. In this sense, the research has sought to be alert to both particularities of the case at hand, and aspects and relationships that might be common to other cases or generalisable beyond the case. The concern is to avoid undue emphasis on theory or observation in favour of a balance between the two, which facilitates an ongoing reappraisal of theory and expectations about the case in light of empirical observation on the ground. Such an approach is consistent with critical realist retroductive theorising and the reflexive relationship between observation and theory in critical social science more generally. According to Stake (2003, pp. 149-150): “The brain work [of qualitative casework] ostensibly is observational, but, more basically, it is *reflective*”.

An important but complicated aspect of case study as a strategy of inquiry is the need to define and delimit ‘the case’. The way in which this is done is dependent on the aims of the research, but in investigations of real world social phenomena a degree of flexibility is necessary in the design of the research and the definition of the object of investigation. This is particularly true where the research is primarily or partly exploratory (Robson, 2002), as the researcher must be able to pursue unforeseen avenues and capitalise on fortuitous developments. The boundaries of the case itself may even need to be redefined as the researcher’s understanding of it grows and new complexities emerge. Similarly, research participants may be incorporated as the study progresses: “individuals need not be typical and they may be selected one by one as the research proceeds and as the understanding of the membership of a *causal* group is built up” (Sayer, 1984, pp. 221-222). These factors reflect the fact that real world cases are complex – made up of overlapping component cases and themselves components of larger systems and structures. However, it is still necessary to sketch the outlines of the case under investigation, even if the parameters are initially ‘loosely’ defined. The selection of the study area, and the key groups of actors with which the present research is concerned, are discussed below.

Selection of case study locality

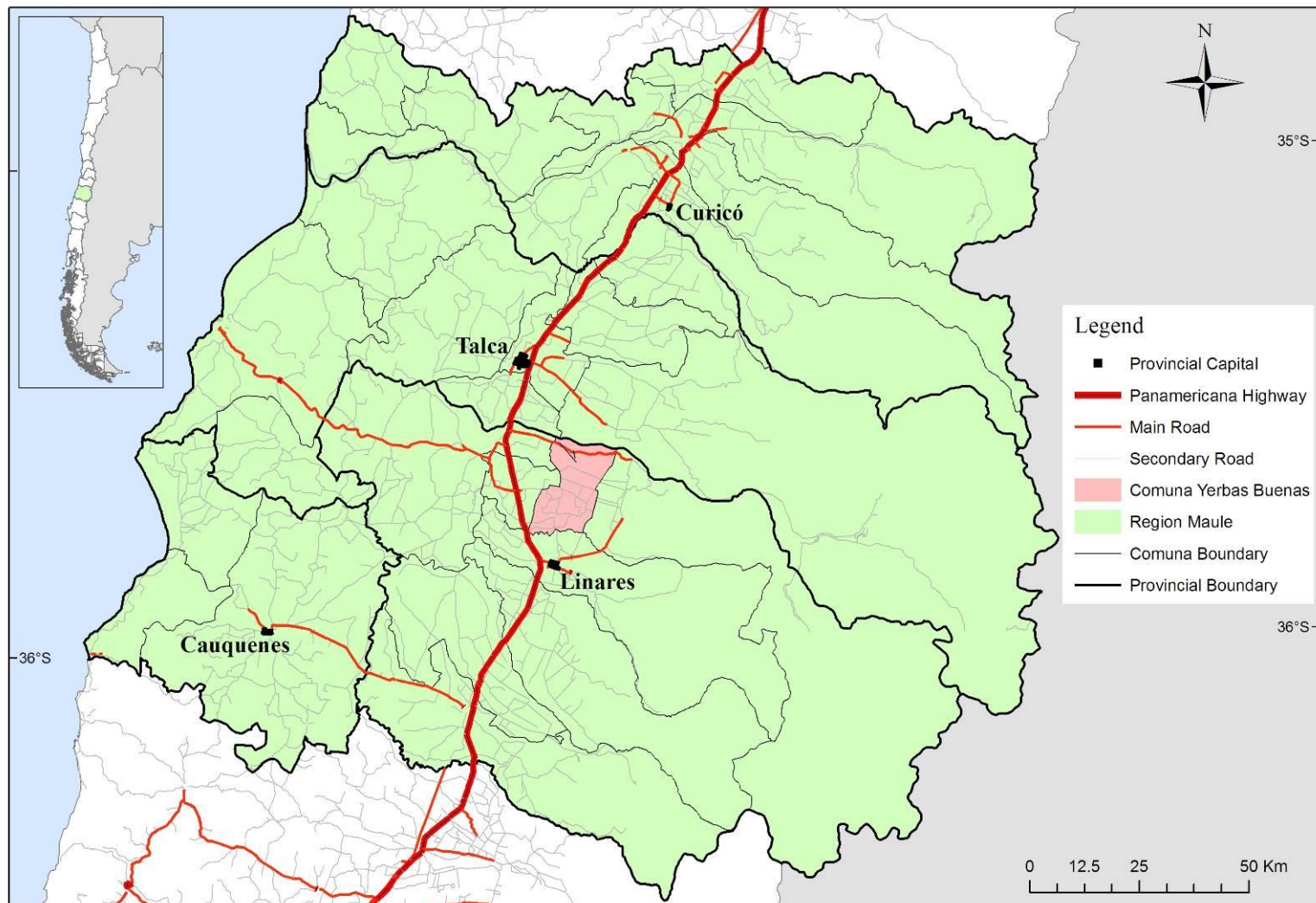
Primary field research was focused on the *comuna* of Yerbas Buenas, within Chile’s Region VII (Región del Maule), which lies between 34.8° and 36.5° south, at the heart

of the country's temperate fruit-producing zone (see figure 2.2). The region accounts for 16 percent of Chile's agricultural GDP, and is especially important in apple, kiwifruit, olive and cherry production. Forestry is also an important industry in the region.

According to the 2007 national agricultural census (INE, 2007b), almost half of the Region's 38,365 farmers are small-scale operators on farms of up to five hectares, and within this group almost 40 percent are working plots of less than one hectare. In reality, however, due to limitations in the scope and methodology of the census (discussed further in section 2.3.3 below), both the actual number of farmers, and the proportion of smallholders are significantly higher than this. The region is, therefore, a nationally important centre of fruit production, and is home to a large number of smallholder farmers.

In addition to its importance in a range of major horticultural crops, Maule is Chile's most important region for the production of a range of 'minor' fruit crops, most notably raspberries, blueberries and blackberries. The raspberry sector engages far more producers than any other fruit sector in the region, and accounts for the largest land area after the major (apple, kiwifruit and cherry) crops (INE, 2007b). In the context of the national raspberry productive complex, Región del Maule is home to between 70 and 80 percent of Chile's raspberry growers and accounts for over 65 percent of land in raspberry production nationwide. Raspberry production in the region occurs throughout the Central Valley, but is especially concentrated in the province of Linares. The small rural *comuna* of Yervas Buenas (see figure 2.2), located within this important zone of raspberry production, is home to some 700 smallholder raspberry growers, and is host to several major raspberry processing and exporting companies. Small-scale raspberry cultivation, therefore, makes a significant seasonal contribution to household income, and activities around the cultivation and sale of raspberries constitute an important part of diversified household livelihood strategies in Yervas Buenas.

Figure 2.2. The case study locality of Yerbas Buenas within the Maule Region



Source: Drawn in ArcGIS 9

A wide range of actors and activities is constitutive of the raspberry GVC, and these are both integrated within the value chain and embedded in local contexts. Key groups of actors include primary producers/growers, input providers, agronomists, horticultural scientists, extension agents, pickers, intermediaries/traders, transporters, packing and processing companies, regulators, exporters, marketers, bureaucrats, importers, supermarkets, and consumers. The location of the various value chain functions (or 'nodes' of activity) is significant in at least two senses. First, the physical geographical location of any given node, and the concentration and dispersal of nodes of activity in space, have important implications for global (as well as regional and local) divisions of labour and the distribution of investment and value-added within the chain. This is influential in shaping whether and how places are integrated into global networks, and creates both opportunities and challenges for rural communities. Second, the positioning of key actors and nodes relative to others in the chain affects power relations and has implications for value chain governance. Significantly, actors are 'vertically integrated' via interactions with upstream and downstream nodes in the chain (e.g. between growers, intermediaries and processors), and 'horizontally integrated' via relationships across networks of varying scope and scale (e.g. among grower cooperatives, worker syndicates, or industry associations).

In selecting key informant interviewees the aim was to talk to as many stakeholders as possible at all nodes along the chain, but focusing in the first instance on the upstream/productive end of the chain and the study area of Yerbas Buenas. It was expected that many important actors and nodes would be dispersed beyond the *comuna* and the region, so significant actors were identified in neighbouring regions (major private companies and peasant cooperatives), regional municipalities (regional officials and contracted agronomists and consultants) and the national capital of Santiago (large exporters, central government officials and private consultants, scientists and academics). Further, importers, retailers and regulatory bodies abroad were considered to play vital roles. Due to resource constraints, particularly in terms of time and finances, primary research was focused within Chile, and especially in and around the study area of Yerbas Buenas and in Santiago. Primary interviews with buyers in the USA and Europe were fewer, and supported by secondary sources.

2.3.2. Primary data collection methods

Primary data was gathered through extended fieldwork incorporating a combination of interviews and observation. In-depth semi-structured interviews were conducted with 20 raspberry producers located throughout the *comuna* between November 2007 and March 2008. Interviews, conducted in Spanish, contained a limited number of set, closed questions, designed to elicit basic quantitative data, and a range of open-ended questions guided by a checklist of discussion topics (see appendix 1). Interviews were designed to uncover key aspects of household livelihood strategies, particularly with respect to integration into the raspberry value chain. However, beyond this dialogue was free-ranging and conversational, and interviewees were encouraged to share their perspectives on the business of producing raspberries in the context of the pursuit of diversified rural livelihoods in Yerbas Buenas. All interviews were conducted at the producer's home or at the *huerto* (plot), with the person primarily responsible for the day-to-day management of the raspberry operation – commonly female heads of household. For some of the interviews, other family members, relatives or friends were present. In most cases the *huerto* was immediately adjacent to the house, and interviews were combined with a tour of the farm and an explanation of the productive operation.

In many cases visits took up the best part of a morning or afternoon, often involving lunch or refreshments, and sometimes work in the *huerto* – particularly picking fruit. Extended periods of time spent in this way created important opportunities for observation of productive operations, household dynamics and broader social and environmental contextual aspects. The observational approach taken was supplementary to the interviews, and might best be described as ‘unobtrusive observation’ (Robson, 2002, p. 310), in that it was a compromise between immersion (participatory observation) and detachment (structured observation). Interviewees were initially introduced to me via one of two key ‘gatekeepers’ who were active *en tereno* (on the ground) – a local organiser of a fruit workers’ syndicate and an agronomist contracted by the Ministry of Agriculture as part of a programme to support small-scale growers in the *comuna*. The former was introduced to me by staff at a small non-governmental organisation (NGO) in Santiago, while the latter was introduced by an academic at the Pontificia Universidad Católica de Chile in Santiago. One of these contacts accompanied me on approximately half of the interviews. Following initial field work in the locality, the selection of interviewees proceeded via a process of gradual

‘snowballing’ (Valentine, 2005), as I was introduced to people’s neighbours and relatives. While not overly remote by Chilean standards, the majority of the study area is serviced by poor roads and infrequent public transport, which presented challenges to accessing research participants. Typically, I travelled from the regional capital of Talca to the *comuna* by public bus, and within the *comuna* by bus, *colectivo*, on foot or accompanying an agronomist or other contact in a private vehicle.

Key commercial stakeholders in the raspberry GVC were identified initially with the help of academic contacts at the Pontificia Universidad Católica, and through attendance at a state and industry funded symposium in Santiago¹⁵ in late 2007. With these initial contacts and additional research both online and at the library of the Ministry of Agriculture in Santiago, clusters of key value chain stakeholders began to emerge. Key informants were selected via a process of ‘theoretical sampling’ (Glaser & Strauss, 1967; Lindsay, 1997) based on their potential to offer distinct and important perspectives on the research theme. The most important berryfruit processing and exporting companies were identified, and interviews were sought with management and key employees. Non-commercial actors were identified principally through the office of INDAP (*Instituto de Desarrollo Agropecuario*, or Institute for Agricultural and Livestock Development of the Ministry of Agriculture) in Santiago, and its various programs and offices at the regional scale. In particular, extension agents and agronomists contracted to INDAP or employed in programmes funded by INDAP in the provinces and *comunas* were of great assistance, working at the interface between smallholder growers and fruit companies.

I was accompanied on numerous site visits to farms, packing/processing plants and other facilities by two different agronomists, which was an effective means of gaining access to farmers as well as representatives of fruit companies on the ground in the locality. The means of primary data collection on the raspberry value chain was again based on semi-structured interviews and, where relevant, observation of commercial and industrial processes and facilities. Contact was also established and interviews conducted with representatives from several peasant federations and grower cooperatives. These contacts were also located both in Santiago and the regions. Academics and researchers from the Pontificia Universidad Católica and the Universidad de Talca and several rural development NGOs were also interviewed. Finally, telephone and email interviews were conducted with representatives from two

major raspberry importers in the USA, which were identified as commercial partners of Chilean fruit companies and suppliers to major retailers in the USA.

Ethical considerations

Ethical approval was required by the Human Ethics Committee of Victoria University of Wellington for all primary interviews. Human ethics approval was sought in the early stages of the project and granted in July 2007 before the commencement of fieldwork in Chile. The field research approach was designed so as to protect the anonymity of research participants and safeguard their privacy, therefore no interviewees are identified in this report unless they have explicitly opted to be. All participants were provided with a written information sheet identifying the researcher and summarising the research in Spanish. Information sheets were tailored to two broad types of respondents: (1) company representatives and officials, and (2) smallholder growers. This was necessary because different information was sought from each group and each group was expected to provide insight into the research theme from different perspectives.

In reality however, the written information sheet was received differently by different participants. For interviews with business people and public officials the project information was often emailed in advance, and sometimes further clarification was requested by prospective interviewees. In other cases it was read by interviewees prior to the interview and clarified where necessary. In interviews with smallholder growers the information sheet was provided to all participants, but most often explained verbally by the researcher. It was often time consuming and challenging explaining the research (and particularly my reasons for doing it) to the smallholder farmers that I interviewed. This in itself was a valuable exercise, as it helped my ideas about the motivations and relevance of the research to crystallise, and encouraged me to consider the relevance of the research to the participants.

The informed consent of all participants was required. A written consent form was signed by most interviewees participating in a formal capacity as a company representative or public official. However, many respondents were not comfortable signing a written consent form. This was especially the case for peasant farmers, and following a few early attempts to secure written consent, interviewing proceeded with verbal consent. Some respondents in political positions, particularly within the peasant

movement, were happy to participate but declined to sign consent forms. Similar issues arose around the issue of recording discussions, and only very few interviews were taped and transcribed. Most information was taken down in note form during the interview. All participants were offered a summary of the final research findings, and many indicated an interest in receiving this.

2.3.3. Secondary data collection methods

A range of secondary data sources was drawn upon both to contextualise and position the project generally within broader research on agri-food globalisation and Chilean agrarian political economy, and to explore the dynamics of the global raspberry complex and the emergence of the raspberry sector in Chile. The main sources of secondary data can be classified as: (1) the academic literature on research theory and methodology, agri-food globalisation and development, rural livelihoods and Chilean agrarian political economy; (2) Chilean official statistics and reports generated or commissioned by various government agencies; and (3) international statistics and reports generated or commissioned by various foreign governments and inter-governmental agencies.

In the first instance, the research draws upon existing peer-reviewed literature as reflected in the former part of this chapter and in chapters 3 and 4. In addition to the literature on social scientific theory and methodology that has informed the foregoing discussion, the (overlapping) literatures on GVC/GCC research, rural livelihoods research, agri-food globalisation and rural development have been widely consulted. The project is framed by an account of the historical political economy of post-WWII transition in Chile, the industrialisation and globalisation of Chilean agriculture and the implications for the peasantry. An extensive literature engaging with these themes has also been influential. Finally, a valuable source of information has been in various reports produced by NGOs and inter-governmental organisations (IGOs) engaged in themes of agri-food globalisation and rural development. There are often significant overlaps between many non-governmental research institutes, academic research bodies and national and international public sector agencies, and much key work straddles these sectors. Consequently, the research and writing to emerge from the NGO and IGO sectors is often also peer-reviewed and published in academic journals. Examples of this kind of work that have informed the present study include the research that has emerged out of the Chilean NGOs RIMISP and CENDA and international groups like IIED and

IFPRI.¹⁶ Inter-governmental agencies whose research has informed the project include CEPAL, FAO and IFAD.¹⁷

Statistical data sources

A wide range of statistical data has informed the project. Perhaps most important has been recent national agricultural census data (INE, 1997, 2007b) collected by the National Institute of Statistics (INE). The decennial *Censo Agropecuario* is the most comprehensive assessment of Chilean agriculture available.¹⁸ The census covers agriculture, aquaculture and forestry, and the 2007 version has been significantly expanded to capture much more detail (especially at the household level) than its 1997 predecessor. The 2007 data, which is disaggregated for many classes down to the *comuna* level, is publicly available from the websites of INE and the Ministry of Agriculture's Office of Agricultural Studies and Policy (*Oficina de Estudios y Políticas Agrarias*, ODEPA). Most data from the previous 1997 census are available from the same sources (see also ODEPA, 2000). This data has been useful in revealing recent overarching shifts in primary production and trends in land distribution. It has also assisted in understanding the evolution of the raspberry sector and the current geography of production.

However, there are limitations to the census data (as suggested in section 2.3.1 above) in that it does not capture well details of the smallest producers. In particular, the census focuses on producers tending areas of land greater than 0.5 hectares, and classifies smaller operations as household plots (or *huertos caseros*). In the context of the raspberry sector, where primary production is dominated by smallholder growers, the data tends to understate the land areas under production and the number of households involved. For example in the *comuna* of Yerbas Buenas, the census understates the number of small scale growers by almost one third. While there are other sources of data that offer valuable insight, they are also limited. For example, the national Agricultural and Livestock Service (*Servicio Agrícola y Ganadero*, SAG) records many more growers and much more land under raspberry cultivation, but it maintains a continuous register and does not strike growers off when they cease production. The Centre for Information on Natural Resources (*Centro de Información de Recursos Naturales*, CIREN) conducts occasional regional cadastral surveys, but these also only survey producers with plots of 0.5 hectares or more, and thus also miss most peasant farmers and report lower overall grower numbers and areas under cultivation.

The online databases of ODEPA and PROCHILE (the Chilean export promotion programme) were consulted for recent historical production and trade data. Fresh raspberries, blackberries and boysenberries were first disaggregated in the 2002 version of the Harmonised System of Chile (SACH), so data is available for the unique fresh raspberry code (SACH 08102020) from 2002. Fresh raspberry data for the period prior to this is for SACH 08102000, which consists of 95-97 percent raspberries, but includes blackberries and boysenberries. Frozen raspberries were assigned a unique code (SACH 08112020) much earlier, so historical data for frozen berries is more accurate. Several hardcopy documents and publications were consulted at the ODEPA library in Santiago for earlier historical data (see especially ODEPA, 1988, 1992). More general contextual socioeconomic data for Chile were taken from the 2002 National Census of Population and Housing (*Censo Nacional de Población y Vivienda*) (INE, 2002), and the 2006 Survey of Socioeconomic Characteristics (*Encuesta de Caracterización Socioeconómica*) (MIDEPLAN, 2006). In addition to these statistical sources, several official documents focusing on the raspberry sector were informative with respect to state policy and initiatives towards the sector. These were mainly produced or commissioned by branches of the Ministry of Agriculture (see INDAP, 2005, 2007a, 2007b; ODEPA, 2008b).

International statistical data on the berry sector in general, and raspberries in particular, is rather inconsistent. Discrepancies between national databases are common and often considerable. This research has drawn principally on the United Nations Food and Agriculture Organization's online FAOSTAT database for global trade and production data for the period from 1961 to 2006 (FAO, 2009a). An additional source of more recent global data has been the TRADEMAP database maintained by the International Trade Centre, a joint project of the United Nations Commission on Trade and Development and the World Trade Organization (see ITC, 2009). Both databases are again limited by problems of aggregation, as they record data for Harmonized System (HS) codes HS081020 (fresh berries), which includes blackberries, mulberries and loganberries, and HS081120 (frozen berries), which includes blackberries, mulberries, loganberries, currants and gooseberries. While in reality the vast majority of both of these categories consists of raspberries, the inferred trends can only be approximate. In this sense, the broader global data that inform and contextualise the research should not be read uncritically. Despite their limitations, the above sources have been selected as

the most appropriate for the purposes of this research, and do provide a useful historical background and macro-context for the present study.

2.3.4. Data analysis and interpretation

The analysis and interpretation of primary and secondary data has been an ongoing process over the course of the research project. It has proceeded in tandem with the continuous reappraisal of theory in light of empirical observation and the generation of data. As discussed above, the project relies on both qualitative and quantitative data, but is concerned predominantly with the former. It draws on the latter mainly for descriptive purposes and in order to frame and position the case study with respect to national and international trends in trade and production and the national socioeconomic context.

Census data for two (1997 and 2007) decennial agricultural censuses and trade and production statistics were entered into Microsoft Excel spreadsheets and organised into time series by various criteria. These were then plotted in an exploratory analysis of the data (Robson, 2002) to illustrate rates of change and comparative time series. Census data for *comunal*, provincial and regional levels were also entered into ArcCatalogue for mapping with ArcGIS software to present spatial trends in geographies of production. Quantitative data analysis was limited to basic descriptive statistics due to limitations in the available data for the purposes of the research. May (2001) makes the general observation that secondary statistical data are socio-political constructions, rather than objective indicators of social phenomena. This certainly applies to the Chilean agricultural census data, which is collected by the National Institute of Statistics based on objectives and categories determined centrally, and aimed at informing a particular development strategy based on export-led agricultural modernisation. This said, the 2007 census does include a wider range of useful categories on household structure that is designed to gather better data on the dynamics of the peasant sector. However, it is not so sensitive to negate the need for in-depth qualitative research at the local level. Further, while the addition of new categories is a positive development, it does not provide for comparisons with prior censuses. Finally, given the ten year gap between censuses, the data miss much of the detail pertaining to productive and socioeconomic transitions and fluctuations over shorter periods of time over the course of the decade. A richer account of key trends and transitions at the local level requires primary qualitative research in the locality.

Primary qualitative data were gathered via semi-structured interviews with key informants and unstructured observation in the field. Secondary qualitative data were derived from the academic literature and official reports. The process of qualitative data analysis followed sequential but recurrent phases of the *description* of phenomena, the *classification* of resultant data, and the *identification of relationships of interconnection* among the data (Dey, 1993).¹⁹ In following these three steps, data analysis is guided through a process of empirical observation, conceptual classification, and theoretical appraisal and reappraisal towards an iterative construction of an account of the case at hand (see figure 2.3). This is elaborated upon in the discussion below, which follows Dey (1993, chapter 3).

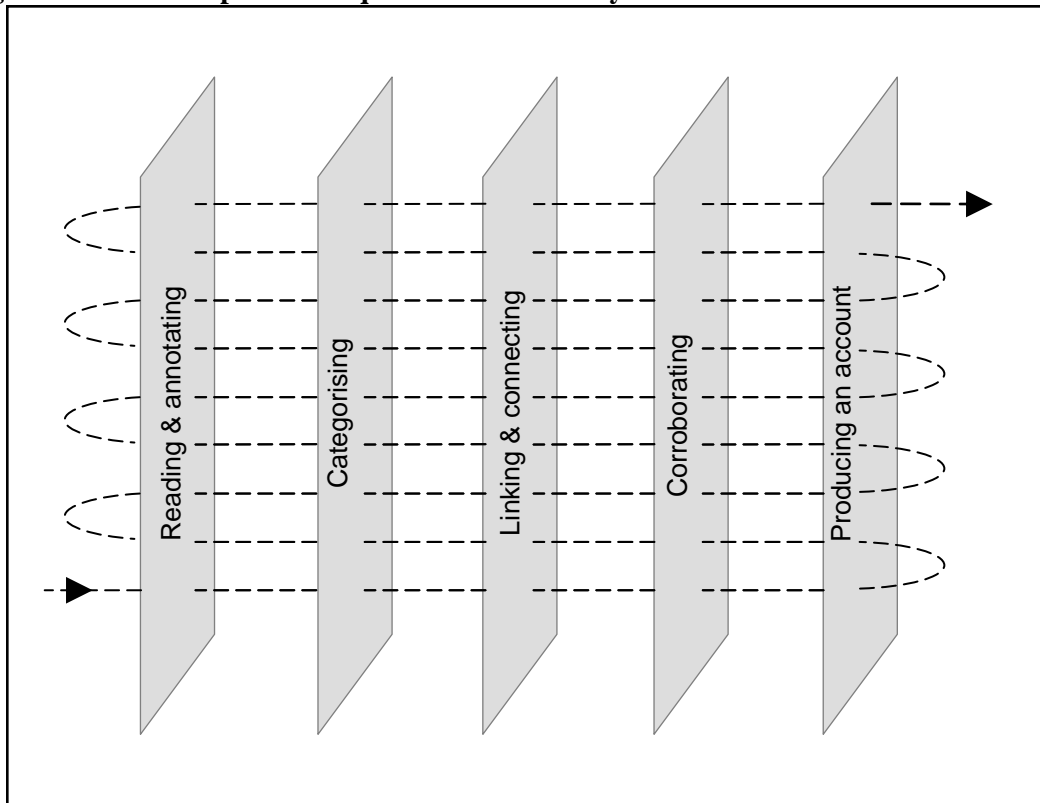
Qualitative data analysis

In the first instance data analysis necessitates comprehensive, ‘thick’ descriptions (Geertz, 1973). Such descriptions should include the context within which the phenomenon under study is situated; the intentions of actors involved; and the process of evolution (and effects) of the phenomenon. Describing the wider *context* helps to situate a phenomenon in space and time and in relation to significant social (cultural/political/economic) processes. Exploring the *intentions* of actors and their motivations for acting assists in both uncovering the meanings people ascribe to their actions, and assessing the extent to which the actual outcomes of action are intended or unintended. Finally, a consideration of the *process* of evolution and the consequent implications of phenomena highlights the dynamic and changing nature of social action and interaction and may help to understand how change can be achieved and directed.

A second essential task in the data analysis process is that of data classification. It is necessary to bring some degree of order to the data if it is to inform an improved understanding of the observable world. This is achieved through the sorting of data in accordance with categories derived from the conceptual framework. The data gathered in this project has been tabulated, classified and ordered in line with GVC and SRL frameworks introduced above (and covered in more depth in subsequent chapters). Reorganising the data in this way runs the risk of ‘forcing’ unnatural categorisation, and therefore a constant re-evaluation of the applicability of the conceptual framework in light of the data is required. Classification is therefore an intermediate step towards identifying interrelationships and connections in the data.

The third task in the recursive process of data analysis, then, is that of identifying relations of interconnection among the data. It is in understanding the connections between various concepts derived from the data that an account of a given phenomenon can be constructed. In identifying and interpreting interrelations among the data, an important distinction is drawn between external or *contingent* relations and internal or *necessary* relations (Sayer, 1984). While the former describes relationships between things or people that exist otherwise independently of each other, the latter describes relationships that are constitutive of the related parties – that is, the related objects are dependent on, or defined by, their relationship to each other. Both types of relation may have potentially significant outcomes, and are relevant to understanding interdependence, causality and change in real world systems.

Figure 2.3. Iterative process of qualitative data analysis



Source: Adapted from Dey (1993, p. 265).

2.4. Reflections on the research process

Some aspects of the research process raise important questions and invite reflection, particularly in relation to the fundamental aims and motivations of the research, obvious

limitations to it, and the nature of any potential contribution it might make. These are essentially interrelated ethical, political and methodological concerns.

Firstly, the research is openly value-laden, and this has necessitated a reasonably lengthy elaboration of a philosophical standpoint and consistent social scientific methodology that are accommodating of critical scholarship. The idea of a purely objective and rational social science is therefore rejected. On the other hand, while it is acknowledged that the cultural turn has made valuable contributions and prompted valid critique of Marxian political economy, postmodernist approaches do not seem appropriate either. In particular, the potential limitations of postmodern perspectives in engaging with the real, existent challenges of uneven development and poverty represent significant shortcomings. In this sense, a spatially, historically and culturally sensitised political economy seems to embody a common sense approach. While making ‘good sense’, such an approach is far from an easy compromise, and if it is to be defended against such accusations, it must be justified from a solid philosophical and theoretical standpoint. In this sense, the articulation of a deliberate methodology derived from a particular philosophical scientific standpoint is justified and necessary.

Of course subjectivity extends to morals and ethics, which are both “highly contextualized social constructs” and are time and place contingent (Lee & Smith, 2004, p. 4). In this sense, it is not necessarily likely that the values underpinning research or the motivations for conducting it are shared by the research participants. This becomes more of an issue with ‘distance’ from the researcher’s own social/cultural/economic context, whether geographically close to home or not. In particular, ‘development’ research – especially where the project sees ‘First World’ researchers studying the ‘Third World’ (Sidaway, 1992) – must be sensitive to potentially diverging worldviews and uneven power relations between researcher and researched. Such divergences pose challenges for the researcher’s representation of ‘others’, which can only ever be partial and is shaped by the researcher’s own identity. However, while our interpretations of reality and our representations of others should by no means be seen as unproblematic, this should not prevent meaningful research. Indeed, as Manicas (2006, p. 65) asserts, we must cope with this challenge on a daily basis:

I can not be a native but I can not be you either. That is, the problem of understanding the other begins at home. In everyday life we do not turn a problem into an impossibility.

In light of the need to be more sensitive to uneven power relations, both in the research process and in wider society, this research is concerned to contribute to an understanding and critique of global processes, relations of domination, and structures and mechanisms that produce inequality around us.

Primary interviews in Chile were conducted in Spanish, which posed some challenges but facilitated more rewarding interviews and discussions. While some key informants – particularly academics, public officials and businesspeople – were able to speak English, Spanish was widely preferred. None of the smallholder growers interviewed in Yerbos Buenas spoke English, so it was essential to conduct interviews in Spanish. Further, a strong accent and frequent use of colloquialisms (present in Chilean language in general, but particularly prevalent in regional and rural vernacular) presented both communicative challenges and opportunities for enriched insight (Leslie & Storey, 2003). I was fortunate to be accompanied at many of the household interviews by contacts working at the local level in programmes supporting small-scale raspberry producers and their families. While it is acknowledged that the presence of third parties (particularly those actively engaged in the provision of support to growers) has the potential to introduce bias and influence interviewees' responses, their assistance was necessary in gaining access to smallholder growers, and proved incredibly valuable in interpreting and understanding growers' accounts. Further, these contacts were familiar with a great deal of the functioning of the raspberry GVC at the local level and were therefore also very helpful in understanding the complexities of smallholder integration into the chain.

Just as a critical realist philosophy of science holds that all knowledge is fallible, it is acknowledged that the present research presents a necessarily incomplete account of reality. Rather than verifying/falsifying existing theory, the research seeks to generate theories that can help us to understand the underlying causes of what is observed. This exercise does not yield up universalisable 'facts' but rather, through rich description and a reflexive relationship between observation and theory, suggests tendencies and supports admittedly partial but hopefully 'practically adequate' explanation of the phenomena at hand. In addition to producing fallible, value-laden knowledge, the research is also limited in scope. As discussed above, it was necessary to be selective in defining the boundaries of the study and to be pragmatic in deciding how far to pursue the complexities of the case – "Not everything about the case can be understood"

(Stake, 2003, p. 141). Similarly, the study is temporally confined. The primary research, conducted over a six month period with limited resources, provides a snapshot in time, a primarily circumspective (C. Murray, 2002) view. Historical time series and census data are drawn upon with the aim of contextualising the primary data, and providing a frame of reference relative to key trends over time. The issue of smallholder participation in global value chains, and the narrower theme of small-scale Chilean raspberry grower participation in the raspberry GVC would benefit from further research, and directions in which this might proceed are suggested in chapter 8.

An issue of ongoing concern throughout the overall research process has been the extent to which the findings might be relevant or useful (Staeheli & Mitchell, 2005). The project is not explicitly orientated towards a specific policy gap or concerned with verifying or falsifying a particular social scientific theory, yet I hope it will have both theoretical and policy relevance. The research seeks to contribute to a better understanding of what the world is like, and it has set about doing this through examining the case of one group of peasant farmers integrated into the global agri-food system. The extent to which broad generalisations can be made from the findings is limited, but that is not the overriding intention of the research. Rather, it is hoped that the findings will be relevant to the smallholder farmer participants and others like them, and useful to policymakers and public sector officials engaged in supporting the peasant sector in Chile. Finally, it is hoped that the methodological approach, which has sought to integrate GVC and SRL approaches, will be further developed and assist social scientific researchers in better uncovering, critiquing and, ultimately, changing reality.

Chapter 3.

Agri-food Globalisation, Rural Transformation and Development

3.0. Introduction

Agri-food globalisation embodies transformative processes, which operate within and across interconnected political, economic and social spheres of activity, and have implications for all people. Agricultural production of food, fibre, fuels and an increasing array of commodities and industrial inputs, is today integral to the livelihoods of over 2.6 billion people (FAO, 2009a), the vast majority of whom live in developing countries on incomes of less than \$2 per day. In the wake of the 2006-2008 food price crisis and the 2008-2009 global financial crisis, 1.02 billion people are currently undernourished²⁰ (FAO, 2009b), many of them rural dwellers. In addition to its social costs, modern agricultural production, particularly industrial agriculture, has major environmental implications, with the sector contributing up to 30 percent of global greenhouse gas emissions, accounting for the greatest share of water use, and playing a significant role in soil degradation, groundwater depletion, and agri-chemical pollution (World Bank, 2007). For these reasons the configuration and functioning of the global agri-food system are of significant contemporary relevance and, indeed, urgency. Given that agri-food globalisation is driven essentially by human agents, and is therefore able to be reconfigured and redirected, an improved understanding of its current dynamics and potential for transformation is warranted.

In addition to fulfilling fundamental human nutritional needs, food is culturally important. However, the almost total commodification of food (particularly in 'advanced industrial' societies, but increasingly among the middle classes in developing countries) has seen the emergence of an increasingly buyer-driven (Gereffi, 1994; Ponte & Gibbon, 2005) global agri-food system within which transnational firms dictate the terms of production and exchange along the length of entire global value chains. Bifurcated patterns of food consumption have emerged along various lines. For example, within the realm of fresh produce wealthy Northern consumers are supplied year-round with a smorgasbord of imported exotic, specialty and novelty fruits and vegetables (Cook, 1994), while at the same time, as a means for coping with financial

hardship, the world's poor shift food expenditure away from protein- and nutrient-rich foods and towards cheaper calorie-rich, energy-dense foods like grains (FAO, 2009b). Converging global crises – in food, fuel, energy, climate and finance – are in many ways manifestations of the disjuncture between consumerist lifestyles in Northern societies and widespread deprivation in the global South. Arguably, the disparities bound up within the global agri-food system, embodied in an obesity epidemic (Lang & Rayner, 2005) on one hand and widespread starvation and famine on the other, are as stark as in any other arena of social and economic life.

Since the colonial era, agricultural and food systems have been constantly reorganised within a global division of labour under capitalist market imperatives (McMichael & Raynolds, 1994). This chapter does not attempt to present a comprehensive account of global agrarian change. Rather, it identifies broad shifts in the international organisation of agriculture that have set the stage for contemporary agri-food globalisation, and sketches the key contours of the contemporary global agri-food system. In order to achieve this it examines the emergence and dynamics of global value chains for agri-food commodities, and considers the implications of agri-food globalisation for rural livelihoods and communities at the 'roots' of these chains.

The chapter proceeds as follows: The first section addresses globalisation as a contested set of social processes, and settles upon a working definition. It then outlines a general chronology of globalisation, based on successive colonial and postcolonial 'waves', which provides a framework for subsequent discussion. The second section takes up this waves of globalisation framework to examine the evolution of a global agri-food system. The transformation of agriculture and food production is traced through mercantilist and industrialist phases of colonial expansion, and through modernisation and neoliberal phases of postcolonial globalisation. The third section adopts a global value chain framework in order to characterise the contemporary agri-food system through an engagement with the fundamental structural and organisational dimensions of global value chains. The discussion systematically addresses territorialities and geographies; structural dynamics; governance and coordination; and institutional dimensions of global agri-food chains. The fourth section of the chapter outlines a framework for sustainable rural livelihoods analysis and highlights the value and analytical utility of the approach in grounding GVC analyses in localised contexts. It is argued that there are potential synergies to be realised in integrating GVC and SRL

approaches for an improved understanding of the complex and often contradictory local impacts of agri-food globalisation. The fifth, and final, section provides a summary, bringing together the key themes addressed in the chapter.

3.1. Globalisation and uneven development

Definitions of globalisation, and debates over the relative merits of different conceptualisations, proliferate in the vast literature on the topic. Given that ‘globalisation’ is in danger of becoming the all-encompassing ‘cliché of our times’ (Held et al., 1999), it is essential that this critical discussion take place.²¹ While it is beyond the scope of this chapter to provide a comprehensive treatment of current debates (but see Held & McGrew, 2007a, 2007b; Murray, 2006a; Veltmeyer, 2008), it is necessary to outline and justify an appropriate working definition. For the purposes of this thesis, then, globalisation describes

the set of dialectical and contingent social processes which operate, in interdependent economic, political and cultural spheres, to heighten interaction and interdependence among networks of globally dispersed, locally embedded actors.

To unpack this definition, globalisation refers to *social* processes in that it is a product of the reproduction and transformation of social structures by human agents, and the simultaneous enablement and constraint of human activity by existing structures.

Globalisation processes are *contingent* in that, despite a tendency towards homogenisation and regularisation, outcomes vary widely in space and time. Local specificities (social, cultural, environmental and historical) condition interaction between dispersed actors and shape communities’ conscious or unconscious responses to globalisation processes. Local responses vary as people embrace, accept, adapt to, or resist globalisation and its outcomes. Globalisation processes are *dialectical* in that as they serve to connect and integrate particular places, groups and individuals, they perpetuate the relative disconnection and isolation of others (Murray, 2006a).

Furthermore, globalisation processes can generate ambiguous outcomes for individuals, simultaneously posing threats and presenting opportunities, and have contradictory impacts within localities. In so far as contemporary globalisation entails the proliferation of free market capitalism, with it “[t]he accumulation of capital and misery go hand in hand, concentrated in space” (D. Harvey, 1982, p. 418).²²

Given the complexities, contingencies and contradictions inherent in globalisation's unfolding, globalisation represents different things to different commentators. To some it is a liberator (Norberg, 2007), a harbinger of prosperity (Ohmae, 1995) and a vehicle for economic development (World Bank, 2009), while to others it is an agenda (Wallach & Woodall, 2003), a project of transnational banks and corporations (Comor, 2008; McMichael, 2008), or a neo-imperialist ideology and manifesto (Petras, 2008). Essentially, different interpretations arise as the concept is mobilised by different actors and deployed to various ends, and in this sense there is a need to develop critical conceptualisations of globalisation processes.

The position taken here is that, in line with the working definition outlined above, globalisation *per se* is neither inherently good nor bad. Having said this, 'actually existing globalisation' (Kiely, 2005) has contributed in many ways to the perpetuation of social relations of domination and exploitation, and to the reproduction of uneven and unsustainable development. The *outcomes* of globalisation processes to date are highly problematic. This is due more to flaws and contradictions in the hegemonic development model that is being globalised – namely neoliberal capitalism – than to the process of globalisation itself. Given that globalisation, like social change generally, is fundamentally human agency-driven, and therefore not inevitable, it follows that we should be able to have some say over its direction. In this sense it is conceivable that globalisation can be transformed, “[s]o the key question is not so much what the world might be like in the future but what it should be like” (Dicken, 2004b, p. 28). In order to robustly theorise and critique existing globalisation and facilitate its progressive transformation, an understanding of its spatially and temporally differentiated outcomes is necessary. As Taylor, Watts and Johnston (2002, p. 4) suggest:

We cannot know the future trajectories of globalization... But we can begin to understand contemporary geographies of global change, their past trajectories and current power relativities, so as to be in a position to understand future possibilities and contribute to the making of preferred options.

According to Dicken (2004a, p. 19), there are two fundamental tasks bound up in this endeavour: the holistic and critical *conceptualisation* of globalisation as a phenomenon, and locally grounded and contextualised *empirical* analyses of processes and outcomes (also see Barton & Murray, 2009). With respect to the former task, and in the interests of maintaining a balanced, historically and culturally sensitised political economy

perspective, a broad chronology of globalisation is outlined below, which guides discussion in the remainder of the chapter, as it begins to address the latter task (further addressed in the following chapters) through an examination of the processes and outcomes of globalisation in the context of the agri-food sector.

3.1.1. Waves of globalisation

While, not surprisingly, there is much debate over the periodisation of globalisation, the adoption of a general chronology is useful in historically situating contemporary globalisation processes. It is impossible to determine a point in time at which globalisation began, but it is clearly not a new phenomenon. Similarly, and notwithstanding recent ‘post-globalist’ arguments (Rosenberg, 2005; Saul, 2005), globalisation is ongoing, and it is difficult to imagine a definitive, fully globalised end-state. In this sense, while globalisation, as a set of transformative processes, continues to increase the extensity, intensity and velocity of interconnections and social relations across space (Held et al., 1999), it is unlikely that all people and places will be integrated to the same extent or on the same terms. Therefore while we can identify tensions and tendencies in an *increasingly* globalised world, it is doubtful that we will ever be faced with a *fully* globalised world. Despite uncertainty as to the precise origins and future course of globalisation, Murray’s (2006a) ‘waves of globalisation’ framework (see table 3.1), which draws broad distinctions between two waves and four phases of globalisation, is appropriate in the context of the present discussion.

Table 3.1. Waves of globalisation

Wave	Period*	Restructuring crisis
Wave 1	Colonial globalisation (c.1500 – c.1945)	
	Mercantilist phase (c.1500 – c.1800)	Industrial revolution
Industrialist phase (c.1800 – c.1945)		
-----		Great Depression and the Second World War
Wave 2	Postcolonial globalisation (c.1945 →)	
	Modernisation phase (c.1945 – c.1980)	Oil crises and debt crises
	Neoliberal phase (c.1980 →)	

* Dates are approximate

Source: Murray (2006a, p. 88).

The adoption of this framework is not to imply that the timing of globalisation has been uniform across space, but rather to reflect broad historical shifts that have had ‘global’ ramifications.²³ Of particular relevance in this sense has been the historical evolution of capitalism. Given the hegemony of neoliberal capitalism at the present historical juncture, and its reification of markets, ‘free’ trade, financial liberalisation and open competition, interpretations of contemporary globalisation “need to be able to relate (but not reduce) it to capitalism” (Kiely, 2005, p. 25). While globalisation has its roots in the pre-modern, pre-capitalist productive and social relations that have been integral to human societies for millennia²⁴, we can identify direct antecedents of contemporary globalisation from the early modern period in Europe, with the Iberian expansion into the Americas and the gradual emergence of capitalism in England in the 16th century.

The remainder of the chapter considers in more detail the process of globalisation in the context of agriculture and food. It examines the emergence of a globalising agri-food system increasingly organised on the basis of global value chains, and considers the implications of agri-food globalisation for rural livelihoods in developing countries. The discussion elaborates on some of the key shifts associated with the various waves of globalisation identified above, but particularly focuses on the specific case of the agri-food sector. It gives relatively less weight to historical phases of globalisation so as to allow sufficient coverage of the contemporary global agri-food system. In this way the chapter provides the context for a discussion of transformations in Chilean agrarian political economy, and the presentation of findings from the empirical investigation of the raspberry value chain and grower livelihoods in the following chapters.

3.2. Waves of agri-food globalisation

Capitalist globalisation has its roots in important transitions in English agriculture during the 16th century. Prior to Iberian colonial expansion, European agriculture was organised under a range of feudal systems. While a variety of arrangements coexisted, in general terms these rested upon the appropriation of the surplus labour and production of a subservient peasant class by an aristocratic elite. The peasantry across much of Europe had direct access to land, and the appropriation of surplus labour and production was predominantly by extra-economic means. In contrast, however, control of the land resource in England was highly concentrated among a landlord class, and primary production was increasingly in the hands of tenant farmers. As tenancies were

increasingly economic, and rents fixed by market conditions, a competitive market for leases emerged and appropriation of the surplus by landlords came to be predominantly by economic means (Kiely, 2005). Therefore, the most competitive farmers, who could furnish higher rents, consolidated access to land, while less competitive producers were displaced (Meiksins Wood, 2002).

While the expansion of market opportunities *invited* petty commodity production under feudal agrarian structures, in the English context “peasants were *compelled* [to produce for market], otherwise they would not be able to pay their rent and would therefore risk losing their lease” (Kiely, 2005, p. 27). In this way, the market dependence of both landlords and tenants grew and it was, as Meiksins Wood (2002, p. 102) observes, “not the *opportunities* afforded by the market but rather its *imperatives* that drove petty commodity producers to accumulate”. In this context a process of socio-economic differentiation of the English peasantry and tenant farmers gathered pace, and fuelled the expansion of a landless class. Capital accumulation and depeasantisation in agriculture thus ultimately generated the mass of landless workers/consumers that would underpin the transition to industrial capitalism²⁵ and drive the colonial expansion characteristic of the first wave of globalisation.

3.2.1. Colonial agri-food globalisation

Colonial expansion proceeded during the first wave of globalisation in two broad phases (as outlined in table 3.1), which had significant implications for the transformation of agricultural production and rural space worldwide. The existence of a variety of agrarian structures in 16th century Europe, and the differential timing of European colonial expansion were central to shaping the incorporation of world agricultures into an emergent colonial division of labour centred initially on Western Europe and later particularly on England.

Mercantilist phase

The first, mercantilist phase of the colonial wave of globalisation is characterised by the rise of European empires and the emergence of global trading networks geared to the extraction of resources from the colonies. Early colonial expansion by Spain and Portugal incorporated the peoples and vast resources of the New World into a colonial division of labour, which fuelled the diffusion of merchant capitalism over the period, and facilitated a massive transfer of wealth from the colonial periphery to the

metropolitan core²⁶. This underpinned social and economic transformation in Western Europe and strengthened commerce, manufacturing and trade networks. While agrarian capitalism was emerging in England, as discussed above, agrarian structures elsewhere remained comparatively feudalistic²⁷, reflecting relatively less consolidated internal political geographies (Stein & Stein, 1970). Varied development trajectories within Europe gave rise to a highly differentiated age of colonial expansion and geopolitical reorganisation over more than four centuries. Despite the varied timing and diversity of colonial forms, the common theme was a “violent incorporation of colonial lands and peoples into an expanding world capitalist economy driven by the process of commodification” (McMichael & Reynolds, 1994, pp. 317-318).

Iberian colonial expansion into the New World resulted in the diffusion of feudalistic and paternalistic social and political structures throughout the Spanish and Portuguese colonies.²⁸ This facilitated the development of extractive (and to a lesser extent productive) infrastructure and institutions for the exploitation of peoples and resources in the colonies. Of the immense wealth channelled back to the Iberian Peninsular, however, most was either diverted by non-resident merchants or spent on imports from northern neighbours (Stein & Stein, 1970). Therefore, rather than underpinning investment in the development of domestic productive capacity in Spain and Portugal, Latin American silver fed capital accumulation in the rest of Western Europe (de Janvry, 1981; Fuentes, 1999). This was instrumental in the rise of England over this period as the dominant world trading power, and contributed to the relative underdevelopment of Spain and Portugal within Europe. In this way, England effectively absorbed the American colonies by drawing Spain and Portugal into its expanding “web of economic imperialism” (Stein & Stein, 1970, p. 21).

Industrialist phase

The second, industrialist phase of the colonial wave of globalisation is characterised by the rise of industrial capitalism and the capitalist mode of production, brought on by the industrial revolution in Europe in the 18th and 19th centuries. The period saw the expansion and consolidation of European empires and the entrenchment of the global networks and flows under their control (Murray, 2006a), and was underpinned by advances in production, transportation, communication and military technologies. The trade and industrial complex to emerge incorporated the periphery initially as supplier of raw materials and agricultural products to feed industrial growth and capital

accumulation in the metropole, and increasingly as an outlet for manufactured products and investment. In this way a colonial division of labour was consolidated, and trade and financial integration intensified significantly (Hirst & Thompson, 2002).

Colonial expansion during this industrialist phase was shaped by a new balance of power in Europe, which rested on English economic, industrial and military dominance. While England had accumulated a limited number of colonies, primarily in North America, the Caribbean and Asia, over the 17th and 18th centuries, the phenomenal expansion of the British Empire into Asia, Africa and the Pacific post 1815 characterises industrial colonial expansion. Over this period, agricultural production and raw resource extraction were less exclusively oriented towards luxury products and precious metals, and more oriented towards basic (tropical and temperate) ‘wage foods’ (McMichael, 2008) to sustain the industrial proletariat, and raw material inputs for industry. Further, extraction/production and trade were increasingly organised by private firms, including individual entrepreneurs, finance capitalists and embryonic multinational enterprises, which began to make significant overseas investments in agriculture, mining, factories, banking, sales and distribution systems (Dunning & Lundan, 2008, pp. 150-154).

Friedmann and McMichael (1989, p. 95) identify the evolution of an international ‘food regime’ spanning the period corresponding to the industrialist phase of colonial globalisation, and characterised by the culmination of European colonialism and the (linked) rise of the nation-state system. Over this period, ‘occupied’ and ‘settled’ colonies played distinct roles in the agri-food order. The former were administered under direct metropolitan rule and agricultural production was oriented largely to the provision of standardised tropical foods (e.g. sugar, bananas, coffee, tea, vegetable oils) and industrial inputs (e.g. cotton, rubber, timber, jute) to complement production in the core (Friedmann & McMichael, 1989). The latter, including Canada, Argentina, Australia and New Zealand, were relatively self-administered and developed along ‘settler capitalist’ lines (Denoon, 1983). That is, a capitalist farming sector, based primarily (and paradoxically) on family labour, provided the metropole with increasingly competitive traditional temperate agricultural commodities, particularly wheat, wool and meat (and dairy products with the advent of refrigeration and cool storage technologies in the 1870s). By the mid 1800s US technological and industrial

capability matched that of Europe, and US firms became major competitors in the manufacture and export of farm machinery.

Colonialism, in its culmination, thus simultaneously reproduced metropolitan political domination (although with increasing economic control) across its occupied territories, and stimulated the emergence of a global nation-state system through the establishment of competitive agrarian settler capitalist colonies. An increasingly liberalised international trade regime emerged, underpinned by advances in overland and maritime transportation technologies, and founded upon the exchange of agricultural commodities for capital goods (Friedmann & McMichael, 1989). This agri-food trade regime was, however, increasingly dominated by the core European importing countries, which benefitted from low food prices, and the leading wheat exporters (USA, Canada, Australia, Argentina), where commercial agriculture was greatly consolidated (Friedmann, 1982).

Particularly in the settler colonies and the US, and later in the emergent nation-states of the Third World, a highly productive, increasingly capital- and technology-intensive industrial agricultural model became the norm (Goodman et al., 1987), deepening the interdependence between agriculture and industry. Following Friedmann and McMichael (1989, pp. 102-103) then, we can identify three key relations that evolved between agrarian and industrial capitalism over the course of the 1800s:

- The shift from a colonial to an international division of labour, associated with a shift from flows of complementary agricultural products based on localised environmental and climatic characteristics towards trade in competitive products according to Ricardian comparative advantage.
- The industrialisation of key phases of the agricultural production process, including the proliferation of monocultures, increasing mechanical and chemical intensity, and continual advancement in transportation and storage technologies.
- The emergent complementarity between agriculture and industry at the national and local scales, wherein agri-industrial agglomerations and national agri-industrial complexes supported both agricultural and industrial growth.

As WWI broke out at the close of the colonial era, then, Northern agriculture was rapidly industrialising, in the image of the US which embodied an internalised version

of the colonial division of labour (McMichael, 2008). Increasing interdependence between agriculture and industry at the national scale, and the increasing penetration of the former by the latter, gave rise to an agri-industrial structure, which came to characterise the farm sector in the US and would later spread, with varied timing and in a variety of configurations²⁹, to other capitalist countries and Third World agricultures.

3.2.2. Postcolonial agri-food globalisation

The postcolonial wave of globalisation as conceptualised here spans the period from the end of WWII to the present. While resistance to, and rejection of, colonialism evolved over at least two centuries from the late 18th to the late 20th century, the process of decolonisation peaked in the post-WWII period.³⁰ This fed into an expanding nation-state system within which English military and economic dominance was eroded. The ensuing reconfiguration of the global order was characterised by the Cold War as a contest between the USA and USSR for the loyalties and resources of the newly independent former colonies. Friedmann and McMichael (1989) identify a second international food regime spanning the first three decades of the post-war period, characterised by the consolidation and expansion of US and European agribusiness and industry under state protectionist measures, and the parallel undermining of agriculture and food security in the Third World through food aid and trade. Following the oil crises of the 1970s and the collapse of the post-war economic order, the contours of a third food regime began to emerge. While the characteristics of this latest food regime have yet to fully crystallise, it is driven primarily by transnational retail capital, 're-regulated' under free market private governance (Le Heron & Roche, 1999), and based on increasing flexibility in global sourcing (McMichael, 1992; Pritchard, 1998).

Modernisation phase

In the first, modernisation phase of postcolonial globalisation, the implementation of a post-WWII international economic order centred on the United States divided the world into First World/developed and Third World/underdeveloped states, and initiated an international political-economic 'development project', whose key ingredients were territorially defined and politically coherent nation-states, and economic growth through industrial expansion (McMichael, 2008). The reconstruction of the post-war world economy, spearheaded by the USA, followed two main strategies for economic growth. First, the bilateral Marshall Plan sought, through the provision of financial aid, to

rehabilitate and stabilise Western Europe and Japan, win geopolitical allies in the Cold War context, and facilitate international trade and investment. Second, the multilateral Bretton Woods system, while ostensibly an initiative to promote international stabilisation and ‘development’, sought to draw developing countries and newly independent former colonies into the world trading system to the advantage of the capitalist First World, particularly the United States (McMichael, 2008). McMichael (2008, p. 58) identifies the primary functions of the Bretton Woods agencies, the World Bank and the International Monetary Fund (IMF):

- To stabilise national finances and revitalise international trade
- To underwrite national economic growth by funding Third World imports of First World infrastructural technologies
- To expand Third World primary exports to earn foreign currency for purchasing First World exports.

While advocating an open world trading system in multilateral engagements, the US and a number of Western European democracies adopted highly interventionist approaches on the domestic front in pursuit of a ‘class compromise’ combining full employment, economic growth, and social welfare programmes (D. Harvey, 2005). Protection was extended to agriculture through the maintenance of subsidies and tariffs to shelter domestic producers. As a consequence of its over-productive farm sector, the US was faced with clearing mounting food surpluses, particularly huge grain surpluses, over the 1950s and 1960s.³¹ This state of affairs coincided with geopolitical rivalry with the USSR for international influence. In combination these factors laid the foundations for Third World incorporation into, and dependence upon, the international trading system as US wheat, dumped in international markets and channelled to developing countries via food aid programmes, depressed world prices, undermined national agricultures, drove proletarianisation and urbanisation, and bred import dependence and food insecurity in the Third World. Friedmann (1982, p. S264) observes: “Aid was the mechanism for overcoming social and national limits to the transformation of self-sufficient agrarian societies into consumers of commercial wheat”.

Particularly in the US, state support to agribusiness consolidated a national industrial agri-food complex. This ‘Fordist’ agricultural model³² emerged as the capitalist transformation of agriculture progressed through at least two related processes:

Specialisation in conjunction with the application of new technologies began to alter the social division of labour within agriculture and fostered increasingly differentiated production. *Concentration* of production and land ownership intensified as a result of increased market orientation and competition, and the sector fell increasingly under the control of fewer, larger stakeholders (Goodman & Redclift, 1981). Together these processes underpinned the mass production of standardised agricultural products for mass consumption. However, while the penetration of agriculture by capital exhibits important parallels to industrial development in other sectors, it has been argued, perhaps most prominently by Goodman and Redclift, that agriculture also offers particularly strong resistance to capitalist development in some respects. These, it is maintained, stem primarily from its basis in nature (1981, pp. 11-13):

- The benefits from mechanisation are low in comparison to other sectors, as natural resource endowments and natural cycles are highly influential and can thwart efficiency and productivity gains.
- Agricultural products, and particularly fresh produce, are relatively perishable, despite improvements in storage and transportation technology. The risks and costs associated with production surpluses are therefore high.
- Natural constraints on production time (seasons and growth cycles) are open to only limited manipulation and therefore represent high risk areas for capital.
- Scope for specialisation is limited in agriculture as overspecialisation can undermine the natural basis of production through soil, water and biodiversity depletion. In fact, there are potential advantages in limiting specialisation in this respect.

These propositions have been criticised on the basis that they inform a biological deterministic conceptualisation of agriculture (Fine, 1994), however, taken as tendencies rather than deterministic laws, they are helpful in understanding the challenges for capital in rationalising, controlling and manipulating the climatic conditions, seasons and flows and stocks of natural resources that underpin agricultural production. It was the capitalist effort to countervail and negate natural constraints on primary production that drove the concerted development, experimentation and application of science and technology – the so-called ‘Green Revolution’ – in agriculture through the 1940s and 1950s, which greatly expanded food production

(Parayil, 2003), but exacerbated rural inequality (Das, 2002; Kloppenberg, 2004) and had devastating ecological impacts in parts of the Third World (Shiva, 1991). Similarly, technological developments in processing, storage and transportation gave rise to a ‘durable foods complex’ (Friedmann, 1992), which had important implications for international geographies of food production and consumption.

The application of new technologies in food processing, preserving and packaging, which underpinned the emergence of the durable foods complex, facilitated the ‘stretching’ of food supply chains and further disembedded food from its relatively localised production base. Within this complex, agricultural production in many sectors was increasingly reoriented from the supply of fresh produce to market, to the provision of inputs for agri-industrial processing. Demand for tropical imports from the Third World experienced a marked decline as industrialised countries developed natural and artificial substitutes as inputs for food processing. The substitution of imported cane sugar with domestically grown beet sugar (and various other natural and synthetic alternatives), and the widespread replacement of imported vegetable oils with soya bean oil as ingredients in processed foods were particularly significant in this respect (Friedmann, 1992). The extended transportability and shelf life of durable foods, combined with the consolidation and rising mobility of agri-food capital, allowed transnational agribusiness corporations to increasingly implement an international division of labour and organise the various stages of the production process internationally. The growth of transnational agricultural and food processing companies like Del Monte, Cargill, Coca-Cola, Nestlé, RJR Nabisco, and Unilever was indicative of a rapid transnational expansion of Northern agribusiness from the 1950s (Pritchard, 1998). These transitions constituted important shifts in the globalisation of both agricultural production and food consumption, as the production of a growing share of food items was organised via cross-border production networks, and international sourcing of ingredients and final products greatly expanded the range of products on offer for consumers.

Neoliberal phase

The second, neoliberal phase of the postcolonial wave of globalisation is characterised primarily by the proliferation of the neoliberal economic model, and the diffusion of deregulation and privatisation at the state level (Murray, 2006a). While several important events over the 1970s and 1980s may be seen as watershed moments in the

ascendancy of the neoliberal economic model (e.g. the 1971 breakdown of the Bretton Woods exchange rate system, the 1973 and 1979 oil crises, the onset of the 1980s debt crisis), there was no single clean break with the past.³³ What is clear, though, is that following converging crises of accumulation in the 1970s and 1980s, the dominant model of economic management in developed countries shifted from a Keynesian state interventionist approach to a non-interventionist, market-led approach. This model was subsequently transported to developing countries via World Bank and IMF loan conditionality and structural adjustment programmes. As Harvey (2005, p. 11) puts it, “the neoliberal project is to disembed capital” from the social and political ‘constraints’ that characterised ‘embedded liberalism’. In the realm of production, a shift from Fordist mass production towards a post-Fordist flexible regime of accumulation, built on vertical disintegration, just-in-time production and product differentiation, has added to the complexity of the new international division of labour (Murray, 2006a). The key actors in this new global economy have been transnational corporations (TNCs), which coordinate and control production via transnational networks and value chains (Dicken, 2007; Dunning & Lundan, 2008). The remainder of the chapter examines the organisation of the contemporary agri-food system via global value chains, and discusses the implications of agri-food globalisation for agricultural producers in the developing world.

3.3. Contemporary agri-food globalisation

The processes of industrialisation and internationalisation in agriculture over the post-war period facilitated the ongoing consolidation of agribusiness and the organisation of export agriculture and food production within cross-border networks (Murray, 2001). Despite the ongoing significance of locality in production/consumption, and the ‘constraints’ posed by nature, the agri-food sector is increasingly organised for greater flexibility. Although the shift to flexible specialisation is not as advanced in agri-food as it is in manufacturing and services, there is increasing convergence between the sectors. While the nature and extent of globalisation across different facets of the agri-food sector is debated (Roche, 2002), agricultural commodities are certainly increasingly produced and consumed via global networks, incorporating geographically disconnected farmers and customers as well as a myriad of intervening actors and processes. The extent to which globalisation processes have affected different agri-food sectors,

however, is highly variable and case-specific, and the outcomes of globalisation vary between the production-consumption systems for different commodities, the different stages within a given ‘commodity system’ (Friedland, 2004), and the different places where agri-food chains ‘touch down’. This section examines these dynamics and considers the characteristics of contemporary agri-food globalisation that might signal the emergence of a third food regime (McMichael, 1992; Pritchard, 1998).

3.3.1. Global value chains in the agri-food sector

A useful means for conceptualising and examining the local-global linkages that characterise the contemporary agri-food system is offered by global value chain analysis. As noted in the previous chapter, the GVC framework has been subjected to a range of critiques, and while some of these have arguably targeted a simplistic caricature of the GVC approach, many others (including from within the GCC/GVC tradition) have made valuable contributions. The literature on agri-food networks (Arce & Marsden, 1993; Murdoch, 2000; Stringer & Le Heron, 2008; Whatmore & Thorne, 1997) and global production networks (Coe et al., 2004; Henderson et al., 2002) is especially noteworthy in this respect, drawing attention to the importance of ‘horizontal’ networks, cultural dimensions and institutions in global value chains. Also of particular importance, and of relevance to the approach taken here, is recent work on modes of coordination and governance within chains (Gereffi et al., 2005; Gibbon & Ponte, 2005). It is argued below that, notwithstanding valid critiques, the GVC approach remains highly appropriate for teasing out local-global interaction in the context of contemporary agri-food globalisation.

Following the seminal work of Gereffi (1994; 1995), GVCs embody four principal dimensions:

- A *territoriality* (or, a geography): Spatial dispersion or concentration of production and distribution networks, made up of enterprises of different sizes and types.
- An *input-output structure*: A set of products, services and resources linked together in a sequence of value-adding economic activities.
- A *governance structure*: Authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain.

- An *institutional context*: Local, national and international norms, policies and regulatory practices shape inter-firm relationships within chains, and hence influence their configuration and outcomes.

Of these four dimensions, the first and second (essentially ‘what’ is produced-consumed, and ‘where’) are descriptive and relatively straightforward and can be mapped and diagrammatically illustrated, whereas the third and fourth (‘how’ is production-consumption organised, and ‘in what context’) are causal and rather more abstract (Neilson & Pritchard, 2009; Sturgeon, 2009). Below each dimension is discussed in turn, with respect to its contribution to an understanding of the dynamics of the contemporary global agri-food system. Particular attention is paid to the transformation of global value chains for fresh produce and the implications for smallholder farmers in developing countries. As is clear from the following discussion, however, the various dimensions are closely interrelated, and must be considered together in the empirical analysis of specific value chains.

Territoriality and global agri-food value chains

The implications of contemporary agri-food globalisation have been mixed, and often contradictory, for farmers and rural communities in developing countries. While incorporation as suppliers within global value chains may represent the only opportunity for many small-scale farmers to access export markets, their participation is often on adverse and exploitative terms (Du Toit, 2004; Ponte, 2008). Even where smallholders are integrated into nationally-bounded value chains, where barriers to entry are lower and quality standards are generally less exacting, they often face competition in the domestic market where large-scale export-oriented producers and companies dump produce that does not meet export standards.

In the interests of highlighting the differentiated geographies of global agri-food chains, the distinction between value chains for processed and relatively durable foods, and value chains for ‘fresh’ or relatively perishable foods, is useful. Durable foods and ingredients tend to circulate via the most highly globalised and geographically extensive networks, while fresh produce, generally consisting of fresh fruit and vegetables (FFVs), tends to be relatively less globalised. Durable food chains are usually characterised by a greater degree of concentration at the various stages of production, partly due to the relatively greater returns to economies of scale in processing and

distributing durable foods. For this reason, many of the largest agribusiness TNCs are diversified food processing companies. In comparison, the production and packing of FFVs is characterised by less concentration, and a relatively high presence of medium-scale and small transnational and national companies.

In response to increased Northern demand for fresh and counter-seasonal produce, however, many developing countries have pursued export strategies based around a variety of non-traditional agricultural exports since the 1980s (Barham et al., 1992; Llambi, 1994a). This has added another layer to the longer-standing South-to-North flow of 'exotic' tropical produce (Llambi, 1994b; Talbot, 2009; Yeung & Dicken, 2000), and means that now much of the supply of fresh fruit and vegetables to Northern markets is sourced from distant farms in the Third World, with North Africa being a particularly important supplier to Europe (Barrett et al., 2004; Dolan & Humphrey, 2000), and Central and South America supplying North American markets (Berdegué & Sanclemente, 2007; Goldfrank, 1994; Llambi, 1994a; Murray, 1998).

Food retail concentration is highest in North America and Europe, and relatively lower in developing countries (Biénabe et al., 2007). However, despite varied timing and characteristics, the penetration of (regional and global) supermarket chains into Africa, Asia and Latin America advanced rapidly over the 1990s (Reardon et al., 2003). Given shifting consumer expectations (especially for year-round supply of a variety of produce) supermarkets must maintain flexible global sourcing strategies to guarantee consistent, high quality supply. This entails establishing contracts and supply agreements with a sufficient number of suppliers, in a range of geographical locations so as to ensure uninterrupted supply in the face of commercial uncertainty and natural variability in crop yields.

Input-output structure of global agri-food chains

The input-output structures of modern agri-food chains have been reorganised in response to at least two trends. First, important changes have occurred in the framework of capital accumulation, as regulation via national *government* gradually gives way to various forms of global *governance*. In the context of the agri-food system, the emergence of TNCs as agents of global governance is indicative of this shift:

TNCs have a more global vision of food system coordination than any given nation-state and are the active actors, whereas the nation states are much more passive 'receivers' of

commodities produced through global production systems (Heffernan & Constance, 1994, p. 42).

Second, shifts in consumer demand, in both advanced industrial societies and developing countries, has driven shifts in what is produced, as well as where it is produced (as discussed above), and how it is produced (discussed in subsequent sections). Again, transnational corporations are increasingly driving production and consumption practices in a global agri-food system, within which “forms of flexible specialisation complement mass production as new corporate strategies are geared to the global or regional markets that are replacing national markets” (McMichael, 1992, p. 347).

The production, distribution and consumption of an ever widening range of agricultural and food commodities is organised by large-scale agribusiness via global value chains. For example, overlapping global production-consumption complexes have emerged around processed foods and beverages; primary food ingredients (e.g. sugars, syrups, oils); fresh fruit and vegetables; meat; livestock, poultry and fish feed-grains; agri-industrial commodities and fibres; and bio-fuel crops. Primary productive relations within these chains are highly differentiated, and depend upon the characteristics of the particular commodity under production; the demands and requirements of customers and final consumers; and social, political and economic specificities at the local level. At one end of the spectrum large-scale corporate farms, often owned by vertically integrated agribusiness TNCs, produce for downstream processors and distributors that are controlled by the same TNC. At the other end of the spectrum smallholders and semi-proletarianised peasant farmers, often dependent on state assistance and extension services, are precariously incorporated into value chains through a range of contract farming agreements (Clapp, 1988; Watts, 1992) or via intermediaries (Murray, 1997). Lying between these arrangements are a range of variants and intervening modes, including producer cooperatives, medium-scale family farms, farm family entrepreneurs (Pritchard et al., 2007), and independent corporate farms. Thus van der Ploeg (2006, p. 261) observes that the relationship between agriculture and farmers has been “converted into a complex and contradictory constellation that implies the inclusion of some and the exclusion of others”.

While in the early 1990s (as observed by Friedland, 1994a), FFV production and retail remained relatively localised, in comparison to distribution functions, the production

and retail sectors are now increasingly globalising. Corporate concentration in the area of agricultural inputs is high, and large and small farmers alike increasingly source equipment, seeds, fertilisers and pesticides from transnational agricultural input providers. For example, in 2007 the four largest agri-chemical companies BASF, Bayer, Dow Chemical and Du Pont had combined sales of over \$215 billion, and the seed companies Monsanto and Syngenta had sales of over \$18 billion (UNCTAD, 2009, p. 240). Although the food retail sector was relatively late to globalise, growth in global sourcing, international expansion, and concentration over the 1990s and 2000s have transformed the sector. While the transformation of the food retail industry has been highly differentiated in space, the impacts have been profound in developed and developing countries alike (Reardon et al., 2004). By 2003, for example, the top 30 supermarket chains worldwide had captured one third of the global ‘modern’ food market of \$3.9 trillion (Biénabe et al., 2007, p. 4). In 2005, the top four retailers, Wal-Mart, Carrefour, Ahold, and Tesco had combined grocery sales of over \$360 billion (Biénabe et al., 2007, table 1.1).

As suggested in the previous section, much of the restructuring of value chains and agricultural production is associated with shifts in the dietary composition and preferences of Northern consumers. In particular, the emergence of global FFV chains has been associated with the increasing affluence of consumers in Northern markets, where demand is increasingly for ‘fresh’³⁴, healthy, sustainably produced and ethically sourced foods (Barrientos & Dolan, 2006; Le Heron & Roche, 1995) on a year-round basis. This has also seen a significant growth in the importance of ‘alternative’ agri-food chains (Chiffoleau, 2009; Maye et al., 2007) in organics, fair trade, and local foods. Similarly, the expansion of the middle classes in developing countries is contributing to a convergence with Western diets, high in meat and fresh produce. Shifting preferences are interpreted (and shaped) by retailers, and inform the constant reorientation of global sourcing strategies to meet new demands. TNCs, and particularly transnational retailers, have developed and adopted a range of mechanisms in order to govern decentralised production processes and exercise control over increasingly geographically dispersed actors within global agri-food chains.

Governance of global agri-food value chains

Gereffi (1994) makes an important distinction between two general chain types with respect to the dominant agents of corporate governance within the chain. While

‘producer-driven’ chains are typically directed by large, integrated TNCs from the upstream/supply end, ‘buyer-driven’ chains are governed by large branded retailers towards the downstream/demand end.³⁵ In the context of global agri-food chains, and particularly FFV chains, the producers and buyers correspond to agriculture-based TNCs and supermarket chains respectively.³⁶ This is not to suggest that there are not other important intervening actors along the chain (including, for example, trading, distribution and export companies) but in general agribusinesses and supermarkets have exhibited the greatest degree of concentration and transnationalisation and exerted the greatest degree of control. Although the globalisation of food retail occurred relatively late, as discussed above, retail capital appears to wield the greatest power in most contemporary global agri-food chains. This is particularly the case in FFV chains, which have been observed to be increasingly buyer-driven (Ponte & Gibbon, 2005). On the other hand, the market for agricultural inputs appears to be strongly producer-driven with, for example, agri-chemical, fertiliser and biotechnology corporations maintaining control over forward and backward linkages in the production process. Given the dominance of transnational retailers in agri-food chains (within which farmers are the primary producers), and the weight of agribusiness TNCs in value chains for agricultural inputs (within which farmers are the end consumers), farmers are subject to a cost-price squeeze at the intersection of the two.

Despite a general tendency towards producer or buyer ‘drivenness’, the distribution of power and authority in global value chains, is often less clearly defined. For example, Fold (2002) has shown that agri-food chains can be strongly driven by lead firms at different stages along the chain. In an effort to reflect this empirical complexity several authors have recently sought to elaborate a broader array of relationships and forms of coordination between various chain actors (Humphrey & Schmitz, 2001; Sturgeon, 2001, 2002). This work culminated in a typology put forth by Gereffi et al. (2005, pp. 83-84), identifying a spectrum of network relations, lying between markets and vertical integration, that link chain actors:

- *Markets*: inter-firm market relations characterised by spot price transactions and low switching costs for participating parties.
- *Modular networks*: competent and flexible suppliers make products to customers’ specifications.

- *Relational networks*: complex interactions between chain actors, often characterised by mutual dependence and mediated by trust, reputation, kinship or ethnic ties.
- *Captive networks*: dependent relationships between chain actors, often characterised by monitoring and control by powerful chain actors over weaker chain actors.
- *Hierarchy*: intra-firm vertical integration.

While this typology was advanced as a descriptor of modes of value chain governance, it has been critiqued by, *inter alia*, Ponte and Gibbon (2005), who emphasise the need for a distinction between ‘forms of coordination’ and ‘modes of governance’ within GVCs. They argue that in reality the various types of network relations correspond to ‘forms of coordination’ of particular chain segments, and not overarching governance structures: “A GVC may be characterized by different forms of coordination in various segments, yet a single and relatively coherent mode of overall governance” (Ponte & Gibbon, 2005, p. 3). They suggest (see also Gibbon & Ponte, 2005), for example, that the nature of quality standards is central in shaping chain governance. This theme is taken up below.³⁷

A range of mechanisms has emerged as various public and private sector actors have sought to coordinate and control global agri-food chains. Schemes controlling for safety and quality in agricultural production and trade and the food industry have long existed. These grades and standards (G&S) were initially formulated and overseen by governments, unilaterally and multilaterally, for reasons associated with public health and safety, biosecurity and border control. In this sense they were primarily standardising – they sought to bring order and manageability to the globalising food industry and thus ensure quality and safety. While government regulations still play an important role in this respect (Fulponi, 2007; Horton, 2006), voluntary food quality standards and certification schemes are fast emerging as the future of agri-food chain governance. In contrast to earlier G&S, which were overseen by public institutions and aimed at product *standardisation*, voluntary certification schemes tend to be administered privately and aim to achieve product *differentiation* (Gibbon & Ponte, 2005). In many cases voluntary private schemes match and exceed existing public codes

and mechanisms in their requirements and rigour, and are therefore emerging as a new de facto framework in global agri-food governance.

Private voluntary quality certification schemes can be a source of competitiveness, particularly for retailers who successfully differentiate their products on the basis of such schemes, but also for farmers and firms that are able to comply and become certified. In many sectors, and especially in FFV export chains, accreditation to private standards (while technically voluntary) is, in reality, essential for firms and farms that want to participate. Therefore, while such standards may contribute to safeguarding consumer safety, and definitely help retailers to position themselves competitively in markets, much of the cost associated with standards administration and monitoring is transferred onto upstream actors in the chain – particularly onto export firms and farmers. For small-scale farmers especially, food quality standards (both public and private) can represent significant and often insurmountable barriers to entry into export chains (Reardon et al., 2001). Compliance costs are often high, requiring capital investment in specified infrastructure and facilities, demonstrated adherence to specific procedures and practices, and payment of application, certification and monitoring fees. For many smallholder farmers in the Third World, the financial costs alone are prohibitive, but low levels of education and technical knowhow, and inadequate provision of basic infrastructure and services in many rural communities further add to the challenge for farmers in developing countries. Furthermore, the standards themselves are continually rising and changing with consumer and retailer expectations, and in this sense ongoing participation is by no means a given for one-time compliant farmers.

Institutionality and global agri-food value chains

Much of the empirical diversity and differentiation embodied in the processes and outcomes of agri-food globalisation stems from the variety of ‘institutional settings’ within which global value chains (and segments of value chains) are embedded. A particular institutional setting is constituted by a range of institutions, organisations and social relations (Ellis, 2000), which may operate at various scales – local, national, regional and global. Following the work of North (1990) *institutions* are defined broadly as the social rules and norms that guide and constrain human action. Institutions in this sense may be formal (e.g. laws, regulatory frameworks) or informal (e.g. social mores, behavioural conventions, customs, traditions). In contrast to the concept of institutions,

organisations are defined as “groups of individuals bound by some common purpose” (North, 1990, p. 5). Although they are often important institutional actors, organisations are distinguished from institutions *per se*, in that they are both the product of prevailing rules and norms, and agents of institutional reproduction and transformation.

Organisations include economic entities (e.g. firms, farms, unions, cooperatives); political entities (e.g. local/national/international political bodies, regulatory agencies); social entities (e.g. churches, clubs, associations, NGOs); and educational or research entities (e.g. schools, universities, research units)³⁸ (North, 1990). Finally, *social relations* refer to the positioning of individuals and groups within society, reflected in such factors as “gender, caste, class, age, ethnicity and religion” (Ellis, 2000, p. 38).

Given that GVCs ‘touch down’ in various geographically dispersed locations and are therefore concurrently embedded in a variety of institutional settings at different scales, it is difficult to generalise as to the influence of ‘institutional factors’ both between and within global agri-food chains. However, rather than treating institutionality as a vague contextual factor, it is necessary to treat institutions and institutional settings as critical to value chain dynamics. As Neilson and Pritchard (2009, p. 56) argue in calling for an ‘institutionally enriched GVC analysis’:

[T]he institutional dimension of chains is insinuated in their very core. The institutional environment is a predetermining characteristic of the governance structures which subsequently emerge within the chain, and which, in turn, then act upon those arrangements in continual feedback.

In order to identify the institutions, organisations and social relations that shape the governance, coordination and dynamics of particular agri-food chains, empirical investigation of key value chain actors embedded in particular places and institutional settings is required. In this sense, a multidimensional conceptualisation of embeddedness is appropriate, and in addition to being embedded in place, key actors (whether organisations or individuals) are seen as embedded in networks and in institutional settings (Hess, 2004)³⁹. Therefore, aside from mapping the territoriality and input-output structure of GVCs, a consideration of the institutional setting within which key actors are located is necessary. The various actors incorporated within global agri-food chains, including different actors interacting in the same locality, are enabled and constrained differently, by a variety of institutions, organisations and social relations. By the same token, different value chain actors are capable of shaping institutional

settings to differing extents and in different ways. The prevailing institutional setting in a given local context, therefore, takes on relevance in distinctive ways, for example, for large firms and small farmers.

Insofar as nation-states act as ‘containers’ of distinctive institutions and cultures, and as ‘regulators’ of economic activity (Dicken, 2007), “[i]nstitutions at the national level affect the value-adding opportunities open to [‘transnational’] firms” (Dunning & Lundan, 2008, p. 126), and therefore shape the international division of labour along GVCs. National level institutions, however, and particularly more formal institutions, are increasingly contingent upon regional and international level structures. For example, market institutions, including “property rights, governance structures, conceptions of control and rules of exchange” (Bair, 2005, p. 175, note 25), which are key determinants of the distribution of TNC activity, are defined at various scales and shaped by a variety of national, regional and multilateral organisations. At the same time, firms themselves are bearers of institutions, and active agents in institutional change. Dunning and Lundan (2008, p. 125) observe that “the institutional structures created, accessed and deployed by the firm affect its choice of governance, of both productive and exchange activities; [and] in this sense, transaction costs are firm specific”.

Other, relatively less mobile, value chain actors are also constrained and enabled by institutions, social relations and organisations at various scales. For example, formal market institutions influence the functioning of markets in practice (Ellis, 2000) and the terms on which smallholder farmers and small firms are integrated into agri-food chains. These institutions may take the form of national level regulatory frameworks and systems of property rights, and the various regional and multilateral agreements that shape them. At the same time, a range of organisations may be integral to the participation of small scale farmers and firms and rural households in global agri-food chains. Aside from large domestic firms and TNCs, whose production and governance strategies are highly influential in shaping the terms of participation of upstream actors, a range of other social, economic and political entities are potentially relevant.

Government agencies, at central and local levels, are often active in the extension of financial support and technical assistance to smallholder farmers and small businesses, and the provision of basic infrastructure and social services to rural communities. Public agencies are also responsible for the implementation, monitoring and enforcement of a

range of rules and quality G&S around agriculture and food production, which guide and constrain the productive practices of all value chain actors within their jurisdiction. Producers associations, peasant organisations and rural unions may play important roles in representing the interests of farmers and rural workers, and have significant implications for their participation in agri-food chains.

While formal institutions and organisations are highly significant for small farms and firms, informal institutions and social relations (although less clearly visible) may be even more important in some contexts. The informal institutions and social networks that people routinely draw upon have been described as a form of social capital (Putnam, 2000; Putnam et al., 1993; Woolcock, 1998). Social capital includes claims to access and membership of groups as well as relationships of trust and reciprocity among and between networks of individuals, households and communities (Ellis, 2000; Kanji et al., 2005). In the context of connection to social networks at different scales, social capital may greatly facilitate or impede farmer and worker access to global agri-food chains. For example, access to social and kin networks, and relationships of trust and reciprocity within this, can assist in obtaining extra labour at harvest time, loans, and employment opportunities. By the same token, social capital can have potentially negative or conflicting implications (Bebbington & Perreault, 1999) where membership of a particular group precludes participation in another, or where strong social conventions or norms curtail personal freedoms or unjustly penalise particular individuals. In this context social relations such as age, ethnicity and gender, play a significant role in mediating access to informal (and also formal) networks and organisations.

3.4. Adapting to agri-food globalisation: Rural livelihoods

The chapter thus far has sought to trace the evolution of a global agri-food system in parallel with the historical expansion of globalising capitalism. The contemporary global agri-food system has been conceptualised as a network or web of interweaving and interconnecting global value chains, incorporating and connecting geographically dispersed actors via production-consumption relations. As is the case with globalisation processes more generally, however, different actors and places are incorporated unevenly, on different terms, and with a variety of consequences. The nature and distribution of the impacts of agri-food globalisation have varied in accordance with the

strategies of agribusiness capital in the context of complex interactions of institutions, organisations and social relations at different geographic scales. The resultant global agri-food chains, via which lead firms organise production-consumption are therefore grounded in numerous places and institutional and environmental settings. In this sense, the transnational organisation of agriculture and food production, and the international division of labour in agri-food chains, simultaneously opens up economic opportunities and poses threats to the livelihoods of a multitude of value chain actors. This section will briefly consider factors that contribute to rural livelihood strategies among smallholder farm households, and discuss the potential value of integrating holistic SRL approaches with global value chain analysis for an improved understanding of the implications of agri-food globalisation for small-scale farming households. The focus on smallholder farmers is justified given the motivation for the thesis to understand the local implications of smallholder grower participation in the raspberry GVC emanating from Chile.

3.4.1. Rural livelihood strategies

As this chapter has described, and as the subsequent chapter illustrates with particular reference to the case of Chile, the ongoing process of agri-food globalisation has transformed rural spaces and rural communities. In particular, as capitalism has further expanded into agriculture and food production, distribution, marketing, and retail, agri-food chains have become increasingly driven by lead firms, and particularly lead buyers. In the case of FFV chains, supermarkets have emerged as some of the most powerful actors, exerting control over 'long', cross-border value chains and strongly influencing practices at each node of GVCs. The economic and political power and resources of large transnational and domestic firms contrasts starkly with the resources and capabilities of peasant households. The ongoing processes of land concentration and agricultural corporatisation have seen many peasant farmers and small-scale producers forced off the land, fuelling urbanisation and rural unemployment and underemployment. Despite these overarching trends, peasant households are not without assets and capabilities and, as suggested in the previous chapter, in fact draw upon a diverse range of networks and resources in the pursuit of sustainable livelihoods (Bebbington, 1999; Carney, 1998b; Pimbert et al., 2001).

A meaningful level of analysis for assessing the local impacts of agri-food globalisation, then, is the rural household. An examination of household livelihood strategies can usefully uncover challenges and opportunities for smallholder farmers. In rural contexts, the diverse range of activities that contributes to household livelihood strategies includes various types of income-generating work both on- and off-farm⁴⁰, as well as non-income-generating activities. In this latter context, for example, subsistence farming, hunting and gathering, reciprocity within social and kin networks, and external state and civil society support may also be of importance.

Figure 3.1 (page 76) presents a framework for livelihoods analysis, adapted from the work of Ellis (2000) and following from, *inter alia*, Carney (1998b) and Scoones (1998). In accordance with this framework, households draw upon a range of assets or resources (A) in the pursuit of livelihood strategies (D) composed of various commercial and subsistence activities (E).⁴¹ Access to resources, however is mediated by institutions, organisations and social relations (B), and livelihood strategies must adapt to trends and shocks (C), both natural and anthropogenic, both endogenous and exogenous to the household. The pursuit of a given livelihood strategy has potentially positive and negative effects (F) on household livelihood security and on environmental sustainability. The framework thus begins with a holistic conception of the assets and resources available to rural households, and recognises that access to these is mediated by local social, institutional and organisational milieux. It is in this context that households respond to change, seeking to exploit emergent opportunities or circumvent threats and shocks that could undermine livelihood security.

The five different types of asset or ‘capital’ specified in figure 3.1 can be elaborated as follows: *Natural capital* encapsulates the natural resources, in the form of stocks and flows, and ecosystem services that people draw upon in pursuit of livelihoods; *Physical capital* includes both privately owned physical assets (e.g. tools and equipment) and public goods (e.g. infrastructure) that are drawn upon and employed in securing a livelihood; *Financial capital* consists in stocks and flows of money that may be converted to other forms of productive capital (or diverted to consumption). Financial capital may include savings, access to credit, wages, remittances, or benefits; *Human capital* refers to the skills, knowledge, capabilities and health of people. It is a major determinant in the capacity of people to work, their adaptability to a range of tasks, and their abilities to negotiate access to resources and direct their destinies; *Social capital*

(discussed briefly in the previous section) refers to the social networks within and across communities that people draw on to derive a livelihood.⁴² It includes formal and informal membership to groups, relationships of trust and community cohesion, and reciprocity across social networks. It has been observed that high levels of social capital within communities can both enhance and constrain livelihood strategies (Woolcock, 1998). For example, in contrast to the significant gains to be had through social cohesion and coordination, high levels of social capital may also serve to exclude outsiders, limit personal freedoms, impose burdensome social obligations and create 'downward levelling norms' (McAslan, 2002).

Within a SRL framework, the endeavour of individuals and groups to secure a sustainable livelihood is recognised as being influenced by important contextual factors. First, distribution of and access to different assets or capitals is highly variable. Social relations (e.g. gender, class, ethnicity), institutions (e.g. laws, local customs, markets in practice), and organisations (e.g. associations, local government bodies, NGOs) interact to modify the abundance and scarcity, as well as accessibility to people, of a range of capitals (Ellis, 2000). Second, the context in which capitals are negotiated over, accessed and employed is dynamic, potentially shaped by a multitude of trends and shocks. As indicated above, the trends and shocks that impinge on rural livelihoods may be endogenous to households, groups, and the communities within which they are embedded, or they may be exogenous, originating at the national, regional or global scale. Trends and shocks may arise as a result of natural or anthropogenic processes or, most commonly, as a combination of the two. Important trends might include, for example, shifting relative prices, rural depopulation, climate change, rising food safety and quality standards, and national and global economic trends. Trends such as these may have positive or negative outcomes for different groups, and may even have both positive and negative (contradictory) impacts within particular communities. A range of shocks can also impact on rural livelihoods with immediacy and severity. Natural events like droughts and floods can be disastrous for rural communities, as can political events like civil unrest and warfare. Shocks can also strike individuals and households in the form of death, personal injury or redundancy, for example. Resilience and vulnerability are conceptualised within the livelihoods framework as the extent to which groups can cope with and respond to trends and shocks.

Figure 3.1. A framework for livelihoods analysis

A	B	C	D	E	F
Livelihood Platform	Access modified by	In context of	Resulting in	Composed of	With effects on
<p><i>Assets:</i></p> <ul style="list-style-type: none"> - Natural capital - Physical capital - Human capital - Financial capital - Social capital 	<p><i>Social Relations:</i></p> <ul style="list-style-type: none"> - Gender - Class - Age - Ethnicity - Religious beliefs <p><i>Institutions:</i></p> <ul style="list-style-type: none"> - Rules and customs - Land tenure - Markets in practice <p><i>Organisations:</i></p> <ul style="list-style-type: none"> - Associations - NGOs - Local admin - State agencies 	<p><i>Trends:</i></p> <ul style="list-style-type: none"> - Population - Migration - Technological change - Relative prices - Macro policy - National econ trends - World econ trends <p><i>Shocks:</i></p> <ul style="list-style-type: none"> - Drought - Floods - Pests - Diseases - Civil war 	<p><i>Livelihood Strategies</i></p>	<p><i>Natural Resource-Based Activities:</i></p> <ul style="list-style-type: none"> - Collection - Cultivation (food) - Cultivation (non-food) - Livestock - Non-farm natural resources <p><i>Non-Natural Resource-Based Activities:</i></p> <ul style="list-style-type: none"> - Rural trade - Other services - Rural manufacture - Remittances - Other transfers 	<p><i>Livelihood Security:</i></p> <ul style="list-style-type: none"> - Income level - Income stability - Seasonality - Degrees of risk <p><i>Environmental Sustainability:</i></p> <ul style="list-style-type: none"> - Soils and land quality - Water - Rangeland - Forests - Biodiversity

Source: Ellis (2000, p. 30).

In reality there is a high degree of crossover between the categories of capital delineated in the framework. In most cases the value of a particular asset is realised primarily in its combination with other assets or forms of capital. For example, natural capital in the form of land resources usually requires financial capital investment to bring the land into commercial production. High levels of human capital lend the expertise and/or the labour power required to drive production and commercialisation. Human capital is combined with physical capital in the form of the tools and equipment, but also the public infrastructural goods, which underpin production, mobility and transportation. Social capital is invariably also of central importance, manifested in state support mechanisms, access to markets, or membership to producers' associations, for example.

Capitals thus can be combined in a multitude of ways to facilitate production-consumption, but the role of capitals in livelihood strategies extends beyond their materialist and instrumental utility. Bebbington (1999) urges the expansion of the livelihoods framework to include more hermeneutic notions of livelihood. Following the work of Sen (1997), he contends that assets should be understood within the livelihoods framework “not only as things that allow survival, adaptation and poverty alleviation: they are also the basis of agents' *power* to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources” (Bebbington, 1999, p. 2022). Intangible human and social capitals are central to such an understanding.

Rather than being determined by GVC participation (or exclusion) *per se*, the prospects of rural households are shaped more significantly by the terms and relations of participation (Kaplinsky, 2000). It is argued here that the terms of farmer and worker participation in, or exclusion from, global agri-food chains are important factors in determining the opportunities and risks delivered or transmitted via the chain. As discussed above, the conditions of farmer participation in GVCs, and households' access to a portfolio of livelihood assets, are shaped by a milieu of institutions, organisations and social relations at various scales. Employing livelihoods and value chain frameworks together potentially offers important insights into the dynamics of these relationships. In a review of the foundational literature on the role of agriculture in rural development, Kay (2009, p. 116) warns of the pitfalls in dichotomising the rural and the urban and, more specifically, the ‘agricultural’ and the ‘industrial’:

By focusing one-sidedly on either agriculture or industry analysts fail to examine the complex and dynamic interactions between them [and] are unable to grasp the importance of exploring the multiple intersectoral resource flow possibilities and their varying impact on particular trajectories of economic development.

This warning, while pitched at the macro scale, where the dividing line between agriculture and industry is increasingly blurred, has as much currency at the micro scale, where rural households interconnect with rural and urban worlds, and depend upon a range of agricultural and non-agricultural activities (Tacoli, 1998). In this context, a sustainable rural livelihoods approach is highly applicable to understanding the variety of income sources, assets and networks upon which rural households depend.

A particular strength of the livelihoods framework is that it recognises, and indeed holds central, productive and income diversification at the household level. It is recognised, for example, that for many peasant households, off-farm or non-farm income sources are critical components of diversified livelihood strategies. In this sense, while the livelihoods approach accommodates analysis of household participation in agri-food export chains, it does not lose sight of the fact that participation in a given chain may be of limited relevance to overall household livelihood strategies. Where incorporation within GVCs is exploitative of smallholder farmers or has detrimental implications, or where barriers to entry are prohibitive, a livelihoods approach is highly applicable in determining if and how challenges might be confronted and overcome. On the other hand, where participation in a particular GVC has the potential to be of significant benefit to peasant households, a livelihoods approach is valuable in identifying the relative importance of participation and the terms on which farmers are integrated. It has been asserted that in the era of contemporary globalisation, “analytical frameworks which explore linkages, interactions and synergies” (Kay, 2009, p. 122) are required in order to capture the complexity of rural livelihoods. In this respect, the GVC and SRL approaches together have the potential to contribute to a better understanding of the local implications of agri-food globalisation, and to identify pathways to sustainable peasant household participation in the global agri-food system.

3.5. Summary: Globalisation, value chains and rural livelihoods

The transformation of agriculture and food production-consumption over time can be conceptualised as having proceeded in successive waves in parallel with globalisation processes. Beginning with Iberian expansion into the Americas, the colonial wave of globalisation saw agriculture in the colonies geared towards the production of both 'exotic' produce for export to the metropolitan core, and food and agricultural products to support non-agricultural extractive activities, particularly mineral extraction, at the periphery. With the industrial revolution in Europe, and the emergence of a world trade and industrial complex, colonial agriculture became increasingly oriented towards the production of inputs for industry and basic 'wage foods' to sustain the expanding European industrial proletariat. While production and trade were increasingly organised by private capital, agricultural productive relations at the periphery tended to remain feudalistic and highly exploitative of local labour and environments.

The culmination of European colonialism in the 19th century saw the consolidation of an international food regime (Friedmann & McMichael, 1989) based on the incorporation of the colonies as agri-exporters within an increasingly liberalised international trading system. As investment flowed from the industrial core into increasingly competitive agricultural production at the periphery (initially in settler capitalist colonies, but later also in other emergent nation-states), a highly productive, and capital- and technology-intensive industrial agricultural model emerged. Under this model, agriculture and industry became increasingly interdependent (at national and global scales), and an international division of labour in agriculture underpinned the organisation of agri-food production via cross-border value chains.

The postcolonial wave of globalisation, associated with European decolonisation, and the rise of the nation-state system, saw the post-war world economy ordered under an ostensibly 'open' world trading system. Within this system, however, the US and other Western nations adopted highly protectionist strategies to shelter domestic agricultures. A second international food regime can be identified as having emerged over this period, characterised by the state-sponsored expansion of US and European agribusiness, and the destruction of Third World agricultures and food security through food aid and dumping. Continued technological advances drove developments in food

processing, packaging and transportation, which allowed agribusiness TNCs to further implement an international division of labour, and underpinned the expansion of a durable foods complex, increasingly incorporating Third World farmers as suppliers of inputs for agri-industrial processing (Friedmann, 1992).

The widespread diffusion of the neoliberal economic model since the 1980s greatly facilitated the expansion of agribusinesses and food retail capital. Over this period, TNCs have emerged as the dominant actors within agri-food globalisation, and have begun to eclipse nation-states as the primary agents organising and governing global agriculture and food. These shifts suggest that the post-war food regime is giving way to a new global food regime (McMichael, 1992; Pritchard, 1998), characterised by interconnected global value chains via which TNCs, coordinate the production-consumption of an increasingly differentiated range of globally sourced agricultural products. Within the same chains, farmers in the developing world are variously incorporated as suppliers of non-traditional agricultural exports to the specifications of large supermarket chains and in response to the demands of Northern consumers.

The impacts of contemporary agri-food globalisation, and the implications for smallholder farmers of integration into GVCs, are largely dependent on the structure and dynamics of particular chains, the institutional settings within which they are embedded, and the terms of farmers' integration. Because of the case-specificity inherent in these factors, detailed case studies of the integration of particular groups of farmers into specific value chains, in particular local institutional settings, are required. Having here provided a world-historical account of agri-food globalisation, the next chapter turns to an analysis of key transitions in Chilean agrarian political economy. This establishes the national context within which the findings of the primary case study, of Chilean smallholder integration into the raspberry GVC, are presented in chapters 5 and 6.

Chapter 4.

Transformations in Chilean Agrarian Political Economy

[I]f the full domination of capital over labour is to be achieved, then a wage labour force, a *landless* proletariat, must first be brought into being

(D. Harvey, 1982, p. 359).

4.0. Introduction

The two decades since the initiation of Chile's transition to democracy in 1990 have been characterised by economic growth and poverty reduction – interrelated processes driven by foreign direct investment (FDI) and commodity exports, and underpinned by neoliberal economic and trade policy. For example, GDP almost doubled in real terms over the 1990s and has continued to grow into the new millennium. Over the same period, the number of Chileans living below the poverty line⁴³ was more than halved. However, despite marked growth in macroeconomic terms and general progress on poverty indicators and GDP per capita, Chilean society remains highly unequal. In particular, income and wealth (and hence power and opportunity) are overwhelmingly concentrated among a small proportion of the population. The skewed distribution of wealth and resources is starkly apparent in the Chilean countryside, where large orchards, vineyards, and farms and the fruit processing and packing plants of agribusiness TNCs coexist with the meagre household plots and small farms of peasants and rural workers. The disparities are symptomatic of persistent socioeconomic inequality in Chile, which has its roots in the colonial era (Hojman, 1996), was perpetuated over the 1800s and 1900s post independence, and has begun to change only very gradually over the last decade.

The evolution of Chilean agrarian political economy must be viewed in the context of socioeconomic change and continuity in the countryside, shifts in the nature of Chile's engagement with the world economy over time (particularly during the post-WWII era), and interrelated internal political, demographic and productive transformations.

Therefore, attention is focused, throughout the chapter, on the nature and implications of Chile's agri-export orientation and its role in the reconfiguration of Chilean agriculture and rural society. In particular, the discussion aims to draw out key themes of land concentration and the ongoing marginalisation and proletarianisation of the peasantry in the transition to capitalism. In tracing transformations in Chilean agrarian political economy over time, the chapter seeks to establish the context for the primary case study of smallholder raspberry growers and the raspberry GVC presented in the following chapters.

The chapter is organised in three parts as follows: The first section examines the evolution of agrarian political economy in Chile from the pre-independence period through to the turn of the millennium, and moves through three broad phases addressing: a period of outward oriented, free market growth up until the late 1920s; the emergence and evolution of state developmentalism from 1930 to 1973; and neoliberal counter reform under military dictatorship up to 1990. While the discussion necessitates a consideration of broader economic shifts, particular attention is paid to agrarian change during the respective periods, and the implications for rural development and the peasantry. The second section explores the contemporary dynamics of Chile's globalising agri-export sector and considers the roles of, and implications for the state, the private sector and the peasantry. It is argued that while successive democratic administrations have maintained high rates of economic growth, which has supported increased levels of social expenditure and underpinned significant advances in poverty reduction in general, the implications of the democratic transition have been mixed for the peasantry. While some smallholders have successfully adapted to the demands of a liberalised and globalising agri-food sector, many others have been squeezed out, as large enterprises consolidate control over land and agri-industry becomes increasingly competitive and capital intensive. The third section concludes the chapter with a discussion of the contradictions and tensions evident in state policy to facilitate neoliberal agri-export growth on one hand, and support marginalised and vulnerable small farmers on the other.

4.1. Historical agrarian political economy

Chile's contemporary engagement with and integration into the capitalist world system are in many ways an artefact of European imperial expansion and colonialism.

However, far from being uniformly deterministic, the colonial wave of globalisation (Murray, 2006a) unfolded unevenly across space and through time, produced different outcomes at the local scale due to local specificities and contingencies, and shaped variously the incorporation of peripheral peoples and places into a world system centred on a Western European core. It is in light of this, and given the need for accounts of globalisation's contingent unfolding in particular local and historical contexts, that this section traces the historical evolution of Chilean agrarian political economy, in response to globalisation and its impacts at the national and regional scales.

4.1.1. Colonial era, 1540-1810

Iberian conquest and occupation of the Americas, and the incorporation of the 'New World' into a colonial economy centred on Western Europe, proceeded over the course of at least two centuries from the late 15th century to around 1700 (Stein & Stein, 1970). Over this period Spanish economic activity was centred on a colonial mining sector, primarily engaged in the extraction of silver and centred on Mexico and Peru.⁴⁴ The mines drew, firstly, on forced indigenous labour, organised under an adapted version of the Incan *mita* system of labour tribute. Secondly, the mining sector relied heavily upon indigenous agricultural expertise and land for the production of food and other provisions required to sustain the sector. These resources were captured under the *encomienda* system, wherein the Spanish Crown granted individual *conquistadores* and other notable subjects both land and the right to extract tribute from a given number of 'natives'. Therefore, by 1700 the Spanish had established in the Americas an extractive colonial economy based on a network of core mining centres and serviced by peripheral agricultural estates, designed to feed silver and gold back to Spain (Stein & Stein, 1970). In this way the social and economic foundations were laid for Latin America's future development as a resource periphery within the capitalist world system.

The conquest and subsequent colonisation of Chile, led by Pedro de Valdivia from 1540, was largely peripheral to the core of the Spanish colonial mining economy to the north. Chile was both remote to Spain and geographically isolated within Latin America, bounded by the Andes to the east, deserts to the north and the Pacific Ocean to the west. Following half a century of conflict and fierce resistance from Mapuche peoples in the south of Chile's Central Valley, the southern frontier of the colony was eventually fixed at the Bío Bío River south of Concepción (S. Collier & Sater, 1996).

Chile's economy evolved initially from agricultural production in the temperate zones of the Central Valley and then gradually came to depend also upon mineral extraction in the arid northern regions. These productive/extractive sectors were integrated across a gradually expanding network of interconnected urban centres modelled on Spanish cities. As in other parts of Latin America, the *encomienda* system was both integral to early mineral and agricultural productivity, and instrumental in the oppression and subjugation of indigenous Amerindian peoples. In central Chile, where the indigenous people retained no sovereignty, populations were decimated through forced labour and European disease. While the *encomienda* were not explicitly intended to allocate land to colonial elites, in practice the system vested in them control over vast landholdings (S. Collier & Sater, 1996; Haughney, 2006), and laid the foundations for a feudalistic social and economic structure based on the exploitation of a bonded peasantry by a landed elite – a structure that would endure largely unchanged into the mid 1900s.⁴⁵

Over several generations ethnic division, between Spaniards and Amerindians, was replaced by class division, between an upper-class *criollo* elite, and a *mestizo* majority, as the dominant structural characteristic of Chilean society.⁴⁶ In the countryside, this translated to a landlord-peasant relationship based around the concentration of land into expansive agricultural estates, initially focused on ranching (*estancias*), and later diversified into wheat production (*haciendas*). The *hacienda* system, in particular, was based upon a dual strategy involving first the monopolisation of land, and second, the exploitation of local labour through a variety of tenancy arrangements. In the Chilean context the predominant labour arrangement rested upon a class of tenant-labourers, or *inquilinos*, resident on each estate, and a class of seasonal workers, or *afuerinos*, drawn from surrounding areas and employed as required. Thus Kay (1977a, p. 104) observes that the *hacienda* system embodied three interrelated types of economy: the landlord economy of the *hacendado*; the 'internal peasant enterprise' of resident tenant farmers, structured around the *inquilinos*; and the 'external peasant enterprise' of *afuerinos* and *peones* located off the estate but related to it.⁴⁷

Despite the fact that the *haciendas* were reasonably inefficient, with production usually being confined to the very best land, *hacendados* needed to control vast areas of surrounding territory and resources. This was necessary so as to eliminate economic alternatives, for local people, to participation in the *hacienda* system (Wolf & Mintz, 1977). *Haciendas* were generally characterised by low capital intensity and high labour

intensity, and therefore required a large and cheap supply of labour – particularly at peak times in the production cycle. Tenant labourers were therefore bound to the *haciendas* via a range of mechanisms including: (1) the monopolisation of economic alternatives, as discussed above; (2) the allocation of a portion of land on the estate to meeting the basic food and resource needs of labourers (e.g. through subsistence plots); (3) the advancement of loans and the use of debt as a means of bondage; (4) mutual reliance and exchange of services between landlord and tenant (though within a hierarchical relationship); and (5) force, violence or coercion (Wolf & Mintz, 1977, pp. 41-42).

The late 18th and early 19th centuries saw a general world systemic shift away from mercantilism and the blatant pillage of the periphery, and towards the commercial exchange of commodities and the ‘imperialism of free trade’ (Munck, 1984, p. 51). This shift, associated with the consolidation of capitalist production, was catalysed by revolutionary political transition in Western Europe and North America, the Napoleonic Wars, and the resultant ascendancy of Britain as a dominant industrial and world trading power (Murray, 2006a). In particular, the French occupation of Spain in 1808 prompted growing anti-colonial sentiment among the land-owning and trading elites in Latin America, and ultimately culminated in the independence struggles of the Spanish colonies – a process driven more by the desire of *criollo* elites to further consolidate political and economic power, than by any concern to destroy colonial structures of exploitation and domination (Munck, 1984).

4.1.2. Post-independence era, 1810-1930

Following a protracted struggle for independence between 1810 and 1826, involving both internal conflicts and the invasion of Spanish loyalists from Peru, Chile emerged as an independent republic.⁴⁸ Economically, Chile was increasingly dependent on its mineral wealth for the generation of foreign exchange. In the 1820s the mining sector, linked predominantly to British capital, was focused on territory between the northern towns of Coquimbo and Copiapó, and was engaged in the extraction of gold, silver and copper. However, the following decades saw gold exports fade in significance relative to silver and copper, both of which were characterised by rapidly rising yields. Booming mineral exports saw the mining frontier advance northwards and diversify into new resources. From the mid-1800s nitrates became an increasingly important source of

export revenue, although the dominance of British capital in nitrate extraction was even more pronounced than in the other mineral sectors.

Trade and economic policy was highly influenced by the emergent neoclassical ideology of the period, which advocated export orientation, free trade and openness to foreign investment. In general terms then, the Chilean economy was at this time primarily geared towards mineral extraction, and highly dependent on foreign markets and foreign capital. While the mining sector generated a significant surplus, much of it was diverted offshore due to the high degree of foreign control. That which was captured by the state played an important role in its early development and in Chile's relative political stability (Kay, 1981), but the benefits were by no means equitably distributed. The political dominance and wealth of the landed elite was consolidated, and opportunity for growth and development squandered (S. Collier & Sater, 1996; Kay, 1981).

While the mining sector was of primary importance in terms of exports, agriculture was the most important sector for the vast majority of the Chilean population at the time and, as Collier (1993, p. 15) notes, it (literally) "dominated most ordinary lives". Although already linked into some external (primarily regional) markets prior to independence⁴⁹, it was the expansion of international demand for wheat from the mid 1800s which shaped the insertion of Chilean agriculture into the emerging capitalist world trading system. Prior to this, prospects for growth in agriculture were limited, as domestic demand was low due to only small urban populations and high levels of subsistence among the rural population. Expanding markets, first in North America and the Pacific and then, more importantly, in England saw Chilean *haciendas* increase grain production to meet foreign demand. Increased agricultural output occurred in two broad phases, each of which had important implications for agrarian class structure and development in the countryside. These phases can be characterised as the pursuit of agricultural extensification and intensification respectively.

Agricultural extensification involved the incorporation of huge tracts of idle land (mostly from within the *haciendas*) accompanied by the increased absorption of unemployed rural labourers, both of which were in abundance. The process squeezed the existing *inquilino* class and served to consolidate landlords' control over land. Therefore, while the terms of *inquilino* tenancies deteriorated in general, the institution of *inquilinaje* became more widespread (Munck, 1984), and increasing wealth and

power was concentrated in the landlord enterprise (Kay, 1977a). The ‘internal’ peasant economy was therefore not necessarily in conflict with the landlord economy at this stage, but rather integral to its expansion and consolidation (Robles, 2009). While the benefits of the early wheat export boom were highly concentrated, the period did begin to bring some transformations to the central regions. For example, irrigation capacity expanded with investments in canal infrastructure; technological advancements and investments led to the emergence of a modern flour milling industry; crop and livestock improvements were achieved with the importation of higher quality foreign varieties and breeds; and the gradual expansion of towns and ports brought improvements in transport infrastructure and stimulated local demand for agricultural produce (S. Collier, 1993).⁵⁰ These developments heralded the gradual transition to more mechanised and capital intensive agricultural production, the undermining of the labour-service tenant system and, ultimately the beginning of the disintegration of the *haciendas*.

While the late 1800s and early 1900s saw an impressive extension of the *hacienda* system and its associated labour structure into new areas, the period was also characterised by advances in agricultural efficiency, technology and productivity. In particular, the area under irrigation was greatly expanded, which required increased labour, but also paved the way for intensification (Kay, 1977a). Imports of agricultural machinery rapidly increased in response to the export booms from the mid 1800s (Robles, 2009) and continued to grow from the 1930s onwards. The resultant process of mechanisation played a key role in undermining the service-tenant labour structure and driving the gradual proletarianisation of the peasantry. This process coincided with and contributed to rising urbanisation and rural depopulation. As the peasantry was increasingly deprived of the means of production the rural waged labourer class expanded, and as the mechanisation of farming drove rural unemployment workers gravitated towards Santiago and the regional capitals in search of employment. Urban growth and industrialisation stimulated domestic demand for agricultural products, further driving agricultural production. In addition, while the outbreak of the First World War disrupted Chilean trade initially, and exposed its external dependence, it ultimately led to heightened demand, especially from Britain and the US, for Chilean agricultural products and nitrates.⁵¹ In the period following the war, US investment in Chilean copper mining rose dramatically. The three decades to 1930 were characterised by unprecedented growth in the agricultural sector, which accounted for 17 percent of total income in the economy between 1907 and 1930 (Kay, 1981, p. 492). While growth

in agriculture over this period was underpinned primarily by expansion and increased labour intensity, the period following 1930 would be characterised by recession and prolonged stagnation, before an eventual recovery based on capital intensification.

4.1.3. State-developmental era, 1930-1973

In the post-independence period prior to 1930, Chile's growth and development had been driven by primary product-based exports and, increasingly, led by foreign capital and underpinned by neoclassical trade and economic policy. Beneath this *laissez faire* economic approach however, a highly polarised society persisted, with the distribution of wealth, political power and opportunity heavily skewed in favour of the upper class landed oligarchy and urban elites. In the 1930 national census, for example, just 10 percent of the population fell into this category; 15 percent were classified as middle class; and 75 percent was accounted for by the rural and urban lower class (Drake, 1993, p. 89). The 1929 Wall Street crash and the ensuing depression laid bare both internal social divisions and external economic dependence, and prompted a dramatic politico-economic transition in Chile (Challies & Murray, 2008).

Chile's high degree of external dependence, on exports of primary commodities and on foreign loans and investment, became starkly apparent with the contraction of the world economy following 1929. Foreign loans and investment dried up, and demand for primary exports plummeted, with the total value of all Chilean exports falling by almost 90 percent between 1929 and 1932 (Blakemore, 1993, p. 84). This translated into mass redundancies (particularly in the mining sector), falling prices for farm products, a virtual halt to government expenditure, and general economic stagnation. In response, working class (but also middle class) criticism of socioeconomic inequality and political oppression grew and social unrest and often violent protests mounted. In the countryside agricultural production languished with lack of investment, per capita productivity declined and the agricultural trade deficit widened considerably. Rural unemployment soared, and standards of living among the peasantry and rural working class deteriorated accordingly (S. Collier & Sater, 1996).

Chile emerged from the social and economic crisis as a developmentalist state, within which successive administrations distanced themselves from the free market model, and played an increasing role in directing the economy. The new state-led developmental paradigm was increasingly inward-oriented and concerned with social policy (Illanes &

Riesco, 2007). At the regional scale the United Nations Economic Commission for Latin America (ECLA)⁵² promoted a structuralist development model from the late 1940s. Based on the writings of its first director Raúl Prebisch, ECLA's model drew attention to the long-run tendency of declining terms of trade for Latin America's primary product-based exports relative to manufactured imports. To counter this, ECLA encouraged inward-oriented industrial development and regional integration (Murray, 2005).

The strategy to emerge in Chile (as in various configurations across the region) was one based on import substitution industrialisation (ISI), which sought industrial growth and diversification, and greater national self-sufficiency and independence from the global economy. The state took a leading role in national industrial and infrastructural projects⁵³ (notably in steel, energy, transport and communications), and slowly began to increase levels of social expenditure. Industrial promotion and tariff protection for domestic producers fostered a national manufacturing sector. Public expenditure was underwritten by foreign borrowing and taxes levied on the foreign-owned copper companies. Revenues received a significant boost when the demand for copper rose as the US was drawn into the Second World War (S. Collier & Sater, 1996).

The import substitution strategy significantly expanded and diversified the domestic industrial base, and increased the share of manufacturing (especially of consumer goods) in both national production and the labour force. This underpinned a period of national economic growth through the 1940s and early 1950s, but the benefits of this failed to materialise for the majority of the population. In fact, due to several tendencies and flaws that emerged with the strategy itself, import substitution struggled to achieve its fundamental social and economic aims. First, the benefits of industrial growth accrued primarily to the urban industrial elites rather than workers, and in this sense the strategy failed to meaningfully address internal socioeconomic inequality. And second, despite the expansion of domestic industry, reduced reliance on imported goods was short-lived. On one hand Chilean industries remained highly dependent on imported capital goods. On the other hand, protection from international competition bred relative inefficiency and over-concentration in the industrial base, which resulted in resurgent consumer demand for higher-quality and more affordable imported goods.

Inherent in ISI was a degree of urban bias in so far as the economic benefits were concentrated in the industrial centres. Where support was extended to agriculture, it was

directed at landlords rather than peasants or workers. Support in this context consisted of subsidies towards credit and imported agricultural machinery and inputs (Kay, 2002, 2004) and served, generally, to stimulate investment and encourage increased mechanisation and capital intensity in agriculture. This fed into a general trend over the period between the mid-1950s and mid-1960s of increased land concentration, consolidation of the landlord enterprise, and undermining of the *inquilino* class (Bellisario, 2006; Castillo & Lehmann, 1982). More broadly, it further drove the slow decline of the traditional *hacienda* system, and the gradual transition to capitalist productive relations in Chilean agriculture (Bellisario, 2007; Kay, 1977a). The limited social reforms of the ISI period also favoured the urban classes and largely neglected the countryside. In particular, labour legislation issued in the 1940s promoted organisation among the urban working class, but had relatively little impact in rural areas. It was strongly resisted by the landlord class and countered by a contradictory farm labour bill banning agricultural strikes and restricting unionisation (S. Collier & Sater, 1996). The neglect of rural socioeconomic issues would, however, prove to be politically unsustainable, and with the enfranchisement of the peasantry from the 1950s, agrarian reform became increasingly necessary.

In addition to direct internal political pressure for agrarian reform, impetus came from several other quarters. The Chilean Catholic Church in the early 1960s supported the concept of land redistribution and, through its *Instituto de Promoción Agraria*, distributed some church estates to landless peasants (S. Collier & Sater, 1996). The Kennedy administration in the US, particularly in response to the 1959 Cuban Revolution, pushed for agrarian reform throughout the region as part of its anti-communist 'Alliance for Progress' with Latin America (Oppenheim, 2007; Petras, 1978). The inward-oriented growth model advocated by ECLA assumed increasing income equality and was reliant upon increased purchasing power among the rural population (W. E. Murray, 2002a). In response to these pressures, three successive administrations in Chile – under presidents Alessandri (1958-1964), Frei Montalva (1964-1970), and Allende (1970-1973) – implemented a series of rural development strategies, which may be classified as 'technocratic', 'reformist', and 'radical' respectively (Kay, 1977b, following Griffin).⁵⁴

Technocratic and reformist interventions

The technocratic approach taken by the conservative Alessandri administration did not seek to alter class relations in the countryside, but rather aimed to foster ISI through addressing unequal income distribution and expanding the domestic consumer base. In this sense, the strategy was not 'reformist' in intent, but it did lay some important foundations for successive reforms. The 1962 Agrarian Reform Law (Law 15.020) was an attempted compromise with the landlord class, which saw the state empowered to redistribute only abandoned, inefficiently farmed, or fallow land, and bound to compensate expropriated landlords with cash and interest-bearing bonds (S. Collier & Sater, 1996). Over the period from 1958 to 1964, therefore, only very little land was redistributed, and only very few peasant farmers benefitted. Despite these shortcomings, Law 15.020 did introduce new wage and contract provisions to protect rural workers and tenant farmers. Further, and with relevance for future developments in Chilean agrarian political economy, the law created three important bureaucratic institutions to facilitate reform: *Corporación de Reforma Agraria (CORA)* - to oversee the expropriation process; *Consejo Superior de Fomento Agropecuario (CONFSA)* – to establish appropriate development of expropriated land; and *Instituto de Desarrollo Agropecuario (INDAP)* – to provide technical assistance and credit.

The agrarian reformist approach pursued under the Christian Democrat administration of Eduardo Frei Montalva was part of a broad structural reform agenda to “encourage both economic growth and income redistribution [for the] creation of a communitarian society in which class conflict would be eliminated” (Angell, 1993, p. 149). The agrarian reform component of this programme was an attempt at capitalist modernisation of the *hacienda* system, the aims of which were twofold: To boost agricultural productivity, and to increase rural incomes and standards of living (Kay, 1977b). The former was to be achieved by two means: Firstly, the provision of economic incentives for modernisation among commercial farmers, and secondly, the expropriation of large inefficient estates and their conversion into productive cooperatives. The justification for retaining large cooperative operations (rather than distributing small parcels) was to retain economies of scale and maintain a sufficient level of agricultural output (Castillo & Lehmann, 1982). The latter was to be achieved through the redistribution of land to the peasantry, increases to the rural minimum wage, and provisions for unionisation among rural workers.

The 1967 Agrarian Reform Law (Law 16.640) allowed the government to expropriate any estate larger than 80 basic irrigated hectares (BIH)⁵⁵, and made provisions for the compensation of landowners based on the degree of under-cultivation, but also for investments in machinery, livestock and buildings. Estates were organised as peasant cooperatives, or *asentamientos*, but a process of eventual de-collectivisation was envisaged, whereby beneficiaries could decide whether to subdivide and carve up the land after productivity had increased (W. E. Murray, 2002a). Productivity increases were achieved in the short run, as agricultural output increased by an average annual rate of 4.6 percent between 1965 and 1968 (Kay, 1977b, p. 206), but this was not sustained in the long run due to important contradictions in the reform process. In particular, the threat of expropriation provided many landlords with sufficient incentive to increase investment and productivity, and therefore much of the initial rise in agricultural production is attributable to the medium sized private farm sector.

Other general contradictions characterised the reformist project, and contributed to its failure to meet its fundamental objectives. The government pursued incompatible initiatives to safeguard rural jobs and support rural workers on one hand, and to incentivise the mechanisation of agriculture on the other. It promised land ownership to peasants, while promoting agricultural modernisation and creating opportunities for entrepreneurial landlords to restructure their estates so as to avoid expropriation. The redistribution that did occur reduced inequality between large landowners and other farmers, but it increased socioeconomic differentiation between different groups of peasants – both among beneficiaries of reform, and between beneficiaries and non-beneficiaries (Kay, 1977b). The peasant cooperative system that was implemented proved to be ineffective, due to disincentives for collective production at the micro scale and lack of integration into macroeconomic policy. Castillo and Lehmann state that issues such as price relations, labour distribution, resource allocation and foreign and trade policy were not confronted by the Frei Montalva administration. “Neither the agricultural economy nor the structural changes the government was carrying out were integrated into macro-economic decision-making” (Castillo & Lehmann, 1982, p. 26). Agrarian reform was condemned by the landlord classes as having gone too far, and criticised by the peasantry for being too slow and too limited. This disquiet reflected polarisation in wider society, and increasingly radical rhetoric from both the Left, which called for social change, and the Right, which sought to retain the social structure.

Socialist reform

Salvador Allende came to power at the head of a leftist Popular Unity coalition in 1970, and proposed a ‘peaceful and democratic road to socialism’. The approach was to be built on a programme of thorough economic, political and social change to address developmental problems “rooted in exploitation by foreign companies, feudalistic structures in the countryside, and a backward, near-monopolised industrial sector” (Collins & Lear, 1995, p. 18). The radical agrarian reform proposed within the ‘*via chilena al socialismo*’ aimed to expropriate all estates over 80 BIH, redistribute the land to peasant cooperatives, and eliminate the *hacienda* system and the landlord class. This was to be achieved through the full implementation of the existing 1967 Agrarian Reform Law. In contrast to the previous administration, however, Popular Unity executed a rapid round of reforms, and in under three years had expropriated over 4,400 farms, or 6.4 million hectares of land (Bellisario, 2007, p. 15). All large landed estates were eliminated, and the reformed sector became the largest farm sector, accounting for 40 percent of the total agricultural land area (Kay, 2002, p. 469). Rapid progress was required on the part of the state so as to forestall increasingly common and violent illegal land seizures by the peasant movement (while the administration did not support illegal takeovers, it would not oppose the peasant movement), and to maintain agricultural output and food supplies (Kay, 1977b). In parallel to these moves in the agricultural sector, the state nationalised other key industries (most importantly copper) and much of the financial sector, with the aim of creating a socialist economy that was thoroughly inclusive of the popular classes.

Several complications can be identified with the radical agrarian reform implemented by Popular Unity between 1970 and 1973. In the first instance, thoroughgoing land reform disrupted agricultural production and food supplies just as demand for food, particularly in urban centres, was expanding in line with income redistributive measures. This drop in production was largely due to two factors. On one hand, the reformed sector lacked the capital required to purchase inputs and machinery, which resulted in decreases in both the total area under cultivation and per hectare productivity (Kay, 1977b).⁵⁶ On the other hand, in the context of a national political project advocating a transition to socialism, large-scale farmers in the private sector lacked confidence to invest, and crop output from this sector also fell significantly (Castillo & Lehmann, 1982). A further complicating factor on the *asentamientos* was the

ambivalent cooperative/individual tenure structure, wherein beneficiaries were assigned both an individual tenure plot and a share in the communal land. With a lack of appropriate incentives for collective production, the tendency was for *asentados* to invest more effort in their own land than in common land. Kay (1977b; 2002) contends that this was primarily due to a lack of differential wages in the reformed sector, with all beneficiaries paid a guaranteed equal weekly wage regardless of skills, hours worked, or final output.

Reduced agricultural output due to the interrelated factors outlined above led to steadily rising food prices. Price controls, introduced to address this, only further exacerbated the problem as commercial farmers withheld produce and food scarcities loomed. The government had to import increasing quantities of food to meet domestic demand, spending 56 percent of export earnings on food in 1972 (S. Collier & Sater, 1996, p. 340). In the face of failing reforms Allende attempted to accelerate and intensify the process, but did not succeed in revitalising agricultural production. Alienation of the capitalist class and the landed elite, combined with general economic stagnation, inflationary pressure and food shortages, fuelled a deep political and economic crisis, in the context of which the military coup of 1973 took place.

The period of structuralist-informed developmentalism had important consequences for the gradual shift to capitalist productive relations in Chilean agriculture. Despite the goals of the socialist Popular Unity reform programme, and indeed due to some of the contradictions inherent in it, the agricultural subsector to emerge most strengthened at the close of the period was the medium sized (20-80 BIH) commercial farm sector. This was composed of farms that were either nascent capitalist farms that were spared expropriation altogether due to their size and efficiency, or medium sized and highly capitalised *reservas* retained by expropriated landlords. The outcome, in this sense, was broadly consistent with the capitalist modernising goals of the Christian Democrat reforms. This occurred against a backdrop of the gradual decline of the *hacienda* system, particularly from the 1920s, and the increasing proletarianisation of the peasantry.⁵⁷ Technocratic rural development measures and limited land reform between 1962 and 1970 promoted the modernisation and mechanisation of the *haciendas*, and heralded the ascendancy of capitalist productive relations (Kay, 1977a). While it is possible to identify a delay (or perhaps even a temporary reversal) in the proletarianisation process between the 1950s and the 1960s (Bellisario, 2006; Castillo &

Lehmann, 1982), this did not long avert the disintegration of the system as a whole. Radical land reform under the Popular Unity coalition between 1970 and 1973 totally expropriated the remaining estates and eliminated the landlord class and the *hacienda* system.

4.1.4. Neoliberal dictatorship, 1973-1990

A swift and brutal military coup in September 1973 ousted Popular Unity and installed an authoritarian regime of the extreme political right under General Augusto Pinochet. The regime promptly suspended the constitution, closed congress, and began to implement a series of counter-reforms that aimed to undo the changes of the preceding administrations. Nationalised factories were re-privatised (with many US companies being financially compensated); there were mass firings across sectors on political grounds; wage controls were introduced and price controls lifted; the currency was devalued; and the agrarian reforms of the prior period were reversed. The discussion here will inevitably include aspects of the regime's broader neoliberal macroeconomic strategy, as the agrarian counter-reforms must be seen in this context, but the focus will be on the agrarian counter-reforms themselves, and the neoliberal agricultural policies of the regime.⁵⁸

Collins and Lear (1995, p. 23) identify five politico-economic periods in the term of the military dictatorship. These are characterised by: Repression and economic retrenchment (1973-1975); 'shock treatment' and free market reform (1975-1979); the so-called 'Chilean miracle', based on monetary manipulation and massive foreign borrowing (1979-1981); financial crash and recession (1982-1984); and economic recovery and consolidation of the neoliberal model (1985-1990). An alternative but compatible two-part distinction is drawn by Kay (2002, p. 470) between 'dogmatic' and 'pragmatic' phases of neoliberal reform. The former (spanning 1973 to 1982-3) approximates to the first four periods identified by Collins and Lear, while the latter (1984 to 1990) more or less corresponds with the last period.

In its dogmatic neoliberal reform phase, then, the military junta embarked, from 1975, upon a virtually unmitigated neoliberal reform of the economy. While the neoliberal model adopted was informed by the monetarist and neoliberal ideology of the Chicago School of economics, it was far from a pure application. Rather, the free market technocrats advising the regime (*Los Chicago Boys*) "generated a special brand of

economic neoliberalism... [adapted to] the politically thoroughly antiliberal environment of Pinochet's dictatorship" (Sznajder, 1996, p. 731). The policy prescription of 'shock treatment' was put forth as a solution to inflationary pressure and systemic economic crisis. It entailed the slashing of public spending by over 25 percent, the contraction of the money supply, the removal of constraints on companies and the trebling of interest rates (S. Collier & Sater, 1996, p. 366). The immediate result was deep recession characterised by very high unemployment, falling real wages and, necessarily, severe repression. Growth returned to the economy from 1977 to 1981, in what would later be referred to, in somewhat of an overstatement, as the 'Chilean miracle'.

Over this period the export profile was diversified (but remained primary product-based) as NTAEs – especially fresh fruit and forestry products – expanded. Investment increased across most sectors as privatisations provided excellent opportunities for businesses. By the late 1970s large private enterprises controlled much of the re-privatised banking and financial, manufacturing and agri-export sectors. Of particular note in this context are the mega conglomerates Vial and Cruzat-Larraín, which by 1978 controlled 25 and 37 of Chile's 250 largest companies respectively (Oppenheim, 2007, p. 129). Cheap foreign consumer goods flowed into the country from Europe and Asia expanding consumer choice to unprecedented levels. Private education institutions were subsidised, and incentives were created for the development of a private healthcare system. State expenditure was underpinned by heavy foreign borrowing, with foreign debt tripling between 1975 and 1982 (Collins & Lear, 1995, p. 31).

The agrarian counter-reform was executed over this first reform phase. Land in the reformed sector was returned to its former owners or divided and sold as private property. Table 4.1 illustrates the distribution of farms by size class for various years, spanning the Christian Democrat and Popular Unity reforms and the military's counter-reform. It can be seen that where large farms of over 80 BIH accounted for 55 percent of all farms in 1965, they had all but vanished by 1972 as Allende's expropriations had almost run their course. Correspondingly, by 1972 the reformed sector had expanded to account for over 35 percent of all farms. The growth in the share of farms accounted for by the 20-80 BIH class over this period reflects the provision made in the Agrarian Reform Law for expropriated landlords to retain a *reserva*, usually of 40 to 80 BIH (Kay, 2002).

Table 4.1. Chile: Distribution of farms by size, 1965-1986 (percentages)

Size categories	1965	1972	1976	1979	1986
< 5 BIH	9.7	9.7	9.7	13.3	14.0
5-20 BIH	12.7	13.0	37.2	29.0	26.0
20-80 BIH	22.5	38.9	22.3	36.3	31.0
> 80 BIH	55.3	2.9	24.7	16.9	26.0
Public agencies	0.0	0.0	0.0	4.0	3.0
Reformed sector	0.0	35.5	9.5	0.0	0.0
Total*	100.2	99.8	103.5	99.5	100.0

* Totals do not add to 100 due to rounding errors. A non-rounding error for 1976 appears in the original.

Source: Kay (2002, p. 471, taken from Jarvis 1992).

The post 1973 reversal of the situation is striking, with the reformed sector reduced to just 9.5 percent of farms by 1976, and eliminated altogether by 1979. The redistribution of expropriated land proceeded in two broad phases that were overseen by CORA under the control of the regime (see table 4.2). First, between 1974 and 1975 over three million hectares of land (representing 33 percent of all expropriated land) was returned directly to its former owners either as entire estates or *reservas* (Bellisario, 2007, p. 20). This accounts for the large farm sector reclaiming its share of total farms but, as is evident in table 4.1, this proportional share was eroded again by 1979. This is explained by the second phase of CORA's redistributions between 1976 and 1980, which involved the distribution of almost four million hectares of land (accounting for 41 percent of all expropriated land) to around 50,000 peasant families, mostly in the form of *parcelas* (Bellisario, 2007, p. 20). This process of parcelisation accounts for the proliferation of farms in the 5-20 BIH class, which is observable in table 4.1. Table 4.2 provides further insight into the degree of parcelisation to have occurred. Whereas the agrarian reform process from 1965 to 1970 expropriated a total of 5,809 properties, the counter-reform produced from these 59,716 farms. Approximately 90 percent of these were assigned to peasants as *parcelas*. Where the average size of the expropriated estates was 154 BIH, the average size of those returned to the landlords by 1980 was 66 BIH. Tables 4.1 and 4.2 both illustrate that the agrarian reform and counter-reform process did achieve a more even distribution of land than existed in 1965 and prior to this. Particularly in the reformed (and counter-reformed) sector, many peasant families benefitted. However, only half of the original reform beneficiaries were included, as the government followed a selection process based on a points system, which excluded those who had

participated in farm takeovers or occupations and disadvantaged those who had been active in the peasant movement (Castillo & Lehmann, 1982). At the same time, it should be borne in mind that the original land reforms (and counter-reforms) only touched around half of Chile's total agricultural land and a fifth of agricultural households (Kay, 2000). In this sense, old and new inequalities were perpetuated – between commercial farmers and *parceleros*, and between *parceleros*, landless peasants and rural workers.

Table 4.2. Chile: Redistribution of expropriated land, 1973-1980

	Number of farms	Area in physical hectares			Area in basic irrigated hectares		
		ha	%	mean	ha	%	mean
Total expropriated land	5,809	9,965,869	100	1,716	895,752	100	154
Returned to former landowners	3,912	3,182,225	33.1	813	258,990	29.7	66
Assigned to peasants	54,564	3,946,106	41.1	72	508,073	58.2	9
Auctioned	1,082	1,560,452	16.2	1,442	65,127	7.5	60
Transferred to public institutions	158	869,221	9.0	5,501	36,278	4.2	230
Not assigned (at Dec. 1989)	..	50,000	0.5	..	2,087	0.2	..
Total assigned*	59,716	9,608,004	100	161	872,642	100	15

* Difference between expropriated and assigned land is due to measurement differences.

.. No data.

Source: Adapted from Bellisario (2007, p. 19).

Aside from the agrarian counter-reforms themselves, the agrarian policy of the dictatorship during its dogmatic reform phase was embedded within the regime's broader neoliberal project. Politically, the government violently repressed the peasant movement and dismantled peasant organisations (Kay, 2002). Peasant unionisation, which had peaked at 280,000 in 1973, plummeted so that by 1985 there remained only 50,000 agricultural workers affiliated to government unions (Bellisario, 2007, p. 17). Economically, the government's free market approach had the effect of driving export orientation and foreign investment in agriculture. High unemployment and low wages combined with the removal of price controls to stifle domestic demand and make the

domestic market highly unattractive for agricultural producers. This, along with the neoliberal exchange rate policy, which effectively devalued the currency, made exportation relatively attractive. Within this export oriented structure, the cultivation of non-traditional agricultural exports was promoted (Llambi, 1994b), while traditional staple crops were relatively neglected and forced to compete in the domestic market with cheap imports.⁵⁹ In this sense, success and even survival in agriculture became increasingly tied to access to export markets – a tendency which favoured highly capitalised and well-connected capitalist farmers rather than the unorganised and unsupported peasantry.

While the post-1973 land reform beneficiaries were initially not permitted to sell their land, this changed in 1980 with the passing of a decree governing the sale of *parcelas*. By 1986, the downstream effects of the neoliberal land reform process can be seen as a tendency towards land re-concentration is evident, with the largest farms once again increasing their share of agricultural land (see table 4.1). The stimulation of the land market at this time allowed for the entry of new entrepreneurs and investors, increasing the competitiveness of the agrarian system (Kay, 2002). In the last 5 to 6 years of military rule the state began to take a more strategic and pragmatic approach in agriculture. It sought to address the overemphasis on export orientation, and reinstated some tariff measures and minimum prices for key agricultural commodities. Within the context of support for farmers, peasant farmers who were assessed as ‘viable’ were also supported (Gwynne & Kay, 1997), particularly through INDAP, with the aim of increasing their productivity and export competitiveness.

The military agrarian counter-reforms and agrarian policies, as part of an overarching neoliberal restructuring project, thus arguably greatly advanced the transition to capitalism in Chilean agriculture. Having said this, the process (in terms of the *full* domination of capital over labour) remains incomplete, in that thousands of ‘semi-proletarianised’ (Akram-Lodhi, 2008; W. E. Murray, 2002a) peasant households pursue diversified livelihoods combining on-farm and off-farm agricultural work as well as non-agricultural work. Rather than signifying a return to the status quo, therefore, this trend reflects the consolidation of a new agrarian structure “in which an impoverished small-scale production sector coexists not with large *latifundia* but with medium-scale farms which use capital intensively and produce for export or for the upper income groups” (Castillo & Lehmann, 1982, p. 40). This process may be conceptualised as a

shift from a ‘bi-modal’ agrarian structure, composed of *latifundia* and *minifundia*, to a ‘bifurcated’ agrarian structure consisting of export-oriented capitalist farms and an internally differentiated peasant productive sector (Akram-Lodhi et al., 2009). The general effect of this shift on the peasantry has been described by W. E. Murray (2002a) as a transition from one form of internal dependency to another, punctuated only briefly by the hope and despair of redistributive reform and counter-reform respectively. The plight of the peasantry at the end of the 1980s was all the more unjust given the impressive growth in agriculture over the decade and the extreme dynamism of the agri-export complex in general (Hojman, 1990). The persistence of an uneven agrarian structure, despite almost half a century of reform and upheaval, is testament to the social embeddedness of land, markets and politics in the Chilean context, and the failure of the benefits of growth to ‘trickle down’. Indeed, while much changed with the transition to democracy from 1990, striking continuities also exist, and it is to the complexities and contradictions of the contemporary period that we now turn.

4.2. Contemporary agrarian political economy

The ‘transition to democracy’ in Chile began with the 1988 plebiscite where the Chilean people voiced their opposition to a continuation of military rule. Presidential elections the following year paved the way for a transfer of power to the Christian Democrat president Patricio Aylwin at the head of a centre-left coalition government *Concertación de Partidos por la Democracia* (the Concertación). The predominant characteristic of Chilean political economy through the democratic transition from 1990, presided over by four successive Concertación governments⁶⁰, has been the retention and consolidation of the neoliberal economic model installed over the course of the dictatorship – both domestically and in Chile’s international trading relationships. While arguably there has been a shift over the last decade towards more social policy and ‘growth with equity’ (Ffrench-Davis & Machinea, 2007), the fundamentals of the model have not been challenged. Rosenfeld (1995, p. 260) observes:

While Pinochet lost the 1988 Plebiscite, the Concertación’s participation in the Plebiscite process was perhaps Pinochet’s crowning victory. The Concertación beat Pinochet at his own game, but in the process, they accepted the rules of the game, as laid out in the 1980 Constitution and other Pinochet-era laws.

Writing at the time, Petras and Levia (1988, p. 98) expressed concerns at the compromises made by the Democratic Alliance of parties. They suggested that the shift away from a focus on the renunciation of Pinochet and towards constitutional and electoral reform played into the strategy of the Right “to secure an electoral regime that preserves the main contours of Chilean society as it has emerged during the Pinochet period”. Retention and consolidation of the neoliberal economic model following 1990, albeit with a ‘human face’ (Hojman, 1995), was in a sense a logical consequence of the drift to the right within the Democratic Alliance and the marginalisation of civil society groups, communists, and social movements by elite centre-left parties.

Riesco (2007, p. 14) argues that Chile remains ‘stuck in transition’, contending that “[the] ‘transition period’... has now lasted as long as the dictatorship it replaced”. While this position may understate some of the adaptations that successive Concertación administrations have made to the economic model, and significant increases in social spending and reductions in poverty levels, it is persuasive given the entrenchment of neoliberalism and the persistence of its negative social and environmental impacts (Barton, 2006; Green, 1994, 2003; Meller et al., 1996). Below we examine important transitions and continuities across the four post-1990 administrations, and discuss the implications for agriculture and rural development, in the interests of determining the extent to which the transition to democracy can be said to have run its course. While each administration faced its unique challenges, the proceeding discussion divides the democratic transition era into two broad phases, namely a Christian Democrat phase spanning the presidencies of Aylwin and Frei Ruiz-Tagle (1990 to 2000), and a neostructuralist phase spanning the presidencies of Lagos and Bachelet (2000-2010).

4.2.1. Concertación policy and the countryside

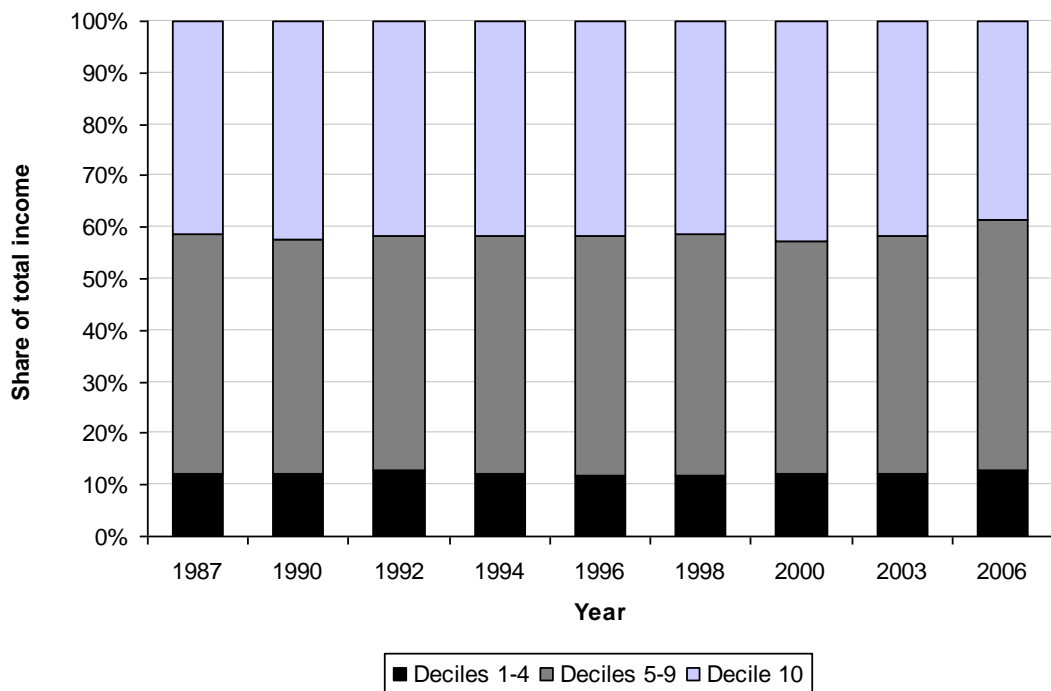
Given the managed transition to democracy discussed above, much of what the first two Concertación administrations were able to do was determined by the legacy of the recent past (Oppenheim, 2007). In general terms, the focus was on maintaining economic growth and political stability, with the former seen as the key ingredient in the latter. Therefore, given that the first administration under president Aylwin inherited a booming export economy, it did not seek to change the neoliberal economic model in any substantive way. Several specific factors constrained the first Concertación administration. Perhaps most importantly, Aylwin’s was a transitional government,

which was occupied primarily with consolidating electoral reform while maintaining economic growth, and it probably had no coherent proposal for an alternative economic model (Barton & Murray, 2002). Further, the regime's 1980 constitution and many other political institutions that it bequeathed to the Concertación were far from democratic. In particular the senate, judiciary and bureaucracy were riddled with (if not dominated by) unelected representatives of the military; the electoral system thwarted electoral democracy, giving undue weight to the Right; and rights to freedom of speech were restricted with respect to criticising politicians and the military (Oppenheim, 2007). The power of the Right and the threat of military re-intervention therefore remained, and were made even more real given that Pinochet retained the position of Commander in Chief of the army until 1998. Violation of the terms of the 'transition', or substantial changes to the regime's economic model, could easily have upset the tense balance of power and provided a reason for the armed forces to intervene once more in defence of private sector interests.⁶¹ In addition to these domestic political and economic factors, international factors also contributed to the retention of the model. In general terms, a broad consensus appeared to be emerging among Chile's trading partners in favour of neoliberal free trade. Also, with Chile a signatory to structural adjustment programmes, external pressure from the World Bank and the IMF also played a role.

Rapid economic growth, particularly between 1990 and 1997, lent legitimacy to the neoliberal model, with Chile's GDP growing at an annual average rate of 8.4 percent over the period (Stallings & Peres, 2000, table 3-3) – almost twice the regional rate. Macroeconomic growth and stability also brought an end to high inflation, hitherto a seemingly endemic characteristic of the Chilean economy. Despite macroeconomic successes however, the state was increasingly under pressure to address the social debt incurred under the dictatorship and the ongoing social costs associated with the neoliberal democratic transition. Of particular concern was apparently intractable socioeconomic inequality. Especially significant in this sense was a socially embedded, highly skewed and remarkably static income distribution (Hojman, 1996), which saw the richest 10 percent of Chileans consistently collect over 40 percent of total income (see figure 4.1). Only after 2003 did the mid-deciles very slightly increase their income share, while that of the four lower deciles remained effectively frozen at under 13 percent. In fact, within this category, the share of total income accounted for by the lowest decile actually declined from 1.5 to 1.2 percent between 1987 and 2006.⁶²

Although rapid growth brought about significant reductions in both the proportion and absolute numbers of people living in poverty, the benefits of growth have been unevenly distributed by sector. With urbanisation of almost 83 percent by 1990, poverty was seen as predominantly and increasingly an urban issue in Chile. Therefore, even though around 39 percent of rural dwellers remained below the poverty line, and despite the fact that agri-export expansion had emerged as a key contributor to economic growth generally, rural poverty and inequality were relatively de-prioritised by the state. For example, López and Anríquez (2004) find that while the expansion of export agriculture had significant anti-poverty impacts in general through employment creation and downward pressure on food prices⁶³, it benefitted small farmers only negligibly over the 1990s (see also Anríquez & López, 2007). In light of persistent inequality and maldistribution of wealth in the agricultural sector, successive Concertación administrations have faced calls to confront social and, to a lesser extent, environmental issues in the countryside (W. E. Murray, 2002b).

Figure 4.1. Chile: Income distribution for various years, 1987-2006



Source: Generated from MIDEPLAN (2007, p. 6, table 1) data.

While the Aylwin administration was unable to make substantial institutional changes, it presided over a growing economy characterised by falling unemployment, rising real wages and low inflation. Increasing social spending was achieved under a free market

neoliberal approach to social policy with only minimal and remedial state intervention (Hiscock & Hojman, 1997) and, in conjunction with continued economic growth, contributed to advances in poverty reduction (Olavarria-Gambi, 2003). Favourable macroeconomic conditions prevailed as the second Concertación administration of president Frei Ruiz-Tagle came to power in 1994. The Frei Ruiz-Tagle administration focused initially on supporting export-led growth. In the context of agriculture, measures targeting the domestic arena included incentives for FDI in export-oriented agribusiness and the diversification of primary production into new NTAE crops (Gwynne, 1999). In the external sector, the government sought to both diversify agri-export markets and increase openness to trade through the negotiation of multilateral and bilateral free trade agreements (FTAs). Over the period the administration signed ten free trade and economic complementation agreements with regional trading partners, including North American Free Trade Agreement (NAFTA) members Canada and Mexico, and the countries of the *Mercado Común del Sur* (MERCOSUR). Much of the groundwork for agreements signed during the subsequent administration was also done during this period, notably negotiations on the Chile-US FTA, which was signed in 2003 and effectively made Chile a fourth member of NAFTA.⁶⁴

Within this environment, agribusiness TNCs have wielded increasing power and been successful in lobbying for the maintenance of the neoliberal model in general (W. E. Murray, 2002b) and the retention of neoliberal approaches to trade, foreign investment, labour markets and social policy in particular. In the context of fruit TNCs, foreign companies have faced very few restrictions and confronted few barriers to growth in post-1990 Chile. According to Gwynne (2003, p. 314), this has allowed companies to extend control over land and productive capacity (though not all have adopted this strategy) and consolidate their position as “the main agents linking local spaces of production to global markets, investment and technology”. The nature of these linkages, however, has varied substantially, as have the terms on which local spaces and peasant farmers have been integrated into the globalising agri-food system. In some cases TNCs and peasant farmers have coexisted in a mutually beneficial fashion (Berdegué, 2001; David et al., 2000), and in other instances the relationship has been highly exploitative of the peasant sector (Murray, 1997, 1998).

While the abrupt and thorough liberalisation of agriculture under the dictatorship forced peasant farmers to compete or perish, the Concertación governments increasingly

intervened to incentivise and support peasant farmer reorientation and modernisation. The strategy for the conversion of uncompetitive peasant farms to competitive productive operations – or *reconversión* – thus shifted from a market-led to an increasingly state-mediated process in the 1990s (Kay, 1997; W. E. Murray, 2002b). This became particularly necessary with the proliferation of bilateral free trade agreements from the mid-1990s, and the increasing competitiveness of the agricultural sector. The concept of *reconversión* is intended to reflect a process of increasing peasant farm competitiveness through “enhancing efficiency and shifting traditional production and land use patterns to new and more profitable products” (Kay, 1997, p. 12).

While there has been no single coordinated or overarching strategy, numerous state-led initiatives have contributed to *reconversión* efforts. Perhaps most notably, from its semi-autonomous position within the Ministry of Agriculture INDAP oversees a suite of programmes and initiatives aimed at supporting the peasant sector. In 2007 INDAP provided technical assistance and credit to over 40,000 mostly smallholder agricultural producers⁶⁵ (INE, 2007a). It oversees the design, financing, monitoring and evaluation of assistance projects, which are executed in the field by external contractors (Apey & Barril, 2006) through its Technical Consulting Service (*Servicio de Asesoría Técnica*, SAT). SAT focuses on two broad areas with the aim of increasing the competitiveness of peasant enterprises in national and international markets: *SAT Predial*, directed at individual producers; and *SAT EAC*, in support of associative peasant businesses (*empresas asociativas campesinas*, or EACs).

Assistance under SAT is designed within broader national plans (*Planes Nacionales*) for competitiveness within specific sectors identified by INDAP as holding particular potential for *agricultura familiar campesina*⁶⁶, and in the context of regional strategies (*Estrategias Regionales*) for agricultural development. A two-track system within the SAT, makes a ‘basic’ level of assistance available to all eligible ‘users’, and provides ‘specialist’ assistance to selected farmers or groups of farmers that demonstrate a particular capacity for innovation and competitiveness (Kjöllerström, 2004). However, some specific programmes exist to target particularly vulnerable groups. For example, PRODESAL (*Programa de Desarrollo Local*) aims to build technical and productive capacity, and environmental and commercial management, among poorly-resourced small-scale producers and their families, with the aim of increasing their share of value added in the production process. PRODESAL is executed at the local level through

agreements between INDAP and municipal government. In partnership with PRODEMU (*Fundación para la Promoción y Desarrollo de la Mujer*), INDAP supports projects to empower groups of rural women engaged in agricultural production. The projects have a 3-year lifecycle and focus on productive techniques, management, and personal and organisational development (Apey & Barril, 2006).

Furthermore, the Chilean national agricultural policy for the period 2000-2010 is clear about how the state envisages peasant agriculture evolving within the framework of the macroeconomic model. Specifically it proposes three main objectives: (1) to advance commercial development and improve entrepreneurial capacity, innovation and management; (2) to firmly insert small-scale agriculture into favourable international markets; and (3) to promote and extend peasant association and organisation (Ministerio de Agricultura, 2001, p. 67). Interestingly, this broad approach and modernising vision has been supported by the larger peasant organisations like *Movimiento Unitario Campesino y Etnias de Chile* (MUCECH) and *Confederación Nacional de Cooperativas Campesinas de Chile* (CAMPOCOOP), while more radical positions specifically rejecting the neoliberal model are taken by other groups including *Asociación Nacional de Mujeres Rurales e Indígenas* (ANAMURI) and *Coordinadora Campesina de Chile* (Barrera, 2007, p. 10, note 8).

The language of *reconversión* continued into the term of president Lagos, but it has since become less prominent. Despite this, the main state-led initiatives oriented towards peasant agriculture remain very much focused on modernisation and integration into competitive international markets. Both Lagos and his successor President Bachelet have espoused visions of a dynamic small-scale agricultural sector integrated into Chile's modern agri-export complex. This has been accompanied by recognition of the special needs and requirements of the peasant sector for state support in overcoming barriers to productive efficiency, competitiveness and market access. The approach is however still highly productivist and centred on the prospects of the more efficient small farmers. Just as earlier *reconversión* efforts were criticised for targeting the already 'viable' peasant farmers and neglecting the smallest and most vulnerable (W. E. Murray, 2002b), current initiatives, in accordance with the state's vision of Chile as an emergent industrial agri-food power, are also primarily oriented towards farmers with a greater likelihood of successfully integrating with agribusiness. While in 2007 the national director of INDAP Hernán Rojas stated that "*Chile no va a ser Potencia*

Agroalimentaria si no es con los campesinos”⁶⁷ (cited in Barrera, 2007, pp. 22-23), the question remains as to the nature and terms of the peasantry’s participation in the agri-export complex.

The state’s efforts to facilitate the reorientation of smallholder agriculture towards global export markets have had mixed results. While some smallholders have (individually or collectively) successfully integrated into global agri-food chains, neoliberal agrarian policy has resulted in ongoing land concentration and the exclusion of smallholder farmers. Table 4.3 illustrates key structural shifts in the distribution of farmland over the decade between the two most recent agricultural censuses. Firstly, the total number of agricultural operations declined by over 10 percent over the decade, with the elimination of 33,639 farms. The fact that this occurred in conjunction with an almost 15 percent (3.9 million hectare) increase in total agricultural area suggests ongoing land concentration. This is evident in that the largest operations, of over 2,000 hectares, have consolidated control over the land resource, increasing their land area by almost 34 percent over the decade. By 2007, the 1,434 largest agricultural operations controlled over 21 million hectares, or 70 percent of total agricultural land.

While the number of farms in each size class experienced a decline over the period, the process was particularly marked among small and medium farms, with 26,704 operations of under 50 hectares disappearing. This process is likely to have unfolded differently for medium-sized capitalist farms and small-scale peasant farms. In particular, table 4.3 illustrates that the mean farm size in the smallest size class has actually increased slightly to 1.90 hectares, suggesting the smallest of the small are being gradually squeezed out of the sector. The mean farm size in the medium size classes, however, has been relatively stable or declining which, given the contraction of these classes, suggests that many medium-sized farms have either expanded or been absorbed into larger operations. Within this overall trend there have also been important regional and productive shifts, with the loss of small to medium farms being concentrated in central Chile (coinciding with highly competitive export agriculture and land pressures associated with urban growth in the central regions), and an expansion of large farming operations in the south of the country (Echenique & Romero, 2009). Overall, the trend supports the argument that large-scale highly capitalised agricultural operations have prospered most under neoliberal agriculture, and that their success continues to be at the expense of smallholder farmers.

Table 4.3. Change in number and size of agricultural operations, 1997-2007

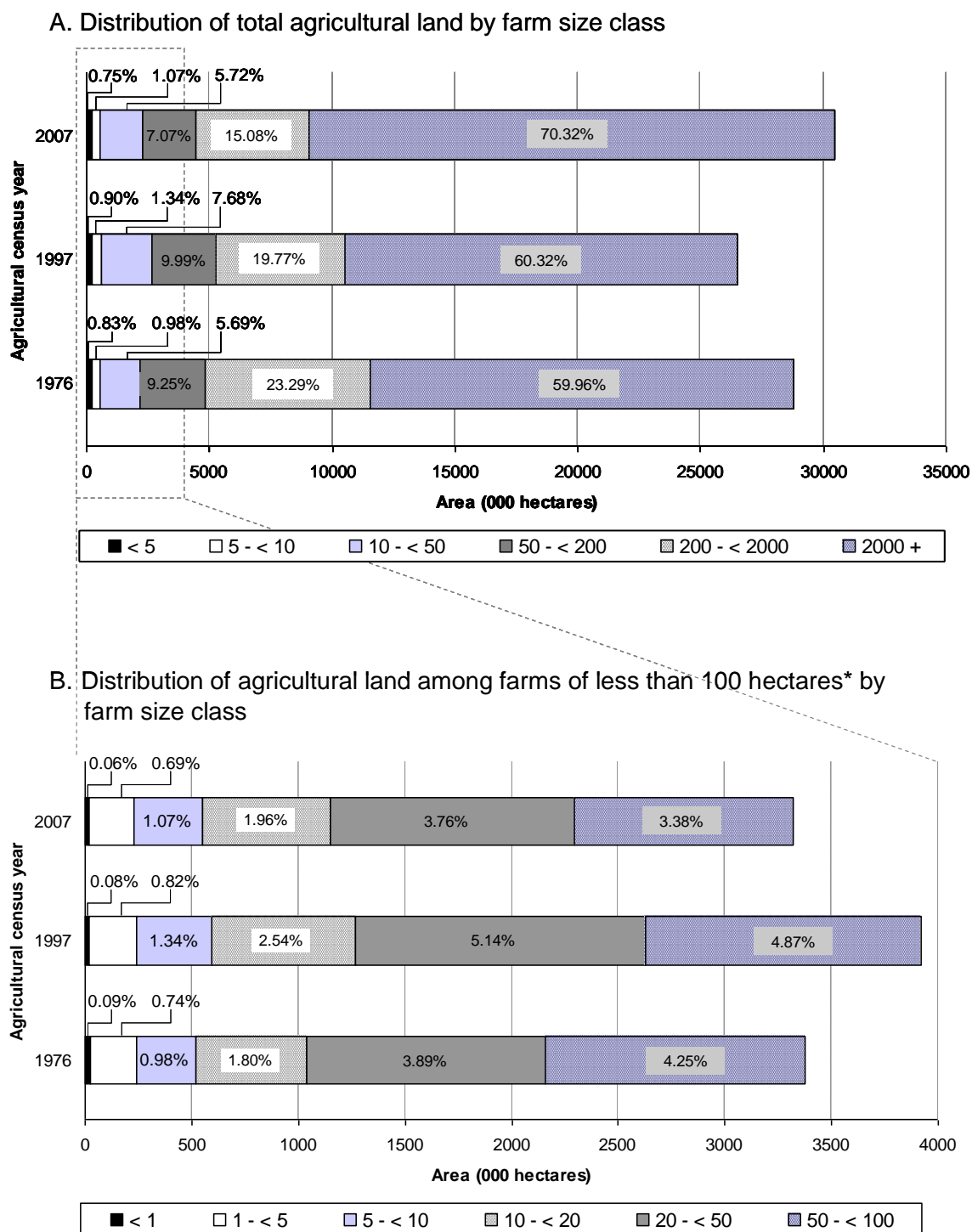
Farm size class (ha)	Agricultural operations										
	1997				2007				Change, 1997-2007 (%)		
	No. of farms	Land area (ha)	Mean size (ha)	Share of total land area (%)	No. of farms	Land area (ha)	Mean size (ha)	Share of total land area (%)	No. of farms	Land area (ha)	Mean size (ha)
< 5	130,229	238,306	1.83	0.90	119,673	227,720	1.90	0.75	- 8.11	- 4.44	+ 3.68
5 – < 10	50,176	355,138	7.08	1.34	46,139	325,200	7.05	1.07	- 8.05	- 8.43	- 0.42
10 – < 50	91,687	2,035,432	22.20	7.68	79,576	1,741,052	21.88	5.72	- 13.21	- 14.46	- 1.44
50 - < 200	28,626	2,647,270	92.48	9.99	23,060	2,153,470	93.39	7.07	- 19.44	- 18.65	+ 0.98
200 - < 2000	10,009	5,239,750	523.50	19.77	8,781	4,591,302	522.87	15.08	- 12.27	- 12.38	- 0.12
2000 +	1,575	15,986,470	10,150.14	60.32	1,434	21,410,424	14,930.56	70.32	- 8.95	+ 33.93	+ 47.10
Total	312,302	26,502,364	84.86	100.00	278,663	30,449,167	109.27	100.00	- 10.77	+ 14.89	+ 28.76

Sources: Calculated from INE (1997; 2007a; 2007b).

Figure 4.2 (below) consists of two parts, and presents data on the distribution of agricultural land in Chile by farm size classes over the three most recent national agricultural censuses, in 1976, 1997, and 2007. Note that the 1976 census was conducted in the midst of the military's agrarian counter-reform, and while around one third of reformed sector land had been returned to its previous owners by 1976, the distribution of *parcelas* had not yet occurred. After parcelisation, the share of land accounted for by small and medium farms would have been marginally higher. The chart in part A presents 1997 and 2007 data from table 4.3, and corresponding data for 1976, showing the distribution of total agricultural land among the same farm size classes presented in table 4.3. It can be seen that while the total area of land surveyed fell by just over 2 million hectares between 1976 and 1997, land concentration among the largest farms was reasonably stable. The 200 - < 2000 hectare class lost some share to smaller classes, particularly the 10 - < 50 hectare class, perhaps reflecting some effect from the parcelisation process.⁶⁸ Between the 1997 and 2007 census, it is evident that the largest farms expanded their share of total agricultural land by 10 percent, while the share accounted for by all other size classes declined.

The chart in part B of figure 4.2 corresponds to the same census years, but offers a more detailed view of the distribution of land among the smaller size classes. It can be seen that the area of land accounted for by farms of under 100 hectares increased between 1976 and 1997 from around 3.4 to 3.9 million hectares. All of the small farm size classes, except for the smallest two (< 1 hectare, and 1 - < 5 hectares) increased their share of total agricultural land over this period, with significant increases in the 10 - < 20 and 20 - < 50 size classes. This trend reversed, however, between 1997 and 2007, as the share of all of the small size classes was eroded. Overall, then, figure 4.2 reflects the ongoing concentration of land among large farms, at the expense of the small and medium farm sector, and the steady decline of the smallest *minifundia* of under one hectare. It corroborates the assertion that the limited land redistribution achieved through the military's allocation of small and medium sized farms, or *parcelas*, has been almost entirely eroded over the course of the dictatorship and the post 1990 neoliberal period.

Figure 4.2. Chile: Distribution of land by farm size class (1976, 1997, 2007)



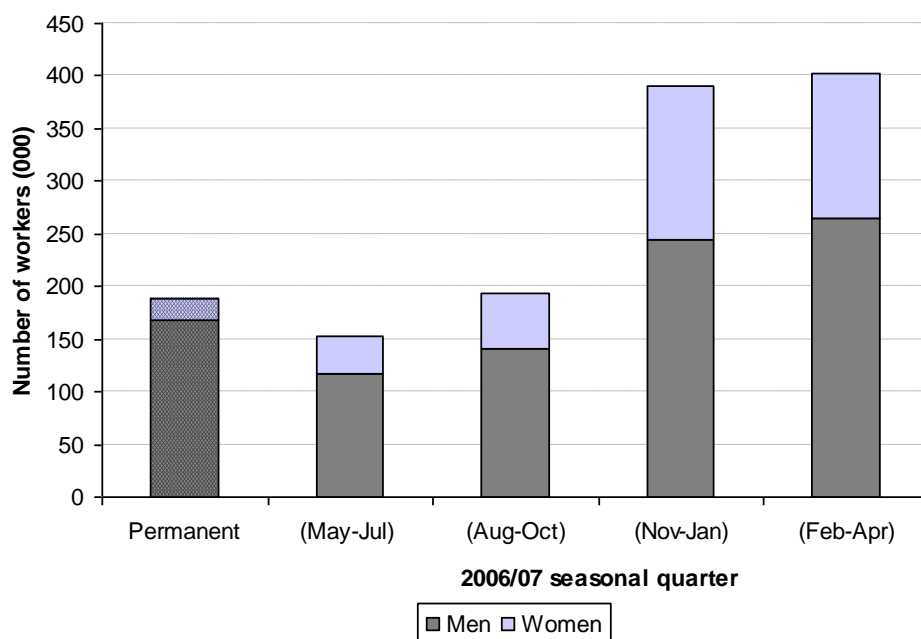
* Percentages show share of total agricultural land.

Sources: Generated from INE (1997; 2007a; 2007b) data

While agricultural GDP has more than tripled over the last two decades, the number of people employed in the agricultural sector has remained relatively stable overall (Echenique & Romero, 2009), reflecting increased labour productivity and capital

intensity. Rural wages have risen and the legal rights of workers have been extended since the late 1990s (Schurman, 2001), but the labour market remains geared primarily towards ‘flexibility’. Taken in conjunction with the tendency towards land concentration, this suggests that the globalising agri-export complex is not generating sustainable employment for displaced or dispossessed small farmers. On the other hand paid employment in agriculture and agricultural processing and packing, both permanent and seasonal, remains vital to peasant households. This is underscored by the remarkably small contribution that agricultural production makes to household income. For more than half of all agricultural households in 2007, irrespective of farm size, income from agricultural production represents less than a quarter of total income.⁶⁹ Within this, as might be expected, most households associated with the smallest farms rely heavily on off-farm sources of income or non-farm rural employment, though this varies seasonally and geographically depending on employment opportunities and rural transport infrastructure (Berdegué et al., 2001). Among the larger farms a more bifurcated pattern exists with some households generating a substantial proportion of household income on-farm and others deriving a significant share off-farm. This is likely to reflect both the high levels of productivity and competitiveness of larger, highly capitalised farms, and the tendency for larger farmers to have diversified investments in other business ventures.

The high seasonality of agricultural employment in Chile is reflected in figure 4.3, along with the gender composition of permanent and seasonal labour in the farm sector. While the data are not necessarily representative, being derived from just over 84,000 respondents, some important tendencies are notable. In particular, the sector is heavily reliant upon seasonal labour over the fruit season from late spring to early autumn, when the labour force essentially doubles. Men dominate the permanent and seasonal farm labour force, but women are employed as seasonal workers contributing between 30 and 40 percent of seasonal labour between November and April. These tendencies are repeated in the non-farm agricultural labour force, except that women are even more strongly represented as temporary seasonal workers (*temporeras*) in food (especially fruit) packing and processing plants (Barrientos, 1997; Bee, 2000; Manz & Spoonley, 2001). The statistics do not capture adequately the composition of unpaid household farm labour, which is especially important in the peasant sector and within which women and, to a lesser extent, children make a vital yet under-reported contribution (Barrientos, 1997; Bee & Vogel, 1997).

Figure 4.3. Gender composition of permanent and seasonal farm labour, 2006/07

Source: Generated from INE (2007b) data. Based on responses from 84,499 producers.

Overall then, while the government of Bachelet is less aligned with the neoliberal model than preceding Concertación administrations, and has implemented some important social reforms, it has also stopped short of challenging the basis of the model (Riesco, 2007). In general terms, the formula has resulted in a highly polarised provision of essential social services with access to healthcare and education, for example, being highly inequitable between socioeconomic classes and large urban centres and small towns and rural areas. Essentially the provision of social services generally, and support to peasant agriculture, is subordinated to the macroeconomic model, and is designed to stimulate economic growth (or at least not block growth) – in this sense core policies are arguably economic policies as much as they are social policies (Hiscock & Hojman, 1997). In the same sense, many of the gains for the peasant sector and rural workers over the last two decades (including improvements in working conditions, increased wages, and the extension of legal rights) have been, as Schurman (2001) suggests, a function of economic advancement, not social or institutional progression.

4.3. Summary: Continuity and change in rural Chile

The discussion in this chapter has, for practical reasons, been divided into distinct sections that have engaged with successive eras and phases in the evolution of the agricultural sector and agrarian political economy in Chile. Having taken this approach, it has not been my intention to suggest that Chile's history in general or its agrarian development can be clearly and unproblematically traced through a neat series of phases punctuated by obvious watersheds and turning points. On the contrary, Chile's modern agri-export complex and agrarian structure have evolved in response to internal and external factors in parallel with the emergence of a globalising capitalist agri-food system. Interrelated political, economic and social shifts and shocks have had complex and often unexpected outcomes, but have seldom represented a clean break with the past. Indeed, the embeddedness of production and control over resources (particularly in the context of agricultural production and rural land ownership) within a highly uneven social structure, has proven to be remarkably durable. Frequently acclaimed as an example of successful neoliberal reform on account of its extraordinary export-led economic 'miracle', Chile is equally striking for the structural continuities that have characterised its economy, polity and society. This has been particularly true of the democratic transition period since 1990, but has also applied to aspects of the country's historical development.

Contemporary agrarian policy in Chile remains subordinated to the Chilean version of the neoliberal model, which defines (and reifies) foreign and domestic economic policy. The model itself is certainly a legacy of the Pinochet era. Largely 'inherited' by the democratic administrations post-1990 (W. E. Murray, 2002b) it remains, in essence, unmodified. However, it is important to note that the earlier state developmentalist period left important legacies of its own, particularly for agriculture and the countryside. On one hand, important foundations of the much celebrated economic growth that occurred during the dictatorship and the democratic transition were laid during this period, with substantial investments in modernising and organising the agricultural sector for export (Andersson, 2009). On the other hand, the reforms of the period from the late 1950s to the early 1970s (and particularly during the Popular Unity period) saw the emergence of new forms of social and political organisation. The mobilisation of the peasantry and the rural proletariat (as well as urban workers) during this period had a profound impact, galvanising the working class with a "new-found ability to wield

power in the face of the traditional hegemonic bloc” (Barton, 2004, p. 14). These organisations provided the foundations for popular organisations that emerged in the later stages of the military dictatorship to exert pressure for democratic change, and which were subsequently co-opted by the Concertación in the creation of its social welfare architecture (Montecinos, 1997).

The rural productive and social structure in Chile, prior to the imposition of the neoliberal model from the mid 1970s, was neither purely feudal, nor wholly inserted into the global capitalist economy. Rather, Chile was incorporated into the capitalist world system as a resource periphery, and agriculture was organised under semi-feudal productive and social relations. The principal mode of organisation in the countryside was the hacienda system, which incorporated an internal peasant economy of tenant labourers and intersected with an external agricultural economy of smallholders, peasants and rural workers. The transition to capitalism in rural Chile was delayed and gradual and, to some, remains incomplete as global and domestic capital is yet to achieve *full* domination over labour (Goodman & Redclift, 1981; D. Harvey, 1982). Indeed, while a tendency towards the proletarianisation of the peasantry is clearly observable, the process has by no means run its course, with many smallholders and semi-proletarianised (Akram-Lodhi et al., 2009; Kay, 2000) peasant farmers pursuing diversified farm-based and non-farm-based livelihoods. In the mean time, land consolidation is advancing steadily, as large farms increase their control over agricultural land and the smallest peasant farms continue to be eliminated. At the same time, the combination of a ‘liberalised’ and ‘flexible’ labour market, and increasingly capital intensive agriculture and agribusiness, is failing to provide sufficient off-farm employment for the rural populace. In this way the neoliberal agrarian counter reforms and subsequent export boom have contributed to the emergence of a highly competitive and bifurcated agrarian structure, which continues to exert on the peasantry the kind of ‘double squeeze’ that de Janvry and others identified two decades ago (de Janvry et al., 1989) – that is to say, export orientation and neoliberal trade policy both dismantles peasant agriculture, and tends towards higher capital intensity and lower reliance on rural labour. In this context many peasant farmers are either forced to rely increasingly on their own land (for subsistence and food security) or to migrate in search of adequate employment.

In light of this there is a need for the active involvement of the state in support of *la agricultura familiar campesina*. The question of the nature of state involvement, however, is crucial. Over the last two decades, notwithstanding the valuable assistance provided to the peasant sector via INDAP and other agencies, the state has played a relatively passive role in agrarian development and its agrarian policies have been subordinated to the neoliberal economic model and the imperatives of export orientation. A process of market-led neoliberal agrarian restructuring (Akram-Lodhi et al., 2009) has been left to unfold in the countryside, as the processes of proletarianisation, semi-proletarianisation and land concentration proceed. Within this climate, the state has played an arguably contradictory role – promoting agricultural modernisation and trade liberalisation on one hand and supporting inefficient (by orthodox standards) peasant farms on the other. In particular, many of the smallest farmers have continued to be eliminated from the agricultural sector over the last decade, while other semi-proletarianised farmers have had to rely increasingly on off-farm and non-farm employment. Given these trends, there is a need for active government and targeted policy intervention to address persistent structural inequality in the ownership of factors of production (particularly land) and the social and economic opportunities that flow from this. In the international arena there is a need for the state to take a strategic approach to selective and negotiated insertion into the capitalist world trading system (Ffrench-Davis, 1988). However, the extent to which these measures could be applied from within the current paradigm is highly uncertain.

While the pervasiveness of neoliberal globalisation and its transformative impacts in Chilean agriculture are remarkable, vestiges of semi-feudal structures remain. For example, the sites where the capitalist agri-export economy and the subsistence peasant economy intersect are the places and spaces within which rural households pursue diversified livelihood strategies and exploit opportunities in the effort to optimise household welfare. These livelihood strategies often straddle the interstices between ‘traditional/feudal’ and ‘modern/capitalist structures. It is in attempts to theorise the liminality and empirical ‘messiness’ inherent in the ‘transition to capitalism’ that concepts like semi-feudalism, neo-feudalism, and semi-proletarianisation have been put forth (Murray, 2006b). Such concepts are potentially useful in that they divert our attention away from definitive or finalistic end states (e.g. feudalism, capitalism), and help to refocus it on the dynamic and transitional states of flux resulting from contemporary globalisation processes. What is required to augment theorisation in this

context, are nuanced and detailed local and sectoral case studies, which explore the empirical realities, and outcomes on the ground, of the ongoing process of neoliberal globalisation. It is in this spirit that the following chapters turn to an empirical analysis of one Chilean NTAE sector, the raspberry sector, and examine the differential integration of peasant farmers, via the global value chain for raspberries, into the globalising capitalist agri-food system.

Chapter 5.

Results 1: The Global Value Chain for Chilean Raspberries

5.0. Introduction

This chapter describes the global value chain for Chilean raspberries, with a focus on the ‘upstream’ end⁷⁰ of the chain clustered around the primary production zone of Yerbas Buenas in the Maule Region of central Chile. It presents the findings from primary field work in Chile, based around interviews with key informants and numerous actors in the raspberry GVC, and field visits to key sites of production.⁷¹ These findings are framed in the context of secondary data obtained from official sources both within Chile and internationally.

The chapter is divided into three main sections as follows: The first section provides a background and survey of raspberry production and trade at the global scale, characterising raspberries as a commercial crop, identifying important centres of production and key raspberry trading nations, and positioning Chile within this global complex. The second section examines the evolution and contemporary characteristics of the raspberry complex in Chile, and considers key trends and influences that have shaped geographies of production and trade. Particular attention is paid to the evolution of the sector over the last three decades as one of a series of generations of non-traditional agricultural export crops. Section three turns to a discussion of the raspberry GVC emanating from the *comuna* of Yerbas Buenas. A GVC framework (Gereffi et al., 2005; Kaplinsky & Morris, 2001) is employed in an effort to shed light on the complex interconnections between the global and the local as manifested in small-scale raspberry growers’ integration into the global agri-food system via the raspberry value chain. Yerbas Buenas is first examined as a site of primary production at the heart of Chile’s berry producing zone. The discussion proceeds to outline the input-output structure and territorial dynamics of the chain, again, focusing on the upstream segments, with analysis of the primary production node, the processing and export nodes and the intermediaries that link them. Finally the section addresses the organisational dynamics of the chain and key institutions involved in chain governance through quality standards. The section then concludes with a summary, drawing together the key themes

of the chapter, and thus lays the groundwork for a detailed examination of smallholder grower livelihoods, which is undertaken in the next chapter.

5.1. Raspberry production and trade: Global context

5.1.1. World berry production and trade

Global commercial berry⁷² production in 2005 has been estimated at 6.5 million tonnes, harvested from over 750,000 hectares (Strik, 2007). The principal commercial fruits in the berry category are strawberries, currants, blueberries, raspberries, gooseberries, cranberries and blackberries. Table 5.1 shows the area under cultivation and the yield for each crop in 2005. In addition to these main crops, several minor species and hybrids are also grown commercially, including boysenberries, elderberries, juneberries, loganberries, mulberries, and tayberries. In many regions, the harvest of a variety of local wild berry types (including species of blueberry, blackberry, cranberry and lingonberry) is also important as a source of food and income.

Table 5.1. Worldwide production of major berry crops, 2005

Berry crop	Area (hectares)	Share (%)	Production (tonnes)	Share (%)
Strawberries	246,710	32.5	3,871,869	59.3
Currants (red and black)	162,743	21.5	939,918	14.4
Blueberries	156,783	20.7	490,410	7.5
Raspberries	102,264	13.5	503,393	8.2
Gooseberries	39,083	5.2	150,897	2.3
Cranberries	30,222	4.0	417,534	6.4
Blackberries	20,032	2.6	154,578	2.4
Total	757,837	100.0	6,528,599	100.5

Source: Adapted from Strik (2007, pp. 5-6)

In terms of value, strawberries are by far the most significant berry crop traded globally, with global exports valued at \$2.4 billion in 2007. A second tier of commercially important berry crops includes blueberries, raspberries and cranberries, and within this group raspberries are highly significant, with global exports of \$1.2 billion in 2007 (ITC, 2009).⁷³ A wider range of minor berry types is also harvested for export and, while not necessarily significant at the global scale, these often play an important role in local and even national economies.

Berries are usually marketed through two main channels, either as fresh fruit, or for industrial freezing or processing into a range of products and food ingredients. The fruit may be destined, via either channel, for domestic consumption or export. Fresh berries may be sold on the domestic market through corporate retailers like supermarkets, via local markets and stalls, or directly on-farm – either at the farm gate or as ‘pick your own’ fruit. Alternatively, fresh packaged whole berries may be exported via cross-continental cool chains for sale by large overseas retailers. Processing berries may also be sold domestically or exported. Of the fruit destined for processing the vast majority is frozen, either as ‘individually quick frozen’ (IQF) fruit for marketing as whole frozen berries, or ‘block frozen’ for use as an ingredient in a range of food products – for example, ice cream, yoghurt, jams, baked goods and cereals. In addition, a small proportion of fruit may be juiced or dried.

The way the crop is marketed depends on many factors including but not limited to the size and strength of demand of the domestic market; the accessibility of international markets; the level of investment in packing and processing capacity; the strength of local and national transportation infrastructure; the skills, knowledge and resources possessed by farmers; and the degree of institutional support for the sector. For example, it is especially common for a large proportion of the national crop to be sold fresh on the domestic market in countries where there is strong local demand and a large domestic market. On the other hand, in instances where domestic demand is low and prices are relatively high in export markets, and where the enabling investment and infrastructure exist, it is common for the majority of the crop to be exported. Quality, fresh, whole berries usually fetch the highest prices, especially where they are imported from the southern hemisphere and sold by supermarkets in North America and Europe as counter-seasonal produce.

5.1.2. Raspberry physiology, cultivation and cultivars

Given the role of environmental and biophysical processes in shaping geographies of agricultural production and configuring agri-food chains (Goodman & Redclift, 1991; Le Heron, 1988), it is worth noting some of the particular attributes of raspberries as a food crop, which affect the distribution, timing and nature of activities along the raspberry value chain.

The raspberry is the edible aggregate fruit of several species of plant of the subgenus *Idaeobatus*, of the genus *Rubus*. The European raspberry, or red raspberry (*Rubus idaeus*)⁷⁴, has given rise to the most important commercially cultivated raspberry cultivars, but has also been crossed with various species of other subgenera of the genus *Rubus* to create important hybrids like the boysenberry and loganberry. Raspberry plants (or canes) require specific environmental and climatic conditions, which must be met for successful cultivation and to achieve high yields of quality fruit. The berries themselves possess particular physiological and chemical characteristics that determine to a great extent the requirements of primary production, harvest and post-harvest handling. This section briefly describes some of the key characteristics of raspberry plants and berries in this context.

Raspberry (*R. idaeus*) plants have perennial root systems and crowns and biennial canes. The canes have two developmental stages. During the first year they grow in length, and generally do not produce fruit. At this stage they are known as primocanes. Over the course of the second year the canes, now called floricanes, flower, fruit and then die off. Primocanes sprout at the beginning of each season from buds at the base of existing floricanes or from the roots of the plant. Every year, except in the initial planting year, both cane types are present (Strik, 2007). Raspberry plants are usually grown in north-south running hedgerows 0.3 to 0.6 meters wide and 2 to 3 meters apart, or in clumps or ‘hill systems’, where new growth spreads outwards from the initial plant. Plants are typically grown to a height of around 1.8 meters and supported by a trellis, stakes or wires (Morrison, 1998). Commercially grown red raspberry (figure 5.1) is divided into two broad groups based on the plant’s biennial developmental cycle: (1) ‘floricane fruiting’ types, which fruit along the length of the floricane in its second year, and (2) ‘primocane fruiting’ types, which produce a crop of berries at the tip of the new primocane and another crop at the base of the second-year floricane. Two common production systems are based on these two variants.

The majority of the worldwide raspberry crop is derived from floricane fruiting or ‘summer bearing’ plantings, with most of the raspberry acreage in north-western North America and Serbia planted in this type. Summer bearing fruit is commonly grown for processing, as it is more delicate and susceptible to damage, but also more suited to machine harvesting.

Figure 5.1. *Rubus idaeus*, red raspberry



Source: Lindman (1926, not paginated).

The harvest season for summer bearing raspberries is typically 3 to 8 weeks depending on the production region, climate and cultivar, and fruit ripens over several weeks making frequent harvest (every 2 to 3 days) necessary over the course of the season

(Strik, 2007). All floricanes are removed by pruning following harvest. Common summer bearing raspberry cultivars include Meeker, Willamette, Tulameen, Glen Ample and Chilliwack.

A wide variety of primocane fruiting raspberries is also grown worldwide. This type of raspberry is attractive to many growers because it can be managed so as to produce one or two crops per year (Strik, 2007). An early fruiting at the base of the previous year's floricanes is followed by a later fruiting at the tip of the new primocane. Following harvest, the tip of the primocane dies off along with the older floricanes, and both are removed by pruning. This type can also be managed as an 'autumn bearing' system to produce a single, late crop. This is achieved by harvesting only the fruit from the tips of new primocanes, and then removing all canes after harvest. New primocane growth the following year produces another crop. In the first year, the crop can be harvested just 8 months after planting (Hawes, 1996). In this respect, the crop is particularly appealing to smallholder growers, as a return can be achieved in the first growing season.

Common primocane fruiting cultivars include Heritage, Polka, Autumn Bliss and Amity. Diversified production, incorporating both floricanes and primocane fruiting cultivars, can also serve to extend the harvest season on a given farm thereby potentially increasing the period of earnings and overall income.

Raspberry plants thrive in warm, frost-free microclimates. Being shallow-rooted plants, they require irrigation in dry periods and climates, but also need well-drained soils to avoid the build up of pathogenic parasites that can lead to root blight and disease.

Irrigation is commonly achieved via a drip or trickle system or, in some regions, by traditional channel irrigation methods. Fertiliser and pesticide use is relatively intensive.

The application of nitrogen, phosphorus and potassium is necessary to replace soil nutrients removed at harvest (Hawes, 1996), and a range of fungicides, herbicides and insecticides is commonly employed to control diseases, weeds and pests (Seaton, 1998).

Shelter is essential to avoid wind damage in exposed places, and is beneficial in maintaining optimal growing conditions by way of temperature stabilisation and the minimisation of evapotranspiration. Pruning is required following harvest to remove spent or dead canes and to maintain optimal row width and height. The timing of bud-break, growth, flowering and fruiting is dependent on the particular cultivar, climatic and soil nutrient factors and farm management. Depending on physical and climatic conditions and market requirements different cultivars or combinations of cultivars can

be adopted to maximise resilience to pests and disease, yield, length of harvest, fruit quality (and, theoretically, returns to the grower).

Fresh raspberries are highly susceptible to physical damage and bruising, and are also vulnerable to temperature induced denaturation. Due to the delicacy of the fruit, harvesting and post-harvest grading and packing are generally labour intensive activities. Machine harvesting is common in some regions for processing fruit, but is virtually non-existent for fresh market fruit. Machine harvesting has a huge potential labour saving advantage over hand picking, but the initial capital outlay and maintenance costs are substantial, so mechanised harvest is only economical on larger farms. The machines themselves are large, and hedgerows, trellises and irrigation systems must be designed to accommodate them (Strik, 2007). Appropriate cultivars, which are suited to mechanical harvesting, are also required. These factors also offer potential advantages for small-scale primary production, especially where fruit can be harvested by household labour.

Due to the perishability of the fruit the value chain downstream from growers and immediate intermediaries is also capital intensive and time- and temperature-critical. This is true for frozen and processing fruit, but especially for fruit destined for the fresh market. The quality of fruit at harvest, in terms of its size, colour and flavour, is dependent on physical, climatic and crop management factors, and its condition immediately post-harvest is dependent on harvesting method and care. The production and harvest of high quality fruit is important but, in order to maximise post-harvest quality and shelf-life, this needs to be followed by immediate cooling of the fruit, appropriate packaging, careful handling, rapid transportation and effective marketing. Cooling of the fruit is required to remove field heat, which then slows berry respiration, inhibits the growth of bacteria and mould, and thus delays the deterioration of the fruit (Bower, 2007). Cooling, ideally to around 10°C, is achieved by forcing cool air through the vented packaging and pallets in which the fruit is stored. Controlled atmosphere storage and transportation are also common, where oxygen and carbon dioxide levels and relative humidity are optimised for fruit longevity.

The application of improved technologies at all stages of the value chain has contributed to advances in fruit quality and shelf-life. Scope for further development in these technologies presents opportunities for firms to carve out competitive advantage, but the increased competitiveness of the sector also presents challenges to smaller operators and

growers. Where the required capital is not available for investment, or the skills and expertise necessary for the application of new technologies are not present, producers find themselves at a competitive disadvantage. On the other hand, given the degree of labour intensity in the harvesting and handling of fresh berries, there can be advantages in regions with high labour availability and lower labour costs. These dynamics help to explain the global geography of raspberry production, and will be considered in more depth below.

5.1.3. World raspberry production and trade

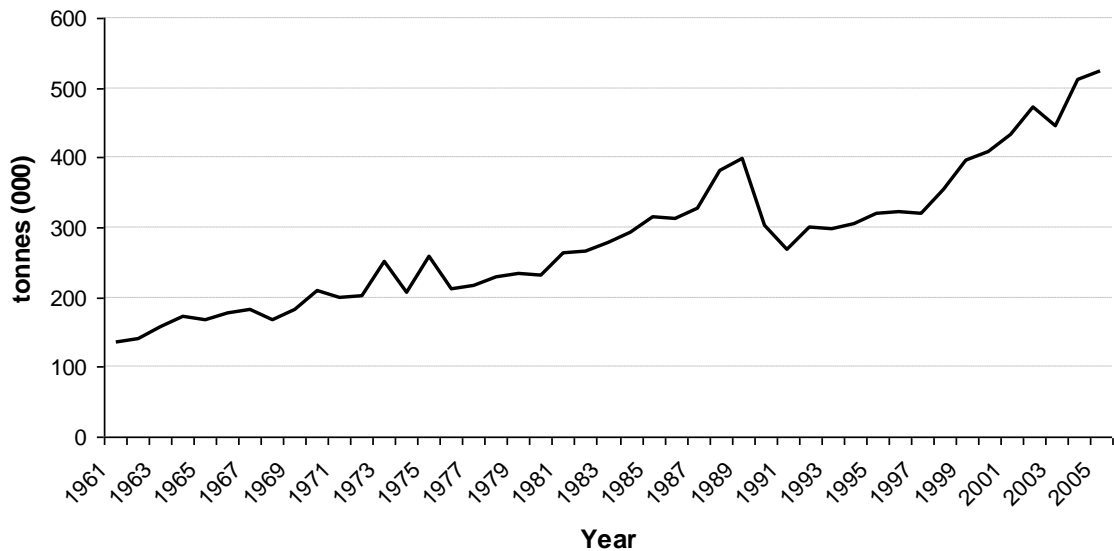
Raspberries are widely cultivated as a mid-summer crop in temperate zones, and are increasingly commercially important. Demand for the fruit is growing, especially in Northern markets, where consumers' expectation is increasingly for year-round supply of fresh fruit. In addition, processed raspberries are incorporated into an increasingly diverse range of value-added products, including beverages, yoghurts, deserts, cereals and snacks. The health benefits (both established and asserted) of berryfruit have played a significant role in the expansion of consumer demand, with berries in general being high in vitamins and minerals, and raspberries in particular being rich in ellagic acid, folate and B vitamins (Talcott, 2007).

According to FAO (2009a) data, worldwide raspberry production is growing steadily (see figure 5.2). Raspberry trade is also increasing, although there are no reliable historical data to quantify raspberry trade over time at the global scale.⁷⁵ Recent data, however, show an expansion in raspberry trade over the period from 2004 to 2007, with world exports increasing from 381,000 to 462,000 tonnes, or from \$640 million to \$1.2 billion (ITC, 2009). In 2007 global raspberry trade consisted of 30 percent fresh fruit and 70 percent frozen fruit by quantity, and 48 percent fresh fruit and 52 percent frozen fruit by value. Against this backdrop of increasing production and trade, raspberries play a key role in the agri-export portfolios of several major fruit exporting nations, and there have been important shifts in the geography of production over the last four decades.

Through the 1960s and 1970s worldwide production of raspberries was increasing at an annual average rate of 3.5 percent. At this time, production was concentrated in Europe and North America and most was destined for domestic markets as fresh produce. Exports over this period were predominantly from the peripheral Eastern European

countries of (then) Yugoslavia⁷⁶, Poland and Hungary into core Western European markets – principally the United Kingdom, Germany and France – to augment supply in those countries.

Figure 5.2. World raspberry production, 1961-2005



Source: FAO (2009a)

Similarly, within North America, Canada exported a reasonable quantity of fruit to the neighbouring US market. While worldwide production has continued to grow to meet expanding demand over the last two decades, this growth has not been uniform across all producing countries. For example production in Germany and the United Kingdom peaked in the 1980s and had returned to 1960s levels or lower by 2005. Other countries have followed different trajectories. For example, production in Russia, Serbia and Montenegro, the United States and Poland expanded significantly through the 1990s and early in the new millennium to make them the top four producers by 2005 (see table 5.2). However, almost all of Russia's production, much of it harvested from wild crops, is absorbed by the domestic market. In the United States too, the majority of the crop is consumed domestically, though significant quantities are traded with Canada. Several countries have experienced more recent expansion in production and are emerging as significant producers and exporters, including Spain and Mexico.

Table 5.2. Key raspberry producing nations and production volumes, 2005

Country	Raspberry production (tonnes 000)	Share (%)
Russia	175	33.4
Serbia and Montenegro	84	16.0
United States of America	83	15.8
Poland	60	11.5
Ukraine	26	4.9
Germany	20	3.8
Canada	13	2.5
United Kingdom	12	2.3
Spain	7	1.3
Hungary	7	1.3
France	5	1.0
Mexico	5	1.0
Others	27	5.2
World	524	100.0

Sources: Calculated from FAO (2009a) and SIAP (2009) for Mexico data.

The situation becomes rather more complex when we examine the structure of world trade in raspberries (see tables 5.3 and 5.4). Some of the world's largest producers are also important players in world raspberry trade. Of the top six exporters by value in 2006, three (Serbia, the United States and Poland) are ranked among the leading producers. However, of particular interest is the presence of three smaller producers (Chile, Mexico and Spain), which between them contribute over 40 percent of total raspberry exports by value. Both Mexico and Spain concentrate on fresh fruit exports to neighbouring markets, with Mexico exporting almost its entire crop fresh to the United States, and Spain supplying the United Kingdom and France. Chile, which does not enjoy the same proximity to large or high-value markets, adopts a more diversified export strategy. The majority of its exports are frozen berries for the North American and European markets, but it also exports a significant quantity of fresh berries to North America.

The division of raspberry exports into fresh and processed fruit is highly significant. The two markets have very specific requirements and characteristics, which are reflected back upstream to shape supply chains and production systems. In general terms, fresh berries are subject to higher quality standards and attract higher prices,

while frozen berries (which constitute the vast majority of internationally traded processed berries) are of lower quality and attract lower prices.

Table 5.3. Key raspberry exporting nations and exports by value, 2006

Country	Raspberry exports* (US\$ 000,000)	Share (%)	Fresh (%)	Frozen (%)
Serbia	133.5	14.7	7	93
Chile	128.7	14.2	20	80
Mexico	128.7	14.2	97	3
Spain	115.0	12.7	99	1
United States of America	83.8	9.2	86	14
Poland	81.9	9.0	24	76
Netherlands	42.2	4.6	45	55
Belgium	40.6	4.5	19	81
China	18.8	2.1	0	100
France	17.2	1.9	63	37
Germany	16.9	1.9	17	83
Austria	16.5	1.8	18	82
Others	84.6	9.3	-	-
World	908.4	100.1	47	53

* Data are for HS Codes 081020 (fresh) and 081120 (frozen). See note 72, this chapter.

Source: Calculated from ITC (2009) data.

Fresh raspberries are sold mainly through supermarkets by the punnet (commonly 250g Net). If the fresh fruit is of a high quality and well-presented, it can command premium prices – especially in the up-market supermarkets of Western Europe and North America. Fresh fruit for the restaurant and catering trades is usually sourced domestically, but small quantities of export fruit may also supply these market niches. Because of the perishability and short shelf-life (5 to 7 days) of fresh fruit, proximity to market is important for fresh exports. The fruit may be transported by refrigerated road or rail transport, or air-freighted over longer distances. Processed raspberries are sold via a number of channels including as dehydrated or freeze-dried fruit, pulp and juice, but primarily as frozen fruit. Like other processing berries, raspberries are either ‘individually quick frozen’ or ‘block frozen’. IQF fruit can be packaged into different formats including: into branded bags (commonly 225g to 400g) for supermarkets; incorporated along with other berryfruit into frozen berry mixes, also for supermarket sale; and into bulk bags (commonly 5kg) for sale to another processor or packer. Block frozen fruit is of relatively lower quality and value, and is exported for industrial

processing into juice or incorporation into a range of other food and beverage products. Frozen raspberries are more widely traded geographically than fresh berries, as they can be surface-freighted over long distances.

The main importing countries for raspberries are the countries of North America and Western Europe (see table 5.4). The United States and the United Kingdom alone account for 50 percent of fresh raspberry imports, and Canada, France and Germany are also important markets. Frozen raspberries are imported by Germany, the United States and France, which together account for almost 50 percent of frozen raspberry imports. Outside of North America and Europe, Japan is beginning to emerge as a significant high-value market for fresh raspberries, and China is importing increasing quantities of frozen raspberries.

Table 5.4. Key raspberry importing nations and imports by value, 2006

Country	Raspberry imports* (US\$ 000,000)	Share (%)	Fresh (%)	Frozen (%)
United States of America	182.8	20.3	67	33
United Kingdom	127.0	14.1	74	26
Germany	125.9	14.0	18	82
France	92.0	10.2	35	65
Canada	82.4	9.1	79	21
Belgium	42.9	4.8	32	68
Netherlands	40.2	4.5	41	59
Austria	34.2	3.8	31	69
Italy	27.3	3.0	46	54
Japan	19.8	2.2	53	47
Others	127.9	14.2		
World	902.4	100.2	48	52

* Data are for HS Codes 081020 (fresh) and 081120 (frozen). See note 72, this chapter.

Source: Calculated from ITC (2009) data.

5.2. Chilean raspberry production and trade

Chile is of particular interest within the global raspberry complex. While not featuring as a major producer by world standards, Chile stands out as a dominant player – ranked second only to Serbia – in terms of exports by value. Chile is also significant as the only major southern hemisphere exporter, and Chilean raspberries (or *frambuesas* in Spanish), renowned for their quality, are highly sought after by European and North

American importers, wholesalers, retailers and consumers. Chile's geographic isolation and distance from its principal markets has had interesting implications for the geography of raspberry production in Chile and the terms on which Chilean growers are integrated into the global agri-food system via the raspberry value chain. This section traces the evolution of the raspberry productive sector over the last three decades, examines trends in fresh and frozen raspberry exports, and introduces the case study *comuna* of Yerbas Buenas within its context as a centre of smallholder raspberry production within Chile's leading raspberry producing region.

5.2.1. Chilean raspberry production

As discussed in chapter 4, Chile's agri-export sector has seen the promotion and development of subsequent generations of non-traditional agricultural export crops since the late 1970s. As global competition has increased, market share has been eroded, and demand has shifted, new and higher-value crops have been sought and introduced. The late 1970s and early 1980s saw the FDI-driven expansion of table grapes, apples and pears (Codron, 1992; Murray, 1998), which came to dominate Chile's fruit export sector. The late 1980s and 1990s saw the diversification of the fruit sector with the expansion of new export crops, including stone-fruit, avocados, kiwifruit and berryfruit. Even more recent additions include cut flowers and various species of nuts. Raspberries were first introduced into the southern regions of Chile by European migrants, and have been cultivated commercially since the late 1970s. Production was initially absorbed by the domestic market, but due to limited domestic demand the sector has evolved as primarily export oriented. Today the domestic market absorbs just 5 percent of total production. While the raspberry sector has not and is not likely to come close to the major fruit sectors in terms of its importance to national export earnings and GDP, it is of great significance to growers and rural households at the local scale.

The main sites of raspberry production were initially concentrated in Region VIII (Bío Bío), around where the first cultivars were introduced. Over time, with the expansion of the sector, and the introduction of new cultivars, primary production spread more widely across Chile's temperate zones between Regions V (Valparaíso) and X (Los Lagos) Growth has, however, been especially marked in the centre of this zone, where environmental and climatic conditions are ideal and labour has been cheap and plentiful. While medium to large-scale producers were quick to take advantage of these factors in

the late 1980s and early 1990s, the period was also characterised by the entry of many small-scale peasant farmers into the sector. The high labour intensity of the production process (especially at harvest) represented a comparative advantage for small-scale farmers and peasant households vis-à-vis larger growers – especially where labour requirements could be met directly by household and family members (CEPAL, 1992).

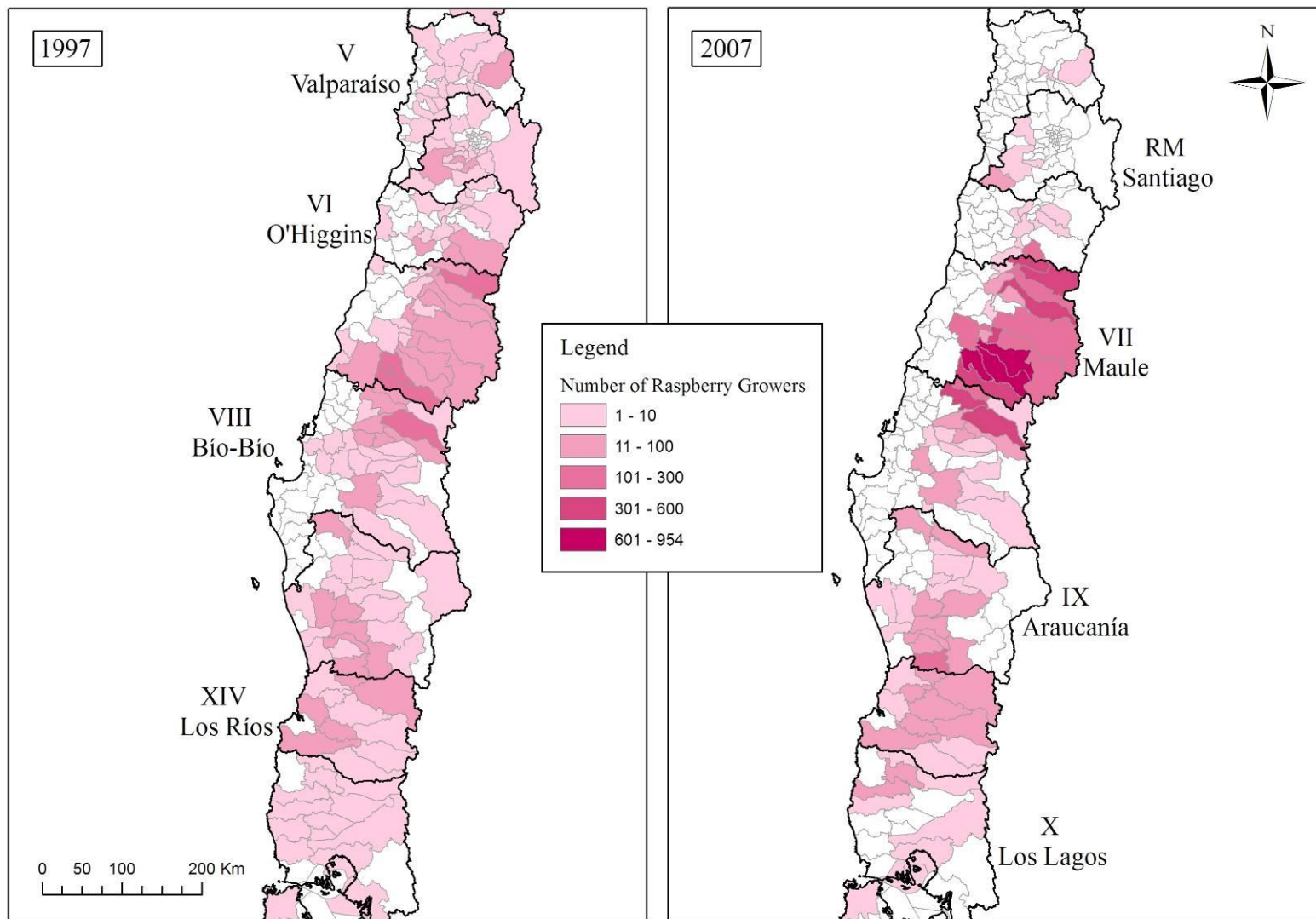
Figures 5.3 and 5.4 (pages 132 and 133) reflect shifts in the geography of primary production at the regional and *comuna* levels over the decade between 1997 and 2007, according to national agricultural census data (INE, 1997, 2007b). While the census data have some limitations (discussed below), the maps are indicative of important general trends. Figure 5.3 shows change in the number of raspberry productive operations (or the number of growers) by region and *comuna*. Over the course of the decade the number of *comunas* hosting raspberry productive operations has declined from 166 to 106. In particular, production has declined in the northern regions of Valparaíso, O'Higgins, and the Metropolitan Region of Santiago. The distribution of growers has also contracted in the southern regions of Araucanía and Los Lagos, although the trend has been less pronounced in these regions. In contrast, larger numbers of growers have become concentrated in the east of the Maule Region, and near the border with Bío Bío. Therefore, while primary production expanded geographically from the mid-1980s, a degree of re-concentration is evident over the last decade, whereby production is increasingly located in the Maule Region, and in the hands of smallholder growers. Figure 5.4 should be viewed in conjunction with figure 5.3, and presents data on the change in the area under cultivation for raspberries. Areas showing a decline or little change in area under cultivation, but significant increases in the numbers of growers are likely to be sites of smallholder grower concentration. The east of Region VII and the northeast of Region VIII provide examples.

As discussed in chapter 2, national-level data on primary production are problematic and contradictory, especially with respect to the smallest growers. This poses a significant challenge, because primary production is overwhelmingly dominated by small-scale growers. The national Agricultural Census conducted by INE considers only those producers with more than 0.5 hectares to be involved in the sector as commercial growers. Growers with smaller plots are usually classified in the Census under *huerto casero* or 'household plot', despite the fact that they are engaged in commercial production and integrated into the raspberry GVC. The area under cultivation, and the

number of growers involved in the sector are thus underestimated, and this is especially pronounced in sectors with high smallholder participation. Despite these shortcomings, this thesis draws on INE data, and particularly on the two most recent agricultural censuses (INE, 1997, 2007b), as they constitute the most suitable source of comparative data across regions and through time.

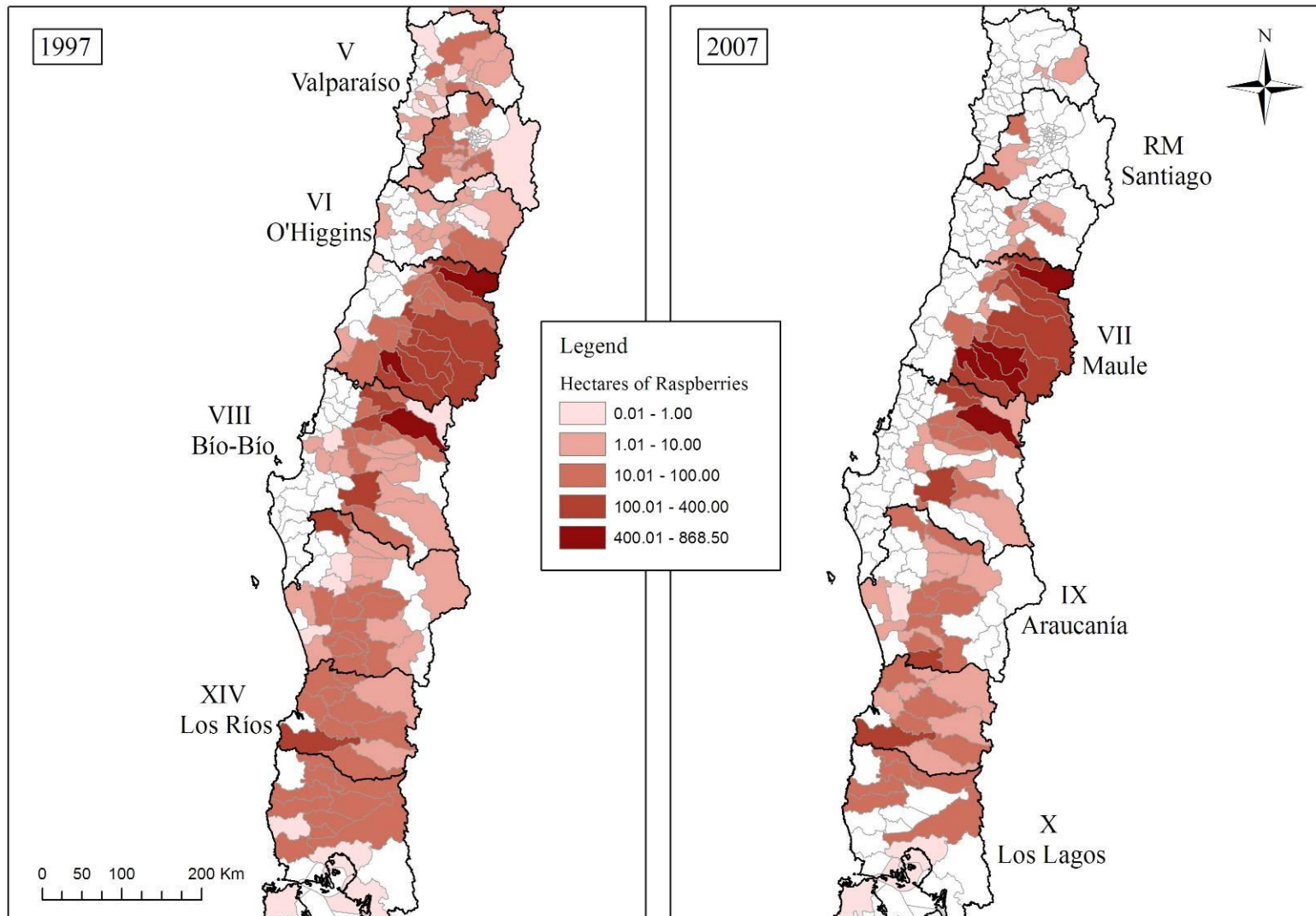
Data held by the national Agricultural and Livestock Service (SAG) is collected and collated differently. Agricultural producers, traders and processors are legally required to register with SAG, and the agency maintains a continuous register but does not necessarily strike growers off when they cease production. In this way, SAG data tends to overstate the number of growers involved in the sector and the area of land under cultivation. SAG data are therefore valuable, in that they are a source of information on firms and intermediaries in the sector, but the data are less reliable for small-scale intermediaries and informal traders (who may operate without a licence and at the fringes of the tax system) and for smallholder growers. Finally, the Centre for Information on Natural Resources (CIREN) conducts occasional regional horticultural cadastral surveys but, while these provide a valuable snapshot in time of individual regions, they also only survey producers with plots of 0.5 hectares or more, and thus also miss many peasant farmers and report lower overall grower numbers and areas under cultivation. The challenges for comprehensive data collection are compounded by the fact that because raspberry production demands relatively low levels of start-up capital the number of small-scale growers fluctuates significantly from season to season in response to prices.

Figure 5.3. Distribution of raspberry producers by comuna, 1997 and 2007



Source: Drawn in ArcGIS 9 with INE (1997; 2007b) data

Figure 5.4. Area under cultivation for raspberries by comuna, 1997 and 2007



Source: Drawn in ArcGIS 9 with INE (1997; 2007b) data

Given the data issues outlined above, it should be noted that the following discussion of national-level productive trends can only approximate the actual number of farmers and areas of land involved in the raspberry sector. INE census data is primarily indicative of medium to large scale farms and less relevant to peasant agriculture. SAG data almost certainly overstates the number of growers. Table 5.5 contrasts figures from INE and SAG for the main raspberry producing regions, and shows divergent data (particularly in Region VII).

Table 5.5. Conflicting official raspberry production data, 2007

Region	INE data		SAG data	
	Number of producers	Area under production (ha)	Number of producers*	Area under production (ha)
Coquimbo (IV)	6	6	6	12
Valparaíso (V)	27	54	41	37
Metropolitana	45	69	29	86
O'Higgins (VI)	158	154	308	136
Maule (VII)	5,284	4,539	14,205	12,485
Bío Bío (VIII)	1,168	1,573	1,624	1,480
Araucanía (IX)	528	511	207	340
Los Lagos (X/XIV)**	248	644	71	170
Total	7,464	7,550	16,491	13,744

* SAG records as at December 2009 put the total number of producers at 18,836.

** Includes Región de los Ríos (XIV)

Sources: INE (2007b); INDAP (2005).

Raspberries led the expansion of the berry sector in Chile through the 1980s. Over the course of the decade, the area under raspberry cultivation rose from less than 400 hectares to 1,780 hectares (Fundación Chile, 2001). Of the 2,777 hectares under berry production at the end of the decade, 64 percent was in raspberries, 28 percent in strawberries and 3 percent in blueberries (Fuentelba, 1990). The number of producers nationwide climbed dramatically from around 270 in 1986-1988⁷⁷ to around 3,100 in 1997 (INE, 1997). The area of land in raspberry production also rose spectacularly to reach 6,530 hectares by 1997. Since the late 1990s the number of producers in the raspberry sector has continued to grow. In 2007, according to the agricultural census there were 7,464 farmers involved in raspberry production (table 5.5). While this equates to an increase of 140 percent in the number of producers over the decade, the area of land in production increased by only 5 percent over the same period. This

indicates a significant decrease in the average area under cultivation from 2.31 hectares to 0.97 hectares and suggests that there have been important productive shifts in the sector over the decade to 2007. SAG data yields a smaller average plot size of 0.83 hectares, attributable to the fact that SAG records a greater proportion of smallholders. At the national level, raspberry productive operations are overwhelmingly in the hands of smallholders. According to SAG data, almost 95 percent of all raspberry operations incorporate less than 2 hectares of land. Around 55 percent are even smaller, incorporating less than a quarter of a hectare (INDAP, 2007b, p. 34). Overall, then, raspberry productive operations are mostly very small and the average plot size has declined over the last decade. In contrast to the process of land and productive consolidation that has been observed in other agri-export sectors in Chile (see for example Challies & Murray, 2006; Gwynne, 2003; Kay, 2002; Murray, 2006b), the raspberry sector, ostensibly, appears to provide an example of dispersion or at least ongoing scope for peasant and smallholder participation.

Increasing small farmer participation in the sector since the mid 1980s has been driven by a combination of domestic and international factors. At the local level, the commercial success of various growers has had a significant demonstration effect within rural communities. Combined with the easy sourcing and propagation of plants and low level of investment required to become established, this has encouraged many smallholders to enter the sector. Apart from this, small farmer participation has been deliberately stimulated from at least two directions. Firstly, export and processing firms have played an important role in the development of the sector through recruiting growers and providing market information and technical support. This drive was particularly marked from the late 1990s as Serbia re-entered the market, putting high competitive pressure on large-scale Chilean growers. Secondly, the raspberry sector was identified by the Ministry of Agriculture and INDAP as a sector of strategic importance and potential for *la agricultura familiar campesina*⁷⁸, and INDAP, along with other government agencies, has led substantial efforts to foster small farmer entry and successful participation in the sector. These influences on the evolution of the sector are discussed briefly below, and returned to in more detail in section 5.3.

Several key firms have played an important role in the development of the raspberry sector in Chile. In general, these firms are small to medium sized Chilean export companies that are specialised in berryfruit, as opposed to the large domestic and

transnational companies that participate in Chile's major fruit sectors (Gwynne, 1999, 2003). Most of these were originally established by pioneering raspberry growers or groups of medium to large-scale growers, and have expanded their supply base to incorporate a range of growers located in the vicinity of their packing and processing facilities. A smaller number of firms are owned by associations of small-scale growers (*empresas asociativas campesinas*, EACs) and supported by the state through INDAP (see below) and the export promotion agency PROCHILE. Typically an EAC sources its fruit from the farms of its associated members and other local suppliers. Private companies usually source a quantity of fruit from their own farms or those of their shareholder owners and augment this with fruit from other contracted medium to large-scale growers, as well as intermediaries supplying fruit from a large number of small-scale growers. Most of these intermediaries are *centros de acopio*⁷⁹ or collection centres, which are small companies that own cool-storage facilities and sometimes transportation. The fruit is delivered daily to the *centro de acopio* by growers themselves or by another intermediary who buys directly from growers and delivers the produce. Some *centros de acopio* are owned by collectives of small-scale growers, and still others are owned by the exporting companies themselves.

Both EACs and private companies have served, to varying degrees, as sources of technical support and information for growers. On the other hand, companies have also been the prescribers of required agricultural practices and production standards with which producers must comply. Grower suppliers contracted to private firms may receive technical advice and assistance via the firm's agronomists and consultants. Some firms were particularly active in this way when the sector was in its early stages of development, and invested significant effort in recruiting farmers and promoting and establishing raspberry production. More recently, although technical assistance is still provided, the emphasis has shifted to supporting and checking compliance with good agricultural practice (*buenas prácticas agrícolas*) as prescribed by the Ministry of Agriculture through SAG and by private company quality standards. Peasant farmers associated via an EAC with INDAP, also receive official technical and commercial assistance from INDAP's staff and contractors both in regional offices and in the field.

INDAP promoted raspberries, especially for fresh export, as a crop that was particularly suited to *agricultura familiar campesina* for several reasons. As discussed above, the labour intensity of raspberry production means that smallholder peasant households are

potentially well-placed to compete with medium and large-scale producers in fresh fruit. The initial capital investment required to establish a plot is relatively low and, while production is fertiliser and pesticide intensive, management of the crop is reasonably straight-forward. Further, given correct management, it is possible to harvest a crop in the same year as planting and thereby achieve a relatively rapid return on investment. This is highly valued by many peasant farmers who do not have easy access to credit. INDAP has, via various regional bodies and local management centres (*centros de gestión*, CEGEs), provided technical assistance and contracted consulting agronomists to assist peasant farmers in the sector. INDAP was also responsible for promoting the formation of a range of different associative peasant businesses and farmers' cooperatives in order to achieve greater economies of scale and capture more value in the commodity chain for peasant farmers (Guaipatín, 2007; Kjöllérström, 2007). These met with mixed success, with many failing for various reasons and some surviving today (for a detailed study see Berdegué, 2001).

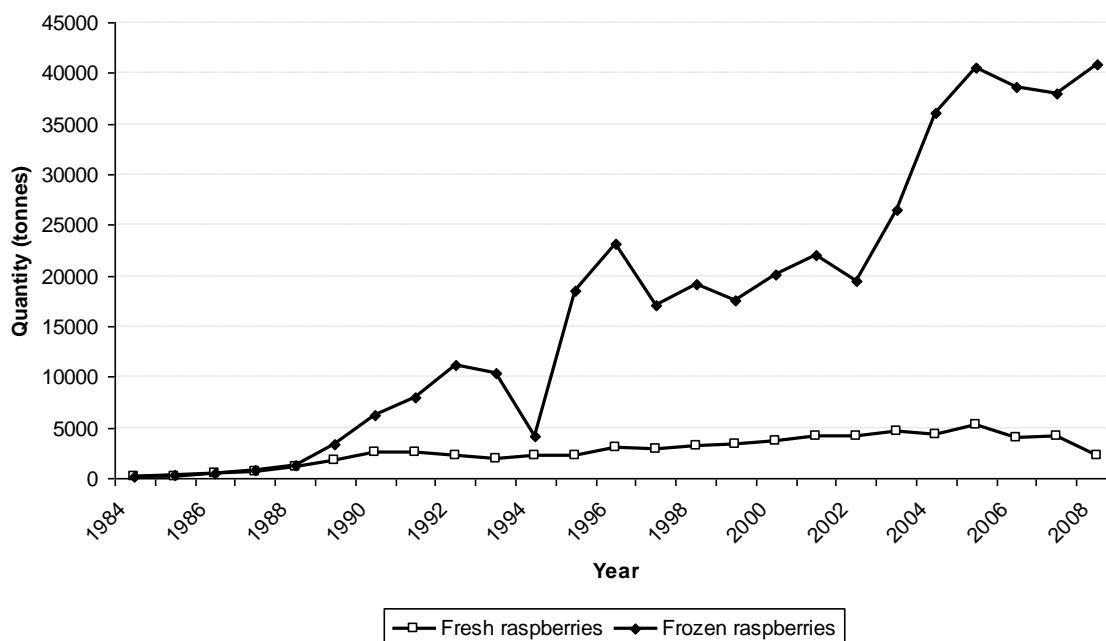
5.2.2. Chilean raspberry trade

In the mid 1980s, during the early stages of the development of the raspberry sector, around half of Chile's raspberry exports were of fresh fruit. As processing capacity grew in the late 1980s, the proportion of fruit processed and frozen for export increased. The ratio of fresh to frozen exports has fluctuated from year to year, because the relative prices for fresh and processing fruit on the international market have a significant influence on the decisions of growers to harvest for the fresh market or for industrial processing in any given year. However, since 1990 fresh exports have generally constituted between 10 and 15 percent of total exports by volume annually, and contributed 25 to 40 percent by value. In 2008 this trend was disrupted, with the lowest quantity of Chilean fresh raspberries on offer for export since the early 1990s. Record world prices for frozen fruit, partly as a result of decreased Serbian output, were instrumental in this, but there are also signs that Chilean exporters are increasingly specialising in frozen exports. Figure 5.5 traces Chilean fresh and frozen raspberry exports⁸⁰ by quantity from 1984 to 2008.

In 1984 frozen raspberry exports surpassed fresh exports for the first time. From 1989, as investments were made in freezing and processing facilities, the production and export of frozen berries was significantly increased. This expansion was driven in large

part by the conflict in the Balkans, which halted most fruit exports from the former Yugoslavia thereby creating an opportunity for Chilean firms to consolidate European market share.

Figure 5.5. Chilean fresh and frozen raspberry exports by quantity, 1984-2008



Sources: Fuentealba (1990, Annex 2); ODEPA (1988, Table VII:5; 1992, pp. 188-189; 2009)

Apart from sharp falls in 1994 and 1997⁸¹ the general trend has been ongoing, and sometimes dramatic, growth in frozen raspberry exports. Remarkable growth in the short period between 2002 and 2005 saw exports more than double from just under 20,000 tonnes to just over 40,000 tonnes. Exports contracted slightly over the following two years, but had climbed to a new peak of 40,831 tonnes in 2008. Traditionally most of this fruit was destined for the United States and the United Kingdom, but new export markets in other European countries and Canada have emerged more recently. Table 5.6 below presents the main importing markets for Chilean frozen raspberries in 2006, and shows the ongoing importance of the US market, which together with Canada absorbs 50 percent of exports. The countries of Western Europe collectively absorb 40 percent, with France being the biggest customer. In terms of value per tonne, Switzerland and Japan are the highest value markets. The expansion in frozen raspberry exports from Chile must be viewed in relation to transitions in global production and trade of fresh raspberries.

Table 5.6. Main importers of Chilean frozen raspberries, 2006

Country	Imports by value* (US\$ 000,000)	Share (%)	Imports by volume* (tonnes)	Share (%)
United States of America	41.7	40.5	21,200	40.6
France	14.4	14.0	6,465	12.4
Canada	10.0	9.7	5,290	10.1
Germany	8.6	8.3	4,817	9.2
United Kingdom	6.1	5.9	3,508	6.7
Netherlands	5.2	5.0	2,634	5.0
Austria	3.4	3.3	1,882	3.6
Switzerland	2.7	2.6	731	1.4
Japan	2.6	2.5	778	1.5
Belgium	2.5	2.4	1,477	2.8
Others	5.9	5.7	3,441	6.6
Total	103.1	99.9	52,223	99.9

* Includes blackberries, mulberries and loganberries (HSC 081120). See note 72, this chapter.
Source: Calculated from ITC (2009) data.

Fresh raspberry exports also experienced steady growth through the 1980s to reach around 2,500 tonnes by 1990. Most of this fruit was destined for the United States market. A slight downturn in fresh exports between 1990 and 1993 was followed by steady growth in exports well into the new millennium. This expansion was accompanied by ongoing export market diversification in the face of rising competition. Fresh exports peaked in 2005 at 5,231 tonnes, but have been trending downwards since as competition from Spain and Mexico has intensified in European and North American markets respectively. Table 5.7 presents Chile's most important fresh raspberry export markets. Despite increasing competition and further attempts to diversify export markets, the North American market is still, by virtue of its proximity and accessibility, by far the most important destination for fresh exports. Germany, the United Kingdom, the Netherlands and France are important European importers, and Japan is also a significant and high value export market.

The main companies exporting fresh and frozen Chilean raspberries are presented in tables 5.8 and 5.9 (pages 141 and 142) respectively. Most of the leading firms involved are Chilean-owned companies. The number of firms engaged in the export of fresh raspberries has remained relatively stable in recent years, increasing only marginally from 20 firms in 2000, to 22 firms in 2007.

Table 5.7. Main importers of Chilean fresh raspberries, 2006

Country	Imports by value* (US\$ 000,000)	Share (%)	Imports by volume* (tonnes)	Share (%)
United States of America	17.17	67.0	3,331	74.1
Canada	6.24	24.3	858	19.1
Germany	0.79	3.1	115	2.6
United Kingdom	0.35	1.4	62	1.4
Netherlands	0.28	1.1	35	0.8
France	0.27	1.1	37	0.8
Japan	0.10	0.4	6	0.1
Austria	0.07	0.3	7	0.2
Norway	0.07	0.3	4	0.1
Italy	0.06	0.2	5	0.1
Others	0.24	0.9	34	0.8
Total	25.64	100.1	4,494	100.1

* Includes blackberries, mulberries and loganberries (HSC 081020). See note 72, this chapter.
Source: Calculated from ITC (2009) data.

In addition, the lead firms have maintained their dominant positions, with the exception of Sun Belle Berries (USA), which has emerged as a major player since 2000. However, the fresh export sector has undergone a process of de-concentration, with the share of total exports accounted for by the top three firms declining from 71 percent in 2000, to 53 percent in 2007 (Fundación Chile, 2001; PROCHILE, 2009a). The frozen raspberry export sector has evolved differently. It has been relatively dynamic, with participation increasing from 37 firms in 2000, to 56 firms in 2007. While Frutícola Olmué and Comfrut have retained their positions as the leading frozen raspberry exporters, half of the top 10 exporters have only risen to prominence in the sector since 2000. Despite the entry of new firms, and in contrast to the fresh export sector, concentration in frozen exports has increased, with the share of exports accounted for by the top three firms rising from 32 percent in 2000, to 40 percent in 2007 (Fundación Chile, 2001; PROCHILE, 2009a). In general, firms engaged in the exportation of fresh raspberries tend to be more specialised than those focused on frozen fruit, however almost all are involved in the export of a range of berries – most commonly blueberries and raspberries, but also strawberries and blackberries.

Of the leading fresh exporters in 2007, presented in table 5.8, Sun Belle Berries and Agroberries are focused almost exclusively on berries. Hortifrut, Vital Berry Marketing

and Comfrut, while diversified into other pip-fruit and stone-fruit, are also highly reliant on berries. Hortifrut, Sun Belle and Agroberries deal exclusively with fresh berries, while Vital Berry Marketing and Comfrut deal with fresh and frozen berries. For most fresh exporting firms blueberries are the main product. For example, in 2007 Hortifrut, Sun Belle and Agroberries derived 75, 73 and 88 percent of export earnings respectively from fresh blueberries, and just 13, 23 and 11 percent respectively from fresh raspberries. This is a situation that has evolved rapidly with the phenomenal growth in the blueberry sector in Chile from the late 1990s, which has seen blueberries surpass raspberries in importance.

Table 5.8. Fresh raspberry exporting companies and exports, 2007

Company	Exports (US\$ 000,000 FOB)	Participation (%)
Hortifrut Chile S.A.	3.11	19.8
Sun Belle Berries S.A.	2.63	16.7
Vital Berry Marketing S.A.	2.53	16.1
Comercial Frutícola S.A. (Comfrut)	2.28	14.5
Agroberries Ltda.	2.11	13.4
Others (17 firms)	3.07	19.5

Source: PROCHILE (2009a) data.

Most of the 56 firms engaged in frozen raspberry exports in 2007 (table 5.9), are relatively diversified agri-export firms, with many also exporting frozen stone-fruit, pip-fruit and vegetables as well as dried and preserved products. However, most of them are specialised in berries, and in most cases rely principally on frozen raspberries. Three firms – Frutícola Olmué, Comfrut and Alimentos Naturales Vitafoods – accounted for 40 percent of total frozen raspberry exports in 2007. Frutícola Olmué is a reasonably diversified frozen fruit and vegetable exporter, but relies on frozen raspberries for 47 percent of its export earnings. Comfrut, as mentioned above is reliant on both frozen strawberries and raspberries, which contribute 26 and 21 percent of export earnings respectively. Alimentos Naturales Vitafoods is a relatively large exporter of processed fruit and vegetables, and it depends on frozen raspberries and blueberries, which contribute 29 and 27 percent of export earnings respectively.

Table 5.9. Frozen raspberry exporting companies and exports, 2007

Company	Exports (US\$ 000,000 FOB)	Participation (%)
Frutícola Olmué S.A.	9.77	14.4
Comercial Frutícola S.A. (Comfrut)	9.52	14.0
Alimentos Naturales Vitafoods S.A.	8.17	12.0
Agroindustrial Valle Frío Ltda.	5.09	7.5
Exportadora Frucol Ltda	3.03	4.5
Framberry S.A.	2.36	3.5
Sociedad Agrícola y Frutícola León Ltda.	2.31	3.4
Nevada Export S.A.	1.83	2.7
Nordex S.A.	1.82	2.7
Vital Berry Marketing S. A.	1.66	2.4
Santiago Comercio Exterior Exportaciones S.A.	1.64	2.4
Alimentos y Frutos S.A.	1.64	2.4
Others (44 firms)	19.27	28.1

Source: PROCHILE (2009a) data.

While the companies presented in tables 5.8 and 5.9 are the leading exporters at the national scale, different companies emerge as being of importance in different regions. The smaller exporters in particular are widely dispersed throughout Chile's raspberry producing regions, and have played important roles in shaping local geographies of production and distribution. This will be explored in more detail in relation to Region VII (Maule) and the *comuna* of Yerbas Buenas in the following section.

5.3. The raspberry value chain from Yerbas Buenas

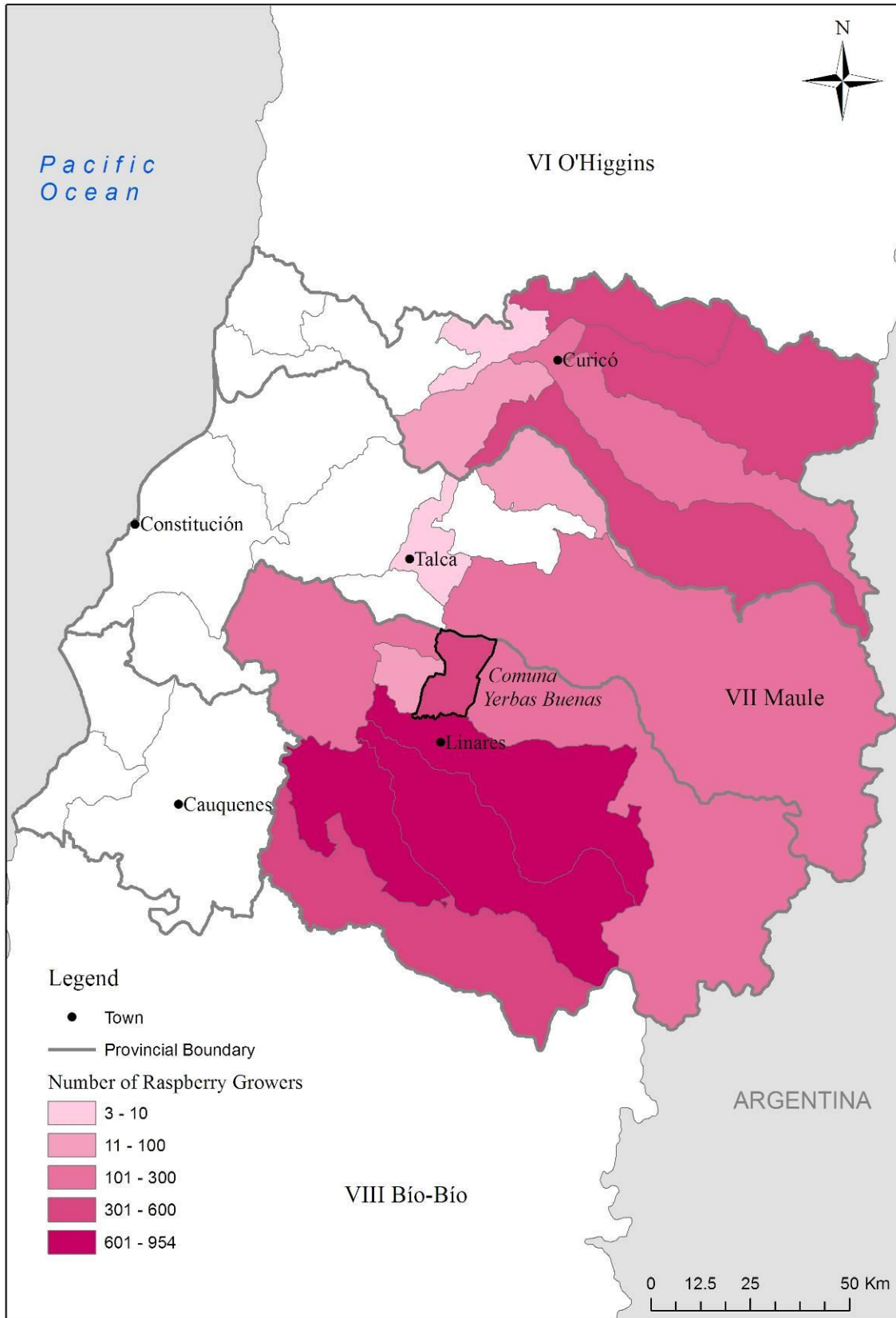
This section describes the GVC for raspberries originating in the *comuna* of Yerbas Buenas, Región del Maule, Chile. The justification for adopting a place-based and production-based starting point from which to construct the raspberry value chain is provided in chapter 2. The discussion here first introduces the case study area, briefly outlining its relevance as a site of production in the regional and national contexts. The raspberry GVC is then explored, following the framework outlined in chapter 3 (section 3.3.1) and examining key actors in the chain. The input-output structure and territorial dynamics of the chain are described, and the governance and institutional dimensions are then examined.

5.3.1. Comuna de Yervas Buenas, Región del Maule

As discussed in chapter 2, the Maule Region is an important site of berry production within Chile. At the regional scale, the berry sector has been highly dynamic, with the three most important subsectors – raspberries, blueberries and blackberries – undergoing important structural transformations over recent years. Blueberries and blackberries in particular, have experienced phenomenal expansion, with the area under cultivation for blueberries increasing by 1,057 percent, and that for blackberries by 732 percent, between 2001 and 2006 (CIREN, 2007). The area under raspberry cultivation has expanded at a comparatively modest rate of 55 percent over the period from 1997 to 2007. However, over the same period the number of growers increased by over 250 percent (INE, 1997, 2007b), which suggests that larger producers have been replaced to some extent by smaller growers. Figure 5.6 shows the distribution of raspberry productive operations across the four provinces and thirty *comunas* of Region VII. It reflects the concentration of growers (50 percent of the regional total) in the province of Linares, and locates the study area of Yervas Buenas in this context.

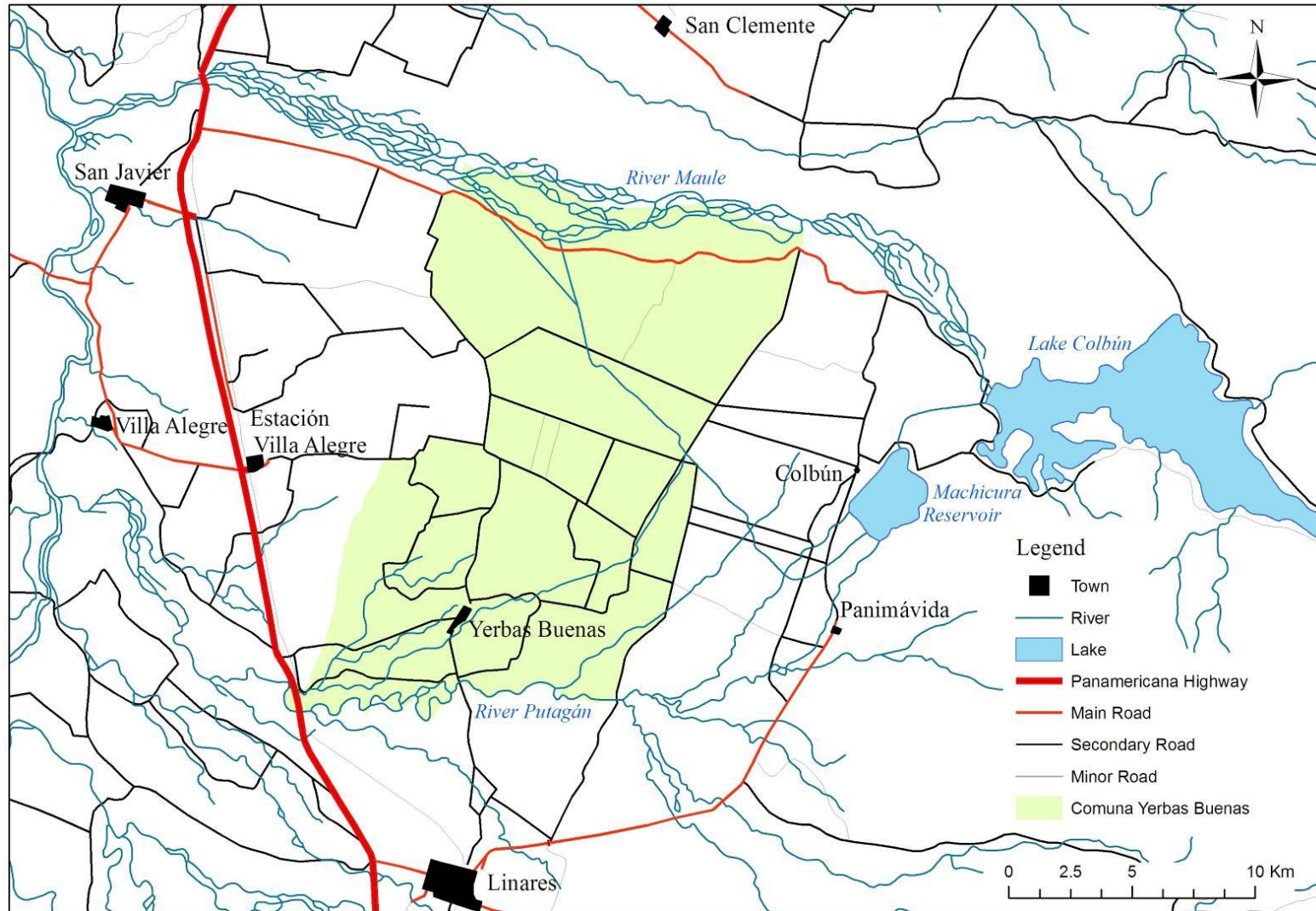
This case study is focused on the *comuna* of Yervas Buenas, within the province of Linares (see figure 5.7, page 145). Yervas Buenas covers an area of 262 km² and is home to some 16,000 inhabitants⁸², 90 percent of whom live in rural areas. The town of Yervas Buenas, home to around 1,600 people, is close to the *Panamericana*, the national arterial highway, but the majority of the *comuna* is served by unsealed gravel roads and light bridges. Public transport and telecommunications services are poor, and schools are sparse. The two largest employers in the *comuna* are the various municipal offices in the town of Yervas Buenas itself, and a large pulp and paper mill in the northwest of the *comuna*. Aside from these, formal employment in the *comuna* is based on seasonal agricultural/horticultural work – either farm/orchard work, or factory work grading, packing and processing fruit and vegetables. Several major fruit packing plants are located within the *comuna* or on its boundaries, and these absorb much of the produce from the local farms and orchards, especially pipfruit (mainly apples and pears) and berryfruit (blueberries, blackberries and raspberries). Apples, pears and blueberries are grown mainly on large-scale orchards, which are either owned by fruit companies themselves or large-scale growers. In contrast, blackberries and raspberries are grown principally on small to medium sized family-owned plots.⁸³

Figure 5.6. Distribution of raspberry growers in the Maule Region by comuna



Source: Drawn in ArcGIS 9 with INE (2007b) data.

Figure 5.7. Case study locality: Yerbas Buenas



Source: Drawn in ArcGIS 9

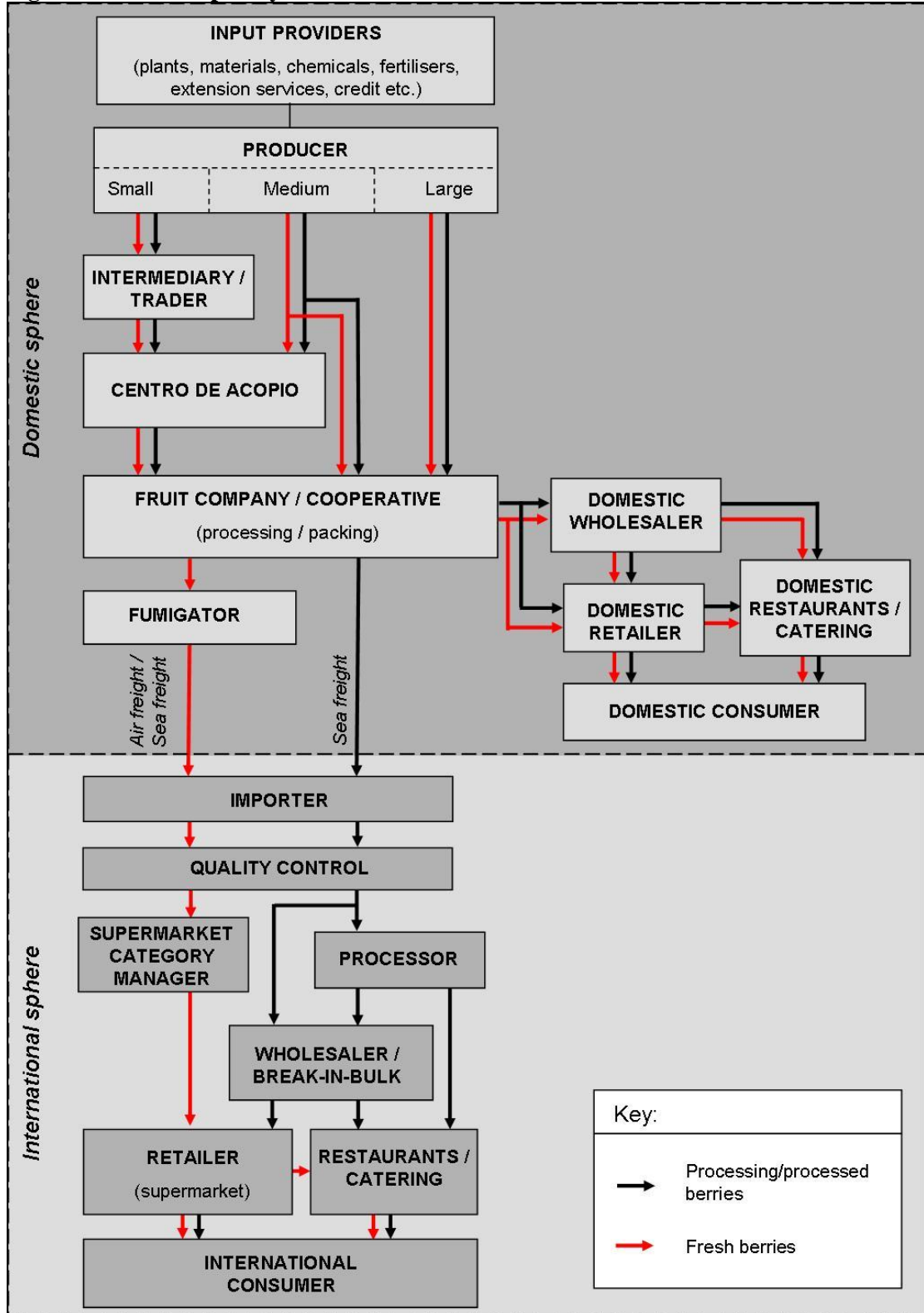
In the case of raspberries, the involvement of very small-scale growers is particularly high. The 2007 Agricultural Census records 496 raspberry growers in the *comuna*, and 350 hectares of land under cultivation, suggesting an average plot size of 0.71 hectares (INE, 2007b). In reality however, most plots are smaller than this because while there are a few larger farms, many more households tend very small commercial plots of less than 0.5 hectares. As noted above, the census does not accurately classify the smallest commercial producers, and the actual number of raspberry growers in the *comuna* is closer to 700 (C. Becerra, pers. comm. 12/06/09), some of whom tend plots of 500 m² or less. Further, as raspberries are a low-cost and fast-establishing crop the number of growers fluctuates from season to season in response to trends in world prices and profitability.

5.3.2. Input-output structure and territoriality of the raspberry GVC

The raspberry value chain into which the producers of Yervas Buenas are integrated consists of two main strands – one involves the export of premium fresh berries principally to the United States, and the other involves the processing of berries for export mainly to the United States and Europe. Of these processed berries, around 80 percent are frozen while 20 percent are exported as juice or puree. At the primary production and processing stages in Chile, premium berries destined for fresh export are commonly referred to as '*fresco*', while berries destined for processing are most often referred to as '*IQF*'. Figure 5.8 provides a simplified representation of the key nodes in the raspberry value chain and differentiates between the two main strands. For simplicity figure 5.8 focuses on the flow of produce, and does not attempt to show the complex multidirectional flows and feedbacks of information, capital and inputs (of both goods and services) between chain actors. Each chain segment is linked horizontally to an array of input and service providers, but because this study is primarily focused on the implications of GVC participation for farmers, we deal here mainly with dynamics at the upstream (production) end of the chain. Horizontal network linkages are explored in more detail in the next chapter as part of the analysis of household livelihood strategies. Finally, real world diversity and difference *within* individual nodes along the chain is not represented in figure 5.8, but is addressed below. Despite the inevitable simplification of reality, mapping and describing key nodes in the chain is a valuable exercise in that it locates chain actors and highlights inter-nodal linkages. A diagrammatic representation also identifies divergent strands within the

GVC and provides a reference for the exploration of differing divisions of labour and forms of coordination along these strands.

Figure 5.8. The Raspberry Value Chain



Source: Own work.

Primary production

At the primary production level it is necessary to distinguish between different scales of operation, which have important implications for how growers access markets. In particular, large-scale, highly capitalised growers are integrated into the value chain on very different terms and by different means to small-scale peasant farmers. As noted above, the raspberry GVC is characterised by high participation of smallholders, and this theme is addressed in detail in the following chapter. This section makes general observations about the primary production node of the chain, and differentiates between small and large growers.

Large and medium-sized farms, defined as having more than one hectare in raspberry production⁸⁴, represent just 15 percent of total farms in the sector (INDAP, 2007b). These growers tend to provide raspberries directly to fruit processing companies or exporters. In some cases the larger farms are owned by vertically integrated companies themselves, or by major shareholders. The contractual arrangements between larger farms and fruit companies vary, but contracts often specify the provision of a certain quantity and quality of fruit over the duration of the season, and provide for payment within 30 to 60 days depending upon the quality of fruit supplied. Producers are also required to attain certification for good agricultural practice as a precondition of supplying fruit. A domestic baseline agricultural production standard has been developed by the National Commission for Good Agricultural Practices, which reports to the Ministry of Agriculture. Within this initiative SAG has led the development of codes of good agricultural practice – or *Buenas Prácticas Agrícolas* (BPA) – for various agricultural sectors, including the berry sector. External standards, especially GLOBALGAP and USAGAP for export to the European Union and United States respectively, are also increasingly common requirements.⁸⁵ These public and private standards are discussed further below.

Larger farms are generally more capital and technology intensive employing, for example, drip-feed irrigation and fertiliser application and mechanised spraying, pruning and harvesting (Strik, 2007). However, in contrast to Europe and North America, machine harvesting is rare in Chile as low labour costs make hand picking more economical on all but the largest farms. It is generally easier for large farms to fulfil contractual obligations for fruit quantity, quality and consistency of supply, and to meet the strict requirements and rising costs of quality and production standards than it

is for small farms. Further, it is cheaper for exporters to monitor compliance and quality management among a smaller group of larger suppliers. In this sense it is preferable from a company's perspective to deal with fewer larger growers as opposed to many small-scale growers.

However, with smallholders contributing around 90 percent of production in Yerbas Buenas, companies are forced to source both fresh and processing fruit from smallholders. In general, small farms are more labour intensive, often relying entirely on household labour and sometimes employing extended family members or neighbours during harvest time. Irrigation is predominantly via traditional canal and channel methods, and pruning, spraying, weeding, picking and other tasks are done by hand. Because these tasks are carried out manually, the orchard is not laid out to accommodate tractors or mechanised harvesters, and is therefore planted more densely. This increases productivity in terms of yield per hectare on small-scale farms. However, a high proportion of smallholder growers have low levels of formal education and low incomes. They also tend to be isolated geographically and have access to only poor roads and transport services. These factors combine to pose challenges to the implementation of BPA and the achievement of other required standards. Therefore, small-scale growers are often highly reliant on the technical support of agronomists and extension agents contracted through the Ministry of Agriculture's development arm INDAP via projects like PRODESAL⁸⁶ to guide farm management and facilitate compliance with standards. Further, despite integration into the chain as commercial producers, small-scale growers tend to have a 'spontaneous' business approach, often keeping few production and income records and not hesitating to switch production away from raspberries following a bad season or to re-plant following the success of their neighbours in a good season. Many small to medium-scale raspberry plots in Yerbas Buenas range from 500 m² or less to around half a hectare, and usually make up part of a diversified household plot or family farm producing a mixture of crops for commercialisation and household consumption. While almost all of these growers fulfil the legal requirement of being registered with SAG, only 70 percent have successfully implemented BPA.

Depending on relative prices for fresh and processing fruit in a given season, growers may concentrate on picking fresh berries for direct supply to an export company, or less selective harvesting of processing berries. Fresh high grade fruit is usually packed on-

site directly into plastic punnets or ‘clamshells’ (see figure 5.9) and either collected daily from the farm gate by a company vehicle, or delivered to a collection point. Where small-scale growers provide fruit directly to exporters in this way there is usually a limited contract guaranteeing supply to the company in exchange for limited advice and technical assistance to the producer.

Figure 5.9. Fresh raspberries packed on-farm into 150g clamshells for export



Source: The author.

Intermediaries: Centros de acopio and conchenchos

Raspberries destined for processing, however, follow a different path to reach the processors and exporters via intermediaries. In order for small-scale producers to achieve sufficient bulk of supply in processing berries, their fruit is usually combined with that of other growers from the surrounding area at *centros de acopio* (collection centres), which are dispersed throughout the *comuna*. Fruit is delivered to the *acopio* on a daily basis, either directly by producers or by an intermediary trader, and on-sold in bulk to a processing company. *Centros de acopio* adjust their prices daily based on what the processing companies are paying and what other *acopios* nearby are offering.

Ownership structure of these businesses varies, with some being owned by the fruit companies themselves, others being privately owned and independently operated, and still others, although less commonly, being owned collectively by associations of growers.

Located strategically, usually on main roads in or near areas with high densities of growers, some *centros de acopio* consist of only basic structures providing literally a point of collection, while others are equipped with cool-storage facilities of varying capacities. Cool storage is particularly advantageous in handling berries destined for fresh export, and helps to retain post-harvest quality. Where fruit is received at the *centro de acopio* throughout the day and transferred to export companies via refrigerated transport in the evening, for example, the capacity for cool storage is a significant competitive advantage for *centros de acopio*. Figure 5.10. shows a large *centro de acopio* located in Linares, just outside Yerbas Buenas, in this case owned by the export company Hortifrut. Figure 5.11 gives a view inside a small but well-equipped *centro de acopio*, showing a cool storage chamber and electronic scales. Also visible are boxes of packaged premium fresh fruit destined for export and trays of ungraded fruit destined for processing.

Figure 5.10. Hortifrut *centro de acopio*, Linares



Source: The author.

Figure 5.11. Interior view of a small-scale *centro de acopio*



Source: The author.

For many of the smallest, poorest and most isolated growers, who have no private means of transportation, getting their produce to a *centro de acopio* is only possible through a third party. For this reason many such producers sell their fruit on a daily basis at the farm gate to passing intermediary traders, known colloquially (and slightly derogatively) as *conchenchos* (see figure 5.12). *Conchenchos* generally buy raspberries by the tray for as low a cash price as possible on the day, transport the fruit, and on-sell it at a *centro de acopio*. *Conchenchos* compete amongst themselves for fruit, canvassing an area by pickup truck or van and haggling with growers over price. These traders, or *comercializadores* as they are officially called, are legally required to be registered with SAG, maintain a register of all of the grower-suppliers and their SAG registration codes, and keep records of the quantities of fruit collected and traded. In reality, however, this upstream segment of the chain is relatively dis-integrated and difficult to regulate, and informal intermediary trading is widespread. In this context, *conchenchos* fulfil a doubly contradictory role: As far as smallholder growers are concerned, the intermediaries exert downwards pressure on farm gate prices but, at the same time, act as a crucial link in the chain and a bridge to market. For the processing companies, intermediaries are also vital in securing sufficient supply of primary product, but

simultaneously act to thwart chain governance, quality compliance and traceability. These challenges to traceability and quality standards enforcement, are increasingly concerning for exporters, and represent a significant medium-term barrier to growth in the sector – an issue that is discussed further in the next section. From the perspective of the *conchenchos*, being ‘middlemen’ they are on one hand treated with varying degrees of contempt and distrust by companies and growers alike, while on the other they are recognised as important actors enabling chain participation among isolated small-scale growers and securing supply for fruit companies. In the Maule region in 2007 there were 108 registered *comercializadores* (INDAP, 2007b), and an unknown number of informal *conchenchos* operating. The number of operators in the *comuna* of Yerbas Buenas is uncertain.

Figure 5.12. Intermediary raspberry trader, Yerbas Buenas



Source: The author.

Processors and exporters

In 2007 there were 74 firms engaged in the export of fresh and frozen raspberries from Chile (PROCHILE, 2009a). Most of the leading firms in the sector are Chilean-owned, and at least 15 of these source fruit from within the *comuna* of Yerbas Buenas. Several leading companies have raspberry processing facilities in the *comuna* itself or close by. The most important companies operating in or sourcing fruit within Yerbas Buenas are

presented in table 5.10 (below), ranked by total exports.⁸⁷ As the table reflects, larger agri-exporters (in terms of value of total exports) tend to also be relatively highly diversified and are engaged in fresh and frozen berry exports. Most of the firms rely primarily on blueberry or strawberry exports as opposed to raspberries, and for all firms, the US is a highly significant market. Smaller firms tend to concentrate on exports of either fresh or frozen berries, and the level of product diversification is much lower. Beyond these generalisations, the firms are highly heterogeneous, and this is consistent with the situation within the berry sector at the national level, which is characterised by many small to medium scale firms and high competition. In order to illustrate the diversity and dynamism present at the processing and exporting node of the chain clustered around Yerbas Buenas, the discussion below introduces case studies of five of the seven firms in table 5.10, examining the structure and strategies of each. The three largest exporters in the study area (Comercial Frutícola S. A., Vital Berry Marketing S. A., and Hortifrut Chile S. A.) are examined first, before the discussion turns to two of the smaller firms – a long-standing grower cooperative (Sercocamp S. A.), and a highly flexible and privately-owned recent entrant to the sector (Valle Maule S. A.).

Comercial Frutícola S. A. (Comfrut) has its head office in Santiago and its processing plant in Chillán around 100 km south of Yerbas Buenas. Comfrut is a diversified agri-export firm engaged in processing a range of berries, stone-fruit, pip-fruit and vegetables, but its main business is in exporting frozen strawberries and raspberries. Fresh and frozen blueberries, and fresh raspberries and blackberries are also important products for the firm. Of Comfrut's raspberry business, 80 percent consists of frozen fruit for the North American and Japanese markets, and 20 percent consists of fresh produce for North American, Japanese and European markets. At the national scale Comfrut is ranked as the second largest exporter of frozen raspberries and the fourth largest exporter of fresh raspberries in 2007, accounting for around 14 percent of national exports in both categories (see tables 5.9 and 5.8 respectively).

Established in 1985, Comfrut has played an important role in the development of the berry sector, actively recruiting growers and supporting primary production through technical assistance. It receives raspberries from close to 500 mostly small-scale growers located between the Metropolitan Region of Santiago and Osorno in Region X, but concentrated in the *comunas* of Chimbarongo, Region VI (≈ 100), Romeral, Region VII (≈ 120), and Yerbas Buenas Region VII (≈ 120).

Table 5.10. Principal raspberry exporting companies in Yerbas Buenas, 2007

Company	2007					
	Total exports (US\$ m FOB)	Fresh raspberry exports (US\$ m FOB)	Frozen raspberry exports (US\$ m FOB)	Key export markets and share of total company exports	Leading export product (US\$ m FOB & %)	Number of products exported
Comercial Frutícola S. A. (Comfrut)	44.73	2.28	9.52	USA (43%), Canada (38%), Netherlands (9%)	Frozen strawberries (\$12.33 m / 28%)	34
Vital Berry Marketing S. A.	25.71	2.53	1.66	USA (40%), UK (35%), Australia (6%)	Fresh blueberries (\$13.03 m / 51%)	22
Hortifrut Chile S. A.	22.44	3.11	-	USA (81%), Netherlands (8%), UK (4%)	Fresh blueberries (\$17.67 m / 79%)	16
Exportadora Copramar Ltda.	9.09	-	1.24	USA (30%), China (24%), Italy (23%)	Frozen strawberries (\$3.15 m / 35%)	5
Valle Maule S. A.	6.37	0.54	-	USA (84%), UK (7%), Netherlands (5%)	Fresh blueberries (\$4.50 m / 71%)	4
Triage Chile S. A.	1.36	-	0.41	USA (70%), New Zealand (16%), Canada (14%)	Frozen blueberries (\$0.83 m / 61%)	3
Sercocamp S. A.*	0.37	-	0.27	UK (36%), USA (32%), Germany (31%)	Frozen raspberries (\$0.27 m / 69%)	3

* Data for Sercocamp S. A. are for 2006.

Source: Calculated from PROCHILE (2009a) data.

Comfrut has around 10 *centros de acopio* concentrated in Regions VI to VIII, and has field technicians supporting production and overseeing activity around the *centros de acopio*. Through these technicians Comfrut maintains a programme to advance the implementation of BPA among its suppliers, and also provides newsletters and manuals to this end. Figure 5.13 shows signage provided by Comfrut outlining requirements and restrictions to guide grower and worker activity on the plot of one grower in Yervas Buenas. The implementation of BPA is essential for Comfrut as it moves to meet its traceability obligations and the quality requirements of customers. Comfrut also participates in a programme facilitated by INDAP called ‘*Programa de Encadenamientos Productivos*’, which is part of a strategy to foster viable small-scale growers and promote sustainable links with agribusiness in agri-food chains. For the companies involved, it is a form of state support in their efforts to secure a BPA-compliant supply base.

Figure 5.13. BPA signage provided by Comfrut to its grower suppliers



Source: The author.

The signs read, left to right (excluding top left), ‘Do not use jewellery’, ‘Put rubbish in designated bins’, ‘Keep the area clean’, ‘Do not smoke’, ‘Do not eat or drink in the orchard’, ‘Keep the toilets clean’, ‘No animals in the orchard’, ‘Wash your hands’, ‘Do not chew gum’, ‘Use a hair-net’.

Vital Berry Marketing S. A. (VBM) has its head office in Santiago, and its main plant (controlled by subsidiary Top Berries S. A.) on the border of the *comunas* of Yervas Buenas and Colbún. It also has a packing plant in Quilicura, Santiago. VBM is also relatively diversified, focusing on fresh and frozen blueberries and raspberries, but also exporting blackberries, red currants, and a range of other fruits and vegetables. In contrast to Comfrut, VBM is more focused on fresh raspberry exports, which it realises through a partnership with the multinational Unifrutti. This is reflected in its importance at the national scale as the third largest exporter of fresh raspberries, and the tenth largest exporter of frozen raspberries (see tables 5.8 and 5.9). Despite its overall focus on fresh blueberries, exports of which dwarf its raspberry business, VBM remains a key actor in the raspberry value chain in Yervas Buenas. Its Top Berries plant is dedicated to processing and packing frozen berries for export to North America, Europe and Australia. The plant employs around 60 workers in the season (of which 12 are permanent staff) and processes approximately 1,500 tonnes of raspberries per season. Top Berries packs in a range of formats for many international clients, including IQF in bulk, whole and broken berries, block-frozen, pulp and puree. It also packs a range of frozen berry mixes (figure 5.14) in various formats for direct export to overseas retailers.

Established 1989 by six berry growers, VBM now sources raspberries in Chile from around 20 medium to large scale growers and around 100 small-scale growers via intermediaries and *centros de acopio*. Around 25 percent of fruit sourced by the company comes from its grower shareholders. Producers that supply fruit directly to the firm under supplier contracts are paid on a weekly basis, whereas intermediaries are paid upon delivery to the plant. VBM facilities are HACCP (Hazard Analysis and Critical Control Point) certified and the company is working with growers to implement Chilean BPA and GLOBALGAP standards. The company has expanded internationally, establishing a joint venture, TecnoVital, with two major Argentine agribusiness firms in 2004. Through TecnoVital, VBM is a leading exporter of blueberries from Argentina into the US market. The company also sources berries from Mexico and Guatemala for the US market, where it is in partnership with US produce company Giumarra. VBM has also established marketing offices in Holland, Germany, the UK, Japan and Mexico. Within Chile VBM also has a cool chain/transport subsidiary (TransVital) and its own cargo agency (PAT Cargo).

Figure 5.14. Packing of frozen berry mix for export to the USA



Source: The author.

Some of VBM's most important individual suppliers are very large and diversified, and highly certified farms. For example, San Jose Farms (SJF) has 500 hectares in berry production on 5 orchards in Chile between Regions IV and IX. SJF is specialised in blueberries, but also provides large quantities of raspberries (including some grown under tunnel houses), blackberries and red currants. SJF has GLOBALGAP, Tesco Nature's Choice, Walmart Ethical Protocol, ISO:9001 and HACCP accreditation, as well as advanced traceability systems in place. The company markets itself as environmentally friendly, working to quantify its carbon footprint and adopt renewable energy sources.

Hortifrut Chile S. A. (Hortifrut) has its head offices in Santiago and many facilities throughout Chile, with important packing and processing facilities in Curicó, Talca, Linares (Region VII) and Los Angeles (Region VIII). Hortifrut is a Chilean firm established in 1980 and owned by two large grower shareholders. The company is almost entirely focused on fresh berry exports (including organics), and particularly blueberries. Despite the fact that fresh blueberries account for 79 percent of its exports, Hortifrut is the national leader in raspberry exports. The company's two owners together supply approximately 50 percent of the fruit, and many smaller growers supply the rest. Raspberries are particularly supplied by smaller growers. Hortifrut has adopted

a very strict approach to certification, requiring that its producers comply with at least three standards: BPA, GLOBALGAP and Hortifrut's own code (which requires the former two as well as some additional measures). The company considers quality and traceability the top priority, and consequently many small-scale Chilean growers are not eligible to supply Hortifrut.

Hortifrut is also recognised as a leader in berryfruit at the international level and has, through a reasonably assertive expansionist strategy, acquired interests in, and entered into joint partnerships with, a number of high-profile berry firms in the major berry producing countries and key markets. The company is thus highly vertically integrated, controlling nurseries, farms, packing, distribution and marketing segments of the cross-continental value chain. In addition, the company is involved in plant-genetics research and the development of new berry varieties, which it provides to its growers under proprietary arrangements. This has been driven by a motivation to secure consistent supply 52 weeks of the year, reflected in the company's motto: 'Berries for the world every day'. In the USA Hortifrut is in a joint venture partnership with MBG (Michigan Blueberry Growers) Marketing and Naturipe Berry Growers. The joint venture, called Global Berry Farms, was established in 2000 and is now the second largest supplier of berries in the USA, marketing its products under the Naturipe Farms label. It has sales offices in Texas, Florida and Michigan. In addition to exporting from Chile from late November to June, Hortifrut sources raspberries for the US market from its farms in Argentina, Mexico and Guatemala, allowing it to supply the US market from as early as late September.

In Europe, Hortifrut owns farms in Spain, where it also has a marketing joint venture (Euroberry Marketing) with Spanish company Atlantic Blue. Established in 2003, Euroberry Marketing provides continental European markets (especially Italy and the Netherlands) with year-round supply under the label Southern Sun. Hortifrut also has a marketing joint venture in the UK (where it works through EuroberryUK), a regional sales office for Asia in Hong Kong, and farms and facilities in Poland.

Sercocamp S. A. is an *empresa asociativa campesina* with its office and plant located in the *comuna* of Yervas Buenas. The company processes between 1,500 and 2,000 tonnes of berries per season, of which 1,000 tonnes are raspberries. Sercocamp was one of the first berry companies in the area in the 1980s, and began as an association of around 70 small-scale berry growers who collectively sold their fruit to larger export

firms. The cooperative initially expanded by providing berry plants from its nursery to newcomers free of charge, and then recouping the costs incurred in payments in fruit. With financing and support from INDAP, Sercocamp built its Yervas Buenas processing plant in 1998. The number of associates has increased over time, but there has also been a degree of consolidation within the cooperative structure. There are now around 15 large-scale producer associates, and approximately 200 small-scale associated growers with plots of less than a quarter of a hectare, and whose fruit is delivered to the plant by intermediaries. Larger growers who supply the plant directly are paid every 15 days, whereas intermediaries are paid upon delivery to allow for the prompt payment of small growers.

Sercocamp exports a small proportion of its fruit directly to buyers in the USA and Europe but relies on larger export companies, like Nevada Export and Latin Fruit, to buy the bulk of its product. For this reason, it does not register among the important berry exporters at the national scale, though it is an important buyer and processor at the local scale. The first direct exports by Sercocamp were achieved with the assistance of a PROCHILE programme that funded the company's participation in a trade fair in France and thus helped to establish commercial contacts in Europe. The company has, however, found it difficult to establish further international relationships and achieve greater market diversification, although it recognises the need to do so, and therefore remains dependent to a large extent upon other export firms. Its Yervas Buenas plant (figure 5.15) operates from December to early April with berries, and has more recently diversified into processing frozen grapes and kiwifruit for a number of clients, to extend its operating time. The plant employs 12 permanent staff and around 70 seasonal temporary workers. It operates for 16 hours per day in two shifts, with around 35 workers (mainly women) grading and packing the fruit.

Like other EACs, Sercocamp faces cash-flow challenges in that it can only borrow to a limited extent, yet has to cover fixed costs and payments to growers at the beginning of the season, before export revenues begin to flow in. While it has arranged some access to credit using the processing plant as collateral, it still relies on support from INDAP and other state agencies for finance and support. As a member of a network of EACs (along with Agrimaule, Agrocordillera and Agropehuente) ⁸⁸ Sercocamp has been working with INDAP to foster compliance with BPA and improved yields among its associated growers.

Figure 5.15. Sercocamp processing plant, Yervas Buenas



Source: The author.

Valle Maule S. A. is a berry exporting company formed by five local growers in 2002 and based in Linares. It has its roots in a 1999 initiative by local berry growers, who formed *Grupo de Transferencia Tecnológica Arándanos de Linares* (GTT, or Blueberry Technology Transfer Group Linares) and shared an interest in expanding their blueberry production and establishing commercial relationships to underpin direct exports. The company is strongly focused on blueberry exports, but with raspberry exports valued at over \$500,000 in 2007 it is a significant buyer of local raspberries. The five owners of the company supply 50 to 60 percent of the fruit from 130 hectares of orchards, while around 200 small and medium growers supply the remainder from approximately 430 hectares. Valle Maule has 12 permanent employees, including three field technicians that support its growers. Most of its produce enters the US through Miami and Orlando, where the company works with seven brokers who distribute its fruit.

Valle Maule is particularly interesting as it is structured very differently to all of the firms reviewed above. The company maintains a high degree of flexibility in that it owns no processing facilities or plant. Instead, processing and packing facilities and cool storage space are leased at the Linares packing plant of the large fruit firm Copefruit (figure 5.16). When Copefruit requires these facilities in December and January, Valle Maule switches to Copefruit's facilities in Curicó, 110 km to the north.

The plant runs for 20 hours per day over two shifts with around 60 workers, also supplied by Copefrut. All of Valle Maule's growers are BPA certified and the company is in the process of bringing them up to GLOBALGAP compliance.

Figure 5.16. Copefrut workers and plant packing berries for Valle Maule



Source: The author.

As the discussion has reflected, the firms involved in the packing, processing and export of raspberries from the *comuna* of Yerbas Buenas exhibit a high degree of heterogeneity. While some are highly diversified and, within this, export both fresh and frozen berries in a range of formats, others are specialised in either fresh or frozen fruit. The various firms exhibit different degrees of internationalisation and transnationalisation, with some being characterised by relatively high cross-border vertical integration, and others remaining relatively dependent on downstream actors for export, marketing and distribution. The leading export firms have a significant stake in downstream components of the value chain, through both direct vertical integration (for example, of packing/processing, transport, and export functions within Chile and cargo, import and marketing and distribution functions internationally), and through joint ventures and partnerships with key actors in market destinations.

Backward linkages and integration of upstream chain functions varies, but many of the leading companies source a significant proportion of fruit from large farms owned by shareholders and associates, or indirectly integrated via contractual relationships.

Backward linkages beyond the primary production node of the chain is rare, except in the case of nurseries and some involvement in plant-genetic research and development into new cultivars and proprietary varieties. Common to all firms is reliance, for at least 40 percent (and usually more) of fruit, on dispersed smallholder growers. In the case of raspberries, the production of which is overwhelmingly in the hands of small farmers, this is even more pronounced. As a consequence, firms have been compelled to support and facilitate compliance among suppliers with national and global agricultural good practice standards (especially Chile's BPA scheme, and the international GLOBALGAP scheme). Comprehensive traceability systems and standards compliance are essential basic requirements for market access, and the raspberry GVC is increasingly organised and governed to this end. The upstream end of the chain, characterised by many small-scale growers, numerous intermediaries and *centros de acopio* (including informal operators), presents a significant challenge in this respect. The following section examines quality standards as a form of chain governance in the raspberry GVC and considers how such standards are conveyed and monitored within the chain.

5.3.3. Value chain governance and institutional context

The way that the raspberry value chain is coordinated and governed is significant for primary producers, because it has major implications for their access to markets (Humphrey & Schmitz, 2001). While agri-food globalisation has unfolded unevenly, with varied implications for the food retail sector globally (Biénabe et al., 2007), a clear trend in North America and Western Europe has been the consolidation of market share by large supermarkets. In the case of horticultural produce in general, and specialty produce like berries in particular, supermarkets have increasingly sought control over agri-food supply chains in order to ensure product quality and continuity of supply, and to achieve traceability. The need to control upstream segments of the chain has arisen out of intensifying competitive pressure on retailers to innovate and compete on the basis of product quality and differentiation; rising demands from consumers and NGOs for ethical sourcing and sustainable production; and increasing legal requirements for retailers to safeguard consumer health and safety (Dolan & Humphrey, 2004). The latter factor is of particular importance in the US market, where the national regulatory

framework is focused on science-based risk mitigation, and retailers and food handlers are motivated to avoid corporate legal liability for non-compliance with applicable food safety laws and regulations (Skogstad & Carruth, 2006). Regulation for food safety in the EU is also oriented towards public health and safety, but places more emphasis on engaging with and informing consumers about the social and environmental sustainability of food production (König, 2006).

The wide range of national regulatory environments, and public and private food quality and safety standards, has prompted attempts at standards harmonisation. Much of this work has been carried out at the multilateral and regional levels in line with international regulations and codes of practice like those developed by the World Trade Organization and Codex Alimentarius Commission. Emergent international and third party private standards also have to be consistent with relevant national regulatory frameworks in market countries. Chilean exports to the USA and EU must comply with good agricultural practice (GAP); good manufacturing practice (GMP) and good hygiene practice (GHP) guidelines as embodied in USA (FDA and USDA) and EU regulations. The two standards most commonly required among US and EU retailers have been USAGAP and EurepGAP (now GLOBALGAP) respectively. The main difference between the two schemes is that USAGAP is tailored to the US regulatory environment in its more explicit focus on food safety and risk management, while GLOBALGAP is applied consistently across different countries and incorporates food safety as well as social and environmental dimensions to food quality and sustainability. Chilean firms exporting to North American and European markets largely opt for GLOBALGAP certification, as this allows them to export to US and EU markets, and switch business between them if necessary. In this sense, USAGAP has effectively been subsumed within GLOBALGAP. The equivalent Chilean scheme, ChileGAP, gained approval and accreditation from GLOBALGAP in 2008.

It is now increasingly essential for Chilean exporters or processors to require supplying farms to comply with GLOBALGAP or ChileGAP as well as SAG's baseline *Buenas Prácticas Agrícolas*. Key guidelines for horticultural producers and processors in general are the technical specifications for the production and packing of fruit (CNBPA, 2007), and of particular relevance to raspberry growers and handlers are the technical specifications for berry cultivation (CNBPA, 2004). In addition to food safety and hygiene in production and processing, the BPA scheme also engages with issues of

labour practices and working conditions, animal welfare and environmental sustainability. These themes are integrated (albeit sometimes weakly and inconsistently) into the various sectoral technical standards, and addressed explicitly in overarching standalone documents. The BPA scheme is voluntary but, as indicated above, compliance is increasingly becoming a precondition for participation in the raspberry value chain. Many medium and large scale growers comply automatically through certification under an equally or more rigorous scheme like GLOBALGAP, but for many smallholder growers the implementation of even basic technical norms for raspberry cultivation is a significant challenge.

While the value chain for Chilean raspberries is driven to a great extent by the demands of North American and European retailers, and is thus arguably buyer-driven (Gereffi, 1994), governance is exercised differently between different nodes along the chain. In this sense, the power relations evident in forms of coordination between chain actors, considered alongside the wider dynamics of chain governance discussed above, help explain the terms on which different actors are integrated into the chain. The varied linkages and forms of coordination between primary producers, intermediaries and exporting or processing companies in Chile provide a more nuanced picture of chain governance at the upstream end of the chain, and help explain the terms on which small-scale growers are integrated into global markets. The array of forms of coordination evident between nodes at the production end of the raspberry GVC is particularly varied due to the range of primary producers incorporated into the chain, from large-scale industrial farms to small-scale household plots. Their differential capabilities in meeting the requirements of exporters, and the quality standards of retailers in export markets, necessitate different forms of coordination.

Coordination between large farmers and fruit companies exhibits aspects of both inter-firm/farm market relations and vertical integration. Where vertical integration is apparent however, it has often been a case of groups of pioneering growers associating and forming companies via investments in processing and/or and packing facilities and developing export and marketing capabilities (e.g. the cases of Hortifrut, VBM and Valle Maule). Unlike in some other sectors, firms have generally not sought to directly acquire raspberry orchards within Chile. This is largely because of the competitive advantages of small-scale production, or inverse economies of scale, in raspberries. The exception to this has been in the cross-border acquisition of large farms by some of the

more transnationalised firms. The most striking example of this is Hortifrut's control of farms in Latin America (Argentina, Mexico and Guatemala) and Europe (Spain and Poland), and its partnership with growers in the USA through Global Berry Farms.

Where large-scale suppliers are not also company owners or shareholders, and are certified or compliant with relevant quality and production standards, coordination more closely resembles inter-firm market relations. The relationship is mediated by a commercial contract, requiring adherence to agreed quality standards and provision of a certain quantity of fruit, and usually providing for payment on a monthly or bi-monthly basis. The contract may also provide for technical assistance, though this is often less necessary with well established large farms, and may also include provision for a contribution from the firm towards quality certification fees.

The organisation of small-scale growers is looser and more challenging for companies. This is particularly so in the case of ungraded processing fruit, which is supplied via intermediaries and is amalgamated from many dispersed growers. This strand of the chain is characterised by higher levels of uncertainty in terms of the quality of fruit and consistency of supply for several reasons. As processing capacity exceeds supply for most of the season, excluding productive peaks in December and February/March (ODEPA, 2008b), packing and processing companies must usually compete for fruit. The cost to intermediaries of switching between companies is reasonably low, so supply is price-elastic and insecure. There are also opportunities for intermediaries to ignore legal and contractual obligations in their sourcing of produce, as it is easy enough to buy from un-registered or uncertified and non-compliant growers. The same sort of opportunistic behaviour can occur among certified growers who buy and sell uncertified fruit from neighbouring farms. Despite the risks and relative dis-integration of the upstream portion of the chain, small holders remain crucial because exporters and retailers generally prefer to provide lower quality or uncertified fruit rather than no fruit. In this sense, while coordination between smallholder growers and fruit firms is mediated by market relations, firms are in many ways captive buyers, relying on a loosely regulated segment of the chain for a significant proportion of supply. While smallholder growers are also dependent upon fruit companies for income, high levels of household income diversification and low levels of sunk capital in small-scale productive operations make for low switching costs and equate to weaker commitment to this relationship.

Coordination between Chilean exporters and importers based in the USA and EU is often characterised by vertical integration. Some exporters have entered into joint ventures with US companies to provide berries year-round to the supermarkets. The Global Berry Farms partnership between Hortifrut, Naturipe and MBG Marketing in the US is exemplary of this type of arrangement. In other cases, Chilean exporters wholly own importing and marketing subsidiaries in the destination markets (e.g. VBM's marketing and distribution offices in Europe, Japan and Mexico). Among smaller, less vertically-integrated exporters, the relationship with importers is generally mediated by third parties along market lines, as is the case with Sercocamp, which relies on several larger fruit traders and export firms to access foreign markets.

Given the importance of smallholder suppliers combined with the challenges with implementing BPA (not to mention a suite of more comprehensive and increasingly prevalent private quality grades and standards) among smallholders, inter-nodal forms of coordination tend to be predominantly confined to market relations and vertical integration at the upstream end of the chain. While there is a degree of dependence of processing and export firms on loosely governed smallholder growers, this relationship does not neatly fit with the captive network type suggested by Gereffi et al. (2005) – largely because of high levels of income diversification among small-scale grower households, and export diversification on the part of firms.

5.4. Summary: Evolution, structure and dynamics of the raspberry GVC

This chapter has presented research findings on the structure and dynamics of the raspberry GVC emanating from the *comuna* of Yerbas Buenas in central Chile. The localised value chain case study has been presented in the context of the evolution of the raspberry sector in Chile, and Chile's position within the global raspberry complex. International demand for raspberries is increasing, and production and trade are therefore also expanding. Important shifts in the geography of primary production, largely in response to the requirements of key buyers, have seen the main exporting countries increasingly specialising in either fresh or frozen exports. Suppliers in close proximity to major markets are consolidating market share in fresh raspberries, with Mexico and Spain being especially important in this respect as suppliers to North

American and Western European markets respectively. In response to this heightened competition, longer-standing raspberry producing countries are tending to specialise in processed (particularly frozen) exports, with Serbia, Poland and Chile being important examples in this respect.

Within Chile, raspberry production and trade have expanded rapidly since the late 1970s, when the sector began to evolve as a non-traditional agricultural export sector. While exports of both fresh and frozen berries are significant, frozen exports in particular have accelerated since the late 1980s, as Chilean export firms took advantage of political and economic opportunities to consolidate market share in the USA and Europe. Over time, with rising international competition, the sector has become highly reliant on many smallholder grower suppliers. While official figures vary, there are at least 10,000 growers in the sector, and 95 percent of these are engaged in production on less than two hectares. Smallholder participation is high due to a combination of the crop's natural suitability to small-scale production and, partly in response to this, the promotion of the sector by the state as one that holds particular promise for smallholder agriculture. Primary production is concentrated in central Chile, particularly in the Maule Region, which is home to around 80 percent of raspberry productive operations.

The case study area of Yerbas Buenas is an important site of production within the Maule Region, with around 700 small-scale growers and several leading export firms operating in the *comuna*. Growers are integrated in to the raspberry GVC through a variety of arrangements, but generally the largest growers tend to have a range of contractual agreements with processors/exporters, while the smallest growers rely primarily on intermediaries for market access. Export firms play an important role in coordinating the activities of both intermediaries and growers, and seek to organise production to the requirements of powerful downstream actors, particularly larger retailers in export markets. The demands of transnational retailers for good agricultural practice, food safety and quality, and traceability are embodied in a range of private standards that govern the activities of upstream actors in the value chain. It is becoming increasingly necessary for export firms to demonstrate compliance with key private standards, like GLOBALGAP, in order to retain market share and maintain whole-of-chain competitiveness. In this sense, the characteristics of the upstream segments of the raspberry GVC present important challenges, due to the high number of geographically

dispersed smallholder growers, and ‘loose’ coordination between growers, intermediaries and export firms.

For many of the smallholder growers integrated into the chain, the investments and practices required by rising quality standards represent significant barriers, both financially, and in terms of technical and entrepreneurial capabilities. The need for assistance to smallholders has been recognised by firms and by the state, and several initiatives to support grower capability have been pursued. In particular, INDAP has implemented a range of sectoral programmes to directly assist small-scale growers and, in conjunction with other state agencies like PROCHILE, has entered into public-private initiatives at the regional scale to promote the adoption of BPA among small-scale growers. However, these initiatives tend to target farms of 0.5 hectares or greater, and thus offer little support to the 75 percent of growers who operate at even smaller scales. There is some potential for smallholders to associate and organise to attain group certification, but such initiatives usually also require intensive state support to foster cooperation and legal and commercial know-how and provide start-up capital and resources. Ultimately, if smallholder growers are unable to meet market requirements, firms will continue to shift focus towards new crops like blueberries, which offer substantial economies of scale and are thus characterised by highly modernised production systems and controlled by large farmers. In order to understand the challenges and opportunities for enhanced smallholder participation in the raspberry GVC, therefore, we must examine smallholder livelihood strategies in the local context and in relation to a diverse range of income sources and livelihood activities. To this end, the following chapter turns to an analysis of small-scale grower livelihoods in the *comuna* of Yerbas Buenas.

Chapter 6.

Results 2: Smallholder Grower Livelihoods in Yerbas Buenas

6.0. Introduction

One of the key implications of global value chain research for understanding rural development and poverty reduction has been the assertion that the *terms* of producer integration into the value chain are critical (Kaplinsky, 2000). Integration *per se* is not enough, and can in fact be adverse and exploitative (Ponte, 2008). What is needed is equitable and sustainable participation by smallholder growers, in ways that provide for the expansion (or at least maintenance) of capabilities and the household asset base. In order to understand the local outcomes of agri-food globalisation and the implications for smallholder farmers of global value chain integration, it is necessary to move beyond and below a sector-level analysis and consider outcomes for rural households in the context of diversified household livelihood strategies and specific local settings. It is argued here that a sustainable rural livelihoods approach is highly appropriate for this task. According to the livelihoods framework elaborated in chapter 3, and following Ellis (2000, pp. 50-51), the SRL approach embodies three principal dimensions, namely:

- The assets of rural households (existing in five categories of capitals);
- Mediating processes (influencing access to assets and the uses to which they can be put); and
- Strategies adopted by households in order to secure a livelihood (comprising combinations of activities drawing on a range of assets in the context of mediating processes).

Providing a people-centred framework for analysis, the livelihoods approach offers important insights into how, and with what implications, primary producers and their households are integrated into global markets. As discussed in chapter 3, participation in a given value chain usually forms only part of a diversified portfolio of activities through which households mobilise available assets to secure a livelihood. As Carney (1998a, p. 21) observes, one of the key contributions of a livelihoods approach is its

cross-sectoral perspective: “...rural people do not live their lives in ‘sectors’”. The importance of participation in a particular value chain, then, varies depending on the extent of household income diversification and the availability of, and access to, a range of resources or assets.

The previous chapter examined the evolution and dynamics of the raspberry GVC emanating from the *comuna* of Yerbas Buenas, and discussed the role of quality standards in governing activity at key upstream nodes in the chain. This chapter turns to a household scale analysis of smallholder grower participation in the raspberry GVC. It approaches this task by examining each of the three dimensions listed above – livelihood assets, mediating processes, and livelihood strategies – in the context of an intensive primary research survey of 20 small-scale raspberry grower households in Yerbas Buenas, interviewed between November 2007 and February 2008. The chapter proceeds as follows: The first section presents and discusses a range of data from the primary research survey, which reflects key characteristics and patterns among the households surveyed. Illustrative examples of selected farms are then examined. The second section draws on this data in a discussion of the various forms of livelihoods asset identified within the livelihoods framework as they are of relevance to the smallholder raspberry growers surveyed. Particular attention is paid to the capitals and capabilities (Bebbington, 1999) that are instrumental in securing and maintaining access to the raspberry value chain, and to the implications that participation in the chain has, in turn, for access to various livelihoods assets. The third section considers specific mediating processes that influence the distribution of, and households’ access to, various capitals. In particular, it discusses the implications of prevailing trends and shocks and the roles of key institutions, social relations and organisations in shaping access to, and deployment of, livelihoods assets. The fourth and final section considers the resultant livelihood strategies adopted by smallholder raspberry grower households, and the significance of integration into the raspberry GVC in this respect. This chapter thus complements the previous chapter, in shedding light on the interface between ‘global’ value chains and ‘local’ livelihoods. This, it is hoped, will underscore local-global interaction within a globalising agri-food system, and particularly draw attention to the complex implications of agri-food globalisation at the local level.

6.1. Smallholder raspberry grower livelihoods

In-depth semi-structured interviews were conducted with raspberry grower households in the *comuna* of Yervas Buenas in order to gain insight into the role and significance of raspberry production in the context of on- and off-farm income generating activities, and to understand the terms and implications of smallholder growers' integration into the raspberry GVC.⁸⁹ While the data reflect a complex reality of diversified and diverse productive strategies across a range of farms, some important tendencies are evident.

Table 6.1 ranks households surveyed by farm size across three size classes: ≤ 0.5 hectares; > 0.5 and ≤ 5.0 hectares; and > 5 hectares. Of the 20 farms surveyed, nine fell into the smallest size class, seven into the medium size class and four into the larger size class.⁹⁰ Variation in overall farm size, however, does not neatly correspond to variation in the area under raspberry cultivation. While the smallest raspberry plots do tend to be found on the smallest farms (e.g. MC02, OM02, OM01), the relationship is much less clear on larger farms, highlighting the fact that the scale of the raspberry operation is not primarily constrained by land availability. On-farm income diversification tends to increase with farm size. On six of the nine smallest farms, raspberries were the only commercial crop grown, whereas most of the larger farms were also engaged in the production of other commercial crops. Five of the seven medium sized farms were specialised in raspberry and blackberry production, whereas the larger farms tended to also engage in more extensive commercial production of crops like corn, potatoes and wheat.

Most of the smallest farms are relatively specialised in raspberries and have either switched to raspberry production from lower-value commercial crops like potatoes, corn and wheat (e.g. SA02, PA01), or have diversified into raspberry production, retaining some area under cultivation with these secondary crops (e.g. MC02, OM01). Others have established a raspberry plot on land that was long unused for commercial purposes, thereby reintroducing some farm income into household income predominantly derived from off-farm sources (e.g. OM02, MC01, SA03). Of the six medium-sized farms specialised in either raspberries or raspberries and blackberries, all have either switched away from other crops (e.g. AB01, MC04) or acquired the land specifically to grow berries (e.g. MC03, SA01, TE02). Of the four larger farms, all but one have diversified into raspberries, and continue to produce other more extensive crops.

Table 6.1. Raspberry production and farm characteristics

Farm area	Grower code ^A	Total farm area (ha) ^B	Area in raspberries (m ²) ^C	Other sources of farm income ^D	Crops grown before raspberries ^E	House plot (Y/N), (details) ^F	Predominantly reliant on farm (F) or off-farm (O) income ^G
≤ 0.5 ha	MC02	0.25	400	Potatoes	Potatoes, beans, onions	Y (peaches, plums, potatoes)	O
	OM02	0.30	600	None	None	Y (potatoes, onions, chillies)	O
	OM01	0.32	600	Potatoes	Potatoes	Y (potatoes, onions, capsicum, chillies, grapes)	O
	SA02	0.33	2,500	None	Potatoes, corn.	Y (peppers, chillies, onions, potatoes)	O
	MC01	0.35	2,000	None	None	Y	F/O
	SA03	0.35	2,600	None	Farm was not in commercial production for 7 or 8 years. Before that it was in corn & potatoes.	Y (onions, potatoes, chillies, pumpkin)	O
	PA01	0.40	4,000	Blackberries	Wheat	Y (onions, pumpkins, potatoes, fruit)	F/O
	AB03	0.50	1,500	None	None (bought land 3 yrs ago & planted raspberries)	Y (onions, chillies, chickens/eggs)	O
	LC01	0.50	2,500	None	Potatoes, corn, pumpkins	Y (potatoes, walnuts, grapes, <i>huesillo</i> /peaches)	O
> 0.5 and ≤ 5.0 ha	MC03	0.55	5,000	None	N/A (land leased specifically for raspberry production, before this worked as <i>temporeros/as</i>)	N	F
	AB01	0.74	3,600	Blackberries	Potatoes	Y (onions, beans, pumpkin, figs)	F/O
	MC04	1.10	4,500	Blackberries	Wheat	Y (tomatoes, garlic, onions, beans)	F/O
	SA01	2.50	12,500	Blackberries	N/A (received the land from his father 4 yrs ago & planted it in raspberries)	N	F

	<i>TE02</i>	3.00	8,000	Blackberries	N/A (bought land 3 yrs ago specifically to plant raspberries).	Y (vegetables)	F/O
	<i>PA02</i>	3.50	5,000	Wheat, corn	Wheat, corn, potatoes	Y (vegetables & fruit)	F
	<i>LC02</i>	3.60	2,500	Blackberries	Wheat, corn	Y (vegetables, chickens/eggs)	F/O
> 5.0 ha	<i>AB02</i>	6.55	1,800	None	None	Y (vegetables)	F
	<i>OM03</i>	6.61	2,120	Potatoes, onions, cows (milk & cheese)	Potatoes (on the raspberry plot), cows (milk & cheese), citrus	Y	F
	<i>YB01</i>	10.00	20,000	Blackberries, corn	N/A (bought land 4 years ago & planted raspberries, blackberries & corn.	Y (potatoes, onions, chillies, tomatoes, fruit)	F
	<i>TE01</i>	22.00	7,000	Potatoes, corn, wheat, blackberries	Wheat (on the raspberry plot)	Y (vegetables)	F

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B As reported by the respondent.

^C As reported by the respondent and corroborated on-site.

^D Refers to income that accrues to the household of the raspberry grower interviewed. Sometimes income from the farm accrues to other households that utilise the land (especially the households of respondents' children or siblings).

^E Refers to commercial crops or animals.

^F Refers to a garden or small plot near the house that is used for producing food for household consumption as opposed to market exchange.

^G As assessed by the grower. Where both are assessed as equally important, this is indicated accordingly.

Almost all households reported some degree of reliance on a household plot, growing a range of produce for household consumption, however households on two specialised medium sized farms reported not having a house plot, and purchasing whatever is needed for the household. As might be expected, however, households on smaller farms and less secure incomes tended to rely more on household plots to supply food for household consumption.

Table 6.1 (above) also suggests links between overall farm size, on-farm income diversification/specialisation, and reliance on off-farm income. While all of the households surveyed relied to some extent on both on-farm and off-farm income, the relative importance of on-farm and off-farm work was highly varied. Following table 6.1, however, there is a tendency within the sample for reliance on off-farm income to be higher among households on smaller farms and lower among those on larger farms.

Table 6.2 (below) presents data on the composition of households surveyed and the importance of off-farm income generating activities. The table reclassifies grower households by the area under raspberry production across three size classes: ≤ 0.25 hectares; > 0.25 and ≤ 0.5 hectares; and > 0.5 hectares. Of the 20 farms surveyed, 10 incorporated raspberry plots of 0.25 hectares or less, six incorporated plots of between 0.25 and 0.5 hectares, and four incorporated plots of greater than 0.5 hectares. While the relationship between the scale of raspberry production and reliance on off-farm income is not as clear as the relationship between total farm size and reliance on off-farm income, a general tendency for smaller raspberry growers to depend on income external to the farm remains evident. Off-farm income is highly significant for eight of the 10 households engaged in raspberry production on plots of 0.25 hectares or less, and four of the six households with raspberry plots of between 0.25 and 0.5 hectares. Of the four largest growers surveyed, two (TE01 and YB01) are also the largest farms in the sample overall (see table 6.1), and both are relatively diversified farms. The other two larger growers (TE02 and SA01) correspond to specialised berry (raspberry and blackberry) farms, and in both cases the land was acquired recently by the growers specifically to produce raspberries. These larger growers are observed to rely relatively less on off-farm income.

Off-farm⁹¹ employment and income generation is observed to be highly diverse among the households surveyed. Agricultural, and specifically seasonal horticultural, work is particularly common in the *comuna*. In 16 of the 20 households surveyed, off-farm

agricultural work made an important contribution to household income. Members of eight households were engaged in non-farm self employment, seven households relied in part on non-farm wage employment, and two households generated a proportion of their income from rents (of land and farm equipment). The gender dynamics of on- and off-farm labour are interesting in that on nine of the 20 farms surveyed, primary responsibility for the raspberry operation rested solely with women, and on another three farms management was shared between male and female heads of household. Non-farm rural self employment also engaged mostly women, and was often characterised by small businesses conducted at home (e.g. grocery or hairdressing businesses) and thereby compatible with overseeing the raspberry operation. Off-farm agricultural work was an important source of income for both women and men, and while the availability of off-farm work in the *comuna* is highly seasonal in general, women tended to be engaged more in temporary, seasonal work, whereas men tended to be engaged more in semi-permanent off-farm work.

Table 6.2. Grower households and off-farm income sources

Raspberry area	Grower code ^A	Area in raspberries (m ²) ^B	Number in household	Gender & ages of household members (respondent(s) shown in bold type) ^C	Predominantly reliant on farm (F) or off-farm (O) income ^D	Off-farm income sources ^E
≤ 0.25 ha	MC02	400	4	M, 55 ; F, 55; M, 30 (son); M, 28 (son)	O	M, 55: sporadic, part-time work spraying corn. M, 30: works on family land. M, 28: works full-time at a pulp & paper plant.
	OM02	600	2	M, 45; F, 40	O	M, 45: seasonal orchard work. F, 40: <i>artesanías</i> (leather goods).
	OM01	600	3	M, 65 ; F, 65; F, 40 (daughter)	O	F, 65: picking raspberries on a larger farm nearby. F, 40: works in a shop in Linares. All collect <i>mora silvestre</i> periodically.
	AB03	1,500	2	M, 48 ; F, 45	O	M, 48: freight/transport services using his pickup truck. F, 45: hairdresser in Linares. Also buy, sell & deliver coal.
	AB02	1,800	1	F, 65	F	Grocery store in front room of the house.
	MC01	2,000	5	M, 45; F, 40 ; F, 65 (mother); M, 16 (son); F, 14 (daughter)	F/O	M, 45: Seasonal orchard work.
	OM03	2,120	3	F, 60; F, 58; F, 50 (sisters)	F	Tractor leasing business (have 2 tractors & employ 1 driver). F, 58: seasonal work on a nearby orchard. F, 50: temporary work where possible outside of raspberry season.
	SA02	2,500	6	M, 45; F, 45 ; F, 21 (daughter); M, 29 (son in-law); M, 18 (son); M, 2 (grandson)	O	M, 45 & M, 29: orchard work. F, 45: nursery work outside of the raspberry season. F, 21: works in a clinic in Talca on weekends.
	LC01	2,500	6	M, 55; F, 55 ; F, 80 (mother); F, 35 (daughter); M, 32 (son); M, 12 (grandson)	O	M, 55: farm work. M, 32: farm work and seasonal orchard work. F, 35: works in a fruit shop part time. One daughter has left home and lives in Linares.
LC02	2,500	3	M, 45 ; F40; M,14 (son)	F/O	M, 45: off-farm work where possible (thinning/picking apples), rental income from 3 ha of his land	

> 0.25 and ≤ 0.5 ha	SA03	2,600	4	M, 42; F, 42 ; M, 15 (son); F, 12 (daughter)	O	M, 42: tending horses on a large farm. F, 42: hair-dressing from home & temporary seasonal work where possible. M, 15: collects <i>mora silvestre</i> for pocket money in the season.
	AB01	3,600	3	M, 45; F, 45 ; M, 16 (son)	F/O	M, 45 works on a large apple orchard.
	PA01	4,000	5	M, 42; F, 42 ; M, 14 (son); F, 12 (daughter); F, 9 (daughter)	F/O	M, 42: works adjacent family land growing crops (corn, wheat). F, 42: runs a small <i>almacén</i> in the front of the house.
	MC04	4,500	5	M, 50; F, 45 ; F, 20 (daughter); F, 17 (daughter); M, 14 (son).	F/O	M, 50 works as a foreman supervising workers on a large apple orchard. F, 20 runs a small grocery shop next to the house. F, 20 & F, 17 work part-time picking berries on other farms or collecting <i>mora silvestre</i> .
	MC03	5,000	3	M, 40; F, 36 ; F, 9 (daughter)	F	M, 40: seasonal orchard work.
	PA02	5,000	5	M, 38; F, 35 ; M, 65 (father); F, 65 (mother); F, 7 (daughter)	F	M, 38: orchard work (apple picking). F, 35; F, 65: grocery store in the family house.
> 0.5 ha	TE01	7,000	3	M, 45 ; F, 45; F, 14 (daughter)	F	F, 45: seasonal fruit packing/ <i>temporera</i>
	TE02	8,000	2	M, 50 ; F, 50	F/O	M, 50: administrator at a local college
	SA01	12,500	3	M, 32 ; F, 30	F	F, 30: works in an office in Linares
	YB01	20,000	3	M, 60 , F, 60; F, 30 (daughter)	F	F, 30: seasonal fruit packing.

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B As reported by the respondent and corroborated on-site.

^C Interviews were conducted with the person(s) with primary responsibility for the raspberry operation. Interviewees are indicated in bold type. 'M' signifies male, 'F' signifies female, and ages are given as reported by the respondent or estimated by the researcher.

^D As assessed by the grower. Where both are assessed as equally important, this is indicated accordingly.

^E Refers to off-farm agricultural work and non-agricultural (or 'non-farm') work.

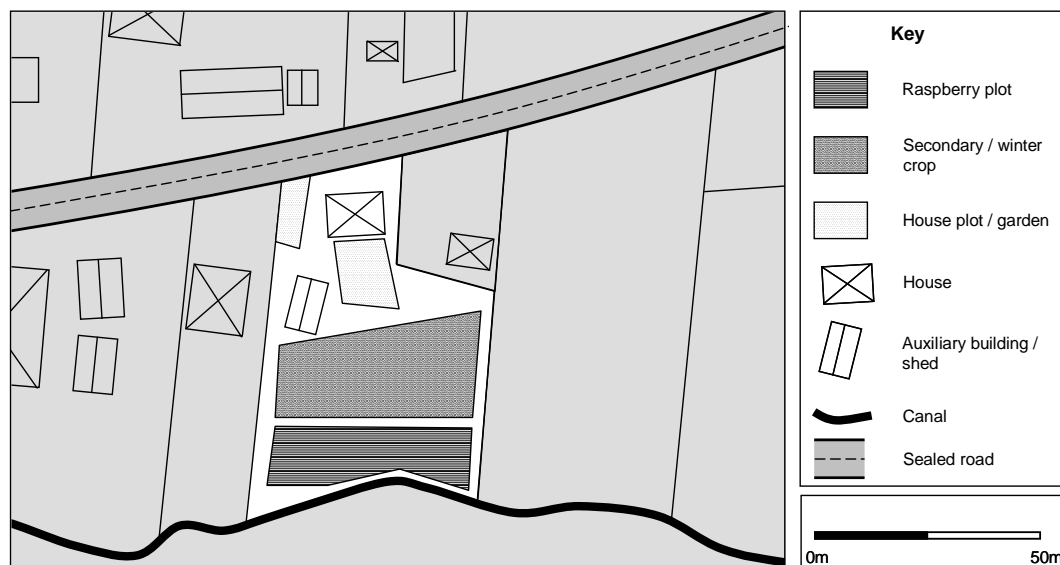
6.1.1. Focus farms

Given the high degree of diversity in on- and off-farm income generating activities, it is not possible (nor is it desirable) to sketch a *typical* farm, or generalise across the sample, but figures 6.1 to 6.6, presented below, represent various land use configurations on a selection of focus farms. The farms are selected on the basis that they are illustrative of some of the characteristics and tendencies reflected in tables 6.1 and 6.2. In particular, the sequence of farm plans⁹² is indicative of different scales of raspberry production on different sized farms, and tendencies towards on-farm productive diversification or specialisation. Two farms have been selected from each farm size class in table 6.1, and their characteristics are briefly discussed below.

Farms OM01 and SA03 (figures 6.1 and 6.2) are among the smallest farms surveyed at 0.32 and 0.35 hectares respectively. However, while farm OM01 has one of the smallest raspberry plots in the sample at 600 m², farm SA03 has a medium sized plot at 2,600 m². In the case of OM01, farm income is split between raspberries and potatoes, whereas SA03 is specialised in raspberries. Income from raspberries makes a more significant contribution to total household income in the case of SA03, but both households rely predominantly on off-farm income sources, and both grow a reasonable quantity of food for their own consumption. For farm OM01 the establishment of the raspberry plot five years ago was a means to diversify into a higher value crop, having produced only potatoes prior to that. For farm SA03, becoming established in raspberry production four years ago brought the farm back into commercially viable production for the first time in almost eight years.

Household composition varies between the two cases, as does responsibility for on- and off-farm income generation. Household OM01 consists of a relatively older couple (aged 65) and their adult daughter. The male head of household has primary responsibility for on-farm income generation, and is responsible for the management and maintenance of the raspberry plot, while the female household members are engaged in off-farm agricultural and non-agricultural work. At harvest time, all are involved in fruit picking, with the women helping in the afternoons upon returning from work. Household SA03 is relatively younger, being composed of a couple (aged 42) and two children (aged 15 and 12). The female head of household has primary responsibility for the raspberry plot, and is also self employed working from home as a hairdresser.

Figure 6.1. Farm OM01



Total land area:	0.32 ha (freehold)
Area planted in raspberries (and variety):	600 m ² (Heritage)
Other commercial crops:	Potatoes (900 m ²)

Figure 6.2. Farm SA03



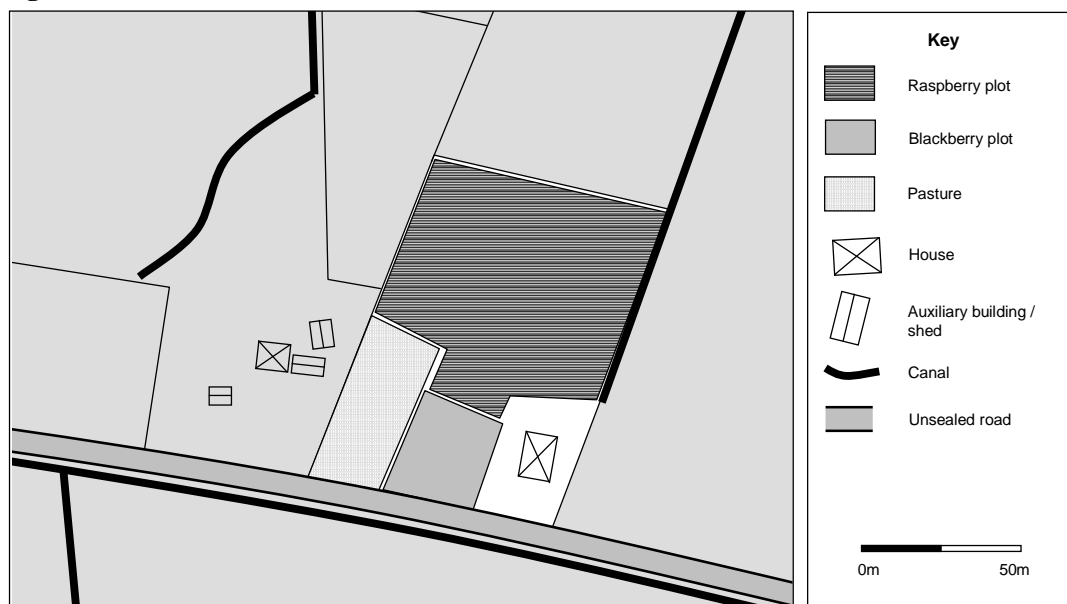
Total land area:	0.35 ha (freehold)
Area planted in raspberries (and variety):	2,600 m ² (Heritage)
Other commercial crops:	None

The male head of household is employed in off-farm agricultural work, and assists with picking and irrigating in the evenings. The children help at harvest time, and up to four relatives may be employed at peak harvest. Farm SA03 is BPA compliant and sells both premium fresh fruit and processing fruit, both directly to an export company and via *conchenchos*. OM01 is BPA non-compliant, and sells only processing fruit via *conchenchos*.

Farms AB01 and MC04 (figures 6.3 and 6.4) are illustrative of the medium-scale farms surveyed at 0.74 and 1.10 hectares respectively. Both farms are specialised in raspberries and blackberries, and for both households farm income is highly significant in overall household income. In both cases responsibility for the management and maintenance of the raspberry plot is shared by the male and female heads of household, however female heads of household tend to be primarily responsible for picking and overseeing the plot at harvest time, while male heads of household are responsible for specific tasks (especially irrigation and the application of fertiliser and pesticides) in addition to assisting with picking upon return from off-farm work in the afternoon. In both households the whole family helps with picking during peak harvest times, and both hire additional workers at these times. While AB01 employs up to four workers, MC04, being a larger household takes on just one or two. Generally these are members of the extended family. Off-farm work is also significant for both households, and in both cases the male head of household is engaged in off farm orchard work. Off-farm income is relatively more diversified in the case of MC04, with the eldest daughter managing a small grocery store next to the house, and both daughters occasionally engaged in seasonal berry picking on neighbouring farms.

AB01 and MC04 both switched away from the production of lower-value traditional crops and into berry production with state assistance through different programmes funded by INDAP. Farm AB01 in particular has had intensive ongoing support from INDAP, and is BPA compliant and ChileGAP compliant. Farm MC04 is also BPA compliant. The two farms are integrated differently into the raspberry value chain in that MC04 has a supply agreement with an export firm and sells both *fresco* and processing fruit directly to a company buyer, whereas AB01 has no such contract, and produces only processing grade fruit, which is sold to various *conchenchos*.

Figure 6.3. Farm AB01



Total land area:	0.74 ha (freehold)
Area planted in raspberries (and variety):	3,600 m ² (Heritage)
Other commercial crops:	Blackberries (600 m ²)

Figure 6.4. Farm MC04



Total land area:	1.10 ha (freehold)
Area planted in raspberries (and variety):	4,500 m ² (Heritage, Chilliwack)
Other commercial crops:	Blackberries (500 m ²)

Farms OM03 and YB01 (figures 6.5 and 6.6) are among the largest farms surveyed at 6.61 and 10.00 hectares respectively. Although they are both reasonably large farms in relation to the sample (they are both small farms by official standards), they exhibit very different characteristics with respect to raspberry production. In particular, despite being one of the larger farms surveyed, farm OM03 has only a relatively small area in raspberry production (2,100 m²). This contrasts sharply with the 2 hectares in raspberry production on farm YB01. The difference in scale reflects distinct approaches to the organisation of labour on the respective farms, with OM03 preferring to restrict the raspberry plot to a scale commensurate with household labour availability, and thereby reduce the likelihood of having to employ extra pickers, and YB01 opting for larger scale production requiring a significant number of seasonal employees. The reliance on paid pickers, however, adds significantly to production costs and poses challenges given increasing labour scarcity in the *comuna*.

Both farms are relatively diversified in comparison to the smaller farms, and both households are predominantly reliant on farm income (although both rely to some degree on off-farm income). Farm YB01 has relatively significant plantings of blackberries and corn, while farm OM03 has land devoted to pasture for dairy cows, annual crops (alternated mainly between potatoes and onions) and citrus trees. Whereas OM03 is a family farm that has diversified into raspberries over the last four years, having gradually expanded the raspberry plot to its current size, YB01 was purchased by its current owner four years ago, and immediately planted in around 3 hectares of raspberries. Partly due to bad technical advice, poor soils, and lack of understanding of required crop management practices YB01 incurred heavy financial and crop losses in its initial years, and is still struggling to recoup these losses and raise productivity, fruit quality and profitability. Further, while OM03 has a contract to supply premium fresh fruit and processing fruit to a local exporter, YB01 has no formal contract and is focused primarily on supplying processing grade fruit.

The data presented in this section and the previous, on the farms and households surveyed in the context of diverse and diversified on- and off-farm income generating activities, are drawn upon in conjunction with additional qualitative data derived from the in-depth grower interviews as the basis for discussion in the following section, which examines the respective roles of various forms of capital, or assets, in smallholder raspberry grower livelihoods.

Figure 6.5. Farm OM03



Total land area:	6.61 ha (freehold)
Area planted in raspberries (and variety):	2,100 m ² (Heritage, Chilliwack)
Other commercial crops:	Potatoes (1.60 ha); pasture/cows (3.60 ha); citrus fruit (750 m ²)

Figure 6.6. Farm YB01



Total land area:	≈ 10.00 ha (freehold)
Area planted in raspberries (and variety):	20,000 m ² (Heritage)
Other commercial crops:	Blackberries (≈ 3.00 ha); Corn (≈ 1.00 ha)

6.2. Key livelihood assets

As noted in chapter 3 (and outlined specifically in section 3.4), rural households draw upon a range of resources in pursuit of viable livelihoods. These resources, or ‘assets’, can be classified according to five types of capital: natural, physical, financial, human and social. The distribution of capitals is uneven in space, and contingent upon natural characteristics and cycles, as well as social structures and processes. People’s access to particular capitals is similarly contingent, being mediated by intervening social relations, institutions and organisations. The various forms of capital are separated for practical analytical reasons, but the distinction is an artificial one because, as will be clear from the following discussion, capitals are interrelated in that some assets only take on value in conjunction with others, and there is a high degree of crossover between the different categories. In spite of this caveat, the identification of different forms of capital helps to formulate a holistic conceptualisation of the asset base that underpins a particular livelihood strategy, and highlights the degree of diversification inherent in rural livelihoods.⁹³

6.2.1. Natural capital

Various forms of natural capital are central to the livelihoods of most rural households. Obviously, agricultural production in any given location is underpinned (and constrained) by the natural resource base, weather patterns and climate, and ecosystem services. Basic aspects of human health and wellbeing are also determined in large part by the health of the surrounding environment. Human activity can either enhance or degrade natural capital, depending on the way renewable and non-renewable resources are managed (Ellis, 2000).

Land

Around 90 percent of raspberry productive operations in the *comuna* of Yerbas Buenas employ less than one hectare of land, and at least 75 percent are even smaller, involving less than half a hectare. Of the 20 farms surveyed in this study, half incorporated areas of a quarter of a hectare or less in raspberry production. The size of the plot, however, is not necessarily related to the success or profitability of the productive operation, and the area that can be efficiently maintained in production depends in many ways on other

resources available to the household. For some of the small growers surveyed, land availability is a constraining factor, as related by one respondent:

We would like to expand a little if we could find more land, but no one around here ever sells [AB01]

However, it is more common for growers to restrict their raspberry plot to only a portion of their land – largely due to the labour requirements of a larger plot. The rest of the land may be used for other crops like onions, potatoes or corn, or leased out to neighbours. Many of the growers interviewed claimed that the optimum size for a raspberry plot was between 0.2 and 0.5 hectares. A plot of this size can be managed by a single household, with one or two people performing the main tasks involved in maintaining the plot (irrigation, pruning, weeding, pesticide and fertiliser application) and a few immediate or extended family members helping over the harvest period from November to March. At peak harvest times in December and late February, labour shortages can become more of an issue, however, even on small farms.

For example, the growers at farms OM01 and OM03 reported, along with many others, that they were content with the current area under raspberries. For OM01, the 600 m² in raspberry production is an optimum area given that labour requirements must be met from within the household. The rest of the 0.32 hectare property is required for growing potatoes, which are stored on-farm and sold to buyers in Talca through the winter, and for growing a range of fruit and vegetables for household consumption. The three sisters who own farm OM03, a larger (6.6 hectare), more diversified farm, have expanded their raspberry plot over the last four seasons to its current size of 2,100 m². They do not wish to expand further, as it is the most they can manage effectively, with all three sisters working during harvest time, and the help of one paid picker at peak times:

The size [2,100 m2] is perfect. We don't want to expand... better to have less land and maintain the plot in good condition [OM03]

The quality of the land is an important factor, and while the soils in the area are generally rich and fertile, there are zones of poorer soil. Raspberries in particular require well-drained sites, and growers who have planted in heavy and poor-draining clay soils have struggled with plant disease and root rot. Fertiliser and pesticide use is relatively intensive in conventional raspberry production. The application of nitrogen, phosphorus and potassium is necessary to replace soil nutrients removed at harvest (Hawes, 1996),

and a range of fungicides, herbicides and insecticides is commonly employed to control diseases, weeds and pests (Seaton, 1998). The use and misuse of these inputs has the potential to degrade the soil and ecosystems. While some growers have embraced organic production of blackberries, which are particularly suited to organics, raspberries are problematic, as they are more sensitive to soil nutrient deficiencies, and succumb more easily to fungal infection and blights. Land as a form of natural capital, therefore, is of vital importance to smallholder growers, for raspberry production as well as for other cash and subsistence crops, but land availability is generally not a key constraint on production. In fact, where fertile, well-drained land is available, commercial raspberry production can be viable at very small scales.

Water

Another vital productive resource is water. The *comuna* of Yerbas Buenas falls within the catchment of the River Maule, which flows westward across the Central Valley (see figure 5.7, chapter 5). The river is of national significance as a site of hydroelectricity generation, and of regional importance as the main source of irrigation water for the agricultural sector. While it has a reasonably consistent flow year-round, being fed by snow-melt in the summer, shortages sometimes occur when electricity generators curtail flow at the dams to recharge reservoirs. While the original concessions for the dams provided for the irrigation rights of downstream users, the interests of the electricity generators have tended to dominate over those of irrigators (Bauer, 2002). The majority of agricultural land in Yerbas Buenas is serviced by irrigation canals originating in the Machicura Reservoir, which is fed with water diverted from a larger reservoir where the River Maule leaves the *precordillera* of the Andes near Colbún.

Among smallholders modern, drip-fed irrigation is very rare due to the costs of such systems, and irrigation is almost exclusively by traditional methods. While the most basic traditional methods, involving the surface-flooding of fields (*reigo tendido*), are comparatively inefficient, raspberry plots do lend themselves to slightly less inefficient furrow or channel methods (*riego por surcos*). This technique requires furrows that run along the base of each row of raspberry canes, channelling water directly to the roots of the plants, and therefore decreasing waste through seepage and evaporation. Most plots are serviced by a local network of irrigation canals (see figure 6.7), which is maintained and administered by a canal users association (*asociación de canalistas*) consisting of, and funded by, associated water users. Some farmers have formal water rights, while

others exercise informal or traditional usage rights accessing the canals of associated users at off-peak times. For those that exercise formal rights, fees paid to the relevant *asociación de canalistas* are dependent on the area of land irrigated. For most of the small-scale farmers in this study, irrigation water was accessed formally and at very low cost. Generally, however, there is a lack of coordination between farmers as to who irrigates when, and so there are often times of day when the canals run low or dry. This poses challenges for growers, as reflected in the quotes from two frustrated respondents:

It's difficult. My husband irrigates at night because everyone else does it during the day and there is no water [in the canal] [SA03]

There's enough water, but it's not well organised... for this reason we always have to irrigate at night! [SA02]

Others, who are in close proximity to an arterial canal (e.g. farms OM01 and OM03), face few constraints accessing irrigation water. Like water availability, water quality may be influenced by the practices of upstream users. Particularly, chemical and nutrient run-off and sedimentation can degrade water quality and impede flow.

Figure 6.7. Arterial irrigation canal and control gates, Yerbas Buenas



Source: The author.

Irrigation water from snow-fed reservoirs in the foothills of the Andes represents a valuable form of natural capital to rural households, while the canal infrastructure itself is an important physical capital asset.

6.2.2. Physical capital

Physical capital includes both privately controlled physical assets and public goods that are employed in the production process. A given piece of equipment or infrastructure may be exclusively employed in a particular productive activity (e.g. raspberry trellis, pruning tools, cool-storage box) or used in a range of on- and off-farm activities to underpin production (e.g. irrigation canals, roads, motor vehicle). Some non-productive physical assets may also have a role in income generation in the context of a diversified household livelihood strategy (Ellis, 2000). For example, space in a family house may be used for a shop or hair salon (e.g. farms AB02, SA03, PA01) or other productive activity.

A range of basic physical capital investments are necessary to become established in and carry on small-scale raspberry production. Initially seedlings must be secured. According to BPA requirements, these should be purchased from a registered nursery but, given the ease of propagation, it is common for smallholders to source stock from neighbours, friends and family members rather than buy nursery-bred plants. Further, some growers who are in the process of expanding their plot, or intend to do so, maintain small plant nurseries like the one shown in figure 6.8.

Figure 6.8. Small raspberry plant nursery



Source: The author.

This is at once a strategy for reducing the investment costs of productive expansion, and one cause of the proliferation of inferior cultivars among smallholders. The latest proprietary cultivars, on the other hand, are found mainly on larger farms that have close ties or formal contracts with fruit companies. Raspberry canes require a supporting structure or trellis of posts and wires, and should be fenced to exclude animals. Wind shelter is also important in exposed sites, and may be achieved with wires and shade cloth or a natural shelter belt of trees or shrubs. Shelter is particularly important to avoid wind damage to ripening fruit during the harvest period, and to help protect the crop from airborne dust during dry periods and in locations adjacent to unsealed roads. While these initial investments are small in comparison to other horticultural systems, they can represent significant barriers for small farmers. Indeed, many farms fail to comply with the most basic aspects of BPA standards requiring for example, that the plot be adequately fenced-off. While very few specialised tools are required for raspberry production, some standard farm equipment is desirable, including basic hand tools for working the soil and controlling weeds, maintaining irrigation canals and maintaining and repairing fences and trellis. Pesticide is usually applied with a backpack sprayer, requiring basic protective clothing and equipment.

In order to comply with the Ministry of Agriculture's BPA however, growers are required to invest in a range of structures and facilities to ensure the safety and hygiene of production. Producers should install signs numbering the rows and sectors of their plot; rubbish bins; toilets and hand washing facilities; covered and closed packing areas with potable running water; secure storage for chemicals, fertilisers, and the equipment for their application; basic facilities for workers to store their belongings, eat lunch and take breaks; and signs stipulating the rules of conduct for employees and visitors (CNBPA, 2004). Compliance with these requirements necessitates investment in a number of on-farm structures and facilities.

For smallholder growers in Yerbas Buenas a range of public goods and extra-farm infrastructure is of central importance in deriving a livelihood. In general terms, access to road and public transport networks, telecommunications networks, electricity supply, and water supply broadly underpin livelihood strategies. Of particular relevance for raspberry production is access to irrigation canals and proximity to a main road. While *conchenchos* traverse even the smallest and poorest roads and tracks in the *comuna*, accessible growers are preferred and prices paid to isolated growers may be lower. For

growers who own a private vehicle and transport their own fruit, proximity to a *centro de acopio* is advantageous. Poor quality, unsealed roads (figure 6.9) and dilapidated bridges make the journey more costly and time consuming and increase the chance of the fruit being bruised, contaminated with dust, or otherwise damaged in transit. The shortage of sealed roads in the *comuna* also affects the distribution of *centros de acopio* and packing plants, which tend to locate along main roads.

Figure 6.9. Unsealed public road, Yerbas Buenas



Source: The author.

6.2.3. Financial capital

Financial capital consists in stocks of money (e.g. savings, access to credit) and flows of income (e.g. wages, remittances). The principal advantage of financial capital is its convertibility into other forms of capital (Ellis, 2000). Financial capital may be reinvested to improve the production process from which it was generated or diverted to investments that enhance other forms of capital and livelihood strategies. It can also be disposed of in the purchase of consumable goods and services.

All of the households interviewed in this study had a range of on- and off-farm income sources. As shown in section 6.1, the relative importance of farm income in total

household income (as reported by respondents) is highly variable, but tends to increase as total farm size increases. All of the households on the smallest farms, of 0.25 hectares or smaller, were either predominantly reliant on off-farm income, or equally reliant on farm and off-farm income. In these cases, where an adult male or female household member was employed full-time off-farm this was almost always the primary source of household income. In contrast, households on the four largest farms were predominantly reliant on farm income. Off-farm seasonal agricultural work is of particular importance in the *comuna*, and 16 of the 20 households surveyed relied to some extent on this type of work. Commonly adult male household members are employed in orchard work, and female household members tend to work off-farm either picking fruit or working as *temporeras* in fruit processing and packing plants.

For many households however, participation in the raspberry GVC generates a significant proportion of household income. Often, the day to day management of the raspberries and the majority of the work in the plot are overseen by women and children, although some tasks (particularly irrigation and spraying of pesticides) are commonly carried out by men upon return from work in the evenings. As noted above, the initial setup costs of raspberries are relatively low and returns can be achieved in the first growing year. Further, the growing season is long in comparison to other crops, potentially providing daily cash income for six months in the year. Production peaks in December and again in February, so raspberry income is usually highest at these times. Having said this, per kilogram prices are usually lower during these peaks due to increased supply, and costs to the grower are higher if labour requirements can not be met from within the household and paid pickers are required.

Those growers that are contracted to export companies generally receive a lower price than the spot prices paid by *conchenchos* at the farm gate. For this reason, and given that contracted growers tend to derive very few benefits from contractual relationships with companies, many growers prefer to sell directly to *conchenchos* or deliver their own fruit to a *centro de acopio*:

I don't want a contract with any company... show me a company that pays better than the conchenchos and I'll join the company [TE01]

They [the company] are robbing us. All of the neighbours are getting better prices from the conchenchos... and here we are with 650 [pesos per kg] [MC03]

However, returns to growers of all sizes are closely linked to changes in international prices which are, in turn, highly sensitive to fluctuations in global supply (see figure 6.11, page 203). Also of significance are the strategies of the processing companies and the level of demand at any given time for fresh premium grade fruit (*fresco*) relative to processing grade fruit (*IQF*). While growers usually receive a significantly higher price for premium fresh fruit packed for export, prices for fresh fruit tend to be unstable. The picking, handling and packing of fresh fruit is also much more labour intensive, and therefore when the demand for (and price of) processing fruit rises, for example, this affects the strategies adopted by growers:

We have one plot dedicated to fresco and another for IQF, but the price is so bad for fresco... we are picking everything for IQF [PA01]

I hope we can get into packing fresco now that we have the facilities...but that's going to depend on the price. Last year prices were low in general, but [the price of] fresco was good... this year we have the opposite, and we are picking only for IQF [TE01]

Prices also fluctuate over the course of the season in response to supply. In particular, prices tend to be highest as the season opens in late October, and as it closes in late April, and tend to drop during the productive peaks in December and February. In the 2007/08 season, for example, prices for processing raspberries were some of the highest in memory and significantly better than in 2006/07, while prices for fresh berries were unstable. In early December 2007 growers were receiving around 2,600 pesos per box (of 12 x 125g clamshells) for fresh packed raspberries (or 1,730 pesos per kilogram), and around 700 pesos per kilogram for processing fruit. By mid to late January these prices had risen to around 4,000 pesos per box of fresh packed fruit, and 850 pesos per kilogram of processing fruit. In mid-February, however, fresh prices plummeted, while IQF prices continued to rise. While some respondents despaired at the unreliability of fresh prices, most were enthusiastic about high IQF prices.

However, inter-seasonal price variation is also significant, and generally low prices, as experienced in the 2006/07 season and again in 2008/09, have the effect of significantly reducing household incomes. Small-scale growers are quick to respond to poor prices, in some cases literally uprooting their plots and putting the land to an alternative use, and in other cases simply abandoning the raspberry harvest and pursuing other activities:

Prices were so bad last year... I tore out most [almost three quarters] of the raspberries... and look at the price now! [MC02]

We don't harvest the raspberries every year if it doesn't pay... last year we went out collecting mora [mora slivestre, wild blackberry] [OM01]

6.2.4. Human capital

Human capital can be assessed at various scales, from that of the individual to that of the household, community or nation (and beyond). It can be broadly summarised as the skills, knowledge, capabilities and health of people. Human capital is a key ingredient in household livelihood strategies because it embodies, in addition to labour power, people's "capability to be and to act" (Bebbington, 1999, p. 2022). That is, people's knowledge, skills and health have the potential to empower them to control and transform other forms of capital, negotiate over access to assets and resources, and ascribe value to and evaluate livelihood activities and strategies. In this sense enhanced human capital and capability is both a productive means and an end (Sen, 1990). Human capital is often central to a diversified portfolio of income-generating activities at the household level. Members of the household may be employed in different roles on- and off-farm, requiring different skills and abilities. They may even be employed at different levels of the same value chain, for example as growers, pickers or packers, and require unique skill sets to carry out these roles.

For many smallholder raspberry growers the general health and ability of family members to work is of central importance to household livelihood strategies. During the harvest season all household members including children and older persons may be required to pick the fruit. Household members who are absent working off-farm during the day are often required to help upon return in the afternoon. Where household labour is insufficient to harvest the raspberry crop, relatives, neighbours or friends are employed as extra help. Larger farms are more reliant on being able to employ casual workers at harvest, but labour is generally scarce at this time of year because so many potential workers are engaged in tending their own plots.

In addition to their capacity to work, people's knowledge and skills are central to their ability to understand, interpret and act on the technical production guidelines, the requirements of buyers and exporters, public policies and regulations governing the sector and market and price information. For many smallholder growers in Yerbas

Buenas, low levels of education and poor access to information are significant barriers to enhancing human capital and building the skills necessary to acquire and apply relevant information. Most of the small-scale growers in this study rely on the advice of consultants contracted to INDAP via a range of projects. The recently executed *Plan Nacional de Competitividad de Frambuesa de Exportación*⁹⁴ (INDAP, 2007b) is oriented towards operations of 0.5 hectares or more and is focused on achieving, through intensive technical support, significantly enhanced levels of productivity among targeted groups of producers. Smaller growers, who may not be considered ‘viable’ against the criteria of the *Plan Nacional*, are assisted in the comuna via the *Programa de Apoyo al Mejoramiento de la Competitividad de los Pequeños Productores de Frambuesa*⁹⁵ (PAMC) under an agreement between the Municipality of Yerbas Buenas and INDAP. PAMC is focused on the implementation of BPA among the smallest growers. Its small team of agronomists are a vital source of technical advice and market information for smallholder growers in the *comuna*, and PAMC is the principal avenue via which small farmers may access courses, training workshops and certification programmes. Schools are sparse in the *comuna*, but are accessible from most zones by bus. Tertiary education services are mainly concentrated in the regional capital Talca, which is some 30 km to the north. The cost of higher education and training is, however, prohibitive for most smallholder households, though some families who have done well out of raspberry production were saving to put their children through higher education.

The need for households to take advantage of seasonal off-farm employment opportunities sees many people, and particularly women, employed as temporary workers on orchards and in fruit packing and processing plants over the fruit season. This seasonal work is a significant source of income for many households in Yerbas Buenas, as opportunities for permanent off-farm employment within the *comuna* are rare. However, while it represents an opportunity for rural households, this kind of work, which is relatively insecure and physically demanding, is usually done in addition to domestic labour in the home and farm labour. In this sense, many women bear a ‘triple burden’ (Moser, 1987)⁹⁶ during the fruit season. Several households reported that individual family members worked off-farm (sometimes involving night shifts), and tended to raspberry picking and other on-farm work, and/or domestic labour maintaining the household:

It [raspberry production] is a good business, but it's not possible to come home from work and relax... you always have to be thinking about the raspberries... there's always something to do [OM03]

Figure 6.10 shows one of the state-sponsored childcare centres in Yerbas Buenas, which provide daytime care for the children of *temporeras*. On one hand such centres provide an important service, enabling women to take up seasonal paid work, while on the other they are indicative of the pressure on women to generate cash income and of the extra-economic costs of this for families and children. Where sufficient income can be generated from the household raspberry plot, however, some of the pressure to take on seasonal temporary work is reduced. For example, several of the women interviewed expressed how happy they were that their raspberry enterprise allowed them (and their children) to remain at home:

It's very good... I can work here, at home with my daughter. I don't have to find seasonal work elsewhere [MC03]

Before... working as a temporera... it was very difficult. Now it's much better, better for the kids... and for me [SA03]

Figure 6.10. State-sponsored childcare centre for children of temporary workers



Source: The author.

The banner reads “Centre for the care of daughters and sons of temporary workers: Chile needs its women’s strength”.

6.2.5. Social capital

Social capital refers to community and the social networks that people draw upon to derive a livelihood. It includes claims to access and membership of groups as well as relationships of trust and reciprocity among and between networks of individuals, households and communities (Bebbington, 1999; Ellis, 2000; Kanji et al., 2005). Social capital, in the context of connection to social networks at different scales, may greatly facilitate or impede sustainable livelihood strategies, and may throw up tensions and conflicts between different forms of social capital (Bebbington & Perreault, 1999; Woolcock, 1998).

Social networks operate at many scales and intersect with households and communities at numerous points. Describing the array of connections via which a given person is connected into surrounding social networks would be a complex if not impossible task, even if the concept of social capital itself was tidier and less hotly contested (Das, 2004; Fine, 2001). The complexity of the task increases by orders of magnitude if the unit of analysis becomes the ‘household’ or the ‘community’. In this sense, it is appropriate to search for key network connections and group associations that play an important role

in a household's livelihood strategy, rather than to pursue an exhaustive characterisation of the array of social networks into which any household is integrated.

In many of the small rural communities of Yerbas Buenas, levels of social cohesion, trust and cooperation between households are reported to be low. This view was expressed remarkably consistently by smallholder growers and the consultants and extension agents working with peasant farmers in the *comuna*. At the neighbourhood level, it was common for households to have little or no contact with neighbouring households. Instead, extended family networks were reported to be of more importance and it is more likely, for example, that a brother or niece from a nearby community be enlisted to help at harvest time than an immediate neighbour:

No, we don't go to the neighbours for help [at harvest time] ... most of them have their own plots ... and what's more, it would just lead to gossip [SA03]

If we need more workers with the harvest, my sister and her son come to help us ... There are no problems [working] with them ... and they work with care [MC03]

General mistrust and suspicion between smallholder raspberry growers presents a significant barrier to potentially beneficial cooperation and information sharing, and therefore examples of successful raspberry grower associations and cooperatives are scarce. While there are examples of enduring peasant associative businesses in the sector (Berdegué, 2001; Kjöllström, 2007), many collaborative initiatives have failed due to problems with free riding and opportunistic behaviour among the farmer constituents and appointed managers. Several existing producer cooperatives (and quite a few failed ones) have their roots in initiatives led by INDAP in the 1990s to promote peasant associations in the raspberry sector.⁹⁷ These initiatives met with varying degrees of success, and have required ongoing support.

One of the key attempts to build social capital and strengthen social relations among groups of smallholder growers in the *comuna* of Yerbas Buenas was an initiative of the local PAMC to promote small associations of growers. The (reasonably modest) aims of this were to allow for associations of growers to pool resources and realise savings in the purchase and delivery of inputs and the transportation of fruit, to share production and market information, and perhaps to invest in limited cool storage facilities, thereby bypassing intermediaries and securing a greater share of value added. However, the legal and administrative costs of establishing these entities are high, representing a

significant drain on the limited resources of PAMC, and in many cases the groups were short-lived due to low enthusiasm and lack of trust between participants. Emphasis has now shifted away from trying to *create* cohesion and collaborative spirit among growers:

In the past we had a strategy of promoting producer associations, but this was very costly and not very successful. It is very difficult to do things as a cooperative when there is no trust among the producers... Now we focus on technical assistance to individual producers. We only work with groups that already exist... where the initiative comes from the growers themselves [PAMC consultant]

In a more general sense, membership of a certain demographic, and conformity to a certain set of criteria, facilitates access for smallholder growers to a range of state-provided assistance. As noted above, raspberry growers who have over 0.5 hectares in raspberry production and have demonstrated implementation of BPA (or the capability to become compliant) fall into the remit of INDAP's *Plan Nacional*, which directs intensive support and technical assistance towards 'viable' and 'competent' small to medium scale growers. Smaller growers, with lower levels of technical capability, are able to access assistance via PAMC. These mechanisms are discussed further below.

For most of the smallholder growers in this study, the guidance and assistance of INDAP-contracted technicians through PAMC or other programmes has major implications for their participation in the raspberry value chain. As noted above, compliance with BPA is increasingly a baseline requirement for value chain participation, and other third party and private standards are increasingly coming to govern the chain. Many non compliant growers are only able to participate in the value chain due to the dis-integration and informality at upstream nodes in the chain – primarily among intermediaries. Without the intervention of the state via INDAP's local programs, and in the absence of more widespread cooperation among producers, it is highly likely that many smallholder growers would not comply with the necessary standards for ongoing participation in the value chain. In this sense, it seems that state intervention is compensating to an extent for shortages of social capital and low levels of trust and cooperation at the community level.

6.3. Mediating processes

The livelihood assets discussed above are instrumental for smallholder raspberry growers and their households in gaining access to and participating in the raspberry value chain emanating from the *comuna* of Yerbas Buenas. The relative importance of various assets for particular households is determined by a range of factors. The ability to access (and the capability to employ) different assets is both contingent on access to other assets employed in combination, and influenced by a range of mediating processes. As defined in the livelihoods framework (elaborated in chapter 3), mediating processes refer to factors both exogenous to the immediate socio-economic and environmental context within which households are embedded, and endogenous to this context. While this exogenous/endogenous binary is by no means unproblematic, it is useful in distinguishing a range of mediating processes that shape household livelihood strategies.

The former set of (exogenous) factors includes trends and shocks⁹⁸, both natural and anthropogenic, which often have their genesis well beyond the boundaries of local communities, but which have significant implications at the local level. In particular, relevant trends and shocks are likely to include long-run or abrupt economic, environmental (including climatic), political, social and demographic change. The latter set of (endogenous) factors covers aspects that tend to be specific to the local setting, including institutions, organisations and social relations that influence people's abilities to access and combine various assets in pursuit of a livelihood. Therefore, while participation in the raspberry value chain is underpinned by a variety of livelihood assets, access to these assets, and the maintenance and expansion of the household asset base, are shaped by important mediating processes. Mediating processes can operate to both pose challenges and present opportunities for household livelihoods. An appreciation of key mediating processes is essential for an improved understanding of how livelihoods are enabled and constrained, transformed and reproduced at the local level. To this end, this section discusses relevant trends and shocks, institutions, organisations and social relations in the context of the households interviewed in this study and their engagement in the raspberry value chain.

6.3.1. Trends and shocks

Many of the macro processes that have shaped the insertion of Chilean smallholder farmers into the globalising agri-food system have been explored in chapters 3 and 4 of this thesis. Fundamental at the global scale have been interconnected processes associated with contemporary agri-food globalisation, including the increased industrialisation and corporatisation of agriculture and resulting urbanisation, proletarianisation and semi-proletarianisation of the peasantry. These processes have been felt at the national scale, as the Chilean state has sought over time to insert itself into the global economy and, more recently, to defer management of the domestic political economy to global market forces. While these world-historical macro processes have had fundamental impacts at the local scale (indeed they constitute half of the story), given their coverage in previous chapters, they will not be revisited in any detail here. Several macro-scale trends, however, do have potentially major ramifications for smallholder raspberry growers.

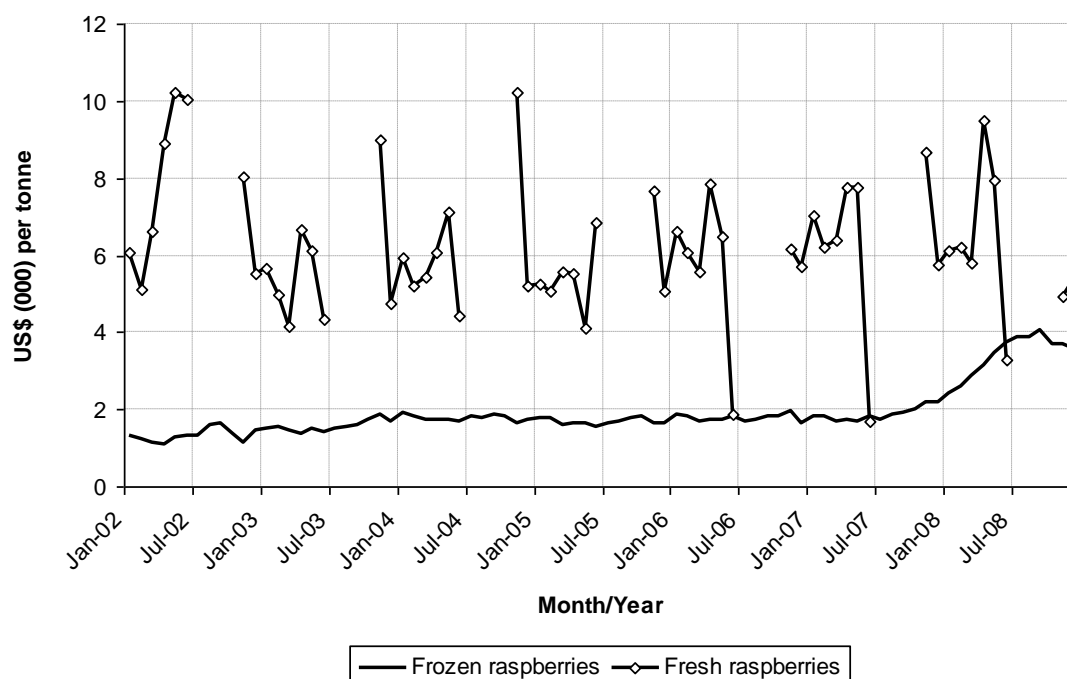
International market trends present some of the most significant challenges for smallholder growers. Market imperatives are articulated via the raspberry GVC, primarily through prices and quality grades and standards. Global demand for raspberries is high and increasing, which is a positive trend in general terms for raspberry growers. However, global supply fluctuates significantly depending on climatic conditions in the major producing countries. The resultant shifts in international prices, and particularly downward shifts, are swiftly transmitted back to growers. In this way, primary producers bear much of the risk of participating in what is a relatively volatile market. Relative prices for fresh premium fruit versus processed fruit largely determine the strategies of Chilean processing and exporting companies, and influence the relative prices to producers. Growers who are capable of supplying both top grade fresh berries and standard processing fruit, and are able to switch freely between the two, are potentially most resilient in the face of uncertain relative prices. Those who are not in a position to deliver top grade fruit, on the other hand, are more vulnerable to declining prices for processing fruit.

Figure 6.11 shows trends in prices for fresh and frozen Chilean raspberries in the international market between 2002 and 2008. While this does not equate to the price paid to growers⁹⁹, it is reflective of key trends and tendencies that flow back to primary producers. As the graph indicates, fresh exports occur only during the harvest season,

and prices are subject to significant intra-seasonal fluctuation in response to supply. Prices tend to be high as the season opens, and decline as production peaks in December and February. As production declines prices rise again, but in recent years the season has closed with very low prices, as Chilean fruit comes into competition in export markets with fruit from domestic producers and other producing regions. Frozen exports occur throughout the year, though growers are obviously only paid during the season. Prices for frozen fruit are comparatively stable, and rose dramatically in the 2007/08 season due to a significant decline in global supply resulting from a very poor productive season in Eastern Europe.

While demand for raspberries is increasing, so are food quality requirements in the major export markets. In particular, there is a tendency towards greater stringency in food quality grades and standards (and especially retailer standards) in response to consumption trends in Northern markets. On one hand, coalitions of large transnational retailers are increasingly demanding that FFV imports comply with their own private ('voluntary') codes for food safety, environmental sustainability and ethical sourcing, as well as overarching national and international regulations. On the other hand, they are seeking consistency of supply on a year-round basis.

Figure 6.11. Monthly international prices for Chilean raspberries, 2002-2008



Source: Generated from ODEPA (2009) data, on the basis of national customs data.

The strategies employed by Chilean export firms, processors, intermediaries and growers are therefore increasingly shaped by the requirements of lead firms at the downstream end of the chain. Where in the past compliance with private voluntary standards was a potential source of product differentiation and competitive advantage, it is now essentially a prerequisite for gaining and maintaining market entry. Within Chile, compliance monitoring and enforcement of both private and public standards is becoming more thorough and rigorous, and opportunities for participation for uncertified growers and informal intermediaries are becoming scarce.

At the international scale, shifting geographies of primary production have important implications for the Chilean raspberry sector in general, and the livelihoods of small-scale growers. While Chile retains an important advantage as a counter-seasonal supplier of fresh berries to the northern hemisphere, it is disadvantaged by its distance from Northern markets, and faces rising competition from Mexico in the US market and Spain in European markets. In the case of frozen raspberries, the tendency is towards increasing production by Chile's main competitors in Eastern Europe, but Chile remains an important player in global frozen raspberry trade. Chile's competitiveness, however, may be undermined in the near future given its dependence on small-scale growers and the aforementioned trends in quality standards.

With respect to macroeconomic variables, exchange rates, interest rates and inflation are significant factors. The Chilean raspberry sector is almost entirely export oriented and, like all export sectors, is sensitive to exchange rate trends. In particular, given the importance of the US market, which absorbs 75 percent of fresh and 40 percent of frozen raspberry exports from Chile, the value of the peso relative to the dollar is highly significant. Following two decades of steady depreciation against the dollar, the peso began to strengthen in 2003, and has continued to do so. This trend has put increasing pressure on exporters and impacted negatively on returns to growers. The effects of the strengthening peso are mitigated by high international raspberry prices, but compounded in periods of high supply and low international prices. Chilean export firms have persistently sought to diversify their export markets and therefore reduce vulnerability to unfavourable exchange rates vis-à-vis the US, which has positive implications for growers, but penetration of new markets has been gradual and the US market remains of primary importance (see chapter 5, section 5.2.2). Interest rates are also significant for smallholder growers. While high rates potentially discourage

borrowing among farmers, none of the growers interviewed expressed any desire to take on bank loans. However, high interest rates also present challenges for companies, which often need access to credit at the beginning of the season so as to pay growers up front. Increased borrowing costs are reflected in the prices paid to growers.

Environmental factors also have the potential to influence grower livelihoods in the study area in the mid to long term. Long-run climatic change threatens to disrupt agricultural production on a global scale, and could have profound implications for the raspberry sector and rural livelihoods in Yerbas Buenas. As discussed above, water is a critical resource for raspberry growers, and while the Maule River is a relatively reliable irrigation resource at present, reduced precipitation and glacial retreat in the central Andes could contribute to lower flows in the future. Low flows may also be compounded by increasing conflict between users – especially between electricity generators and irrigators. Large-scale farms are increasingly tapping plentiful subterranean aquifers in the central valley, and while this is not directly affecting small-scale growers at present, depletion of these aquifers could affect future options for accessing irrigation water. The localised implications of mid to long term climatic change remain uncertain, but increasingly extreme weather events (and both wet and dry spells) have the potential to frustrate production in the study area. Changing microclimatic conditions can also exacerbate the occurrence of fungal infections and insect pests to which raspberries are particularly sensitive.

Most of the trends discussed above result from the interaction of natural processes and human activity and, as such, they have the potential to give rise to social and environmental shocks that threaten the sustainability of grower livelihoods. Shocks may be internal to a given household involving, for example, illness or injury affecting the capacity of particular members of the household to work, or death or departure of household members. Shocks may also be external to any specific household, yet have profound (but differentiated) impacts on particular households. For example, unexpected weather events often impact negatively on the operations of smallholder raspberry growers in the *comuna* of Yerbas Buenas. The growers interviewed recounted several instances of heavy rainfall events damaging crops early and late in the season. One household that attempted to diversify into citrus fruit had recently lost an entire plot of lemon trees in the first snowfall in the *comuna* in many years. Aside from natural events, market shocks are potentially significant. The raspberry GVC itself, for

example, can be a conduit for abrupt price shocks and new quality specifications, which often confront growers without warning. Where loss of profitability or failure to comply with required standards leads to a grower's ejection from the value chain altogether this, and the resultant decline in farm income, may represent a huge shock to the overall household livelihood.

6.3.2. Institutions, organisations and social relations

In building resilience to, and coping with, negative trends and shocks, and in attempting to take advantage of emergent opportunities, households' activities and livelihood strategies are influenced by institutions, organisations and social relations operating at various scales. In many cases these factors are intertwined and difficult to separate. For example, formal institutions (e.g. laws) are usually underpinned by informal institutions (e.g. social norms), regulated and enforced by organisations, and influenced by social relations. Given this inherent interconnectivity, institutional, organisational and social factors are discussed together below, in the context of their bearing on case study households' participation in the raspberry GVC.

Arguably the most important institutional factors shaping smallholders' access to and participation in the raspberry GVC are related to private and public sector governance of the chain, and the interaction of growers with the state, processing/export firms, and each other, in this context. Tables 6.3 and 6.4 (pages 208-211) present a range of primary data that help to characterise these interrelationships, and serve to inform subsequent discussion of the implications of key institutional factors.

Table 6.3 displays data on the commercial relations between growers and buyers. The table shows that the three very smallest growers rely entirely on household labour to harvest the crop, and sell their fruit for processing to *conchuchos* without any kind of contractual relationship. The other small growers with 0.25 hectares or less are integrated into the chain under various arrangements. However, while some have informal relationships with specific companies, only two actually have contractual agreements, and these supply both fresh and processing fruit. Overall the growers in this size class typically employ very few paid workers in the raspberry plot, are focused on producing processing grade fruit, and rely on *conchuchos* to access the market.

Medium-scale growers naturally tend to employ more workers from off-farm during the harvest, and supply both processing fruit and premium fresh fruit. While three growers

have supply agreements with specific companies, these do not provide any price guarantee to the grower, but rather commit the grower to supplying a particular company in exchange for some degree of technical support. The other three growers in this size class are not party to any contract, and mainly rely on selling to *conchenchos*. The larger farms employ more pickers at harvest time and have similarly mixed contractual arrangements. One farm is contracted to a specific firm, while another is affiliated via a family connection. The two remaining farms sell to intermediaries – one to *conchenchos*, and the other directly to different *centros de acopio*. Three of the four farms are focused on IQF, reflecting the high labour costs of picking *fresco*, and the relatively high IQF prices in 2007/08.

Table 6.4 presents data on the technical assistance received by the growers surveyed from both the state and export firms. The primary objective of both public and private sector assistance to smallholders is to support their increased technical capability and promote compliance with required quality standards. The state's engagement is motivated by a belief that the raspberry value chain offers significant opportunity for competitive smallholder grower participation. The motivation for agribusiness to be involved is the need to secure whole-of-chain quality compliance, traceability, and competitiveness. The basic requirement that needs to be met in this respect is growers' compliance with BPA standards. As table 6.4 shows, 12 of the 20 growers surveyed were BPA compliant. Of these, most were receiving technical support from INDAP, although some had achieved compliance with assistance from export companies. Of the eight non-compliant farms, three were supported by INDAP through PAMC, while five were receiving no support from the state or private sector.

Overall, state assistance is very important to the small and medium sized farms in the sample. The nature of various public sector support programmes is discussed further below. Private sector support was less common among the growers surveyed, but seven respondents were receiving, or had received, support from export companies. Several growers reported, however, that the involvement of the firm, and the assistance provided was very minimal. While in some cases limited technical advice was provided, in most cases the role of the firm appeared to be to supply the grower with necessary packing and basic equipment, and to outline the firms' requirements and expectations.

Table 6.3. Raspberry production: Commercial relations

Raspberry area	Grower code ^A	Area in raspberries (m ²) ^B	Years in production	Number of people who work in the plot: household labour (H) or paid workers (P)	Buyer ^C	Format (IQF/F/J) ^D	Contract	Current price ^F
≤ 0.25 ha	MC02	400	4	2 (H)	Conchenchos	IQF	None	680-770/kg (IQF)
	OM02	600	4	2 (H)	Conchenchos,	IQF	None	680/kg (IQF)
	OM01	600	5	3 (H)	Conchenchos	IQF	None	680/kg (IQF)
	AB03	1,500	3	3 (H), 3-4 (P)	Conchenchos, Empresa	IQF	None	800/kg (IQF)
	AB02	1,800	6	1 (H), 1 (P)	Conchenchos, Empresa	IQF	None	650-730/kg (IQF)
	MC01	2,000	5	3 (H), 2-3 (P) (neighbours)	Empresa	IQF, F	Supply agreement (no price component)	780/kg (IQF), 3,000-4,000/box (F)
	OM03	2,120	4	3 (H), 1 (P)	Empresa	IQF, F	Price fixed in October for IQF, quantity agreed in advance (verbally)	700/kg (IQF), 4,000/box (F)
	SA02	2,500	3	5 (H), 1-3 (P) (neighbours)	Conchenchos	IQF, F	None	650/kg (IQF), 3,500/box (F)
	LC01	2,500	5	4 (H), 1-2 (P)	Conchenchos	IQF	None	840/kg (IQF)
	LC02	2,500	5	3 (H), 1-3 (P)	Conchenchos, Empresa	IQF	None	850/kg (IQF)
> 0.25 and ≤ 0.5 ha	SA03	2,600	4	3 (H), 1-4 (P) (relatives)	Conchenchos, Empresa	IQF, F	Supply agreement (no price component)	850/kg (IQF), 2,500-4,000/box (F)
	AB01	3,600	5	3 (H), 4 (P) (extended family)	Conchenchos	IQF	None	720/kg (IQF)
	PA01	4,000	4	2 (H), 4-5 (P)	Conchenchos, Empresa	IQF, F	None	800/kg (IQF), 2,500/box (F)

	MC04	4,500	5	5 (H), 2 (P)	Empresa	IQF, F, J	Supply agreement (no price component)	650-700/kg (IQF), 4,000/box (F), 300/kg (J)
	MC03	5,000	6 (3 with current plot)	2 (H), 3-4 (P) (relatives)	Empresa	IQF, F, J	Supply agreement (no price component)	650-700/kg (IQF), 4,000/box (F), 300/kg (J)
	PA02	5,000	3	2 (H), 5 (P)	Conchenchos	IQF, F	None	780/kg (IQF), 2,500/box (F)
> 0.5 ha	TE01	7,000	5	2 (H), 8-10 (P) (extended family)	Conchenchos,	IQF	None	850/kg (IQF)
	TE02	8,000	8	1 (H), 8 (P)	Acopios (various)	IQF	None	900/kg (IQF)
	SA01	12,500	4	1 (H), 32-40 (P)	Empresa	IQF, F	Contract specifying quantity of fresco & IQF, & quality requirements.	650/kg (IQF), 2,500-3,000/box (F)
	YB01	20,000	3	3 (H), 5-10 (P)	Empresa	IQF	None (family connection)	900/kg (IQF)

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B As reported by the respondent and corroborated on-site.

^C The means by which the fruit is sold. *Empresa* denotes a company with which the grower has some form of supply agreement. Where the grower sells to *conchenchos* or direct to a local *centro de acopio* this is indicated accordingly.

^D 'IQF' signifies fruit that is picked for processing, primarily as whole 'individually quick frozen' fruit (though it may be processed by the company in a variety of ways). 'F' signifies *fresco*, or fruit that is picked and packed for fresh export. 'J' signifies *jugo*, which refers to ungraded or damaged fruit sold for juice or pulp.

^E Compliance with *Buenas Prácticas Agrícolas* (BPA) requirements.

^F Price in Chilean pesos per 1 kg (IQF and *jugo*) and per 1.5 kg box (*fresco*) at the time of the interview as reported by the grower. Note that prices are not directly comparable, as they are recorded for different dates (see table 1, appendix 2).

Table 6.4. Raspberry production: Technical assistance

Raspberry area	Grower code ^A	BPA? (Y/N) ^B	State assist. (Y/N)	Firm assist. (Y/N)	Details of assistance	Training undertaken	Group membership ^C
≤ 0.25 ha	MC02	N	N	N	N/A	-	-
	OM02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Course in book-keeping & computer use.	Local growers' syndicate for sharing information & buying inputs
	OM01	N	N	N	N/A	-	Local growers' syndicate for sharing information & buying inputs
	AB03	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Approx. 15 courses in raspberry production, small business management, pesticide handling, computer use (through SAG, FEDEFRUTA, INDAP).	-
	AB02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Pesticide handling course (SAG). Garlic course (INDAP, 1997).	-
	MC01	Y	Y	Y	INDAP/PAMC technical assistance with production & BPA compliance. Support from the company consists of limited technical advice.	INDAP small business course.	Members of a small local cooperative of 4 families who collectively lease land adjacent to the plot. Share costs & help each other with picking where possible.
	OM03	Y	N	Y	Assistance & advice on production from company technicians.	BPA course in Linares (SAG). Raspberry technical course in Chimbarongo.	-
	SA02	N	N	N	N/A	-	-
	LC01	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	-	-
	LC02	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	-	-

<p>> 0.25 and ≤ 0.5 ha</p>	SA03	Y	N	Y	Assistance from the co. is limited – mainly the provision of required signage, packaging & basic equipment (e.g. hair-nets).	-	-
	AB01	Y ChileGAP compliant	Y	N	Intensive INDAP/PAMC technical assistance with production & BPA & ChileGAP compliance.	Course on ChileGAP requirements & certification.	-
	PA01	Y	Y	Y	INDAP/PAMC technical assistance with production, BPA compliance, managerial advice. Firm's involvement is very limited.	-	-
	MC04	Y	Y	Y	INDAP/PRODESAL support and technical assistance. Basic assistance and advice from company.	Technical production courses through INDAP/PRODESAL. CONAMA programme on composting pruned raspberry canes.	-
	MC03	Y	Y	Y	INDAP/PRODESAL support and technical assistance. Basic assistance and advice from company.	Technical production courses through INDAP/PRODESAL.	-
	PA02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance. Subsidy through SAT to build the packing shed.	Raspberry courses through INDAP/PRODESAL	-
<p>> 0.5 ha</p>	TE01	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance. Subsidy through SAT to build the packing shed and other facilities.	-	-
	TE02	N	N	N	INDAP/PAMC technical assistance with production & BPA compliance. Did receive assistance from a company, but no longer supplies them.	-	None (but would like to cooperate with other growers)
	SA01	Y	N	Y	Limited assistance from the company (technical advice), and explanation of requirements	-	-
	YB01	N	N	N	Had assistance from the company at the beginning, but they no longer provide support.	-	-

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B Compliance with *Buenas Prácticas Agrícolas* (BPA) requirements.

^C Membership of any growers' syndicate or cooperative.

Table 6.4 also shows that several of the growers integrated into state support programmes have taken up opportunities for further technical and entrepreneurial training. This has been embraced to a greater extent by some growers, but clearly connection to a state-sponsored assistance programme is an important means for accessing training and capacity-building opportunities. Most of the growers that received no technical assistance from the state also had not accessed any training or capacity building courses. Very few growers were engaged in any kind of cooperative initiative with other growers. Two respondents were members of a local growers' syndicate, which organised the collective purchase and transportation of inputs and the informal sharing of technical and market information. Another respondent was part of a small cooperative of local families, which collectively leased a block of land for raspberry cultivation, and collectively purchased inputs. More formal or widespread grower organisation was not evident and, as discussed in section 6.2.5, many growers had no desire to cooperate with others, or lacked an understanding of the potential benefits in doing so.

The salient formal institutions guiding and constraining the activity of growers integrated into the raspberry GVC are embodied in the food safety and quality standards discussed in this and previous chapters. At the national level SAG Resolution 3.410 (2002) is the basis of the Ministry of Agriculture's BPA scheme in the berry sector. As discussed previously, BPA is aimed at assuring traceability and phytosanitary standards, and with respect to the raspberry GVC it requires that all growers and other actors in the raspberry export sector be registered in its '*Sistema de Registro Frambuesas SAG*', and compliant with a range of basic phytosanitary and hygiene standards regulating the use of water, the handling of fruit, and sanitation (SAG, 2006). Under Resolution 3.410 processing firms are charged with ensuring that their suppliers are aware of BPA requirements, and all value chain actors, including growers, are subject to periodic audit to this effect. While the BPA requirements for the berry sector are relatively basic compared with many international private standards, they are onerous and expensive to implement (to the point of being prohibitive) for many small-scale growers. The official documents outlining technical specifications for berry cultivation (CNBPA, 2004) and packing/handling (CNBPA, 2007) are reasonably protracted (47 pages and 84 pages respectively), and impossible for most smallholder growers to interpret or implement without extensive technical assistance. Figure 6.12 shows just some of the bewildering array of signage that is required to be displayed on compliant farms.

Figure 6.12. BPA signage



Source: INDAP (2006, p. 53)

The challenges faced by smallholder growers in implementing BPA are recognised by the Ministry of Agriculture, which has identified the raspberry sector as an area of high priority for state support. The Ministry's *Plan Nacional* ostensibly targets *agricultura familiar campesina* across Regions VI, VII, VIII and IX. The *Plan Nacional* is couched in a broader framework of public-private sectoral competitiveness strategies (*Planes de Competitividad por Rubro*) aimed at fostering productivity and competitiveness among small farmers in strategic sectors, and generating 'encadenamientos productivos', or productive value chain linkages. However, because the *Plan Nacional* engages only growers with more than half a hectare in raspberry production and demonstrated progress in the implementation of BPA, it is not directly relevant to many of the producers in this study or in the *comuna* of Yerbas Buenas generally.

Smaller growers receive little support, but one programme of great significance to the smallest growers in Yerbas Buenas is the aforementioned *Programa de Apoyo al Mejoramiento de la Competitividad de los Pequeños Productores de Frambuesa*. In contrast to the *Plan Nacional*, PAMC is a modestly funded cooperative venture between the Municipality of Yerbas Buenas and INDAP, which has the primary aim of facilitating compliance with BPA among very small-scale growers. For many of the growers interviewed in this research, involvement in the programme and ongoing support from PAMC technicians is the only hope for ongoing participation in the raspberry GVC. However, the programme has lost around half of the 600 growers it began with in 2004, losing 80 growers between 2007 and 2008 alone, largely due to problems with root rot (*Phytophthora fragariae*). The fact that PAMC is so inadequately resourced in comparison to the *Plan Nacional* reflects the ongoing focus of the state on ‘commercially viable’ small farms.

As has been discussed at various points in this thesis, the rise of private voluntary food grades and standards is indicative of a fundamental shift in global agri-food chain governance. The body of global private standards most relevant to the raspberry GVC emanating from Yerbas Buenas, and thus to the growers in this study, is GLOBALGAP, which embodies the requirements of major US and European retailers. While GLOBALGAP certification is not yet a requirement for all exports, it is increasingly prominent. The Chilean BPA scheme covers some of the requirements necessary for GLOBALGAP certification, but GLOBALGAP is significantly more rigorous.¹⁰⁰ While private standards, including GLOBALGAP, have their basis in national-level laws and regulations and international standards, they tend to exceed the requirements of these, and are thus coming to define the terms of market engagement for all value chain actors.

The key organisations engaging with these institutional arrangements are both public and private sector bodies. Increasingly, however, downstream firms (particularly transnational supermarkets) are driving agri-food chain governance, while upstream export firms and state agencies at central and local levels are engaged in confronting evolving market imperatives. With respect to the participation of the smallest Chilean growers in the raspberry GVC, the key public sector organisation is INDAP, which assists smallholders through a range of mechanisms and agreements with local authorities (e.g. PAMC, PRODESAL). While business associations play an important role in representing the interests of food export companies and large-scale producers in

the sector¹⁰¹, there is comparatively little representation of the interests of small-scale growers. Apart from broad-based national peasants' and rural workers' organisations¹⁰², which have very little specific involvement in the raspberry sector in the *comuna* of Yerbas Buenas, smallholder growers in the *comuna* have access only to small informal local organisations and groups. As discussed above, a few of the growers interviewed cooperated with neighbouring growers to procure inputs and transport fruit to *centros de acopio*, for example, but more formal associations of smallholder growers were not encountered. This seems to be due to both a lack of trust between small-scale growers, and a lack of understanding of potential benefits of cooperation. In any case, most of the attempts by INDAP and PAMC to foster associations of growers 'from above' in the *comuna* have been unsuccessful.

Social relations, and in particular class and gender relations, also have important implications for the participation of smallholder households in the raspberry GVC. As discussed in chapter 4, the status of the Chilean peasantry vis-à-vis the state is increasingly ambiguous. Consecutive democratic governments have on one hand continued to prioritise free market export-oriented policies in the agricultural sector, while on the other hand extending support in various forms to *agricultura familiar campesina*. State support in this context has echoed earlier *reconversion* strategies, but re-framed these in the rhetoric of '*encadenamientos productivos*', concentrating assistance through INDAP and other agencies on more 'viable' smallholders. The fact that the national agricultural census fails to register thousands of very small-scale commercial raspberry operations reflects the state's de-prioritisation of the smallest growers and a missed opportunity to understand the significance of participation in the raspberry GVC to diversified smallholder livelihoods. At the same time, however, the historical importance of the peasantry and the promise of the Bachelet government for a Chilean agriculture inclusive of all farmers irrespective of scale, necessitates the kind of support evident in local-level projects like PAMC. Therefore, by virtue of their class status in Chilean society, many small-scale raspberry growers are able to access state support without which most would not be able to participate in the raspberry GVC.

6.4. Diversified livelihood strategies

As reflected in the previous section, smallholder raspberry grower households in Yerbas Buenas are engaged in diversified livelihood strategies, relying on varied combinations

of on-farm and off-farm agricultural and non-agricultural activities. The various activities that are engaged in have their basis in access to a range of livelihood assets, the accessibility of which is shaped by a milieu of institutions, organisations and social relations operating at different scales. In this context, households seek to mitigate risk, respond to prevailing long-run trends and short-term shocks, and exploit emergent opportunities. In this sense, households are not to be seen as passive absorbers of external shocks, and nor are they powerless in the face of longer-run trends and change. Rather, through productive diversification and integration into both local and global markets they seek to sustain viable rural livelihoods.

Raspberry production and participation in the raspberry GVC, therefore, constitutes just one aspect of diversified (and diverse) rural livelihood strategies. While it is rarely the mainstay of household income for smallholders, it does represent a potentially valuable opportunity for income generation for all of the households in this study, and therefore opportunities for and barriers to sustainable participation in the value chain are worthy of attention. Households' capacity to participate, however, is likely to depend on the success of multiple income-generating and subsistence activities, and for this reason an understanding of the different activities underpinning diversified livelihoods is necessary.

For all of the households interviewed, off-farm employment was an important source of household income. Eight households were predominantly reliant on off-farm income, and a further five were equally dependent on farm and off-farm income. In many cases the primary income earner was a male head of household, employed in either permanent full-time or casual seasonal off-farm agricultural work. In many cases other adult household members were also employed in agricultural work, providing secondary off-farm income sources. Obviously where the primary household income is derived from a permanent (and secure) off-farm job, household income tends to be more stable over time, and the greater the proportion of total household income derived in this way, the less seasonally variable household income is likely to be. However, where off-farm employment is in casual or seasonal work, income is less stable and secure.

For most households, however, including those whose primary income was derived from permanent off-farm work, total household income was reportedly highly seasonal. Seasonal work is reasonably plentiful over the fruit season, and in many cases one or more household members were engaged in seasonal orchard work or factory work.

Common sources of employment in Yerbas Buenas are pruning, thinning and picking on large apple and pear orchards, berry picking, and factory work processing or packing pipfruit or berryfruit (see table 6.2). Beyond seasonal horticultural work, employment opportunities in Yerbas Buenas are scarce, with the various municipal offices in the town of Yerbas Buenas, and a large pulp and paper plant in the northwest of the *comuna* being the only significant employers. The son of one interviewee was employed at the pulp and paper mill, while a few members of other households were employed in other non-agricultural work inside and outside of the *comuna*. In general, however, opportunities for full-time paid work are scarce for smallholder households within the *comuna*, and many struggle to meet basic household costs over the winter.

Depending on the amount of income derived from off-farm paid employment, and whether or not this is sufficient to cover household costs, smallholder households engage in other income generating and non-income generating activities for survival. In general terms, this work involves on-farm and off-farm work as well as agricultural and non-agricultural activities. Where the work is agriculture based, or natural resource based, it is usually concentrated over the summer period, whereas non-agricultural work may be carried on year round.

One seasonal income generating activity that is widespread in the *comuna* and was common among households in this study, is the collection of wild blackberries (*mora silvestre*). These are collected from roadsides, riverbeds and private land for sale to *conchenchos* and *centros de acopio* in late summer. Most of this fruit is destined for processing and consumption in the domestic market, though some is exported. For local households the *mora silvestre* represents an important income source, and depending on prices relative to other crops – especially raspberries – it may be collected by children for pocket money, or by entire households as a concerted income generating activity. Some growers even reported that they would abandon their raspberry plots if the price of *mora* reached a sufficient level. Figure 6.13 shows a group of children selling *mora silvestre* to intermediaries in Yerbas Buenas. While less common, some families in the *comuna*, including two of the households in this study, also collected and sold wild rosehip (*rosa mosqueta*), which is used in teas and jams.

Figure 6.13. Children selling wild blackberries to intermediaries



Source: The author.

While some households derive most of their farm income from raspberries, many cultivate a range of other crops, albeit on a small scale. Blackberries, which were sold through the same channels as raspberries, were particularly important in this respect. Two of the households interviewed were experimenting with organic blackberries as a higher-value crop, as they are less susceptible to root rot and fungal infection than raspberries and therefore are suited to organic cultivation. Several households devoted some land to the cultivation of potatoes or onions both of which, while comparatively low-value crops, require relatively low levels of investment, and can be easily stored for sale over the winter months. By cultivating complementary crops in this way, some of the seasonal variation in farm income is mitigated, and exposure to potential losses from low prices and crop failure is reduced. Most households also maintained a house plot of vegetables and fruit trees for household consumption, but few produced enough food for self-sufficiency in fruit and vegetables.

On larger small farms on-farm diversification tends to be higher, although the area devoted to raspberries does not usually exceed half a hectare. For example farm OM03 is engaged in raspberry production on just over 0.2 hectares, and devotes significantly greater areas to secondary crops (potatoes and onions) and pasture. The pasture supports a small herd of cows, and the household derives some of its income from milk and

cheese. Relatively wealthy in comparison to many other households in the sample, this household also earns a significant portion of its income from leasing two small tractors to other farmers in the area. In addition, adjacent farms are owned by members of the same extended family, and the families cooperate informally, sharing equipment and labour. Another interviewee leased out three hectares of his land to another farmer to grow corn and wheat, thus avoiding the costs and risks of larger-scale cropping while retaining a small raspberry plot which was worked by himself and his family.

In addition to on-farm income diversification, some households are engaged in small-scale goods and services trade and artisanal manufacturing. Three of the households interviewed ran small shops from their homes (see figure 6.14), selling both general grocery items and local produce (e.g. eggs and fruit). One grower had converted a bedroom in her house into a modest hairdressing salon, and was in the process of applying for a licence to open a small bottle shop, or *botillería*. Other interviewees were engaged in artisanal production of crafts (e.g. leather goods) and food (e.g. cheese) both individually and as members of a group.

Figure 6.14. Grocery shop in the front of a raspberry grower's house



Source: The author.

6.4.1. Summary: Raspberry production in diversified rural livelihoods in Yerbas Buenas

In the context, and on the basis, of diverse combinations of income generating and subsistence activities like those discussed here, then, peasant households are integrated into the raspberry GVC. In this sense, the individuals and households interviewed in this study are not solely, or even necessarily primarily, ‘raspberry growers’. However, most respondents reported that participation in the raspberry GVC had become a key activity within overall household livelihood strategies. In particular, the competitive advantages for small producers (specifically low start-up capital requirements, rapid return on initial investment, and ability to meet labour requirements from within the household), combined with the relatively high value of the crop (especially for fresh export berries) make raspberry production relatively lucrative at small scales. While international prices can fluctuate dramatically from year to year and within seasons, small scale operations generally remain profitable if growers have access to the required assistance and technical advice to maintain reasonable yields and quality fruit.

While raspberry income is seasonal, the season is long in comparison to other crops, with fruit being harvested from November to May, potentially providing income for six months of the year. All of the households interviewed reported that household income was highest during the productive peaks in December and February. This trend was strongest among households that were able to fulfil the labour requirements at harvest time from within the household. However, for households that lacked sufficient labour power to harvest the crop, labour costs were also high during these productive peaks. This issue was reportedly compounded by seasonal labour scarcity within the *comuna* as an abundance of work on large orchards and in fruit processing and packing plants overlaps with the raspberry season. In addition, the prevalence of small-scale raspberry plots in the *comuna*, (in some localities it seems that almost every household has at least a few rows of raspberries) means that many potential workers are occupied tending their own crops. Together these factors appear to exert a downward pressure on plot sizes, which tend to be limited largely by the human capital resources available within the household.

Some growers use their earnings from raspberries to purchase the inputs required for the establishment of a secondary crop, which can supplement income over the winter, as discussed in the previous section. Where a significant surplus is generated some

households have reinvested in improving the raspberry plot and compliance with BPA. Others have invested in improving their house, diversifying into other business, purchasing a motor vehicle, or saving for their children's education.

The means by which households are linked into the value chain vary, but many of the smallest growers have no formal contract with a particular company. Where arrangements do exist between companies and smallholder growers, this usually takes the form of an agreement whereby the grower agrees to provide their fruit to a particular company for the duration of the season and, in exchange, receives limited technical advice and assistance in meeting BPA or company quality standards. Aside from this assistance there are very few benefits for small scale growers in being associated with a particular fruit company. In fact, most of the growers that did have some form of supply arrangement with a given company complained that they received consistently lower prices than the going rate paid by intermediaries and non-affiliated *centros de acopio* in the area. The relative position of loosely affiliated growers may, however, shift in the future as food safety and quality compliance become more widely insisted upon. In the context of rising quality standards companies may come to play a more important role in facilitating BPA and GLOBALGAP compliance among their numerous smallholder suppliers.

Gaining access to markets represents a significant challenge for many smallholder growers, and in this respect, as discussed in the previous chapter, two tiers of intermediaries (*conchenchos* and *centros de acopio*) play a central role for most. Depending on proximity to a *centro de acopio*, some growers deliver their own fruit by bicycle, or motor vehicle, thereby bypassing the *conchenchos*. However, at the same time some growers, despite owning a motor vehicle, reported that given the low margins taken by *conchenchos* (approximately 40-50 pesos per kg), and the good prices paid, it was not worthwhile for them to transport the fruit themselves. On the other hand, one of the growers interviewed, regularly phoned around competing *centros de acopio*, and delivered the fruit to whichever was offering the best price on the day. At particular times in the season, and especially outside of the peak production periods in December and February, *conchenchos* and *centros de acopio* alike must actually compete for fruit, often leading to very good prices to non-affiliated growers and reduced margins to the intermediaries.

Despite the variety of means by which fruit is transferred to market, *conchenchos* played an important role for most growers in this study. Most growers have no access to daily price information except via word of mouth from friends and neighbours, and often from *conchenchos* themselves. Despite this lack of direct access to information the system is reasonably competitive and self-policing due to the high number of *conchenchos* operating across the *comuna*. If it is found (or alleged) that a particular *conchencho* has been less than honest about the day's going rate, or has been operating with crooked scales, local growers soon refuse to sell to him or her. The intermediary structure does, however, provide scope for opportunistic behaviour on the part of both intermediaries and growers. In particular, it is allegedly common for some *conchenchos* to turn a blind eye to non-registered or BPA non-compliant growers, whose fruit may enter the value chain under the code of another grower, for example. Similarly, a BPA certified grower may purchase fruit from a non-certified neighbour and on-sell it, or simply sell it on his or her behalf. While intermediaries and growers are officially required to keep thorough records, in practice, informality in recordkeeping is high. Finally, the terms on which growers are integrated into the chain are increasingly shaped by evolving food safety and quality standards. As noted above, export companies have a vested interest in assisting smallholder growers to make the investments necessary to comply with these standards. This is becoming increasingly important as the standards themselves become more stringent, and monitoring and enforcement becomes more thorough. Having said this, key export firms seem to be shifting their primary focus away from raspberries and towards blueberries. This is particularly evident in the context of fresh berries, where blueberries are much more durable and therefore potentially suited to mechanised harvest and large-scale production and less susceptible to damage and degradation in post-harvest handling, storage and transit. In this sense, while smaller, more specialised raspberry export firms may be compelled to assist small-scale growers, many larger firms may not. In this respect there is a crucial role for state assistance to smallholder growers. Indeed currently, many of the smallest growers in the *comuna* of Yerbas Buenas are directly dependent on advice and assistance from INDAP via the PAMC programme. Some of the larger 'small' growers receive assistance from INDAP via the *Plan Nacional de Competitividad de Frambuesas de Exportación*. This latter group is deemed by INDAP to have greater potential for sustainable participation in the raspberry GVC, and it is probably true that they are better positioned to develop the necessary competencies and

capabilities. For smaller growers, including those registered in PAMC, the production and sale of raspberries represents just one of a variety of household income sources, several of which are likely to be off-farm, or non-farm sources. In this sense, assistance to these growers needs to approach challenges and identify opportunities at the household scale in the context of diversified livelihoods, rather than solely at the sectoral scale or unduly focused on technical know-how and productivity.

These issues are explored in the following chapter, which discusses the integration of smallholder raspberry grower households in Yerbas Buenas into the global agri-food system via the raspberry GVC. In so doing, it draws upon the global and historical contexts addressed in earlier chapters, and the primary research findings presented in this and the previous chapter.

Chapter 7.

Discussion: Agri-food Chains and Rural Livelihoods in Chile and Beyond

7.0. Introduction

The preceding chapters explored the structure and dynamics of the global value chain for raspberries emanating from the *comuna* of Yerbas Buenas in central Chile, and examined the nature of peasant households' participation in the value chain. The discussion has moved from a world-historical account of uneven geographies of agri-food globalisation, through a post-WWII political economy of agrarian change and rural development in Chile, to enable a contextualised examination of the integration of small-scale farms and peasant households into the global agri-food system. The overarching motivation has been to provide an account of geographies of contemporary agri-food globalisation that is grounded in a specific locality and at a specific geohistorical juncture. By combining a global-scale theoretical account of globalisation processes in the context of the agri-food sector, and an empirically rich local-scale account of the raspberry GVC and grower participation in it, the research contributes to an improved understanding of the local-global linkages engendered by contemporary globalisation processes. In this sense, it is hoped that the thesis can inform both theory and policy with respect to the local outcomes of agri-food globalisation, as well as key opportunities for and barriers to sustainable smallholder participation in global agri-food chains.

This chapter discusses the findings of the research, and proceeds in three parts, to systematically address the eight research objectives outlined in chapter 1 (page 8). The first section discusses the evolution, structure and dynamics of the global value chain for raspberries emanating from the *comuna* of Yerbas Buenas. The emergence of the raspberry sector is examined in the context of the non-traditional agricultural export strategy and associated agrarian policy pursued in Chile since the 1980s. The roles of key actors in the value chain are considered, and particular attention is paid to coordination and governance within the chain. The second section addresses the implications for smallholder growers of participation in the raspberry GVC. It first discusses the importance of value chain participation for the households in the study,

and considers the terms on which small-scale growers are incorporated into the chain. It then looks at existing costs and benefits of value chain participation for smallholder households, and finally examines potential future challenges and opportunities for ongoing, sustainable participation. At this point, some observations on appropriate policy options are offered. The third section considers the compatibility of global value chain and sustainable rural livelihoods approaches as employed in the research, and suggests that there are significant benefits to be realised in combining the two in an integrated approach.

7.1. Evolution, structure and dynamics of the raspberry value chain

The emergence of the raspberry export sector, and the evolution of primary production and subsequent downstream value chain functions within Chile, must be seen in a world-historical perspective. Chile was first incorporated into the world trading system in a mercantilist era of European colonial globalisation in the mid 16th century. Even within the periphery of the Spanish empire, Chilean temperate agriculture was peripheral to the primary circuits of capital, which were initially underpinned by mineral extraction and intensive tropical plantation agriculture. From colonial times, control of the land resource in Chile was highly concentrated in the hands of a landed oligarchy, and agricultural production was organised under a feudalistic and highly inefficient system of *latifundia* and *minifundia*. The social structures that coalesced in this period proved to be remarkably enduring, and have had a profound influence on trajectories of agrarian change and rural development in Chile to date.

7.1.1. Export agriculture and the emergence of the raspberry sector

Objective 1.A: *To describe the evolution of the raspberry export sector in Chile.*

Export orientation was slow to emerge within the *hacienda* system, which was initially oriented to the domestic (and, to a lesser extent, regional) market, but received significant impetus from the mid 1800s. The expansion of the *hacienda* enterprise, in response to increasing international demand and a growing domestic market, was heavily dependent on and exploitative of the peasant economy. However, along with the

expansion of the *haciendas* emerged a gradual process of increased mechanisation and capital intensification in agriculture, which underpinned productivity and efficiency gains, but also began to undermine the labour-service tenant system and drive the (full and semi-) proletarianisation of the peasantry.

The national import substitution industrialisation model adopted in the post-war period was, apart from being internally flawed, biased against agriculture, and particularly against the peasantry. In so far as state support was extended to the agricultural sector, it was directed primarily at landlords. *Hacendados* thus consolidated their position with respect to the peasantry, but a broad political shift towards a state developmentalist model, coupled with the enfranchisement of the peasantry in the 1950s, ultimately heralded the destruction of the *haciendas*. The net result of the socialist agrarian reforms and neoliberal counter-reforms that took place between the mid-1960s and late 1980s was the replacement of feudalistic productive relations counterpoising *haciendas* and an impoverished small-farm sector, with capitalistic productive relations counterpoising medium-scale capitalist farms and an impoverished but increasingly differentiated small farm sector. In this sense, the land market was liberalised and the capitalist farm sector consolidated, while the precariousness of the peasantry was further entrenched within a 'bifurcated' agrarian structure (Akram-Lodhi et al., 2009).

The military government began, in the late 1970s, to promote a strategy of agricultural modernisation and export orientation focused on innovation and non-traditional agricultural export crops. The NTAE strategy was founded on Chile's natural comparative advantages as a producer of temperate fresh fruit, and its capacity to supply counter-seasonal demand in North American markets. Following the ensuing fruit boom, Chile emerged as the dominant southern hemisphere exporter of temperate fresh fruit. The US market was the main export destination, and while export markets have become more diversified over time, this has been a gradual process, and Chilean fruit exports remain highly dependent on the US market. The public sector was largely excluded from the strategy, which was driven by private investment (and prominently by FDI and transnational corporations). While the economic boom created some significant backward linkages into the domestic economy, the benefits of growth were captured primarily within the capitalist farming sector, and among domestic and transnational agribusiness. The NTAE sector has been remarkably competitive and fast-

moving. As international competition has mounted and markets have approached saturation, exporters have constantly sought new high-value NTAE crops to develop.

Commercial raspberry production in Chile began in the late 1970s, and the sector was initially oriented towards the domestic market. Limited domestic demand, and growing international demand, however, saw the emergence of several raspberry export firms in the early 1980s. Initially focused on the provision of fresh raspberries to the US market, firms like Hortifrut and Comfrut tapped into growing counter-seasonal demand for fresh berries. The pioneering firms were Chilean-owned, formed mostly by groups of large-scale growers seeking channels to commercialise their produce. Export volumes increased, and with investments in processing plants (and particularly freezing and cool-chain technology), exports of frozen berries became increasingly important.

Developments in the processing sector were greatly influenced by international productive shifts, which created opportunities for Chilean firms to consolidate market share as suppliers of fresh and (primarily) frozen berries to Western European markets.

The expansion of exports stimulated the entry of more Chilean export firms into the sector, increased investment in processing capacity, and the expansion of primary production within Chile. From the late 1980s frozen exports became increasingly important, constituting the vast majority of total raspberry exports by quantity, although fresh berries retained real significance as a high value export product. International shifts also triggered important productive transformations within Chile. In particular, the considerable volumes of processing fruit supplied by Serbia-Montenegro upon its re-entry into the world market depressed world prices, and drove a reconfiguration of primary production, as many larger farmers exited the sector and exporters drew increasingly on smallholder growers as suppliers of primary product.

The participation of smallholder growers in the sector had been relatively high from the early stages of its development, due to the crop's suitability to small-scale production. However, since the mid to late 1990s, the growth of smallholder participation in the sector has been extraordinary, and has set the raspberry sector apart from other NTAE sectors, which have tended to squeeze smallholders out in the long run (Barham et al., 1992; Murray, 1997). Over the decade to 2007, the number of growers in the raspberry sector increased disproportionately to the area under cultivation as the average raspberry plot size decreased and small-scale growers replaced large-scale growers. The extent of

smallholder participation in the chain is one characteristic that is substantially underrepresented in official statistics.

The trend towards high smallholder participation was driven by interrelated international and domestic factors. Global productive shifts, including the aforementioned re-entry of Serbia-Montenegro, and export expansion in other countries in closer proximity to key markets brought increasing competitive pressure to bear on Chilean exporters and growers. In response, lead exporters sought to integrate more smallholders into the value chain to maintain a competitive supply through the incorporation of peasant household labour. Firms actively engaged smallholders, promoting raspberries as a profitable venture and assisting small farmers to become established in primary production. The Ministry of Agriculture also recognised the potential advantages for peasant farmer participation in the raspberry GVC and, through INDAP, actively supported the establishment of peasant cooperatives and peasant business networks (Berdegué, 2001; Kjöllérström, 2007) and assisted small growers in the sector. While INDAP's efforts in the 1990s to foster associative peasant businesses met with mixed success, it continues to provide support via a number of programmes (often in partnership with regional governments and municipalities) to peasant cooperatives and smallholder raspberry growers. Smallholder participation in the sector, therefore, has been both promoted and supported by the state through INDAP and other agencies. The high rate of smallholder participation in raspberry production sets it apart from most other NTAE sectors, but the extent to which smallholders are capable of maintaining competitiveness and commercial viability is uncertain given changing market requirements, which are discussed further below.

7.1.2. Key actors in the raspberry GVC

Objective 1.B: To identify and locate key actors and groups of actors in the Chilean raspberry value chain, and analyse their roles and interactions.

The global raspberry production-consumption complex incorporates thousands of large and small firms, many thousands of growers, and an incalculable number of input and service providers across five continents. While it is not possible to know the full extent of these networks and relationships, the analysis of specific value chains or parts of value chains has the potential to provide valuable insights into both the structure and functioning of the global complex. Having said this, no particular strand or node of

activity in a given value chain can be taken as representative or typical, as the configuration and coordination of particular chains and chain segments are highly contingent on local and historical specificities. Given the aims and scope of this research, the thesis has focused on key nodes at the upstream end of the global value chain for raspberries emanating from the *comuna* of Yerbas Buenas. The focus on upstream nodes and productive relations is intended to support a rich account of the means, terms and implications of smallholder growers' integration into the chain. However, due to the 'buyer-drivenness' of the value chain, and particularly the influence of transnational retail capital in value chain coordination and governance, consideration of the roles of influential downstream actors is also necessary. This section discusses key value chain actors and their roles within the chain.

Primary producers

Primary production within the chain is characterised by a highly differentiated range of farms and farmers. A very small number of large-scale growers are integrated into the chain, and most of these farms are diversified in the production of a range of export fruit. Given the high labour costs associated with harvesting raspberries (exacerbated by recent seasonal labour shortages) and relatively higher prices for new generation NTAE crops, many large-scale growers are shifting productive resources away from raspberries. For example, blueberries, which have far greater economies of scale due to the durability of the fruit and the potential for mechanised harvesting, are fast becoming one of the key new NTAE crops in the Maule Region. Of the large-scale raspberry growers that remain, most either are shareholders in berry export companies, or have long-standing and close ties or contracts with particular companies.

As discussed above, the primary production node of the value chain exhibits a high rate of smallholder participation, and small farms account for an increasing share of the area under production and of productive output. These characteristics are particularly pronounced in the Maule Region and in the study area of Yerbas Buenas, where 90 percent of farms are smaller than one hectare (with the majority of these being significantly smaller at between 0.25 and 0.50 hectares). The importance of raspberry production as a source of income for peasant households varies, but it is typically just one of a variety of farm and off-farm income sources. In this sense, smallholder growers, while important actors in the value chain, do not necessarily define themselves first and foremost as raspberry growers. Similarly, the National Institute of Statistics,

and to a lesser extent the Ministry of Agriculture, fail to recognise many very small-scale commercial producers as such.

Small-scale raspberry farms and peasant households are generally characterised by low levels of income and investment, limited access to land and other productive resources, and low levels of technical and commercial know-how. Many are relatively isolated and have poor access to transport and communications infrastructure. In this sense, obtaining inputs and information is often problematic, as is getting fruit to market. In response to these challenges, intermediaries play an important bridging role between small-scale growers and export companies. Two broad types of intermediaries operate at the upstream end of the value chain in this respect. Mobile traders (*conchenchos* or *comercializadores*) buy raspberries at the farm gate and transport the fruit to collection centres (*centros de acopio*), where it is on-sold. *Centros de acopio* in turn accumulate larger quantities of fruit, and transport this to packing and/or processing plants where it is again sold.

Intermediaries

The relationship of interdependence between *conchenchos* and growers is not entirely unproblematic. While *conchenchos* fulfil a vital function in bringing the fruit of many small growers to market, they also tend to exploit the isolation of growers and their lack of organisation. Prices are negotiated daily at the farm gate based on the going rate at local *centros de acopio*, but the *conchenchos* themselves are often the only source of price information for growers. While levels of trust are reasonably low, scope for opportunistic behaviour in these transactions is limited due to the sheer number of competing *conchenchos* operating. These *comercializadores* are officially required by SAG to be registered and to maintain thorough records of their suppliers and transactions, for traceability purposes. However, given the distribution of growers and the number of intermediaries operating, monitoring and enforcement is difficult and ‘informal’ activities (on the part of growers and *conchenchos*) are not uncommon.

Centros de acopio are organised in a variety of ways and consist of a range of facilities for the reception, and short-term storage of fruit for sale to packing and processing companies both within the local area and beyond. Some are small local businesses, incorporating a simple building, basic facilities and small cool storage chamber, and handling relatively small quantities of fruit. While some of these smaller *acopios*

transport fruit to nearby companies, others have the fruit collected by company trucks or independent transporters. Depending on the particular arrangements between the parties, fruit companies usually pay *centros de acopio* regularly so as to allow them to pay their suppliers promptly. Many fruit companies also have investments in *centros de acopio*. In cases where the *acopio* is directly owned by a fruit company, investment in the facility is often higher, and capacity greater. Several companies have *centros de acopio* in Yerbas Buenas, some of which also have processing or packing facilities in the vicinity (e.g. Hortifrut) and others of which are based further afield (e.g. Comfrut). While there are examples of *centros de acopio* owned and controlled by peasant cooperatives, none were encountered in the *comuna* of Yerbas Buenas over the course of this research.

Export companies

At the national scale a range of companies are involved in exporting raspberries. Most are small or medium sized Chilean-owned firms, although several of the leading raspberry exporters are relatively large, boasting total exports of US\$40 to 60 million. Some companies are primarily berry export firms, while others are relatively highly diversified fruit exporters. In general terms, the former tend to be small or medium sized companies, while the latter tend to be larger companies. The export of premium fresh raspberries is relatively highly concentrated, with the top five firms controlling 80 percent of exports. Frozen raspberry exports, on the other hand, exhibit slightly less concentration, with the top five firms accounting for just 50 percent of exports.

Several of the leading raspberry export firms at the national scale source fruit from within Yerbas Buenas and have *centros de acopio* and packing and processing facilities in the area. The strategies of these firms have important implications for the activities of growers and intermediaries. In particular, firms' demand for premium fresh and processing fruit is dependent on relative international prices and the supply contracts that are signed with overseas buyers (particularly for frozen berries) in the lead-up to the season. Given that advance agreements on price and supply are common with frozen berries, prices to growers are relatively stable over the course of the season. Fresh prices, in contrast, tend to fluctuate more. The major firms (e.g. Hortifrut, Comfrut and VBM) are also engaged in joint ventures and marketing agreements with companies in North American and European markets, and are actively involved in export market diversification. On the other hand, as these firms expand their international functions

they are also sourcing more fruit globally, and while Chile remains the key southern hemisphere supplier, farms in Argentina and some northern hemisphere locations like Mexico and Spain are increasingly coming into competition with Chilean producers.

In terms of downstream activities in the value chain, firms coordinate the transportation of fruit to the point of export, and arrange shipping to various export destinations. Most premium fresh fruit is air-freighted out of Santiago, while frozen fruit is mainly shipped out of Valparaiso and San Antonio. Downstream handling is critical for both fresh and frozen exports, and the quality of the product upon arrival at its final destination is largely dependent on the integrity of the cool chain. For this reason, companies seek to coordinate and control storage and transportation, and arrange efficient air and sea freight connections for their produce. Some firms have established or acquired transportation companies and cargo agencies to this end, while others rely on independent contractors.

The state

The Chilean state is most directly involved in the raspberry value chain through the Ministry of Agriculture. While the Ministry engages with various actors in the chain in different capacities, it is its involvement via SAG and INDAP that is most relevant to upstream actors.

SAG fulfils a primarily regulatory function, and is discussed in more depth in the following section as a key agent of chain governance. INDAP, operating as a decentralised entity within the Ministry, and charged with promoting the development of small-scale agriculture, extends support through a variety of mechanisms to smallholder growers and, in some cases farmer cooperatives and associative peasant businesses. INDAP played an important part in the foundation of several associative peasant businesses in the raspberry sector in the 1990s, including the cooperative Sercocamp in Yerbas Buenas. Support to peasant businesses is ongoing, but the main mechanism guiding INDAP's involvement in the sector at present is the *Plan Nacional de Competitividad de Frambuesa de Exportación*. The *Plan Nacional* is targeted at farms of over 0.5 hectares and aims to bring them into compliance with the standards and requirements of the market. This is approached either through direct provision of assistance to individual growers, or, where firms express a willingness to participate, through supporting 'productive alliances' between firms and growers.

Growers that are not eligible for support under the *Plan Nacional* may access support from INDAP via a range of other programmes at the local level, most of which are conducted by INDAP regional offices or local governments and municipalities with financing and assistance from INDAP. For example, organised at the regional scale, INDAP's Local Development Programmes (PRODESAL) assist some of the poorest farming households in developing productive and commercial capabilities. While not specifically targeted at the raspberry sector, many raspberry grower households in Yerbas Buenas benefit from the assistance of INDAP through the regional PRODESAL. Perhaps of most relevance to local small-scale raspberry growers, however, is the PAMC programme. Through PAMC, which is housed within the Municipality of Yerbas Buenas and jointly funded by INDAP and the Municipality, direct technical support is extended to over 300 very small-scale growers. For many of these growers, it is only with technical assistance received through this programme that they are able to participate in the raspberry GVC at all. While PAMC has had some success in fostering the development of technical and commercial capabilities among the programme's participants, it is relatively modestly funded and has lost almost half of its original 600 participants over the last five years. The loss of beneficiaries from the programme reflects several pressures faced by smallholder growers, including poor prices between 2004 and 2006, recent outbreaks of *Phytophthora* root disease, and ever rising standards imposed by companies. While prices to the grower improved significantly in the 2007/08 season, boosting grower confidence, increasingly stringent agricultural production and food quality standards remain a significant challenge, and are likely to see many more of the smallest growers ejected from the value chain.

Overseas retailers

The demands and requirements of lead buyers and consumers in export markets are of fundamental significance to the configuration and organisation of upstream nodes in the raspberry value chain. In particular, supermarkets in Northern markets wield considerable power through the standards and codes that guide their global sourcing strategies. The requirements of supermarkets with respect to food safety and quality are increasingly embodied in voluntary private standards, which stipulate both product and process parameters that upstream actors must meet. Private grades and standards incorporate aspects of national and international public food safety and phytosanitary standards (although they increasingly supersede these official standards), consumer

demands and preferences, and qualities or measures that the supermarkets see as underpinning the brand they seek to project in the marketplace – usually associated with product quality, food safety, consumer health, environmental sustainability and corporate social responsibility.

In this way, through the weight of global retail capital, supermarkets seek to control the value chain to their ends. Their primary objectives in this endeavour are oriented towards competitiveness on one hand, and risk aversion on the other. First, supermarkets seek to carve out competitive advantage by organising the value chain so as to deliver a consistent, year-round supply of produce that can be branded as fresh, healthy, safe and/or sustainable – qualities that are to a certain extent increasingly demanded by Northern consumers, but also constructed and promoted by retailers themselves. Second, retailers are engaged in minimising the risk of food safety breaches, which can trigger sector-wide food scares or firm-specific litigation (with the latter being of particular concern to US retailers). The role of retailer standards in the organisation and governance of the raspberry GVC, and the implications for upstream actors are discussed in the following section.

7.1.3. Value chain governance and coordination

Objective 1.C: To understand the key mechanisms in the governance and coordination of the Chilean raspberry value chain.

Different actors within the raspberry GVC fulfil a variety of roles with respect to the organisation of activity within the chain. This section distinguishes between the overarching mode of chain governance along food safety and quality lines, and forms of coordination between directly interacting nodes within the value chain.

Value chain governance

As discussed above, there is much at stake for growers (and indeed all value chain actors) with respect to the food safety and quality requirements of export markets. Breaches of particular standards set by importing countries or lead buyers can lead to severe sanctions being imposed on the offending export firm or even the entire sector in the exporting country. Where food safety and phytosanitary issues have traditionally been the jurisdiction of states, these factors are now frequently subsumed within private voluntary codes, and particularly the food quality standards of retailers. Many of the

largest transnational supermarkets have specific food safety and quality requirements embodied in their own private standards, but increasingly these are expressed in multi-party retail sector standards. Private voluntary codes like GLOBALGAP (discussed below) are fast becoming the defining standards determining the activity of growers and firms within global agri-food chains. Despite the salience of private standards, however, states continue to play an important role in the management, monitoring and enforcement of national and international standards at the domestic level – particularly in the areas of food safety and worker and environmental protection. Increasingly, the policies and frameworks adopted by state agencies in agri-export countries are not only consistent with the official requirements of key export markets, but are being aligned with dominant voluntary private standards.

In the context of the raspberry GVC, the Chilean state agency most influential in the governance of the chain is the Agricultural and Livestock Service of the Ministry of Agriculture. SAG maintains a register of value chain participants, produces agricultural production and food handling guidelines and standards, and monitors compliance with required standards. In particular SAG administers a national framework of *buenas prácticas agrícolas*, the core principles of which have their basis in international norms and include environmental protection, food safety, and worker wellbeing and security. It produces specific guidelines for berry growers (CNBPA, 2004), stipulating required practice in cultivation, crop management, harvest, post-harvest handling, use of inputs, irrigation, waste management, transportation, record-keeping and working conditions. Firms and intermediaries are required to ensure that the farms from which they source are BPA compliant, and they themselves are bound by general BPA regulations (CNBPA, 2007) governing the processing, packing and transportation of fruit, and stipulating specific record-keeping, traceability and internal audit procedures. SAG monitors and audits value chain actors periodically and has the power to sanction malpractice by barring specific actors from participating in the chain.

While the BPA standards provide a baseline for Chilean growers participating in the raspberry export sector, it is the standards set by lead buyers in the chain that are definitive of the requirements with which all value chain actors will be increasingly required to comply. Preeminent among these is the GLOBALGAP scheme. Originating from a coalition of transnational retailers operating within Europe, GLOBALGAP is intended to serve as a universal code of good agricultural practice. Through the

standardisation of requirements across many hundreds of supply chains that feed into retailers' global sourcing strategies, and through the subcontracting of third party auditors to oversee the administration and monitoring of the standards, GLOBALGAP streamlines the task (and reduces the costs) of agri-food chain governance for supermarkets. While GLOBALGAP evolved separately from the USA's GAP auditing procedures (which are more explicitly focused on food safety and biosecurity), GLOBALGAP certification enables export to both the EU and USA, and is therefore increasingly the preferred option for export firms and farms in Chile. The recently accredited Chilean scheme ChileGAP is recognised as an equivalent scheme within GLOBALGAP. Based on auditors' assessment of suppliers' compliance with the standards, retailers then choose to deal with particular suppliers based on the extent to which their performance under the scheme is deemed acceptable.¹⁰³

Because it is a private code, the implementation of GLOBALGAP is voluntary for exporters and other value chain actors, but given its prominence and widespread uptake, the scheme is in all practicality compulsory for a growing number of value chain actors. In particular, where specific firms opt for GLOBALGAP certification, they are obliged to ensure the compliance of upstream actors, including intermediaries and growers. GLOBALGAP, in so far as it is indicative of a variety of private voluntary standards originating in the consumer markets, reflects increasing demand by Northern retailers and their customers for high quality, safe, and sustainable produce. It represents, then, one of the foremost vehicles of value chain governance via food quality standards, but at the same time constitutes a significant barrier to smallholder growers' sustainable participation in the chain in the medium to long term. As discussed above, the extent to which small producers will be able to comply with growing quality requirements will largely be determined by the direction of state support to the sector (primarily through INDAP), and the degree to which export firms opt to invest in grower assistance and capacity building within their supply bases.

Value chain coordination

While lead buyers in overseas markets and, to a lesser extent, the Ministry of Agriculture (through SAG) within Chile are the key agents of overall value chain governance, various actors play important roles in the direct coordination of activities between nodes in the value chain (Gereffi et al., 2005). Within Chile, export firms are engaged in coordinating upstream and downstream nodes in the value chain. Firms must

communicate regulatory and market requirements back upstream to the intermediaries and growers upon which they rely for primary product. They are legally responsible for determining that the fruit they receive is sourced from SAG-registered, BPA compliant growers and intermediaries and that adequate traceability systems are in place. Export firms also seek to coordinate upstream suppliers for the provision of fruit to the standards and in the quantities required by overseas buyers. In this context, they must engage with growers either directly or indirectly through intermediaries. Firms must also coordinate downstream activities related to the transportation and shipping of produce to export destinations.

Relationships between firms and farms vary depending on the size of the farm (and therefore the quantities of fruit supplied) and the type of fruit supplied (premium fresh fruit or processing grade fruit). With respect to large farms, some are either directly owned by firms or by shareholders in the firm, while other independent farms supply firms through contractual arrangements. Relationships between larger farms and firms are, in general, more formal and structured. Contracts typically provide for the delivery of a certain quantity of fruit over the season and close cooperation in the area of standards compliance and certification. Large farms tend to be certified to a wider range of GAP standards, including specific supermarket standards, in accordance with the export and marketing strategies of the firm. Payment is usually made by firms to contracted suppliers on a 30 to 60 day basis. The form of coordination between large farms and firms, then, typically resembles either intra-firm vertical integration (hierarchical networks) in the case of farms owned and controlled by firms, or complex contractual arrangements of mutual dependence (relational networks) in the case of large independently-owned farms. Where the farms are directly owned by major shareholders in the export firm, trust and personal ties may be especially instrumental in the specific terms of the relationship.

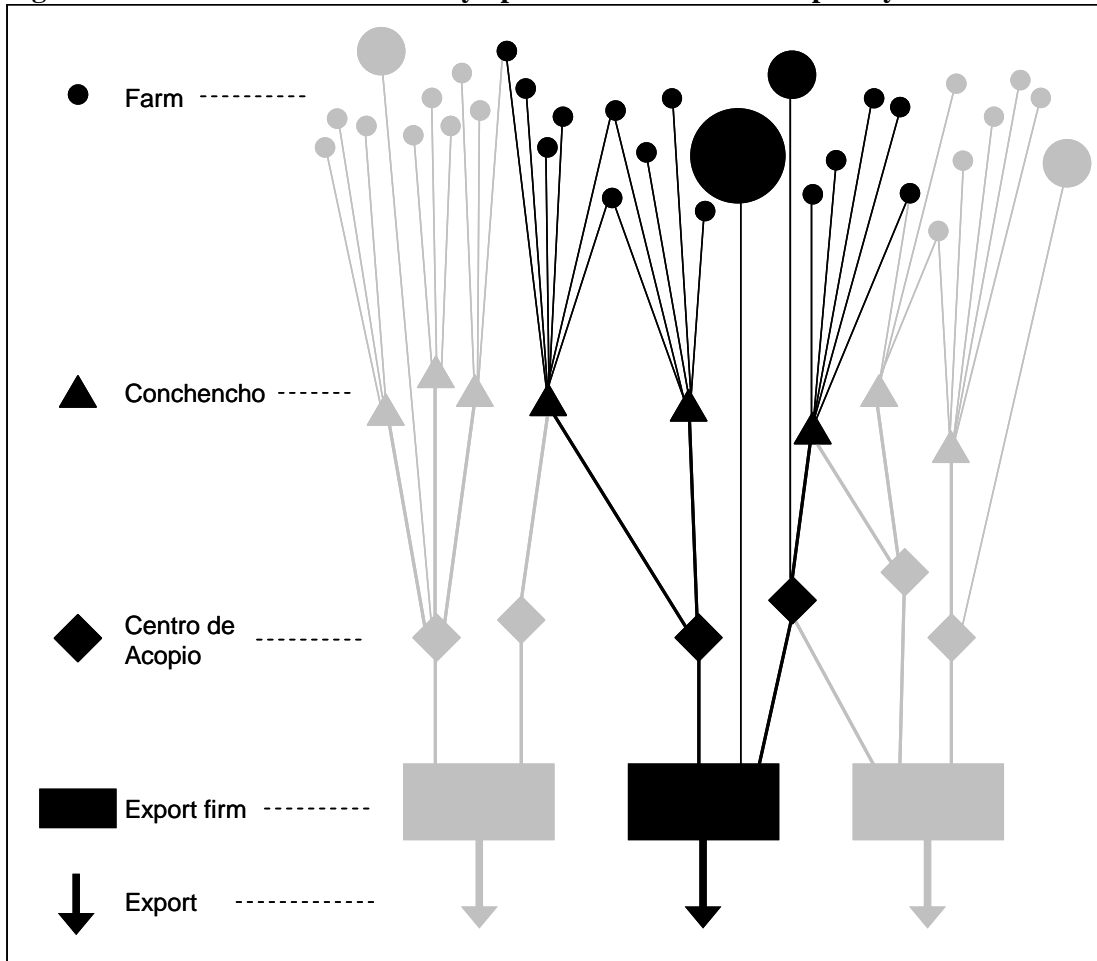
With respect to the relationships between export firms and smallholder growers, coordination is more indirect and complex, and less readily governed. In the majority of cases, firms' engagement with smallholders occurs through intermediaries. The exception to this is where some firms engage directly with a number of small-scale suppliers of premium grade fresh fruit. In these cases, the grower is often contractually obliged to supply their fresh fruit to a specific company. The fruit is either collected from the farm by a company vehicle or delivered by the grower to one of the company's

centros de acopio. Payment is typically made on a daily or weekly basis. Apart from receiving limited technical advice from the company, however, there is very little advantage to small-scale growers of being affiliated with a particular company.

The majority of smallholders rely on intermediaries for access to the value chain. The smallest growers typically depend on *conchenchos* to collect their fruit on a daily basis for delivery to a *centro de acopio*. Other slightly larger growers, or those located near a *centro de acopio*, may bypass the *conchenchos*, transporting and delivering their own fruit. The relationships among intermediaries and between intermediaries and growers at the upstream end of the chain are primarily mediated by market relations. There is a high number of *centros de acopio* and a very high number of *conchenchos* in operation in Yerbas Buenas, and competition for business within the *comuna* is relatively intense. As discussed above, the prices paid to *centros de acopio* are determined by a range of factors, including the advance supply contracts signed by firms (especially in the case of processing fruit), fluctuations in international prices (particularly in the case of fresh fruit), and the local availability of fruit. Both *centros de acopio* and *conchenchos* take a small margin which determines the final price to producers. Because of the high level of competition in the upstream segments of the chain, and the lack of organisation among intermediaries, the margins of *conchenchos* and *centros de acopio* are generally low and even sometimes virtually non-existent at times of scarcity of supply.

Figure 7.1 represents interaction between key actors within the upstream segments of the raspberry GVC, and highlights one ‘strand’ of the chain incorporating farms of different sizes, intermediaries and export firms. While small farms are integrated via *conchenchos*, some medium farms sell directly to *centros de acopio*, and the largest farms may supply exporters directly. With each subsequent node upstream from the export firms a greater number of actors are incorporated, and the challenges for value chain governance and coordination are more significant. Further, various strands of the chain increasingly converge at upstream nodes, with growers selling their produce to a number of *conchenchos*, *conchenchos* dealing with various *centros de acopio*, and *centros de acopio* potentially supplying more than one firm.

Figure 7.1. Coordination between key upstream actors in the raspberry GVC



Source: Own work.

Overall, ‘loose’ market-based coordination between upstream nodes in the raspberry GVC presents challenges (from the perspective of firms and regulatory bodies) for value chain governance. As public and private food safety and quality standards become more rigorous (and more rigorously enforced), both firms and the state are compelled to take more active roles in value chain coordination. While companies and *centros de acopio* are relatively easy to locate, identify and monitor, *conchenchos* and growers are more difficult to regulate given their sheer numbers, high rates of turnover, and the degree of dis-integration at the primary production end of the chain. Given the scope for informal activity and opportunistic behaviour, *conchenchos* in particular can potentially act to undermine traceability and standards compliance within the chain.

Where smallholder suppliers do not have the capacity to comply with required standards, firms will have to either reject their produce or assist them to become compliant and certified. The more successful firms are already well engaged in the latter, although the extension of assistance to smallholder growers is only economical

up to a point. Companies' willingness to provide this assistance is likely to turn on the extent to which they continue to depend on smallholder raspberry growers. In this sense, export companies' ongoing demand for raspberries should not be taken for granted, especially given rising international competition in raspberries and increasing competition at the national scale from alternative NTAE crops. For example, many of the key raspberry exporting firms at the national level, and in Yerbas Buenas, are already primarily reliant on blueberry exports. In any case, if the raspberry GVC is to continue to thrive, export firms and/or the state will need to formalise and more closely coordinate the upstream nodes of the chain. This will need to include increased assistance to smallholder growers and intermediaries, and foster their integration as important chain actors.

7.2. Grower livelihoods

The implications of value chain participation for small-scale growers must be examined in the context of diversified livelihood strategies that typically characterise peasant households. For most of the households interviewed in this study, off-farm (including agricultural and non-agricultural) work was of major significance for household income. This is not to say that raspberry production and integration into the raspberry GVC are unimportant, but rather that the significance of these activities should be considered in a broader context. In this sense, the terms of smallholder inclusion in the GVC, rather than inclusion or exclusion *per se*, are central to an understanding of the implications of value chain participation. This section discusses the role and importance of raspberry production in the livelihood strategies of peasant households in Yerbas Buenas, examining the costs and benefits of participation in the value chain. It then considers the terms on which smallholder growers are integrated into the raspberry GVC, and finally goes on to suggest future opportunities and challenges for ongoing and sustainable participation in the chain. In this sense, several observations are made as to appropriate policy options.

7.2.1. The role of raspberry production in household livelihoods

Objective 2.A: *To ascertain the significance and costs and benefits of participation in the raspberry value chain for rural households.*

The contribution of raspberry production, and the income derived from it, to household livelihoods in Yervas Buenas varies both seasonally and from household to household. Similarly, the proportion of household and farm resources devoted to raspberry production varies both seasonally and between households. Due to widespread reliance on off-farm income sources, very few smallholder household livelihood strategies are highly specialised in raspberry production. However, for most of the respondents in this study, raspberries do account for the majority of on-farm income and absorb a significant proportion of household labour and other resources at certain times of year. Further, income from raspberry production makes an important seasonal contribution to total household income. Overall, while smallholder growers and their households remain primarily dependent on off-farm wage labour, raspberries represent one crop in which they are able to compete at small scales, and therefore realise commercially viable (and often relatively lucrative) on-farm agricultural production.

Determining specific levels of household income and expenditure in relation to raspberry production, however, is problematic for several reasons. In general, growers in this study were not prepared to discuss finances (particularly income) in any detail. This was in many cases as much attributable to growers simply not keeping thorough records of farm income and expenditure as it was to privacy concerns. Respondents often reported that they did not know how much they had spent or earned the previous season, for example, simply observing that ‘prices were terrible last season’, or ‘prices are very good this season’. The fact that fruit is sold at the farm gate on a daily basis at varying prices for cash, which is often then spent the same day or week, makes earnings difficult to keep track of. Raspberry income is also highly seasonal, and can fluctuate dramatically over the course of the season. Generally raspberry income and total household income are highest when production peaks in December and February, though this also corresponds to a period of plentiful off-farm seasonal employment in the *comuna*. Although overall income is highest over this period, the unit price to growers may peak in times of scarcity at the beginning or end of the season, when processing companies and intermediaries are in competition for fruit. In this sense, highly productive growers may do well at times of generally low yields and profits. Finally, the relative importance of raspberry income depends on the importance of other on-farm and off-farm income sources. Some growers are also engaged in the production of other crops, although on smaller farms this is usually limited to one secondary and relatively low-value crop like potatoes or onions. Similarly, many households have one

or more members working off-farm in full-time or part-time agricultural or non-agricultural work. Despite the difficulties in establishing and quantifying levels of income and expenditure among smallholder households, several key observations can be made as to the costs and benefits associated with raspberry production.

The initial capital investment required in establishing a basic raspberry plot is higher than that required for many traditional annual crops, but relatively low in comparison to other horticultural export crops, and may entail as little as the purchase of some wooden poles and wire. Many new growers obtain plant material at no cost from neighbours or friends, even though this is prohibited under BPA guidelines seeking to preserve the genetic integrity of commercial varieties. The amount of physical labour required to establish the plot depends on its size, but the ground must be cultivated in rows, trellis erected, canes planted, and irrigation channels dug. The financial cost of establishing a fully BPA-compliant plot and installing the required facilities, however, is substantially higher than that associated with a basic plot, but it is a cost that many of the smallest growers have yet to incur. Aside from initial set-up costs there are various running costs that must be met over the course of the season. The major input costs are associated with the purchase of fertilisers and pesticides, both of which conventional raspberry production is relatively dependent upon. For those farms that can not meet labour requirements from within the household, the cost of additional labour at harvest time is often significant. In most cases, however, it is normal for several members of a household to work in the plot at harvest time, and to employ one or more workers to help during peak times where necessary. Some small-scale growers, on the other hand, prefer to pick what they can themselves and leave the remaining fruit un-harvested rather than employ pickers. In any case, for growers who have to hire help at harvest time, the added labour costs coincide with a period of high income, and are thus usually affordable.

In addition to the direct costs of raspberry production, growers face the mid- to long-run cost of bringing their farms into compliance with BPA and the private ‘voluntary’ standards to which export firms are increasingly committed. This represents a substantial challenge for many growers due to the necessary on-farm investments, the costs of certification, and shortfalls in the requisite technical skills, capabilities and know-how. There is also an opportunity cost of raspberry production in that it occupies at least one member of the household over the entire fruit season, and more household

labour during the harvest period. Members of the household are therefore engaged in on-farm agricultural production as opposed to off-farm wage labour, which puts more pressure on the raspberry operation to generate income. Income derived from seasonal off-farm work is relatively consistent over the course of the fruit season, while raspberry yields and prices may fluctuate significantly. Having said this, seasonal agricultural work is also relatively insecure and often low-paid, and many respondents in this study indicated that they were much more comfortable and felt more income secure working for themselves on their own farm.

While raspberry income is generally supplementary to off-farm income, all of the growers interviewed reported it to be of high importance to total household income. The length of the harvest vis-à-vis alternative crops is particularly advantageous, potentially providing daily cash income for around five months in the year. This contributes to the increased welfare of households in a variety of ways: enabling increased on-farm investment and thereby securing increased productivity or compliance with required public and private standards; underpinning investment in the family home, in a motor-vehicle, or in a small business; or contributing to savings for the education of children or other purposes. Extra-economic benefits (alluded to above) are also significant. Women in particular conveyed concerns about working off-farm as *temporeras*, and expressed a strong preference for working at home where they are able to work with family and friends and combine farm work with childcare, housework, and in some cases home businesses. Women and men alike reported that it was far more rewarding working on their own farm, and men in particular were positive about utilising the farm for profitable commercial production.

Smallholder households generally possess neither the physical capital (in terms of land), nor human capital (in terms of physical labour resources but also, in many cases, in terms of technical capabilities) to underpin large-scale production or livelihood specialisation in raspberry production. However, for the households in this study, small-scale production does serve to substantially supplement total household income over almost half of the year, and has a range of extra-economic benefits – not least of which is the sense of satisfaction and pride among smallholder farmers at bringing previously idle or sporadically cultivated land into productive and profitable use.

7.2.2. The terms of smallholder integration

Objective 2.B: *To describe the terms on which producers are integrated into the value chain.*

The specific costs and benefits for smallholder growers of participation in the raspberry value chain are largely dependent upon the terms on which they participate in the value chain. Perhaps even more significantly, prospects for ongoing and sustainable participation will hinge on the terms on which growers are integrated, and the extent to which they are able to reposition themselves within the chain. As discussed above, the upstream end of the chain, incorporating numerous small-scale growers and intermediaries is relatively unorganised and dis-integrated, and the relationships between first and second tier intermediaries (*centros de acopio* and *conchenchos*) and growers are primarily coordinated via market relations.

Due to a lack of organisation, geographical isolation, and inadequate access to price information, growers are incorporated into the chain very much as ‘price takers’. Prices are determined largely by factors beyond the control of domestic value chain actors, and certainly beyond the influence of individual growers. While growers depend immediately upon *conchenchos*, and in turn upon *centros de acopio*, in the commercialisation of their produce, the activities of all of these groups of upstream actors are directed by the strategies of export companies in response to international market conditions. Therefore when prices for premium fresh fruit are relatively high it becomes economical for growers to concentrate on the more labour-intensive harvesting of fresh fruit. When processing fruit is in relatively high demand, it becomes more lucrative to supply larger quantities of ungraded fruit. In this context Chilean export firms represent a key pole of buyer influence over the productive decisions of growers, particularly in relation to the relative quantities of premium fresh fruit and ungraded processing fruit supplied to the plants.

Beyond immediate relationships of inter-nodal coordination, the terms of grower integration into the value chain are shaped by the overarching governance strategies deployed by both the Chilean state and lead overseas buyers in the chain. The Chilean Ministry of Agriculture, through its Agriculture and Livestock Service, is engaged in the implementation of its BPA scheme across all agricultural export sectors within Chile. As discussed above, the BPA scheme embodies a set of measures designed to

protect the environment, Chilean workers and Chile's image as a global supplier of high quality safe agri-food products, and it is relatively basic in comparison to many of the private voluntary schemes emerging across the global agri-food system. Attaining compliance under this scheme is therefore arguably less arduous for growers than becoming certified under private voluntary schemes. However, for many small-scale growers BPA compliance is unachievable without support, due to the levels of investment and technical know-how required. Further, BPA compliance alone is increasingly insufficient to guarantee participation in the global value chain, especially where lead buyers insist on adherence to their own private standards like GLOBALGAP. In this sense, non-compliant growers that are currently integrated into the value chain, by virtue of the dis-integration of upstream activities and the informal trading practices of intermediaries, occupy a tenuous and vulnerable position.

Many of the smallholder growers that are in the process of successfully implementing BPA and other required standards, are doing so with intensive support from the state (primarily through The Ministry of Agriculture and INDAP), or from export companies. In some cases the state has entered into public-private partnerships with export firms for the support of smallholder growers in the raspberry value chain. As discussed above, INDAP provides support to small-scale raspberry growers via a range of mechanisms, but the principal programme at the national level, the *Plan Nacional*, is targeted primarily at farms of over 0.5 hectares and growers that have demonstrated progress towards attaining BPA certification. INDAP has therefore clearly identified the 'larger' small-scale farms for priority support, despite the fact that the majority of growers do not fall into this category. This approach is broadly consistent with the state's emphasis on the modernisation of the peasant sector and its strategy for *encadenamientos productivos*, or the integration of viable growers into global agri-food chains. In this sense, the smallest commercial growers, while currently integrated into the value chain, are essentially denied a place within the Government's vision of Chile as a modern food power – '*Chile potencia alimentaria*'. Export companies are also reasonably pragmatic with respect to the capabilities of the smallest growers, and several interviewees stated that there were many small-scale growers that would be eliminated from the sector.

In smallholders' favour, however, the value chain is highly reliant on a large number of small-scale suppliers. In this sense firms do have some vested interest in the capabilities of smallholder farmers. Similarly, INDAP has identified the sector as one that holds

particular promise for *la agricultura familiar campesina*, and it represents an opportunity for the state to live up to its social obligations to the peasantry, or at least demonstrate its attempts in this respect. The extent to which private firms and the state choose to support and invest in smallholder growers will depend largely on current trends and future transformations in the raspberry export sector, and it is in consideration of likely challenges and opportunities that the discussion proceeds in the following section.

7.2.3. Challenges and opportunities for sustainable participation

Objective 2.C: To identify opportunities for and barriers to enhanced smallholder grower participation in the global value chain for raspberries.

A number of challenges to sustainable smallholder participation in the raspberry GVC can be inferred from the foregoing discussion. These derive from interrelated trends operating at different scales, and have implications for all value chain actors. Despite the fact that all actors are interconnected via the chain, power is distributed unevenly within it, and therefore some actors are likely to be more resilient and others more vulnerable to change. This section is primarily concerned with the challenges and opportunities for smallholder growers, but in uncovering these it must engage in a discussion of other value chain actors and key trends and shifts in both consumption and production.

Challenges to sustainable smallholder participation

Several important challenges derive from emergent global trends in consumption, and parallel responses on the part of transnational retail capital. Perhaps most significant in this sense is the tendency towards higher and more rigorous quality requirements on the part of global supermarkets. Concern for food safety and traceability is paramount in this (particularly in the US market), in the context of supermarkets' ever-broadening global sourcing strategies and the potential risks to biosecurity and human health. However, in addition to food safety and phytosanitary requirements, which largely have their origins in public regulations, supermarkets are increasingly formulating private standards oriented towards securing produce that possesses a range of quality attributes. In addition to the quality of the product itself, supermarkets are concerned to be able to verify the integrity, sustainability and responsibility of the production process along the entirety of the chain. Recognising that substandard exports can be incredibly damaging

to the agri-export oriented economy, the Chilean state is also concerned to bring domestic producers, processors and other value chain actors into line with global standards. As has been discussed above, this trend represents a significant challenge for smallholder raspberry growers in Yervas Buenas (and in Chile in general) and, given the reliance of the value chain on smallholder suppliers, constitutes a threat to the entire chain in its current form.

Also potentially challenging smallholder growers is rising international competition in both fresh and frozen exports. This trend has important implications for the strategies of Chilean export firms, and potentially threatens smallholder growers in a variety of ways. Of particular significance is the rise of Mexico and Spain as major suppliers of fresh raspberries to North American and Western European markets respectively. It is becoming increasingly difficult for Chilean exporters to compete in fresh exports to these markets, largely due to the high costs of long-distance air freight, and the limitations of surface freight for fresh fruit. This is driving at least two different but interrelated firm-level strategies.

Some leading firms are transnationalising, increasingly taking ownership of farms or forming joint ventures with other companies in strategic locations globally. In this context, Chilean firms are sourcing greater quantities of fruit from outside of Chile, and growers and production regions in Chile are therefore increasingly coming into direct competition with overseas farms at certain times of the season, especially in the provision of fresh fruit. At the same time, competitive pressures are prompting many firms to realign activities and sourcing strategies within Chile. There are signs, for example, that firms are both increasingly focusing on frozen exports as opposed to fresh exports, and increasingly shifting away from raspberries and towards newer NTAE crops – particularly blueberries. Both tendencies have the potential to undermine the position of small-scale growers. Smallholders have greatest comparative advantage in the labour intensive production and harvest of fresh premium fruit. As this becomes relatively less important, and with the prospect of large-scale mechanised harvesting of processing fruit, the competitiveness of smallholders is likely to be severely eroded. Similarly, if the focus of export firms shifts to alternative NTAE crops, like blueberries, which are highly conducive to large scale production, smallholder growers will be unable to compete.

If these trends continue, they herald important shifts and have uncertain implications for the raspberry value chain emanating from Chile. Ultimately, if it makes better economic sense for firms to source fruit from elsewhere, rather than invest in the necessary capacity-building among domestic suppliers, then they are likely to do so. Similarly, if it is more profitable for firms to reorient processing capacity (or at least shift focus) towards alternative products, then they are likely to do this. In this sense, there may be an important role for the state in supporting smallholder growers and creating incentives for firms to invest in the smallholder supply base. However, the state is not likely to act decisively in favour of smallholders given the dominance of the neoliberal agri-export model.

In light of these tendencies, the position of peasant farmers within Chilean society, and within the Chilean agri-industrial export complex in particular, is problematic. While the state acknowledges that it has a special duty to include the peasantry in the ongoing modernisation of Chilean agriculture, there are important tensions and ambiguities inherent in this. Historically, the process of agricultural modernisation that has unfolded in Chile has systematically displaced (and continues to displace) peasant farmers. Some of those that remain today have endured over 30 years eking out an existence at the fringes of the country's market-led neoliberal agrarian restructuring (Akram-Lodhi et al., 2009). While many of the growers currently integrated into the raspberry GVC in Yerbas Buenas have participated with the assistance of INDAP, and even attained BPA certification, most of the smallest growers probably could not sustain this without ongoing state assistance. The possibility of a gradual or eventual withdrawal of this support, as resources are increasingly focused on more 'viable' growers (for example through the *Plan Nacional*), represents a threat to the ongoing participation of smallholder growers in the sector. Indeed, merely maintaining current levels of state support will be inadequate to ensure the sustainability of smallholder participation given increased international competition and rising quality standards.

Opportunities for sustainable smallholder participation

Despite the possibility of the types of transformations discussed above, these are likely to transform rather than kill off the raspberry GVC altogether. Several scenarios are conceivable. For example it is possible that a range of small companies specialised in high-value premium fresh fruit could thrive, drawing on a number of productive, appropriately certified small farms. It is also possible that larger highly certified farms

take on renewed importance in the production of processing fruit, adopting mechanised harvesting on large scales and supplying large processors/exporters. Another potential scenario is that the chain becomes reoriented towards lower-value markets, where quality standards are less stringent. This kind of strategic ‘downgrading’ has been identified in other sectors globally as a potentially viable competitive strategy (Gibbon & Ponte, 2005; Ponte & Ewert, 2009). However, given the overarching strategy of the Chilean agri-export sector (exemplified in the *Chile Potencia Alimentaria* vision) to specialise in high-quality and high-value agricultural exports, it seems unlikely that there is scope in the long run for the continuation of an export sector that falls short on international quality standards.

Key opportunities for sustainable smallholder participation in the raspberry GVC may lie in addressing the challenges outlined above. One option is for smallholders to be assisted in attaining compliance with and certification in accordance with the necessary quality standards. This strategy is currently being pursued by INDAP via a range of programmes. As has been discussed above, the *Plan Nacional de Competitividad de Frambuesa de Exportación* represents a national level approach to the integration of smallholder growers into the raspberry value chain. It has a three-year timeframe, and is designed to incorporate 800 producers across the four main raspberry producing regions (O’Higgins, Maule, Bío Bío and Araucanía). Participants are selected based on their ‘development potential’, assessed as the potential to attain the technological and managerial capabilities required for participation in export markets. To be eligible for assistance under the programme growers must have over 0.5 hectares in raspberry production, the farm must be focused primarily on raspberry production, and the grower must have made investments towards the implementation of BPA. Clearly the *Plan Nacional* is a positive policy measure, and has the potential to greatly assist some growers. However, most of the smallholder growers in Chile, and in the study area of Yerbas Buenas, are ineligible to participate in the programme. Furthermore, given that there are at least 10,000 small-scale raspberry growers in Chile, the immediate impact of the *Plan Nacional* can only be very limited. Other programmes conducted by INDAP and in conjunction with regional and municipal authorities and the private sector also reach smallholder growers, but again, the impact is localised and limited.

Recognising the necessity for whole-of-chain competitiveness, rather than point-competitiveness, export firms are also engaged in the extension of assistance to

smallholder growers. As exporters increasingly promote the quality of their produce and the integrity of their supply chains, and as compliance monitoring becomes more thorough and rigorous, firms are concerned to ensure that upstream nodes in the raspberry chain live up to these standards. In this sense some firms have been compelled to cooperate with groups of smallholder growers, either directly, or through public-private initiatives in conjunction with various state agencies (e.g. INDAP, CORFO, INIA¹⁰⁴), in capacity building and standards compliance. However, representatives from several firms indicated that the breach between grower capabilities and market requirements was in many cases too great to justify investment by the firm. The degree to which it is profitable for firms to support smallholder suppliers will largely determine the extent of the support. If firms were to drastically increase their support to growers, this could facilitate standards compliance and thereby create scope for ongoing, sustainable participation in the value chain.

Smallholder growers may be able to face the challenges of rising quality requirements through organisation and cooperation. INDAP sought to promote grower cooperatives and associative peasant businesses in the raspberry sector in the 1990s. These initiatives met with mixed success, however, and a large number of them failed due to mismanagement, inadequate resourcing and abuses of trust. Despite this, several important processing and exporting cooperatives survive in the raspberry sector today. The company Sercocamp in Yerbas Buenas is one such example, and there are others in neighbouring *comunas* and regions. However, over time, ownership in these companies has become concentrated, and the number of associates and direct beneficiaries is relatively low. Similarly, INDAP has in the past sought to organise small groups of growers with the aim of empowering them to invest in a small *centro de acopio* or simply realise savings through, for example, the bulk purchase of inputs. Again, while some grower cooperatives survive today, the overall success rate has been very low. If cooperation and organisation among smallholder growers could be fostered, groups of producers could potentially realise a number of savings. Savings could be made in the purchase of inputs, materials and equipment; the transportation of fruit; the procurement of market information; and the elimination of intermediary margins. In addition to these benefits, cooperatives could take advantage of programmes for the group-certification of growers under various quality standards. Under such programmes, groups of farmers cooperate, share knowledge, assist each other in implementing the required changes and finally share the costs of the certification process. Existing national-level peasants

associations could be mobilised to this end, or regional or sector-specific organisations established. In this sense, the potential economic and technical advantages of increased grower cooperation represent an opportunity for smallholder growers.

Another potential opportunity for sustainable smallholder participation involves the redirection of the chain (or a branch of the chain) towards ‘alternative’ or ‘sustainable’ agri-food networks (Maxey, 2007). In particular, value chains for fair trade and organic produce have the potential to deliver a higher price to the producer. Fair trade initiatives are primarily concerned with the ethics and sustainability of production, and prioritise the rights of farmers and workers in global value chains. While fair trade currently accounts for a mere fraction of world agri-food trade, it is one of the fastest growing sectors. Consumer demand for fair trade products is particularly high in Western Europe and growing rapidly in North America. The Chilean export promotion agency PROCHILE has already recognised the potential of the fair trade raspberry market in the US, and recommended further investigation into how this might benefit Chilean producers and exporters (PROCHILE, 2009b). Representatives from European fair trade organisations have already visited several sites of production and peasant cooperatives in the Maule Region to explore the feasibility of engaging producers in global fair trade networks. With respect to organics, the global market for certified organic produce is also growing at a phenomenal rate. Organic products also potentially deliver a price premium to growers, and organic production lowers productive input costs and has other on-farm environmental and human-health benefits. Both fair trade and organic networks, however, are highly dependent on robust certification schemes, and smallholder growers would potentially face similar or greater barriers to entry than in the ‘conventional’ value chain. There is perhaps scope in this sense for organics and fair trade NGOs to play a role in assisting growers to become integrated into alternative agri-food chains. If Chilean smallholder growers are able to enter into alternative value chains that are structured so as to prioritise the welfare of peasant farmers, ensure fair prices and ethical trading, and support farmer capability development, new opportunities for ongoing and sustainable value chain participation may emerge.

All of the opportunities discussed above are to some extent contingent upon continued support to smallholder growers in the medium term, whether from the state, the private sector, peasant organisations, NGOs or a combination of these. While the raspberry sector is one of very few NTAE sectors in which small-scale producers have enjoyed a

comparative advantage, this advantage is now increasingly being undermined by qualitative shifts in global demand. In particular, breaches between the new quality requirements of global markets and the capabilities of growers are threatening smallholder households' position in the value chain, and thereby potentially threatening the competitiveness of the entire chain. Closing these gaps represents a daunting task from a policy perspective, and even supporting the majority of growers to simply achieve basic BPA certification would require a phenomenal expansion of direct assistance to growers. Achieving more broad-based and sustainable development, which empowers and equips growers to be able to continue to adapt to ongoing change, is an even greater challenge, and one that goes to the heart of much bigger policy dilemmas of rural development and the fate of the peasantry in the Chilean context.

Policy options

Naturally, the issue of where national agricultural and rural development policy might best be directed, given the challenges and opportunities facing smallholder raspberry growers, depends on the objectives of policy. If the prime objective is to foster smallholder integration within the value chain as it currently exists, policy might usefully continue in the present vein. Currently INDAP, through its *Plan Nacional* and similar programmes, is engaged in fostering the capabilities of selected growers, both directly and through funding 'productive alliances' with export firms. If this continues, some relatively larger growers (and prior beneficiaries of state or public-private support) will have reasonable prospects for ongoing participation in the value chain. Under this scenario, the extent to which smallholder growers at large will benefit will depend on the extent to which INDAP's existing programmes can be scaled up. In their current form they reach only a minority of growers, and engage only a few export firms, and if they are not significantly broadened in scope, it is likely that many (or even most) small-scale growers will eventually be forced out of the chain. If, on the other hand, the *Plan Nacional*, and other public mechanisms were dramatically expanded to help smallholder growers to bring their farms into compliance with BPA and ascendant private quality standards in export markets, this may create opportunities for sustainable smallholder participation in the chain. If a significant number of smallholder growers were to be assisted to meet required quality standards, policy might then be directed at fostering smallholder organisation and further strategic upgrading – either into higher

value markets (e.g. for organic or fair trade berries) or into higher value-added downstream chain functions.

The success of policy initiatives to build smallholder capacity to participate in the raspberry GVC, however, would not by any means guarantee the long-run participation of smallholders. The overall competitiveness of the value chain emanating from Chile, after all, is determined as much by global market and productive trends and the requirements of transnational retailers as it is by the competitiveness or productivity of Chilean producers. While growers are likely to remain dependent on a whole series of downstream chain actors, the business strategies of Chilean export firms are among the potentially most influential factors for smallholder growers. NTAE sectors have historically waxed and waned as international competition has mounted, and when it becomes more profitable for exporters and processing firms to switch plant and investments away from raspberries and towards new crops, they will likely do so. In this sense, policy that incentivises firms' collaboration and engagement with smallholder growers could play an important role. For example, a significant expansion of state support under the mechanism for 'productive alliances' under the *Plan Nacional* is one potential avenue.

However, if the objective of policy is to support sustainable rural livelihoods, state intervention should not *necessarily* be oriented towards the integration of smallholder growers into the raspberry GVC. Encouraging smallholder growers to increasingly *specialise* in raspberry production for export may be even more dangerous and increase households' vulnerability if it comes at the expense of livelihood diversity. In this respect, policy directed towards fostering sufficient, and sufficiently secure, off-farm employment opportunities (in agricultural and non-agricultural work) in rural communities could be more worthwhile. However, given the overarching national policy context promoting FDI-led, export-oriented neoliberal agriculture and agricultural trade liberalisation, it is logical that the state is seeking to integrate smallholder farmers into global agri-food chains. Indeed, in this context, the role of INDAP is essential. However, while there is probably scope for a limited number of small growers to participate successfully in the raspberry GVC, this research suggests that even in a sector that supposedly presents particular opportunities for smallholders, the market will still tend towards concentration and so continue to bring pressure to bear on small farmers.

Therefore, intervention to support growers' integration into the raspberry GVC should not be made to the exclusion of broad-based programmes to support sustainable and diversified peasant livelihoods and dynamic rural economies. Policy would do well to take as a starting point the diversified livelihood strategies of smallholder households, and work to foster the capabilities and assets that underpin these. While such an approach does not directly challenge the neoliberal agri-export model, it at least has the potential to help rural households build resilience and adaptive capacity so as to resist its negative impacts. In conjunction with 'bottom-up' policy to support sustainable (as distinct from 'commercially viable') rural livelihoods, there is a critical need for policy makers to take account of the impacts of macroeconomic policy on smallholder livelihoods and rural communities. In this sense, a macroeconomic model that values smallholder farmers and rural workers, rather than authorising their dispossession and exploitation, is urgently required. Until such an economic model is adopted, ongoing state support is likely to remain integral to rural livelihoods, and should be significantly expanded.

7.3. Local livelihoods in global value chains: An integrated approach

An adequate account of the issues at stake for peasant farmers integrated into the global agri-food system, requires not just an understanding of both the system and the farmers, but more crucially an understanding of the nature of the relationship between the two and the ways in which this relationship is governed. Therefore the motivation of this thesis has been neither to provide a description of the raspberry GVC for its own sake, nor an isolated account of smallholder raspberry grower livelihoods. Rather, the central concern has been to consider the terms and implications of smallholder growers' participation in the value chain, and thereby aid the identification of challenges and opportunities for ongoing, sustainable participation. To this end the thesis has adopted global value chain and sustainable rural livelihoods approaches, and sought to deploy these in concert with the aim of achieving an adequate account. This section considers the compatibility of the two approaches and discusses their integrative potential.

7.3.1. Value chain and livelihoods frameworks: Limitations

Objective 3.A: *To identify limitations of and tensions between sustainable rural livelihoods and global value chain approaches.*

Both GVC and SRL approaches potentially draw in an infinite array of actors and relationships, and therefore raise immediate issues around the possibility of modeling real world complexity. More than supporting *exhaustive* accounts of systems and phenomena, however, both approaches lend themselves to *partial* accounts (Sturgeon, 2009) – of particular value chain nodes or strands, or of specific aspects of livelihood strategies – in accordance with the particular objectives of research. Valid critiques of both approaches have tended to point to the pitfalls of applying overly structural or formalised ‘global’ models to particular ‘local’ cases, and the hazards inherent in attempting to draw general conclusions or derive universalising policy recommendations. Rather, both GVC and SRL approaches need to be couched in specific local and historical contexts and, in most cases, deployed selectively and in a circumscribed fashion. For example, confronting a global raspberry production-consumption complex incorporating innumerable actors across a variety of locations bound together by relationships constituted and coordinated from multiple poles of governance, this thesis has out of necessity focused primarily on a rich explanation of one segment of a particular value chain within the global complex. Similarly, faced with a sample of diverse households and diversified livelihood strategies embodying a potentially bewildering array of relationships and activities, the thesis has focused on those assets, capabilities and mediating processes that underpin and shape households’ participation in the raspberry GVC.

Aside from challenges associated with managing their breadth and potential complexity, both GVC and SRL approaches have their own limitations. The GVC approach by its nature tends to yield linear and structural accounts of a succession of actors and events linking producers and consumers in the global economy. As a meso-scale frame of analysis concerned primarily with the interaction of firms and the organisation of value-adding activity within cross-border networks, GVC analysis does not automatically engage with the role played by smallholder farmers or workers in global value chains, or the impacts of value chain restructuring on these important groups of actors. If employed uncritically and unproblematically, GVC analysis can serve to reinforce and legitimate relations of domination and exploitation that exist in global value chains.

Farmers and workers, for example, could be easily accommodated within firm-centric agri-food chain analyses as input costs and labour costs respectively.

While GVC analysis recognises that a range of diverse activities and actors are incorporated into global value chains, and that any particular node in a given value chain can be the site of multiple other intersecting and overlapping chains, GVC analyses in practice tend to be mobilised around the study of a particular product or commodity (e.g. raspberries). Various value chain actors are then identified on the basis of their relationship to and role in the process of bringing that product from primary production to final consumption. However, a given actor may be integrated into multiple value chains in varying capacities. Therefore the role or function that an actor takes on with respect to a particular value chain is not likely to be definitive of the actor. For example, over the course of this research ‘smallholder raspberry growers’ very rarely identified themselves as such. This was even more pronounced at the household level and is due, in both cases, to the diverse range of activities engaged in by rural people in the pursuit of viable livelihoods. This has major significance where value chain approaches are intended to inform policy intervention. Clearly, interventions to assist rural households that are integrated into the raspberry value chain, for example, can not take a purely sectoral approach as the viability of household livelihood strategies may be equally or more dependent upon other productive sectors.

In contrast to GVC analysis, livelihoods approaches, whether adopting a formalised livelihoods framework or less formally foregrounding people’s struggles to make a living, have their basis in micro-scale analyses. While this has the potential benefit of yielding rich and nuanced accounts of the livelihoods of rural people, it does not offer much in the way of insight into the overarching structural characteristics and macro relations that underlie rural inequality or poverty (O’Laughlin, 2004). This can be addressed to some extent through more thorough theorisation of the roles of institutions, organisations and social relations in mediating livelihood strategies, and by identification and explanation of the shocks and trends that condition rural livelihood strategies in particular cases. The risk, however, is that these factors are relegated to background context as the empirical dimensions of livelihood strategies are brought to the fore. In the same way, then, that GVC approaches risk preoccupation with a particular productive sector and its cross-border organisation, SRL approaches risk over analysing detailed micro-productive relations and local specificity. In this sense the two

approaches are potentially complementary, and each may have the potential to address some of the other's limitations.

7.3.2. Value chains and livelihoods: Complementarities and integrative potential

Objective 3.B: To suggest how sustainable rural livelihoods and global value chain approaches might inform each other in order to improve understanding of the local socio-economic implications of integration into the global agri-food system.

As the previous section has implied, GVC and SRL approaches might usefully be applied in an integrated fashion. In this way, each approach may go some way towards addressing the limitations of the other, and an integrated approach may support analysis and understanding that neither approach could support in isolation. GVC and SRL approaches appear to have particular complementary potential given the general focal limitations of the respective approaches discussed above. The GVC framework is a meso-level construct that aims to understand global structures and processes through analysis of the dispersed actors organised within cross-border chains. Relatively weakly developed within the approach, is a consideration of the horizontal linkages and network relations that characterise actors at different nodes of value chains. The SRL approach is a micro-level framework that aims to understand the diversity of rural household livelihood strategies through detailed analysis of the resources and capabilities upon which households draw, and the ways in which this is mediated by prevailing institutions, organisations and social relations. The approach, however, engages only partially with broader global processes and structures.

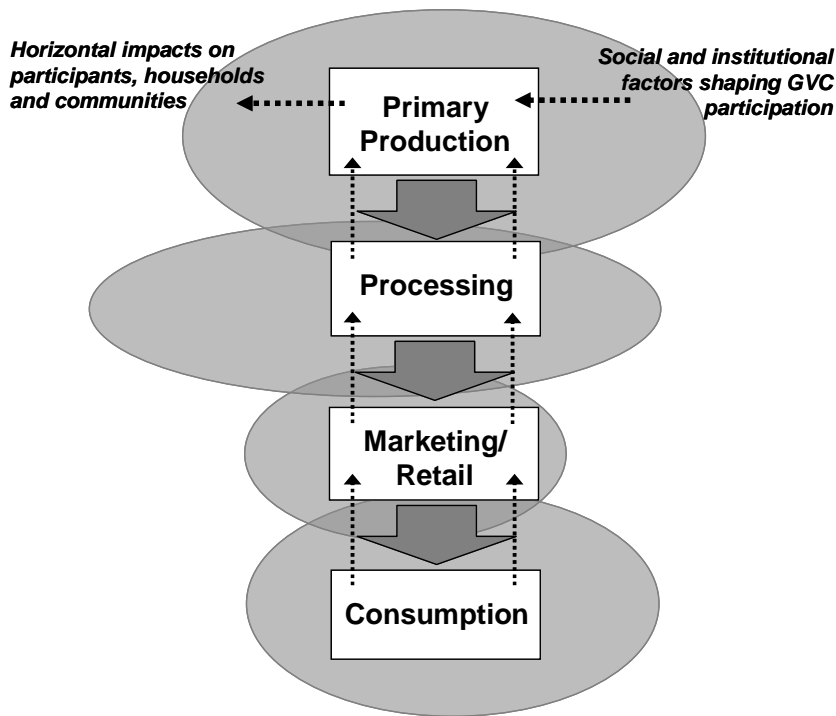
Despite these limitations, the respective frameworks are of great analytical utility in positioning whatever aspect is at the centre of investigation. Therefore, while the value chain component of this study has been built primarily around an account of the upstream/production end of the chain, it has also taken in significant downstream actors and considered their roles in overall chain governance. On the other hand, whereas analysis of the primary production node of the chain has involved a relatively detailed examination of horizontal relationships (in this case via the analysis of grower livelihoods), this level of detail has not been pursued for downstream nodes in the value chain.

Figure 7.2. is adapted and extended from the work of Bolwig et al. (2008). It provides a stylised and simplified representation of the ‘horizontal’ networks and interconnections that surround each ‘vertically’ integrated node of a given value chain. In the diagram, flows of products (e.g. raspberries) are represented by the large downward arrows, while intangible flows of information (e.g. market signals and buyer specifications) are represented by the dashed upwards arrows between key chain nodes. The horizontal arrows represent both the social impacts of value chain participation at the local scale, and the implications of local social and institutional factors for value chain participation. While these refer to the primary production node in the diagram, they could equally be represented at any node of the chain. Horizontal social networks and local institutional factors are represented by the grey ‘ovals’ surrounding each value chain node. These are irregularly shaped and overlapping in order to reflect the fact that social relations and networks are in practice irregular and intersect in complex ways.

In the context of the primary production node of the raspberry GVC, for example, the horizontal elements of the chain are constituted by the relationships, networks and resources upon which smallholder households draw in pursuit of sustainable livelihoods. These networks and resources are likely to partly determine the context within which actors’ participate at other value chain nodes, particularly where different nodes are clustered within a given locality. In the study area of Yerbas Buenas, for instance, different members of the same community, and even of the same household, participate in different nodes of the raspberry GVC in different capacities and with different implications at household and community scales. For actors integrated at the primary production node, the value chain represents both a significant avenue for market access and income generation, and a conduit for trends and shocks in the form of price fluctuations, shifting consumption patterns, or evolving food quality standards.

It is argued that important aspects of chain structure, coordination and governance shape smallholder growers’ integration into the chain, while at the same time the prevalence of smallholder suppliers in the chain poses particular challenges for export firms and other downstream actors. Together these factors influence the overall competitiveness of the chain, and shape the prospects for smallholder participation in it. In this sense, an understanding of the terms and implications of smallholder participation in the chain requires an understanding of both smallholder livelihoods and value chain structure and dynamics.

Figure 7.2 . Horizontal and vertical dimensions of global value chains



Source: Adapted from Bolwig et al. (2008)

The challenges faced by smallholder growers in the raspberry GVC must be addressed from both the perspective of the vertical elements of the chain, and from the perspective of diversified livelihoods embedded in horizontal networks and local and national social and institutional settings. That is, efforts to secure sustainable smallholder integration within the chain and initiatives to increase the amount and share of value captured by smallholders, must be advanced in conjunction with the continuation of programmes supporting diversified rural livelihoods at the roots of the value chain. Even in the raspberry sector, which has been shown to be particularly suited to smallholder participation, policy that fosters value chain integration in the context of a neoliberal export-led market can not protect smallholder farmers. What is required is policy that challenges the social structures and macro-processes that combine to reproduce rural inequality and poverty. This thesis does not directly address these challenges, but rather seeks to contribute to an improved and critical understanding of reality that can help to inform debate about future possibilities.

Chapter 8.

Conclusions

8.0. Introduction

The motivation for this thesis comes from a belief that in so far as contemporary globalisation embodies *social* processes, human agents have the power, and indeed the responsibility, to influence its future form and direction for the better. In order to achieve this, adequate and critical accounts of contemporary reality are necessary: accounts which uncover the underlying structures and mechanisms that shape the concrete, observable world around us. In particular, we have a responsibility to expose the architecture and the agents that produce and reproduce relations of domination, exploitation and inequality in the world. In this way critical social scientific research, underpinned by a critical realist ontology, may contribute to transforming society and mapping pathways to a more just and sustainable future.

This thesis has sought to shed light on the process of globalisation and its impacts in the context of the agri-food sector. In particular, the research has been concerned to contribute to discussion and debate on the ongoing global expansion of capitalist productive relations in agriculture, and the implications of this for peasant farmers. The contemporary relevance of the ‘agrarian question’ – as to the role and fate of agriculture in the transition to capitalism – is a point of considerable debate within agrarian political economy (Akram-Lodhi & Kay, 2009), and the experiences of small farmers, in the face of capitalist globalisation and agrarian transition are indeed contingent and varied. As globalisation continues to unfold and further penetrate the agriculture and food sectors of developing countries, home to 90 percent of the global rural population, the fate of smallholder farming (and farmers) is unclear. Questions about the potential for sustainable participation of smallholder farmers in modern agri-food chains thus have a great deal of contemporary relevance. In particular, the nature of smallholder integration within global agri-food chains, and the implications of value chain participation for smallholder livelihoods need to be better understood. It is hoped that the present case study makes a worthwhile contribution to this task.

Having systematically reviewed the project’s eight research objectives in the previous chapter, this chapter concludes the thesis with a re-examination of the three core

research aims. Relating the project's key findings to world-historical and global scale processes, the chapter draws broader conclusions as they relate to and flow from the three core aims, and moves the discussion beyond the specific case at hand to engage with broader academic implications of the research.

8.1. The raspberry GVC and contemporary agri-food chain dynamics

Aim 1: To understand and explain the evolution of and current configuration and dynamics of the global value chain for raspberries emanating from Chile.

The global value chain for raspberries emanating from Chile is reflective in many ways of general characteristics of modern agri-food chains and trends in the contemporary global agri-food system. But the particular structure and dynamics of the chain, and the local and historical contingencies shaping its evolution are also illustrative of differentiation and diversity within the system. This section considers the origins and contemporary configuration of the raspberry GVC and draws conclusions with respect to global trends in agriculture and food.

The emergence and expansion of the raspberry productive sector in Chile can be clearly traced to the agri-export growth strategy promoted by the military government under a decisively neoliberal policy framework after 1973. Viewed in the context of the country's remarkable agrarian transformation between the mid-1970s and the mid-1990s, the expansion of the raspberry export sector bears many of the hallmarks of other Chilean NTAE sectors. While never having approached the magnitude or commercial importance of the major NTAE sectors, like table grapes, apples or pears, raspberries quickly became highly significant among a class of 'minor' export fruits. The sector was built on a new high-value crop, initially focused on fresh exports to counter-seasonal Northern markets (primarily the US) where demand was high and increasing, and characterised by significant investments by large farmers and entrepreneurs. Export firms emerged, largely linked to Chilean rather than foreign capital and often founded by pioneering large-scale growers. These firms sought out contacts and established marketing partnerships and contracts in the US and beyond.

In addition to the domestic context in which the raspberry sector emerged, it has been shaped by important transitions and shifts at the global scale, which have seen it evolve

to become somewhat unique among Chilean NTAE sectors in terms of its structural characteristics. First, largely due to Yugoslavia's international isolation during the 1990s, Chilean exporters were able to make considerable investments in processing facilities (primarily freezing facilities) and consolidate international market share in frozen raspberries. Thus raspberries today contribute by far the greatest share of frozen fruit exports from Chile, accounting for over 50 percent by value and 40 percent by quantity. Second, and related to Serbia-Montenegro's re-entry as a major supplier in the market, international prices plummeted and the profitability of many large Chilean farms declined accordingly. With the gradual exit of larger growers from the sector, the importance of smallholder suppliers increased, and today the sector is distinguished by the marked participation of smallholders. In this sense, while the raspberry export sector is dwarfed by the major NTAE sectors, it makes a particularly important contribution to the frozen fruit export industry, and is of major significance to the livelihoods of many smallholder growers in the main production regions in central Chile – primarily in the Maule Region.

The high rate of smallholder participation in the raspberry value chain is partly attributable to the crop's natural suitability to small-scale production. Due to certain characteristics of the crop (the ease of propagation, low set-up costs, rapid growth cycle) it is appealing to smallholder farmers because it can deliver a rapid return on a relatively small initial investment. Further, given the susceptibility of the fruit to physical damage, harvesting of the berries is highly labour intensive. Whereas this represents a substantial cost to large-scale growers, smallholders who can meet the labour requirements of a small plot from within the household, are able to realise an important comparative advantage. Also, given appropriate crop management, productivity tends to be higher on small farms where land use is more efficient. While raspberries are naturally suited to small-scale production with household labour, the increased participation of smallholder suppliers in the sector, especially over the 1990s, has also been actively promoted by private and public sector actors.

First, export firms played an early role in the promotion of raspberry production among smallholder farmers in an effort to secure sufficient supply – particularly of fresh premium fruit. This became more urgent as many large-scale suppliers switched to more profitable crops over the 1990s. Second, the state (primarily through INDAP) played an important role. In the post-dictatorship Concertación era support to smallholders in

general was significantly increased as the state sought both to retain the neoliberal agri-export model, and to foster the modernisation, or *reconversión*, of peasant agriculture within it. The raspberry sector was identified, for the reasons discussed above, as one that held particular promise for smallholder growers, and INDAP began to extend support to individual growers and groups of growers via a range of programmes. Therefore, through both organic expansion and active promotion by agribusiness and the state, the number of smallholders in the sector has risen to its current level of between 8,000 and 11,000.¹⁰⁵

Like most contemporary agri-food chains, and especially FFV chains, the raspberry GVC emanating from Chile is strongly buyer-driven. In particular, the most influential and powerful actors in the chain, the lead buyers, are transnational retailers located in export markets. These retailers, partly responding to (but also significantly shaping) the demands of customers for safe, fresh, healthy, food 52 weeks in the year, increasingly require compliance with stringent food safety and quality standards along the length of their supply chains. In order to more efficiently manage numerous supply chains and global sourcing arrangements, major supermarkets are increasingly collaborating in the harmonisation and codification of requirements in private ‘voluntary’ multi-party grades and standards. It is the requirements embodied in these industry standards that increasingly dictate the production, processing and food handling practices at all upstream nodes in the chain. The organisation of activities within the chain to retailers’ specifications and in the interests of transnational retail capital, is indicative of a global shift wherein private ‘voluntary’ standards are eclipsing public (national and international) regulation as the primary means of managing global value chains. While the new de facto standards are not legally binding (although many incorporate requirements equivalent to prevailing public standards), and are thus labelled ‘voluntary’, they essentially represent *the* conditions for market access. This shift away from public sector regulation and towards private sector governance in the agri-food sector is broadly consistent with the more general rise of TNCs as the primary agents coordinating and controlling production in the global economy. The weight and ongoing consolidation of retail capital in agri-food chains reflects the extent to which significant opportunities for value adding lie in marketing and branding activities at the consumption end of the chain.

The activities of all upstream actors, at least in so far as they are related to the raspberry GVC, are therefore governed increasingly by private voluntary quality standards. While the compliance and certification costs associated with these standards vary, they are often substantial. However, certain actors in the chain are in a better position to make the necessary investments and implement the required changes. The adaptation process is generally easier for medium to large firms and farms because their current practice is likely to be closer to required practice, and they are also in a better position to make the required financial investments. For small businesses and farms, however, adapting to rising standards is more difficult. The capital investments required to bring the operation into compliance and the fees associated with certification are often prohibitive, and smallholder growers and small-scale operators may lack the necessary entrepreneurial and technical skills to do so. For many smallholders then, rising food quality standards represent significant barriers – both to entry and to ongoing participation in the chain. With respect to smallholder growers integrated into the raspberry GVC, the comparative advantages they enjoyed over large farmers are now being substantially eroded by evolving market imperatives. Given the relatively large number of small-scale growers, their geographic dispersal and isolation, and the consequent scope for informal activity, compliance monitoring and standards enforcement do not yet have full coverage of the chain. However, with the rapid growth of private standards and third-party auditing, non-compliant growers have little time to adapt.

While transnational retailers wield the most power in the raspberry GVC, Chilean processing and export firms represent a significant secondary pole of influence, and play an important role in the coordination of the upstream end of the chain. While the key firms in the chain are small by global standards, many are world leaders in the berry sector, and some are major players in the global fruit trade generally, with significant international assets, subsidiaries and operations. While there is a large number of firms engaged in the export of raspberries from Chile, concentration is reasonably high. In fresh and frozen raspberries, the top five firms account for 80 and 50 percent of exports respectively, and despite the fact that primary product is channelled through many intermediaries the market is relatively oligopsonistic¹⁰⁶ at the local scale. While some firms have contractual agreements with smallholder growers (particularly for premium fresh raspberries) contract farming is only weakly developed in the sector. While firms are required by domestic regulation to ensure that suppliers of export fruit are BPA

compliant, the upstream chain segments, incorporating numerous *centros de acopio*, *conchenchos* and growers, are relatively dis-integrated and pose a significant governance challenge for firms. The role of *conchenchos* in particular is problematic, as on one hand they perform a vital bridging function between dispersed growers and *centros de acopio*, while on the other, through ‘informal’ operation and inadequate record-keeping they can intentionally or unintentionally thwart traceability, subvert governance and undermine the integrity of the chain.

Given the challenges posed by upstream dis-integration, there is scope for companies to engage more closely with intermediaries and growers to secure the viability and competitiveness of the whole chain. To some extent this has been promoted by INDAP and other state agencies that have sponsored ‘productive alliances’ and ‘supplier development’ initiatives between companies and growers, but the coverage of these is low and they have not been well funded or conducted in an integrated fashion. With insufficient state buy-in, the prospects for alliances between agribusiness and smallholder growers are severely limited, as firms will only participate to the extent that it is profitable to do so. Despite the fact that some firms have sunk significant capital in processing, packing and cool storage facilities, this plant is not inflexible – in fact many factories process a range of produce – and firms are likely to switch to more profitable alternatives if the need or the opportunity arises. Some relatively recent entrants to the sector already employ a highly flexible business model, minimising fixed costs and leasing plant and cool storage capacity (and even ‘borrowing’ workers) from larger fruit companies in different locations over the course of the season. Even among some of the original raspberry export firms there are signs of product diversification and reorientation towards new NTAE crops, with blueberries being the prime example. Other firms are increasingly transnationalising, buying farms or entering into primary production joint ventures in countries in closer proximity to key markets, some of which directly compete with Chilean production at certain times of the season.

The raspberry GVC emanating from Chile is thus representative of productive relations in an increasingly globalised agri-food system. Food production-consumption, with respect to processed/durable foods and increasingly FFV, is governed globally by the requirements of transnational retail capital. Within this context agribusiness jostles for competitive space, and fruit companies are also increasingly organising primary production globally. However, the Chilean raspberry GVC also displays some

characteristics and faces some important challenges that derive from local social, political and economic contingencies that have shaped its evolution over the last three decades. Prominent in this sense is the role of the peasant sector in the chain, and shifting tensions between Chile's neoliberal agri-export-led growth strategy, and implications for rural development and the fate of peasant agriculture. The following section takes up these themes in consideration of the implications for smallholder farmers of participation in the raspberry GVC.

8.2. The integration of small-scale farmers into global agri-food chains

Aim 2: To understand the livelihood implications for smallholder growers of participation in the raspberry value chain.

Chilean agriculture has undergone a remarkable transformation over the last half century, with major consequences for the small farm sector and peasant agriculture. The implications for Chilean smallholder raspberry growers of integration into the raspberry GVC have been significantly shaped by this transition. The long enduring *hacienda* system was dismantled, and land distributed to peasant cooperatives under socialist land reforms over the course of less than three years from 1970. These reforms were then rapidly undone, and agricultural land was redistributed under private property rights, by the military dictatorship in its neoliberal counter-reforms from 1973. The net result of the socialist reforms and neoliberal counter-reforms was to replace the feudalistic bi-modal agrarian structure with a bifurcated capitalist agrarian structure, within which peasants and smallholders now faced off not against landed oligarchs, but against capitalist farmers. Within a neoliberal macro policy setting, and in response to international competition and incentives for export orientation, the Chilean agricultural sector underwent phenomenal growth and modernisation, particularly between the mid-1970s and mid-1990s. While growth was dynamic, and agri-export production greatly diversified (especially in non-traditional export crops), the benefits of the boom have been disproportionately captured by agribusiness and large farmers.

In the initial stages of competitive agri-export expansion under the dogmatic neoliberalism of the dictatorship (Kay, 2002), many small farmers that were unable to adapt and innovate were driven out of commercial production. While newly created jobs

in agri-industry and large scale agriculture initially absorbed many of these new semi-proletarians, the employment effect has been more subdued over the last decade. As land concentration has continued, the number of jobs in the agricultural sector has remained relatively stable, thereby fuelling rural unemployment and urbanisation. While state support to the peasant sector has increased under successive Concertación governments since 1990, these initiatives have been subordinated to the overarching imperatives of the neoliberal agri-export model, which was essentially retained by the Concertación (Hojman, 1996; W. E. Murray, 2002a). Therefore, the general formula has been to promote the modernisation of the peasantry and the up-skilling of selected, 'viable' peasant farmers, so as to facilitate their competitiveness in the global market. While this has been underpinned by a desire on the part of the Concertación to combine 'growth with equity', in reality a higher priority has been attached to growth, and equity has thus remained elusive.

The complex implications for peasant farmers of state policies promoting both global market integration and the (selective) modernisation of peasant agriculture are reflected in the case of the raspberry GVC emanating from Chile. As discussed in the previous section, smallholder participation in the raspberry export sector grew initially in response to the sector's apparently natural compatibility with small-scale peasant production, and received added impetus from fortuitous shifts in the global market. In response to these evident advantages, INDAP began to actively promote smallholder participation in the sector in the 1990s. Raspberry production potentially generates income, for up to 6 months in the year depending on crop variety, farm management, climatic factors and other variables. Intra-seasonal income peaks for most growers in December and February, although international prices often fluctuate significantly during the season and from year to year. Therefore while income from raspberries can make a significant contribution to household income, small-scale production can not generate sufficient income to support a household all year-round. For this reason raspberry income is for most households supplementary to income from other on-farm sources or from off-farm (agricultural or non-agricultural) employment.

In order for growers to become established in raspberry production and integrated into the raspberry GVC, access to a broad range of livelihood assets is key. For most of the growers interviewed in this research access to natural capital, most importantly in the form of land and water, is not a constraining factor. Shortfalls in other capitals,

however, tend to pose more significant constraints on smallholder competitiveness (and thus potentially affect the overall competitiveness of the value chain). Physical capital shortfalls, particularly in the context of public goods and infrastructure, present major challenges. Roads are poor, exacerbating the isolation and dispersal of growers and hindering the transportation of fruit. Telecommunications infrastructure is also deficient, having negative implications for growers' access to information in general, and price information in particular. Shortfalls in social capital, manifested principally in low levels of trust and cooperation within many communities and high individualism among smallholder growers, hold back grower organisation which precludes many potential benefits, efficiency gains and savings. Many attempts by INDAP and other organisations to foster grower cooperatives have failed due to a lack of underlying trust among growers. Finally, both financial and human capital shortfalls are particularly critical given the increasing pressure on growers to upgrade in compliance with rising food quality standards. While the financial capital requirements of plot establishment and the costs of production are relatively low, the investments required to achieve compliance with public and private quality standards represent a significant barrier for many smallholders. Perhaps even more critically, human capital shortfalls mean that many small-scale growers do not possess the technical knowledge, skills or entrepreneurial abilities to upgrade production to required standards or adapt to ongoing change in standards.

Among smallholder raspberry growers, the composition of household livelihood strategies, and the significance of raspberry income within total household income, varies according to a range of factors. In general, however, a distinction can be drawn between households on the smallest farms, which tend to be poorer, less income secure, and derive the majority of their total income from off-farm work, and households on larger (and often more diversified) farms, which tend to be better off, more income secure, and may generate the majority of their total income on-farm.¹⁰⁷ Because of the limited returns to scale in raspberry production, with returns being severely curtailed as soon as labour costs are incurred, raspberry plots generally tend to be small. Even on relatively larger farms, plot size is usually limited by the availability of household labour. For this reason raspberries are likely to contribute a greater proportion of farm income for small farms. Therefore, despite the fact that small farm households tend to rely to a greater extent on off-farm work, the success or failure of the raspberry

productive operation is likely to have a greater influence on overall household income for smallholders.

Raspberry income, then, arguably has the potential to make the most difference financially to poorer, semi-proletarianised households with access to only very little land. Even a very small raspberry plot can provide a significant amount of cash income on a daily basis over the course of the season, provided the grower has access to the assets, knowledge and skills necessary to manage the plot to required standards and maintain decent yields. For growers who are commercially successful in this sense, the earnings can make a significant difference to household livelihoods, being reinvested in the farm, invested in other small business ventures, saved, or used to supplement consumption. For many of the smallest farmers raspberries represent an opportunity to reintroduce commercial primary production onto land that has been primarily oriented towards production for household consumption or lain idle. Therefore, in addition to economic benefits, there are often extra-economic benefits realised. In a general sense it is rewarding and empowering for smallholders to make productive and profitable use of the land and successfully manage their own farm business. Despite the enduring significance of off-farm income for smallholder households, raspberry production represents for many an important alternative to seasonal off-farm work. In this study, many women in particular valued the ability to work for themselves, on their own land, and in close proximity to the home thereby allowing for greater flexibility in combining farm work with childcare and other domestic tasks.

Households on relatively larger farms tend to be better-off socioeconomically, have more secure access to a range of capitals, and possess greater technical and entrepreneurial capacity than those on the smallest farms. They too can potentially realise significant benefits from commercial raspberry production and integration into the raspberry GVC. However, because relatively larger farms tend to be more diversified, and because their owners are often relatively less vulnerable financially, the success or failure of the raspberry operation is likely to have less of an overall bearing on their livelihoods. In addition to being more income secure generally, and having greater potential to upgrade and remain competitive within the raspberry GVC, these growers are also more likely to be beneficiaries of state assistance or support from agribusiness.

The emergence of both challenges to participation in the chain, and opportunities for ongoing participation, take on different significance depending on the assets and capabilities of grower households. Despite differentiation among smallholders, all growers are highly dependent on the strategies, decisions and requirements of downstream actors in the chain. In this respect the demands of transnational retailers are salient, increasingly setting the context within which all other chain actors must operate. Consistent with trends in the global agri-food system generally, the raspberry GVC is increasingly governed by global private standards for food safety and quality. Actors in the chain therefore face the challenge of upgrading to achieve compliance with these standards but, given the prevalence of smallholder growers in the supply base, the challenge of retaining whole-of-chain competitiveness is primarily one of peasant farm upgrading. The capacity of farms to adapt to new market imperatives therefore has major implications for downstream actors in the chain and for the Chilean raspberry sector at large.

Despite the fact that export firms and other downstream actors are somewhat reliant on capabilities within the smallholder supply base, it is smallholder growers (and possibly workers) who stand to lose out the most if the chain becomes unviable. Export firms and processors, for example are comparatively flexible and adaptable, as discussed in the previous section, and are likely to withdraw from the chain if it becomes unprofitable to remain. In this sense, while some growers do have the capacity to upgrade and participate successfully in the chain (albeit with the support of the state and/or agribusiness), even they will face serious challenges if the chain at large becomes uncompetitive. Given these challenges, it becomes apparent that while state support has been a necessary condition for widespread smallholder participation in the raspberry GVC, it is, in its current form, insufficient to support ongoing and sustainable smallholder participation. The next section takes up this theme, arguing that an integrated approach is vital in identifying critical constraints and potential solutions to the challenges facing smallholder growers in the raspberry GVC.

8.3. Value chains and livelihoods: The value of integrated approaches

Aim 3: To explore how global value chain and sustainable rural livelihoods approaches can be combined for an improved understanding of how smallholder farmers might best participate in the global agri-food system.

In so far as the motivation for research is to understand the local implications of agri-food globalisation, neither the analysis of rural livelihoods, nor the analysis of global value chains alone is sufficient. While both GVC and SRL approaches offer valuable perspectives and yield rich data, they are also highly complementary and offer additional insight if employed in an integrated fashion. The key contribution of the integrated approach adopted here is that in addition to providing insight into the structure and dynamics of the raspberry GVC and the livelihood strategies of smallholder growers in the local context, it brings into sharper relief the institutional factors and social relations that are, in this case, instrumental in shaping farmers' participation in global value chains. In particular, an improved understanding of the ways in which grower livelihoods and market imperatives intersect at the primary production node in the chain has potential to inform theory-building, policy formulation and commercial strategies to promote the more sustainable inclusion of smallholder growers within the chain.

On the surface, the primary threat to ongoing smallholder participation in the raspberry GVC, and therefore to the systemic competitiveness of the whole chain, is a breach between the requirements of export markets and the capabilities of small-scale producers to meet these requirements. Underlying this problematic, however, is an array of structural and institutional factors and agents, which contribute to the problem but also potentially provide clues to its solution.

The increasing predominance of private agri-food chain governance represents a key institutional factor shaping small farmer participation in GVCs. The increasingly stringent quality demands that characterise the global sourcing strategies of transnational retailers originate in efforts on the part of supermarkets to respond to (and shape) consumer demand and thereby create competitive advantage. Actors at upstream nodes within value chains then come under increasing pressure to upgrade and comply with these private sector standards. The imperative to upgrade along quality lines is

perhaps the predominant tendency in contemporary global agri-food system governance, and is a challenge faced by an increasing number of agri-exporters worldwide. While in many ways the regulation of the agri-food system for food safety, quality and sustainability is a positive development, different value chain actors are variously capable of attaining and maintaining compliance. It is for the poorest and smallest actors (often developing country farmers and workers) that rising standards constitute a major threat to livelihood stability.

The neoliberal agri-export growth model that Chile has nurtured for over three decades invites and thrives on exactly the kind of competitive pressure that private sector value chain governance brings. Chilean agribusiness firms and capitalist farms have, in the absence of protective measures, developed the capacity to continually adapt to highly competitive international markets. Indeed the agri-export sector in Chile today is largely the product of this process, which has driven (and continues to drive) the elimination of uncompetitive firms and farms, the transformation of the landscape and, particularly, the proletarianisation and differentiation of the peasantry. Global competitive pressures have thus shaped the trajectories of all Chilean NTAE sectors, but in the case of the raspberry GVC the challenges for smallholder growers and the contradictory nature of policy intervention are particularly evident.

The plight of smallholder raspberry growers highlights key contradictions in the Concertación's 'growth with equity' approach as it relates to the peasantry, and underscores the failure of the model to address entrenched rural inequality. State policy towards the agricultural sector at large has been primarily directed at promoting liberalisation and competition, and has thus favoured large firms and farms. While peasant agriculture has received increased state support since 1990, targeted interventions have been fragmented, piecemeal and insufficient to enable the majority to compete in the domestic (let alone global) market. In this sense policy to facilitate the market has outweighed policy to support marginalised actors within it. This ambiguous approach has not reduced smallholder vulnerability or dependency so much as it has tended to increase differentiation among smallholders and engender dependence on the state.

While it is certain that without state support many smallholders would not be able to gain (or retain) access to the raspberry GVC, this research suggests that even *with* state support the continued viability of growers as suppliers in the raspberry GVC is far from

certain. Seemingly, even in a sector in which smallholders have a degree of natural comparative advantage the tendency of the market, towards concentration and the elimination of smallholders, prevails. This is partly attributable to the way in which state support is extended to smallholders in the sector. The tendency of INDAP to provide focused priority assistance to better-off, 'viable' growers, and fragmented secondary assistance to poorer growers, contributes to increased socioeconomic differentiation among grower households. Interventions in general are technocratic, productivist and overly sector-specific, being limited to increasing growers' capabilities with respect to their role as suppliers in the raspberry GVC (in this sense the approach is very much in the vein of *reconversión*). However, the extent to which different growers are able to adopt new technologies, interpret and apply new information and knowledge and therefore increase their productive capabilities, is highly variable and dependent on a broad range of factors. Therefore, while direct technical and productive support to smallholder growers in the chain is important, a much broader form of development assistance, on a much larger scale, is required to secure sustainable rural livelihoods and address fundamental development gaps in the Chilean countryside.

Assistance to smallholders that facilitates their participation in the raspberry GVC has the potential to make a valuable contribution to grower livelihoods. However, to achieve the kind of broad-based capability development and access to resources that can underpin growers' *sustainable* participation in the face of constant change, existing state support must be re-thought. In the current context, fragmented and technocratic programmes that operate on localised scales or assist small numbers of selected growers have a limited impact, and actually serve to deepen socioeconomic differentiation. On one hand, a small cohort of better-off growers have managed (through state assistance programmes or support from agribusiness) to develop sufficient entrepreneurial, technical and innovative capacity to meet the rising requirements of lead buyers in export markets, and are thus able to successfully and profitably participate in the chain (at least for the time being). On the other hand, a large number of growers currently participating in the raspberry GVC (many due to state assistance, some due to support from agribusiness, and some independently) have not developed the capacity to adapt to rising market requirements, and thus face ejection from the chain.

If the goal is to secure the sustainable participation of this latter group of smallholder growers and thereby support the systemic viability of the value chain, then drastic

change is required. One possibility is the significant expansion of programmes providing direct assistance to individual grower households. This would have to incorporate several thousand additional households in the central regions and provide both technical assistance and a wider range of support and capability building to facilitate the successful adoption of technology and application of knowledge by growers. This could be achieved through a combination of initiatives involving direct state assistance, alliances with agribusiness, and support from NGOs and peasant organisations. A strategy of this scale and nature seems unlikely to materialise, however, as it would require greater investment in smallholders than the neoliberal state or private sector would be prepared to make. In this sense, it is more likely that a process of value chain ‘rationalisation’ will be left to run its course. Many smallholders are likely to be eliminated from the GVC as standards proliferate and their enforcement increases. Households that are forced out are likely to fall back on diversified livelihood strategies composed of off-farm income generating activities and limited on-farm production for consumption or to supply local or domestic markets.

8.4. Scope for further research

This research provides an account of the implications for smallholder growers of participation in the raspberry GVC emanating from Chile, and thereby makes a contribution to a global community of research on agri-food globalisation. The extent to which the findings of the research are applicable to other cases is subject to further investigation. The core research aims were designed to provide a rich account of local-global interconnection in the context of a specific case study. Given the significance of local specificities and contingencies in shaping the localised outcomes of globalisation processes, the findings clearly do not automatically support concrete generalisations to other cases. Rather, it is hoped that, through additional complementary and comparative studies incorporating GVC and SRL frameworks, the structural characteristics and tendencies identified as being instrumental in shaping smallholders’ participation in the raspberry GVC might be corroborated or challenged.

The scope of the project was defined and constrained by theoretical and practical considerations, and as such there is potential for further research in several areas that could extend or complement the present study. It is recommended that research seeking to integrate GVC and SRL approaches be extended through:

- Research into the configuration and dynamics of downstream nodes in the raspberry value chain, particularly incorporating lead buyers and other key actors in principal export markets (especially in North America and Western Europe).
- Investigation of the terms and livelihood implications of workers' integration at various nodes in the GVC, particularly at the processing node but also potentially at downstream nodes including transport/freight and retail.
- Detailed comparative accounts of 'parallel strands' of the GVC emanating from other productive locations across different agro-climatic regions and regional economic contexts both within Chile and internationally, with an emphasis on the livelihood implications for rural households.
- Research into the costs and benefits of reorienting the chain, or strands in the chain, towards higher-value (or lower-value) markets conducive to smallholder participation. Markets for fair trade and organic produce may be particularly relevant in this context.
- Longitudinal studies of grower households that would support the analysis of changing livelihood strategies over time, and identification of the shocks and trends instrumental in driving livelihood adaptation – particularly where these shocks and trends derive from integration into global agri-food chains.
- Large scale surveys of larger samples of growers and workers integrated into the raspberry GVC and other NTAE chains so as to generate both qualitative and quantitative data conducive to statistical analysis.
- Accounts of the experiences of growers and households that have been excluded or ejected from the raspberry GVC. Such studies would provide additional insight into barriers to smallholder participation in the chain, and common alternative livelihood strategies.
- Comparative studies of value chain dynamics and household livelihood strategies in other FFV and NTAE chains emanating from Chile and internationally.
- Research into the implications of macroeconomic policy for the governance of, and smallholder participation in, global agri-food chains.

- Participatory approaches to research that have the potential to build participants' understanding of the structure and dynamics of the GVC, assist growers to comply with market standards, or explore options for connecting with fair trade or other alternative agri-food networks. Collaboration with producer groups, grower cooperatives, peasant organisations or NGOs would be valuable in this context.

As agri-food globalisation continues to unfold and the agri-food system is increasingly driven and governed by the requirements of transnational retail capital Chilean agriculture will be forced to continue to adapt and upgrade. If there is to be a role for the peasantry in Chile's ongoing agrarian transformation fundamental changes are required within Chilean society to reduce socioeconomic inequality. After almost twenty years of dictatorship the Chilean people rejected the Pinochet regime and restored democratic government. However, a managed transition to democracy then paved the way for another twenty years of neoliberalism in the guise of 'growth with equity'. While the strategy has certainly delivered growth and some significant social benefits, it is safe to say after two decades that it has not delivered, and probably can not deliver on equity. As reflected in Chile's agri-export-led growth strategy, the free market model has systematically dismantled the peasant sector, and the assumption that it can aid the just and sustainable development of smallholder agriculture needs to be seriously questioned. The current generation of Chileans should therefore reject the maligned neoliberal paradigm, and demand a progressive system that prioritises the redistribution of resources to the urban and rural poor with the aim of livelihood security and equality of opportunity for all Chileans. Rather than 'pragmatic' variations on the neoliberal model, there is a critical need for alternatives.

Notes

Chapter 1

¹ The Spanish terms '*campesino*' and '*campesina*' may be translated for the purposes of this thesis as 'peasant'. The term 'peasant' is employed broadly here (as the term *campesino/a* is in Chile) to describe small-scale farmers, farm workers and rural labourers, as well as the families and rural communities made up of these people. In so far as this thesis refers specifically to small-scale raspberry growers, the terms, 'smallholder', 'small-scale grower' and other variations are used interchangeably. Most of the growers interviewed for this research do not conform to classic definitions of 'peasant', as they do not rely exclusively or necessarily primarily on the cultivation of their land as a source of income. In this sense, they are possibly more appropriately characterised as semi-proletarians. On the other hand, most of the growers in this study are distinctly smallholders (or *minifundistas*) in that they generally possess too little land to be classed as agriculturally 'viable' by official definitions.

² At their peaks in mid-2008 world prices for maize and wheat were three times their 2003 levels, and prices for rice were five times their 2003 levels (von Braun, 2008).

³ Arguably, the national-level drive to become a 'food and forestry power' is little more than a re-packaging of Chile's agri-export oriented growth strategy, which has sought, at least since the mid-1970s, to drive the modernisation, industrialisation and increased international competitiveness of Chilean agriculture and agribusiness.

⁴ North America and Europe had passed the 50 percent threshold by 1950, whereas Africa and Asia are not predicted to do so before 2050 (United Nations, 2008).

⁵ Defined in this case, after the United Nations Population Division (United Nations, 2008), as comprising all regions of Africa, Asia (excluding Japan) and Latin America and the Caribbean, as well as Melanesia, Micronesia and Polynesia.

⁶ Throughout the thesis dollars (\$) refers to nominal US dollars unless otherwise specified. Where Chilean pesos are given, please see appendix 4 for historical exchange rates.

⁷ Below the national scale there are three main administrative levels in Chile: *región*, *provincia*, and *comuna*.

Chapter 2

⁸ The philosophical perspective is more completely called *transcendental critical realism* – a term adopted by Bhaskar, though not coined by him. The approach has been further refined and developed by Bhaskar and others since the early 1990s (see Archer et al., 1998; Bhaskar, 1993, 1994; A. Collier, 1994; D. L. Harvey, 2002; Manicas, 2006).

⁹ Although, as Peet (1998, p. 68) notes, much of it was still underpinned by a philosophy of science complicit in the maintenance of "existing academic and disciplinary power structures".

¹⁰ This is not to claim that a critical cultural political economy is the only or even best approach to critical social science or human geography. There is room for a plurality of critical approaches and none should be cast as having a necessarily privileged insight (Amin & Thrift, 2005) but, it is argued, we ignore political economy at our collective peril. See also Jackson's (2000) call for a 'rematerialised social and cultural geography'.

¹¹ Grounded theory, as a qualitative data analysis strategy, has drawn much criticism – particularly in its more positivistic, objectivist and prescriptive forms (Charmaz, 2003). However, the original aims of a grounded theory approach (Glaser & Strauss, 1967) – to promote the *generation* of theory as part of the research process – are laudable and consistent with the kind of retroductive theorising that critical realism supports.

¹² The household is adopted as the primary unit of analysis in this research, but it is recognised that livelihoods research may also be relevant at different scales, from the individual to the wider community.

¹³ The term ‘global value chain’ (GVC) is adopted in this thesis. It is recognised that GVC research evolved out of ‘global commodity chain’ (GCC) research (see Bair, 2009, pp. 7-14). While there are arguably significant differences between the two terms, this debate is not entered into in this thesis. On the rationale for adopting ‘global *value* chains’ see Gereffi et al. (2001). In support of ‘global *commodity* chains’ see Bernstein and Campling (2006, pp. 241-242). In this text the term ‘agri-food chain’ is also used interchangeably.

¹⁴ Though this is not definitive. In reality, both ‘intrinsic’ and ‘instrumental’ case studies will need to confront the particularities of the case, and engage in some degree of generalisation.

¹⁵ The symposium, organised by Chilealimentos and INDAP, was entitled ‘*Encadenamientos Productivos: Una Innovación Esencial para Chile Potencia Alimentaria*’ (15/11/2007). The focus was on strategies for integrating smallholder agriculture into industrial agri-food chains.

¹⁶ Respectively: Centro Latinoamericano para el Desarrollo Rural; Centro Nacional de Desarrollo Alternativa; International Institute for Environment and Development; International Food Policy Research Institute.

¹⁷ Respectively: Comisión Económica para América Latina y el Caribe (the United Nations Economic Commission for Latin America and the Caribbean); United Nations Food and Agriculture Organisation; International Fund for Agricultural Development.

¹⁸ The Census is decennial in that the most recent (2007) version comes 10 years after the previous (1997), and INE has indicated the need to maintain regularity in this sense (INE, 2006). Prior to this, however, the record is less regular, with censuses conducted in 1976, 1965, 1955, 1936 and 1930.

¹⁹ This three-phase process corresponds loosely to the first two steps (*description* and *analysis*) of Wolcott’s (1994, chapter 2) framework for the transformation of qualitative data in ethnographic research. Wolcott notes, however, that the boundaries between these steps (and his third step, *interpretation*) are not clear cut and indeed, the three processes “occur simultaneously in thought” (1994, p. 47).

Chapter 3

²⁰ In line with the FAO definition of an average daily food intake of less than 2,200 kilocalories.

²¹ For a cogent discussion of the role of geographers in this (and the inadequacy of the collective contribution of geographers to date), see Dicken (2004).

²² Partly as a result of the tendency in capitalism towards over-accumulation, which results in the coexistence of labour and capital surpluses (Kiely, 2005, p. 34).

²³ A detailed discussion of the historical evolution of globalisation and its economic, cultural and political causes and consequences is not possible here (but see Gills & Thompson, 2006; Held et al., 1999).

²⁴ Particularly in the expansion of political/military empires and world religions, migratory movements and trade, and the diffusion of social and cultural ideas and technology that this fostered (Murray, 2006).

²⁵ This proceeded highly unevenly within Europe and beyond, and was significantly delayed, for example, under absolutist monarchies in France and Russia.

²⁶ The terms ‘core’ and ‘metropole’ are used interchangeably in the context of the colonial period from 1500-1945, as are the terms ‘periphery’ and ‘colonies’. The terms ‘First World’, ‘developed countries’, ‘global North’ are also used interchangeably throughout the thesis in the context of the post-WWII period, as are the terms ‘Third World’, ‘developing countries’, ‘global South’. It is acknowledged that all of these labels are problematic for various reasons, and the discussion in this chapter underscores some of the ways in which contemporary globalisation processes undermine their utility.

²⁷ Feudal structures were highly diverse at this time. For a concise account of the rise and decline of medieval feudalism see Stephenson (1942). The term is used here to describe an agrarian structure within which the labour and/or production surplus of a landed peasantry is predominantly appropriated by extra-economic means by an aristocratic elite.

²⁸ A detailed discussion of colonial agricultural organisation in the context of Chile is provided in the next chapter. For a comprehensive regional account see Stein and Stein (1970).

²⁹ In fact, in the current era of neoliberal globalisation, Third World agribusiness *and* industry are often dominated by Western transnational corporations, and so a ‘neo-colonial’ division of labour is constructed, and the Third World is recast in its role as resource periphery.

³⁰ The decolonisation process was tacitly encouraged by the USA and USSR, both vying for influence in the post-WWII Cold War era.

³¹ For further detail on the US food aid programme under Public Law 480 (PL 480) see Ball and Johnson (1996) and Friedmann (1982, pp. S260-S271).

³² The use of the term ‘Fordist’ with respect to agriculture is contentious (cf. Fine, 1994; Goodman & Watts, 1994). It is not intended here to imply that industrial agriculture became organised in the same way as manufacturing, for example, but simply to underscore the mass production of standardised foods and agricultural commodities for mass consumption (e.g. Raynolds, 1994).

³³ This was particularly true for the world’s poorest countries, which were in many cases just as severely impoverished during the prior post-war ‘boom’ (D. Harvey, 2005). Obviously for particular countries there were dramatic turning points. For example, Mexico’s 1982 debt default and Chile’s 1973 military coup were defining moments.

³⁴ In the context of advanced industrial societies, ‘fresh’ is a socially defined, relative term used to refer to a range of less processed and perishable foods (Friedland, 1994). Very few foods traded across borders today are entirely unprocessed. This includes fruit and vegetables, which are often fumigated, waxed, and stored in artificially optimised atmospheric conditions to postpone spoilage.

³⁵ In distinguishing between the two broad types of chain governance structure, Gereffi (1994, pp. 96-99) notes that producer-driven chains are most often found in capital- and technology-intensive industries like automobiles and semiconductors, whereas buyer-driven chains are most commonly found in labour-intensive consumer goods industries like garments, footwear and consumer electronics.

³⁶ Although these may essentially be controlled by the same transnational interests.

³⁷ For an empirical example of how different network forms of coordination coexist in dynamic fresh vegetable chains between Africa and the United Kingdom, see Dolan and Humphrey (2004).

³⁸ In reality, many organisations may fall into several categories. For example, NGOs may be engaged in politics, education and research; associations may be oriented towards social, economic or political ends etc.

³⁹ In response to “overterritorialized” notions of embeddedness, Hess (2004) offers a conceptualisation based on three fundamental categories: Territorial embeddedness, network embeddedness, and societal embeddedness.

⁴⁰ In many cases rural employment is increasingly *non-farm*. Rural wage labour may be employed in agriculture-based factory work (processing and packing), or manual jobs unrelated to agriculture.

⁴¹ It is acknowledged that the term ‘livelihood strategy’ may in fact imply more deliberateness to the activities of groups and individuals than actually exists. Many livelihood strategies, for example, are attempts to cope with vulnerability, rather than rationalised, calculated strategies.

⁴² Social capital is perhaps the most contentious classification within this framework. The concept has been championed by some (Grootaert, 1998; Woolcock, 1998) and critiqued (Das, 2004) and rejected (Fine, 2001) by others. This debate is not entered into here, but rather I adopt the perspective expressed by Bebbington (2002, p. 801), that social capital is useful as a concept that helps focus attention on “actors and their networks, the ways in which networks structure patterns of inclusion and exclusion, and the ways in which the mobilization of these networks helps explain change in access to resources and relations of power”.

Chapter 4

⁴³ Defined as a level of per capita income insufficient to meet basic nutritional and hygiene needs. This figure is calculated separately for rural and urban areas, with the poverty line being significantly lower in rural areas, reflecting the assumptions that food prices are lower in rural areas, and that rural people are able to meet some of their own dietary needs through subsistence (see MIDEPLAN, 2006).

- ⁴⁴ The Portuguese colonial economy, centred on Brazil, was in contrast built first and foremost upon export-oriented plantation agriculture and, particularly, the sugar estate (*engenho de açúcar*).
- ⁴⁵ Munck (1984) contends that while the relations of production embodied in the *encomienda* system were obviously pre-capitalist, the system was not simply a transplanted European feudalism, but rather a transitional stage in the development of a mercantile economy in Latin America.
- ⁴⁶ In the context of Spanish colonies in Latin America *criollos* (or creoles) are people of pure Spanish ancestry born in the colonies, and *mestizos* are people of mixed Spanish and Amerindian heritage.
- ⁴⁷ Despite the adoption of these general abstractions, in reality there was a wide variety of arrangements between the different classes and a great degree of diversity within each type. For more detailed discussion and differentiation within and between the *inquilino* and *afuerino* classes see Kay (1977).
- ⁴⁸ A full treatment of the independence struggle is not possible here, but see Collier and Sater (1996, pp. 32-50). For accounts within the broader regional context see Bakewell (2004, pp. 377-410) and Bushnell (1985, pp. 127-132).
- ⁴⁹ The wheat export market of Peru was the most significant in this respect, but never fully recovered its importance after the Chilean wars of independence (S. Collier, 1993).
- ⁵⁰ The second half of the 19th century also saw the increasing colonisation of Chile's southern regions, where a variety of different agricultural productive forms (including more capitalist variants) emerged. Despite the expansion of agriculture in these regions, landowners in the south never achieved the political dominance and power of the oligarchic landlord class of the traditional *haciendas* in the central regions (Kay, 1981).
- ⁵¹ Increased trade with the USA during WWI (and diminished trade with Britain and Germany) saw the USA emerge as Chile's main trading partner in the post-War era (Blakemore, 1993).
- ⁵² Later to become the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), in 1984. The Spanish acronym is CEPAL.
- ⁵³ Especially through the state development agency *Corporación de Fomento* (CORFO), established in 1939.
- ⁵⁴ Limited initial reforms were motivated by politico-strategic moves to capture the rural vote, but pressure for agrarian reform also emanated from below. The Chilean peasant movement, while initially mobilised around moderate reform-agrarianist aspirations (Quijano, 1967), became increasingly organised and radical in the late stages of the Frei administration and during the Allende administration. In a regional context, however, Chilean peasant mobilisation was reasonably non-violent.
- ⁵⁵ Basic irrigated hectare: An abstract standard unit, applied to land of varying agricultural utility, equivalent to one hectare of prime irrigated land.
- ⁵⁶ The Agrarian Reform Law entitled expropriated landlords to keep machinery and farm equipment, and therefore left reformed sector farms largely decapitalised. While Popular Unity sought to address this through the importation of farm machinery, it was unable to solve the problem quickly enough.
- ⁵⁷ As Munck (1984, p. 180) observes, this process did not lead to the automatic rise of a 'pure' agricultural proletariat. Several other groups of peasants emerged to fulfil some of the functions of the *inquilinos* at different times. Further, while the proletarianisation process was never complete, it was certainly underway.
- ⁵⁸ The brutal repression applied by the military dictatorship over its seventeen year term was unprecedented in Chile. Space precludes a broader discussion of the underlying causes and social and political consequences of the coup and dictatorship. For detailed accounts see, inter alia, Angell and Pollack (1993), Collins and Lear (1995), Oppenheim (2007), O'Shaughnessy (2000), and Taylor (2006).
- ⁵⁹ This situation created tensions between the regime and large-scale capitalist farmers in the south of the country, who largely supplied the domestic market with traditional agricultural goods (especially wheat and milk) and were therefore disadvantaged by the non-traditional export bias and lack of protection from (often heavily subsidised) imports from the EU and US (Gwynne & Kay, 1997).
- ⁶⁰ Whether the 'democratic transition' is complete or not is debatable. In a sense, the type of market democracy that was allowed to replace military rule was dictated by the regime and accommodated by

civilian elites in the Democratic Alliance (Petras & Leiva, 1988). The four *Concertación* administrations since 1990 have been led by the following presidents: the Christian Democrats Aylwin (1990-1994) and Frei Ruiz-Tagle (1994-2000); and Socialists Lagos (2000-2006) and Bachelet (2006-present).

⁶¹ Fear of antagonising the military or its Rightist allies paralleled a more general ‘culture of fear’ engendered in society by the terror of the Pinochet period. The severe political repression and brutal authoritarianism of the dictatorship disarticulated social movements and civil society groups and bred among normal citizens a lasting reluctance to participate in civic and community groups (Oppenheim, 2007).

⁶² Despite the static (or even declining) *share* of total income of the lowest deciles, and persistent income inequality, real incomes have risen significantly with economic expansion over the transition period.

⁶³ Which tends to have double impact on poverty statistics, by both increasing the real income of households and lowering the poverty line, which is calculated on the basis of the cost of a basket of basic food and grocery products (see chapter 4, note 42).

⁶⁴ For an account of the structural and political implications for Chile of the US-Chile FTA see Leight (2008). Under the presidency of Ricardo Lagos the trade focus shifted largely to the Asia-Pacific with the signing of agreements with Korea, China, Japan, Singapore, Brunei Darussalam and New Zealand.

⁶⁵ The role of INDAP will be discussed in greater depth in chapters 5 and 6 in the context of support to smallholder raspberry growers.

⁶⁶ Examples include *estrategias y planes por rubro* in honey, berries, flowers and meat (bovine and ovine).

⁶⁷ Translated this means ‘Chile is not going to be an agri-food power if it is not with the peasant farmers’.

⁶⁸ Note that, by 1997, many of the *parcelas* awarded in the agrarian counter-reform would have been recaptured by ongoing land re-concentration.

⁶⁹ This is not to suggest that primary production is unimportant altogether. Often food production for use is far more important than production for sale (Akram-Lodhi et al., 2009).

Chapter 5

⁷⁰ As discussed in chapter 2, the research focuses is on primary producers, intermediaries and processing/export firms located at the ‘production’, or ‘upstream’ end of the raspberry GVC. While primary research is focused in on these groups of actors, located in Chile, understanding the nature of their participation in the value chain also requires analysis of ‘downstream’ actors within the chain, and so the roles played by key buyers and retailers are also considered.

⁷¹ For a list of key informant interviews and field visits see appendix 3.

⁷² For the purposes of this thesis, the term ‘berry’ is employed in its common English usage. The berry family in this usage includes a range of *true berries*, as botanically defined (e.g. currant, gooseberry); *false berries* or *epigynous berries* (e.g. blueberry, cranberry); *accessory fruits* (e.g. strawberry) and *aggregate fruits* (e.g. raspberry, blackberry, boysenberry).

⁷³ Because berries are considered ‘minor fruits’ and are relatively less significant in world fruit trade, they are generally grouped within the Harmonized Commodity Description and Coding System (HS) under two categories: ‘Other fruit, fresh’ (HS 0810) and ‘Fruit and nuts, frozen’ (HS 0811). Only strawberries have a unique HS code within these categories, and other berry types are amalgamated. Fresh raspberries are grouped together with blackberries, mulberries and loganberries under HS 081020. Frozen raspberries are grouped with frozen blackberries, mulberries, loganberries, black-, white- and red currants and gooseberries under HS 081120. This aggregation makes data collection at the global scale more difficult for minor berry types, and internationally comparable figures are not always readily available.

⁷⁴ Several other related species in the subgenus *Idaeobatus* are also commonly referred to as raspberries: *Rubus arcticus*, *Rubus crataegifolius*, *Rubus leucodermis*, *Rubus occidentalis*, *Rubus odoratus*, *Rubus phoenicolasius*, *Rubus strigosus*.

⁷⁵ The United Nations FAOSTAT database records annual world raspberry exports from 1961 to 2006, but the data refer only to fresh exports (and therefore do not include processed/frozen fruit), and are not accurate (Hall et al., 2009). With respect to raspberry trade data, the database only reports exports of fresh

raspberries, and does not include frozen raspberries, which contribute approximately 65 percent of global trade by quantity. The quantity of exports is therefore potentially three times that shown in the graph.

⁷⁶ The Socialist Federal Republic of Yugoslavia was a well established, leading raspberry exporter prior to the war in the Balkans from 1991. The lifting of a UN trade embargo on the Federal Republic of Yugoslavia (later renamed the State Union of Serbia and Montenegro) facilitated its return as a key exporter from 1997 (Seaton, 1998). Montenegro declared independence from Serbia in 2006, and Serbia remains a leading global producer. Data presented in this thesis is for the F R Yugoslavia/Serbia and Montenegro (1992-2005) and Serbia (2006-present).

⁷⁷ Assessed by CIREN via regional cadastral surveys over the period 1986-1988.

⁷⁸ Other strategic sectors identified by INDAP as having special potential for smallholder participation are honey/beekeeping and meat production (bovine and ovine).

⁷⁹ From the Spanish verb *acopiar*: to gather, or to collect. The Spanish term, *centro de acopio*, is employed throughout the thesis. On occasion this is shortened to simply *acopio*.

⁸⁰ Fresh raspberries, blackberries and boysenberries were disaggregated in the 2002 version of the Customs Tariff Schedule of Chile (SACH), so data is available for the unique fresh raspberry code (SACH 08102020) from 2002. Fresh raspberry data for 1990-2001 in figure 5.5 is for SACH 08102000, which consists of 95-97% raspberries but includes blackberries and boysenberries.

⁸¹ The fall in frozen exports in 1997 is largely attributable to the re-entry of Serbia and Montenegro into the market with the lifting of a 5-year UN Trade embargo. Upon re-entry Serbia and Montenegro flooded the world market for frozen raspberries and prices plummeted (Seaton, 1998).

⁸² According to the most recent national Census (2002). The population of the *comuna* was projected by INE to have risen to around 17,000 by 2008.

⁸³ Wild blackberries (*Mora Silvestre*) are also an important input for berry processing and a significant seasonal income source for local households. Depending on relative prices, raspberry and blackberry growers may even abandon their plots for several weeks to join in the harvest of wild blackberries from local roadsides, fields and riverbeds. Wild blackberries are processed for domestic consumption.

⁸⁴ This threshold is specific to the raspberry sector, and in absolute terms the larger farms are not extensive as compared to farms and orchards in other sectors.

⁸⁵ GLOBALGAP is oriented to European markets and administered out of Germany by FoodPlus GmbH. USAGAP auditors for suppliers to the US market are Primus Labs and Davis Fresh.

⁸⁶ *Programa Desarrollo Local* or Local Development Programme. PRODESAL involves partnerships between INDAP and the municipalities for the support of peasant agriculture.

⁸⁷ These are not all located within Yervas Buenas, but they are the most important companies sourcing fruit within the *comuna*. Further, this is not an exhaustive list of companies operating in Yervas Buenas.

⁸⁸ One of several *Redes de Empresas por Rubro* (PRORUBRO, or sectoral firm networks) in the berry sector nationwide. PRORUBRO began in 1998 and is supported by INDAP in a range of sectors with the aim of fostering 'horizontal' cooperation between companies and promoting associations of firms and growers so as to support enhanced market access for smallholders (Kjöllerström, 2007).

Chapter 6

⁸⁹ Expanded tables of primary data are provided in appendix 2.

⁹⁰ It should be noted that despite the adoption of these divisions, all of the farms in the study, except perhaps the largest (TE01), would be classified as small farms by official definition (ODEPA, 2000, pp. 7-10).

⁹¹ The discussion here distinguishes between 'on-farm' and 'off-farm income', where the latter is taken to include off-farm agricultural work (on other farms), non-farm rural wage employment, non-farm rural self employment (although strictly speaking this may occur on the farm), and property income (e.g. rents). For a discussion of rural income classificatory conventions see Ellis (1998, pp. 4-8).

⁹² The farm plans represented in figures 6.1 to 6.6 have been sketched from aerial photographs of the study area. Note that scale is not uniform across the different diagrams, and should be taken as indicative only.

⁹³ The ‘proliferation of capitals’ reflected in the livelihoods framework has been decried by some commentators (Baron & Hannan, 1994), and the concept of social capital has been seen as particularly contentious by some (Das, 2004; Fine, 2001). At the same time, others have called for the inclusion of further categories of capital, including ‘cultural’ (Bebbington, 1999; Berkes & Folke, 1992) and ‘political’ (Baumann & Sinha, 2001) capitals.

⁹⁴ ‘National Plan for the Competitiveness of Raspberry Exports’

⁹⁵ ‘Programme of Support for the Improvement of the Competitiveness of Small-scale Raspberry Producers’

⁹⁶ Moser (1987) uses the term ‘triple burden’ to refer to the reproductive, productive and community managerial roles borne by women. It is used here differently, to draw a distinction between off-farm, on-farm and household work.

⁹⁷ Sercocamp S. A. is one such example (see chapter 5). Others in Region VII include Agrofrutícola Pehuenche S. A. (in San Clemente) and the more recently established Maule Sur S. A. (in Parral).

⁹⁸ The distinction between ‘trends’ and ‘shocks’ is intended to reflect a difference between sometimes long-run and relatively gradual changes, and unforeseen abrupt changes. In the case of the former, it is at least possible that the direction, pace and process of change is known, and there is potentially more scope for adaptation. In the case of the latter, change is more abrupt and violent, often triggered by specific or unique events, and households may struggle to cope. The distinction is a theoretical one however, and it may be argued that in reality shocks are the result of cumulative processes (albeit often undetected), just as trends embody sequences of discreet events.

⁹⁹ Reliable data on prices paid to producers is very difficult to obtain due to regional disparities, intra-seasonal variation, and the lack of coordination at the upstream end of the chain. While international prices offer some insight into key intra- and inter-seasonal trends, prices to the producer do not neatly follow international price trajectories. In particular, firms tend to pass price decreases on to growers more promptly than price increases.

¹⁰⁰ It is not possible to cover the full scope of the GLOBALGAP scheme here, as the standards are described in a large bank of comprehensive documents pertaining to a broad range of crops, livestock and aquaculture products and specifying a complex array of requirements, recommendations and procedures. For full details see the GLOBALGAP website at www.globalgap.org.

¹⁰¹ For example: Chilealimentos (the Association of Chilean Food Companies); ASOEX (the Association of Chilean fruit and vegetable Exporters); FEDEFRUTA (the Federation of Chilean Fruit Producers); Berries of Chile (a marketing association representing leading berry export companies).

¹⁰² For example: MUCECH (the United Peasant and Ethnic People’s Movement of Chile); CONAGRO (the National Confederation of Peasants and Agricultural Workers of Chile); and Coordinadora Campesina de Chile.

Chapter 7

¹⁰³ In this sense supermarkets do have discretion, and it is reported that, at times when produce is scarce, supermarkets tend to prefer less rigorously certified produce to no produce at all.

¹⁰⁴ Respectively: Instituto de Desarrollo Agropecuario (Institute for Agricultural and Livestock Development); Corporación de Fomento de la Producción de Chile (Production Development Corporation of Chile); Instituto de Investigaciones Agropecuarias (Institute of Agricultural and Livestock Research).

Chapter 8

¹⁰⁵ Official figures vary widely between 7,500 (INE, 2007) and 16,500 (INDAP, 2005, SAG data).

¹⁰⁶ That is, demand for the commodity is represented by a small number of purchasers.

¹⁰⁷ Obviously the poorest farmers generate very little or no income on-farm, and derive very little or no income from off-farm employment, primarily producing for subsistence.

Glossary of Spanish terms

<i>afuerino</i>	outsider; seasonal temporary labourer, external to the <i>hacienda</i>
<i>agricultura familiar campesina</i>	peasant family agriculture; peasant sector
<i>almacén</i>	grocery store
<i>arándano</i>	blueberry
<i>artesanías</i>	hand crafts
<i>asentamiento</i>	transitory tenure form for the joint management of expropriated estates by the state and a <i>campesino</i> committee
<i>botillería</i>	bottle shop
<i>Buenas Prácticas Agrícolas (BPA)</i>	(code of) good agricultural practice
<i>camioneta</i>	small truck; utility vehicle
<i>campesino/a</i>	peasant farmer; farm worker; rural labourer
<i>canalista</i>	(irrigation) canal user
<i>censo agropecuario</i>	agricultural census
<i>centro de acópio</i>	collection centre (often shortened to ‘ <i>acopio</i> ’)
<i>colectivo</i>	shared taxi (usually following a fixed route for a set price)
<i>comercializador</i>	trader
<i>comuna</i>	sub-national Chilean administrative area below <i>provincia</i> and <i>región</i>
<i>concertación</i>	coalition
<i>conchencho</i>	middle-man or intermediary (colloquial)
<i>congelado/a</i>	frozen
<i>conquistador</i>	conqueror; participant in the conquest of the Americas
<i>criollo</i>	creole – person of ‘pure’ colonial (Spanish) heritage
<i>desarrollo</i>	development
<i>empresa</i>	company
<i>empresa asociativa campesina</i>	associative peasant business/firm; peasant cooperative
<i>encomienda</i>	assignment of a group of indigenous people to a Spaniard charged with their education and christianisation. Effectively became a form of quasi-slavery.
<i>estancia</i>	large landed estate based on cattle ranching

<i>exportadora</i>	exporter
<i>frambuesa</i>	raspberry
<i>fresco/a</i>	fresh
<i>hacendado</i>	owner/patron of a <i>hacienda</i>
<i>hacienda</i>	large landed estate
<i>huerto</i>	plot of land; garden
<i>inquilinaje</i>	see <i>inquilino</i>
<i>inquilino</i>	permanent tenant labourer on a large estate receiving, in exchange for labour, usufruct rights over a plot of land and a small cash payment
<i>latifundio</i>	very large landed estate
<i>mestizo</i>	person of mixed (white and Amerindian) heritage
<i>minifundio</i>	very small landholding
<i>mora</i>	blackberry
<i>mora silvestre</i>	wild blackberry
<i>mujer/es</i>	woman/en
<i>Panamericana</i>	Chilean national arterial highway
<i>parcela</i>	small plot/parcel of land
<i>peón</i>	day labourer
<i>peso</i>	Chilean currency – 1 \$US \approx 550 <i>pesos</i> (Sep. 2009)
<i>precordillera</i>	the foothills of the Andes
<i>provincia</i>	sub-national Chilean administrative area between <i>región</i> and <i>comuna</i>
<i>región</i>	sub-national Chilean administrative area above <i>provincia</i> and <i>comuna</i>
<i>riego</i>	irrigation
<i>río</i>	river
<i>silvoagropecuario</i>	forestry, agriculture and livestock (portmanteau of <i>silvícola</i> , <i>agrícola</i> and <i>pecuario</i>)
<i>temporero/a</i>	temporary agricultural worker
<i>trabajo</i>	work

Note: The definitions provided are not necessarily the only definitions of the terms listed, but they capture the intended usage in this thesis. Some of the terms are colloquial or unique to Chile.

Appendices

Grower livelihoods interview check sheet and key questions

Operación de frambuesas:

1. ¿Cuánto tierra aquí esta cultivado con frambuesas?					
2. ¿Cual variedad?					
3. ¿Cuánto tierra tiene usted en total? ¿Cuánto tierra cultivable?			Total:	Cultivable:	
4. ¿Hace cuánto tiempo produce frambuesas?					
5. ¿Cosecha las frambuesas cada año? Si no, ¿por qué no?					
6. ¿Donde o a quien vende sus frambuesas?					
7. ¿Usted vende la fruta fresca, block, IQF?					
8. ¿Cual precio recibe por sus frambuesas?		f:	b:	IQF:	
9. ¿Como ha el precio cambiado con el tiempo?					
10. ¿Cual acuerdo comercial tiene con el comprador? E.g. ¿Tiene un contrato por adelanto?					
11. ¿Esta relación es estable y justa? ¿Por qué / por qué no?		s/n			
12. ¿Los ingresos de las frambuesas están usados para una función específica?					
13. ¿Empaqueta la fruta aquí in situ?					
14. ¿Cuales instalaciones tiene?					
15. ¿Cuántas personas trabajan aquí en el huerto (durante la cosecha / en otros tiempos)?		Cosecha:	Otros:		
16. ¿Son miembros de la familia o trabajadores asalariados?					
17. ¿Quien tiene la responsabilidad por las varias tareas en el huerto?		Plantar:	Podar:	Fumigar:	Cosechar: Riego:
18. ¿Necesita la empresa/el comprador que algunas buenas prácticas agrícolas están implementadas? ¿Cuales son?					
19. ¿Es fácil/difícil, barato/caro implementar las?					
20. ¿Cuales insumos usa?					
21. ¿De donde son?					
22. ¿Son disponibles a precios razonables?					

23. ¿Cómo sabe cuales productos tiene que usar?	
24. ¿Hay apoyo/consejo de la empresa?	
25. ¿Qué producía aquí antes de que produzca frambuesas?	
26. ¿Producir frambuesas es un buen negocio?	
27. ¿Está contento con el negocio?	

Tierra/huerto:

28. ¿Usted es el/la dueño/a de esta tierra? ¿Cuándo la adquirió?	s/n:	Año:
29. ¿Está considerando comprar más tierra o vender tierra?		
30. ¿Ha vendido, su familia, tierra en el pasado? ¿A quien? ¿Por qué?		
31. ¿Puede usted pedir dinero prestado con esta tierra?		
32. ¿Tiene usted derechos a agua para riego?		
33. ¿Cuánto cuesta esta agua al año?		
34. ¿Hay suficiente agua cuando lo necesita?		
35. ¿Esta tierra es bien fértil?		
36. ¿Hay que aplicar fertilizante?		
37. ¿Que más produce aquí? (cultivos/animales)		
38. ¿Cuál es su cultivo más importante? ¿Por qué?		
39. ¿Qué vende usted y qué esta para el consumo del hogar?		
40. ¿Donde vende sus productos?		
41. ¿Cuales precios recibe para los otros cultivos?		
42. ¿Estos precios son estables o cambiantes?		

Hogar:

43. ¿Cuándo son los ingresos más importantes para usted?	
44. ¿Cuales son sus gastos más grandes/significativos en el año?	
45. ¿Cuándo tiene más ingresos – en que parte del año?	
46. ¿Cuantas personas viven en su hogar?	

47. ¿Cuántas de ellas trabajan en el huerto/la tierra? ¿Quién hace que?	
48. ¿Trabaja alguien afuera del huerto? 49. ¿Cuándo, dónde y que haciendo?	
50. ¿Estos ingresos son importantes para el hogar?	
51. ¿Es posible encontrar trabajo cerca de aquí? ¿Cuándo, dónde, que haciendo?	
52. ¿Hace cualquier miembro del hogar trabajo no agrícola? (e.g. artesanías, negocio etc.)	

Información/tecnología:

53. ¿Cómo esta informado sobre nueva información y tecnología?	
54. ¿Ayuda la empresa con información y consejo? ¿Cómo?	
55. ¿Ha hecho algunos cursos sobre la cultivación de las frambuesas o buenas prácticas agrícolas? ¿Con quien? (e.g. INDAP etc.)	
56. ¿Usted está miembro de algún sindicato o asociación para agricultores? ¿Cómo se sirve esto?	
57. ¿Tiene usted alguna maquinaria agrícola o vehículos?	
58. ¿Recibe algún apoyo del estado? ¿Con crédito? ¿Con información?	
59. ¿Ganarse bien la vida produciendo frambuesas? 60. ¿Es suficiente para hacer frente a gastos?	
61. ¿Puede ahorrar dinero o reinvertir?	
62. ¿Existe cualquier oportunidad significativa para su negocio a corto plazo/a largo plazo?	
63. ¿Existe cualquier desafío significativo para su negocio a corto plazo/a largo plazo?	

English translation of key questions

Raspberry operation

1. How much land here is under cultivation with raspberries?
2. What variety?
3. How much land do you have in total? How much arable land?
4. How long have you been growing raspberries?
5. Do you harvest raspberries every year? If not, why not?
6. Where or to whom do you sell your raspberries?
7. Do you sell fresh/for juice/for IQF etc?
8. What price do you receive for your raspberries?
9. How has this changed over time?
10. What arrangement do you have with the buyer? Do you have an advance contract?
11. Do you consider the relationship fair and stable? Why/why not?
12. Is the income from the raspberries used for a specific purpose?
13. Do you pack the raspberries here on the farm?
14. What facilities do you have?
15. How many people work here in the raspberry plot (during harvest, year-round)?
16. Are they members of the household, or paid workers?
17. Who has responsibility for the various tasks in the raspberry plot (planting, pruning, spraying harvesting etc.)?
18. Does the company/buyer require any specific practices on the farm? What are they?
19. Are they easy/difficult, cheap/expensive to follow?
20. What inputs are used?
21. Where do you get them?
22. Are they affordable?
23. How do you know what products to use?
24. Do you receive any support/advice from the company?
25. What did you produce here before you planted raspberries?
26. Is it a good business growing raspberries?
27. Are you happy with the business?

Land/farm

28. Do you own the land here? When did you acquire it?
29. Are you considering buying any more land or selling any land?
30. Has you or your family sold any land in the past? Who to? Why?
31. Are you able to borrow money against this land?
32. Do you have access to irrigation water?
33. How much does this cost per year?
34. Is there enough water when you need it?
35. Is this good, fertile land?

36. Do you need to apply fertiliser?
37. What else do you produce here (crops/animals)?
38. Which is your most important crop? Why?
39. What do you sell, and what is for your own consumption?
40. Where do you sell your produce?
41. What prices do you receive for your other crops?
42. Are these prices variable or stable?

Household

43. When is cash income most important for you?
44. What are your biggest expenses in the year?
45. When do you have most income – at what time of year?
46. How many people live in your household?
47. How many of them work on the farm? Who does what on the farm?
48. Does anyone work off-farm?
49. If so, when, where and doing what?
50. How important is this income for the household?
51. Is it possible to find work around here? When, where, doing what?
52. Does any member of the household do any on-farm non-agricultural work?

Information and technology

53. How do you find out about new information and technology?
54. Does the company help with information and advice? How?
55. Have you done any courses or training in raspberry production or good agricultural practices? With who?
56. Are you a member of any syndicate, group or association and how does this help?
57. Do you have any machinery, vehicles, or equipment?
58. Do you get any support from the state in the form of credit or information?
59. Are you earning a good living producing raspberries?
60. Is it enough to meet your expenses?
61. Are you able to save or reinvest earnings?
62. Are there any significant opportunities for your business in the short or long term?
63. Are there any significant challenges for your business in the short or long term?

Household survey primary data

Table 1. Basic characteristics

Grower code ^A	Date of visit	Follow-up visit(s)	Respondent(s) (gender, age) ^B	Others present at interview ^C	Total farm area (ha) ^D	Land tenure status ^E
MC02	17/01/08	-	M, 55	-	0.25	Freehold
OM02	28/11/07	29/11/07, 06/12/07	F, 40	-	0.30	Freehold
OM01	30/11/07	19/12/07	M, 65	-	0.32	Freehold
AB03	25/02/08	-	M, 48	-	0.50	Freehold
AB02	08/02/08	-	F, 65	-	6.55	Freehold
MC01	13/12/07	-	F, 40	F, 50 (sister)	0.35	Freehold/Leasehold
OM03	31/01/08	-	F, 50	-	6.61	Freehold
SA02	09/01/08	15/01/08	F, 45	-	0.33	Freehold
LC01	25/02/08	-	F, 55	-	0.50	Freehold
LC02	26/02/08	-	M, 45	M, 14 (son)	3.60	Freehold
SA03	09/01/08	22/02/08	F, 42	F, 12 (daughter)	0.35	Freehold
AB01	08/02/08	-	F, 45; M, 45	M, 16 (son)	0.74	Freehold
PA01	20/02/08	-	F, 42; M, 42	-	0.40	Freehold
MC04	17/01/08	-	F, 45; M, 50	M, 14 (son)	1.10	Freehold
MC03	18/01/08	-	F, 36	-	0.55	Freehold/Leasehold
PA02	20/02/08	-	F, 35	-	3.50	Freehold
TE01	23/02/08	-	M, 45	-	22.00	Freehold
TE02	25/02/08	-	M, 50	-	3.00	Freehold
SA01	28/11/07	14/12/07	M, 32	-	2.50	Freehold
YB01	18/02/08	-	M, 60	-	10.00	Freehold

^A Code assigned by the researcher and used in lieu of the grower's name to preserve anonymity.

^B Male (M) or female (F) respondent(s) and age(s) estimated by the researcher.

^C Refers to other household members present at the interview. At most interviews, excluding follow-up visits, the researcher was accompanied by either an INDAP-contracted agronomist or a local head of a small growers' syndicate.

^D As reported by the respondent.

^E Freehold or leasehold as reported by respondent. Where both are indicated, respondents own a house lot and lease land for raspberry production.

Table 2. Raspberry business (A)

<i>Grower code^A</i>	<i>Area in raspberries (m²)^B</i>	<i>Raspberry variety</i>	<i>Years in production</i>	<i>No. of people who work in the plot: Household labour (H) or paid workers (P)</i>	<i>Harvest every year? (Y/N)</i>	<i>On-farm facilities & investments^C</i>	<i>Person(s) responsible for key tasks^D (pruning, weeding, spraying, picking, irrigating)</i>
MC02	400	Heritage	4	2 (H)	N	Very basic fence around the plot. A shade-cloth lean-to against the house for storing fruit.	Respondent carries out all tasks himself, except that M, 30 sometimes helps him at harvest time.
OM02	600	Heritage	4	2 (H)	Y	Basic shelter for storing & packing picked fruit.	Respondent, F, 40, is responsible for the day-to-day management of the huerto & most of the picking. M, 45 shares all other tasks, though he is only home in the evenings.
OM01	600	Heritage	5	3 (H)	N	Basic shelter for shading picked fruit (built over a canal to aid cooling), perimeter fence, manual 'backpack' sprayer.	Respondent carries out all tasks, F, 65 & F, 40 help with picking at harvest time
AB03	1,500	Heritage	3	3 (H), 3-4 (P)	Y	Small shed for storing fruit, machinery & chemical storage sheds	Respondent is solely responsible for all tasks, except that at harvest there are 3-4 paid pickers (neighbours).
AB02	1,800	Heritage	6	1 (H), 1 (P)	Y	Fruit is stored in a shed by the house, plot is fenced, rows signposted, rubbish bins.	Respondent carries out all tasks in the huerto on her own, except that this year she employed one extra picker at harvest (for the first time).
MC01	2,000	Heritage	5	3 (H), 2-3 (P) (neighbours)	Y	BPA signage, rubbish bins, shelter for storing & packing berries, toilet.	Respondent carries out all tasks, except M, 45 is responsible for irrigation. Respondent's mother (F, 65) & sister help with picking & packing of fresco.
OM03	2,120	Heritage, Chilliwack	4	3 (H), 1 (P)	Y	Small but high quality shed for storing & packing berries, with running water & small stainless steel tabletop, plot fenced & sheltered with shade cloth.	Respondent has overall managerial responsibility for the plot, & sole responsibility for spraying & irrigating. One person is employed to help with pruning, & the respondent's 2 elder sisters help with picking.
SA02	2,500	Heritage	3	5 (H), 1-3 (P) (neighbours)	Y	Shaded canopy for storing & packing berries, basic fencing.	Respondent oversees all activities in the plot except for spraying & irrigation, which her husband (M, 45) does. Children help in the plot at harvest & neighbours are employed if necessary.
LC01	2,500	Heritage	5	4 (H), 1-2 (P)	Y	Shade-cloth structure for storing berries	Respondent has primary responsibility for the huerto, but family members help with all tasks. Son (M, 32) does the spraying and looks after the pesticides and fertilisers.

Grower code^A	Area in raspberries (m²)^B	Raspberry variety	Years in production	No. of people who work in the plot: Household labour (H) or paid workers (P)	Harvest every year? (Y/N)	On-farm facilities & investments^C	Person(s) responsible for key tasks^D (pruning, weeding, spraying, picking, irrigating)
LC02	2,500	Heritage	5	3 (H), 1-3 (P)	Y	Basic wooden stand for storing fruit.	Respondent carries out all tasks himself, except that F, 40 & M, 14 help with the harvest. Additional pickers sometimes required (neighbours or workers from Linares)
SA03	2,600	Heritage	4	3 (H), 1-4 (P) (relatives)	Y	Storage shed, covered area for packing berries, basic fencing, hand tools, shelter-belts, polystyrene cool box (1 m ³) for storing fruit	F, 42 is responsible for all tasks in the huerto except irrigation, which M, 42 does at night time. M, 15 & F, 12 assist with picking. Sometimes relatives are employed at peak harvest time.
AB01	3,600	Heritage	5	3 (H), 4 (P) (extended family)	Y	Storage shed, shaded canopy for storing berries, basic fencing & shade-cloth shelter belt, hand tools, rubbish bins, wash basin	M, 45 is responsible for all tasks, except picking, which is overseen by F, 45 with the help of M, 16 & relatives at peak times (when M, 16 then minds relatives' children). M, 45 helps with picking upon return from off-farm orchard work.
PA01	4,000	Heritage	4	2 (H), 4-5 (P)	Y	Shelter for storing fruit, toilets for pickers, huerto is fenced, chemical storage shed	Respondents share all tasks in the huerto, except spraying, which is done by M, 42. F, 42 oversees most of the harvest as M, 42 is engaged in work on the adjacent farm land. Extra pickers are employed during the harvest – especially during peak times.
MC04	4,500	Heritage, Chilliwack	5	5 (H), 2 (P)	Y	Machinery/chemical storage sheds, small plant nursery, shelter for packing berries, basic fencing, motor vehicle, backpack sprayer, toilets.	Respondents have overall responsibility for all tasks, except F, 45 maintains the plant nursery & compost, & M, 50 is responsible for spraying & fertilisers. Children F, 20; F, 17; M, 14 assist with harvest, & 2 workers are employed during peak times as required.
MC03	5,000	Heritage, Chilliwack	6 (3 with current huerto)	2 (H), 3-4 (P) (relatives)	Y	Shelter for packing and storing fruit, perimeter fence, toilets, BPA signage	Respondent oversees the huerto & administration of the raspberry business (incl. the rent for the land). M, 40 does pruning, spraying and irrigating & helps with harvest after work. Extra pickers
PA02	5,000	Heritage	3	2 (H), 5 (P)	Y	Small packing shed with concrete floor & running water (INDAP subsidy), toilets, shaded eating area for workers, BPA signage, perimeter fence	Respondent and her father (M, 65) share all of the tasks in the huerto. 5 extra pickers are employed at harvest time.

Grower code^A	Area in raspberries (m²)^B	Raspberry variety	Years in production	No. of people who work in the plot: Household labour (H) or paid workers (P)	Harvest every year? (Y/N)	On-farm facilities & investments^C	Person(s) responsible for key tasks^D (pruning, weeding, spraying, picking, irrigating)
TE01	7,000	Heritage	5	2 (H), 8-10 (P) (extended family)	Y	Small packing shed with concrete floor & running water, Chemical storage shed (INDAP subsidy), toilets, perimeter fence, BPA signage	Respondent manages the plot & carries out all tasks. He has 2 people to help with pruning, & 8-10 at harvest - mostly paid family members (his siblings).
TE02	8,000	Heritage	8	1 (H), 8 (P)	Y	Shelter for storing fruit	Respondent does all of the tasks in the huerto except harvest. Employs 1 person to help with pruning, & 8 pickers at harvest time.
SA01	12,500	Heritage	4	1 (H), 32-40 (P)	Y	Small packing shed with concrete floor & running water, irrigation channels lined with polythene, perimeter fence.	Respondent employs one worker full-time to help with all tasks outside of harvest time. Respondent has responsibility for spraying and fertiliser application. Workers are employed to pick the crop.
YB01	20,000	Heritage	3	3 (H), 5-10 (P)	Y	Small packing shed, perimeter fence, toilet.	Respondent has one worker to help with pruning and spraying in the huerto. He does the irrigation himself, & employs 5-10 pickers at harvest time.

^A Code assigned by the researcher and used in lieu of the grower's name to preserve anonymity.

^B As reported by the respondent and corroborated on-site.

^C Facilities, structures and other physical capital items related to raspberry production.

^D Household members engaged in particular tasks designated by gender and age (see table 4).

Table 3. Raspberry business (B)

Grower code^A	Buyer^B	Contract	Assistance from company	Format^C	Current price^D
MC02	Conchenchos	None	N/A	IQF	680-770/kg (IQF)
OM02	Conchenchos,	None	N/A	IQF	680/kg (IQF)
OM01	Conchenchos	None	N/A	IQF	680/kg (IQF)
AB03	Conchenchos, Empresa	None	N/A	IQF	800/kg (IQF)
AB02	Conchencho Empresa	None	N/A	IQF	650-730/kg (IQF)
MC01	Empresa	Supply agreement (no price component)	Co. supplies BPA signage, packaging for fresco, hair-nets & limited advice	IQF, Fresco	780/kg (IQF) 3,000-4,000/box (fresco)
OM03	Empresa	Price fixed in October for IQF, quantity agreed in advance (verbally)	Technical assistance from co.'s agronomists, advice on BPA compliance	IQF, Fresco	700/kg (IQF), 4,000/box (fresco)
SA02	Conchenchos	None	N/A	IQF, Fresco	650/kg (IQF), 3,500/box (fresco)
LC01	Conchenchos	None	N/A	IQF	840/kg (IQF)
LC02	Conchenchos, Empresa	None	N/A	IQF	850/kg (IQF)
SA03	Conchenchos, Empresa	Supply agreement (no price component)	Co. supplies BPA signage, packaging for fresco, hair-nets & limited advice.	IQF, Fresco	850/kg (IQF), 2,500-4,000/box (fresco)
AB01	Conchenchos	None	N/A	IQF	720/kg (IQF)
PA01	Conchenchos, Empresa	None	Very limited (explanation of quality requirements), provision of boxes & clamshells.	IQF, Fresco	800/kg (IQF), 2,500/box (fresco)
MC04	Empresa	Supply agreement (no price component)	Production advice & quality guidelines, provides packaging for fresco & BPA signage	IQF, Fresco, Jugo	650-700/kg (IQF), 4,000/box (fresco), 300/kg (jugo)
MC03	Empresa	Supply agreement (no price component)	Production advice & quality guidelines, provides packaging for fresco & BPA signage	IQF, Fresco, Jugo	650-700/kg (IQF), 4,000/box (fresco), 300/kg (jugo)
PA02	Conchenchos	None	N/A	IQF, Fresco	780/kg (IQF), 2,500/box (fresco)
TE01	Conchenchos	None	N/A	IQF	850/kg (IQF)
TE02	Acopios (various)	None	N/A	IQF	900/kg (IQF)
SA01	Empresa	Contract specifying quantity of fresco & IQF, & quality requirements.	Limited assistance. Explanation of rules & requirements.	IQF, Fresco	650/kg (IQF), 2,500-3,000/box (fresco)
YB01	Empresa	None (family connection)	Limited/informal assistance & advice	IQF	900/kg (IQF)

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B The means by which the fruit is sold. *Empresa* denotes a company with which the grower has some form of supply agreement. Where the grower sells to *conchenchos* or direct to a local *centro de acopio* this is indicated accordingly.

^C *Fresco* refers to fruit that is picked and packed for fresh export. *IQF* refers to fruit that is picked for processing, primarily as whole individually quick frozen fruit (though it may be processed by the company in a variety of ways). *Jugo* refers to ungraded or damaged fruit sold for juice or pulp.

^D Price in Chilean pesos per 1 kg (IQF) and per 1.5 kg box (fresco) at the time of the interview as reported by the grower.

Table 4. Household and income characteristics

Grower code^A	Number in household	Gender & ages^B of household members	Off-farm income	Transport
MC02	4	M, 55; F, 55; M, 30 (son); M, 28 (son)	M, 55: sporadic, part-time work spraying corn. M, 30: works on family land. M, 28: works full-time at a pulp & paper plant.	Bicycle
OM02	2	M, 45; F, 40	M, 45: seasonal orchard work. F, 40: artesanías (leather goods).	Bicycle, public bus
OM01	3	M, 65; F, 65; F, 40 (daughter)	F, 65: picking raspberries on a larger farm nearby. F, 40: works in a shop in Linares. All collect mora silvestre periodically.	Bicycle, public bus
AB03	2	M, 48; F, 45	M, 48: freight/transport services using his pickup truck. F, 45: hairdresser in Linares. Also buy, sell & deliver coal.	Motor vehicle (pickup truck / camioneta)
AB02	1	F, 65	Grocery store in the front of the house.	Motor vehicle
MC01	5	M, 45; F, 40; F, 65 (mother); M, 16 (son); F, 14 (daughter)	M, 45: Seasonal orchard work.	Motor vehicle
OM03	3	F, 60; F, 58; F, 50 (sisters)	Tractor leasing business (have 2 tractors & employ 1 driver). F, 58: seasonal work on a nearby orchard. F, 50: temporary work where possible outside of raspberry season.	Motor vehicle (used to deliver fruit to nearby centro de acopio).
SA02	6	M, 45; F, 45; F, 21 (daughter); M, 29 (son in-law); M, 18 (son); M, 2 (grandson)	M, 45 & M, 29: orchard work. F, 45: nursery work outside of the raspberry season. F, 21: works in a clinic in Talca on weekends.	Motor cycle, bicycle, public bus
LC01	6	M, 55; F, 55; F, 80 (mother); F, 35 (daughter); M, 32 (son); M, 12 (grandson)	M, 55: farm work. M, 32: farm work and seasonal orchard work. F, 35: works in a fruit shop part time. One daughter has left home and lives in Linares.	Motor vehicle, public bus, colectivo
LC02	3	M, 45; F, 40; M, 14 (son)	M, 45: off-farm work where possible (thinning/picking apples)	Bicycle, public bus
SA03	4	M, 42; F, 42; M, 15 (son); F, 12 (daughter)	M, 42: tending horses on a large farm. F, 42: hair-dressing from home & temporary seasonal work where possible. M, 15: collects mora silvestre for pocket money in the season.	Motor vehicle (used to deliver fruit to nearby centro de acopio).
AB01	3	M, 45; F, 45; M, 16 (son)	M, 45 works on a large apple orchard.	Bicycle, bus
PA01	5	M, 42; F, 42; M, 14 (son); F, 12 (daughter); F, 9 (daughter)	M, 42: works adjacent family land growing crops (corn, wheat). F, 42: runs a small almacén in the front of the house.	Motor vehicle, bicycle
MC04	5	M, 50; F, 45; F, 20 (daughter); F, 17 (daughter); M, 14 (son).	M, 50 works as a foreman supervising workers on a large apple orchard. F, 20 runs a small grocery shop next to the house. F, 20 & F, 17 work part-time picking berries on other farms or collecting mora silvestre.	Motor vehicle
MC03	3	M, 40; F, 36; F, 9 (daughter)	M, 40: seasonal orchard work.	Motor vehicle
PA02	5	F, 35; M, 38; M, 65 (father); F, 65 (mother); F, 7 (daughter)	M, 38: orchard work (apple picking). F, 35; F, 65: grocery store in the family house.	Motor vehicle (camioneta)
TE01	3	M, 45; F, 45; F, 14 (daughter)	F, 45: seasonal fruit packing/temporera	Motor vehicle (camioneta)
TE02	2	M, 50; F, 50	M, 50: administrator at a local college	Motor vehicle (camioneta)
SA01	3	M, 32; F, 30	F, 30: works in an office in Linares	Motor vehicle (camioneta)
YB01	3	M, 60; F, 60; F, 30 (daughter)	F, 30: seasonal fruit packing.	Motor vehicle

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B As reported by the respondent or estimated by the researcher.

Table 5. Farm characteristics

<i>Grower code^A</i>	<i>Total farm area (ha)^B</i>	<i>Other sources of farm income^C</i>	<i>Irrigation (formal/ informal)^D</i>	<i>House plot (Y/N), (details)^E</i>	<i>Crops grown before raspberries^F</i>
MC02	0.25	Potatoes	Formal	Y (peaches, plums, potatoes)	Potatoes, beans, onions
OM02	0.30	None	Formal	Y (potatoes, onions, chillies)	Farm was not in commercial production for many years.
OM01	0.32	Potatoes	Formal	Y (potatoes, onions, capsicum, chillies, grapes)	Potatoes
AB03	0.50	None	Formal	Y (onions, chillies, chickens/eggs)	None (bought the land 3 yrs ago & planted raspberries)
AB02	6.55	None	Formal	Y (vegetables)	None (vegetables for the house)
MC01	0.35	None	Formal	Y	None
OM03	6.61	Potatoes, onions, cows (milk & cheese), citrus	Formal	Y	Potatoes (poor harvests & problems with soil prompted the shift to raspberries)
SA02	0.33	None	Formal	Y (peppers, chillies, onions, potatoes)	Potatoes, corn.
LC01	0.50	None	Formal	Y (potatoes, walnuts, grapes, huesillo/peaches)	Potatoes, corn, pumpkins
LC02	3.60	Blackberries (separate huerto) & rental income from other land	Formal.	Y (vegetables, chickens/eggs)	Wheat, corn
SA03	0.35	None	Formal	Y (onions, potatoes, chillies, pumpkin)	Farm was not in commercial production for 7 or 8 years. Before that it was in corn & potatoes.
AB01	0.74	Blackberries	Formal	Y (onions, beans, pumpkin, figs)	Potatoes
PA01	0.40	Blackberries (2,000 m ²)	Formal	Y (onions, pumpkins, potatoes, fruit)	Wheat
MC04	1.10	Blackberries (500 m ²)	Formal	Y (tomatoes, garlic, onions, beans)	Wheat
MC03	1.01	None	Formal (included in rental)	N	N/A (land leased specifically for raspberry production, before this worked as temporeros/as)

PA02	3.50	Wheat, corn	Formal	Y (vegetables & fruit)	Wheat, corn, potatoes
TE01	22.00	Potatoes, corn, wheat, blackberries	Formal	Y (vegetables)	Wheat (on the raspberry plot)
TE02	3.00	Blackberries	Formal	Y (vegetables)	N/A (bought land specifically to plant raspberries).
SA01	2.50	Blackberries (1,000 m ²)	Formal	N	N/A (received the land from his father & planted it in raspberries)
YB01	10.00	Blackberries (3 ha), corn	Formal	Y (potatoes, onions, chillies, tomatoes, fruit)	N/A (bought land 4 years ago and planted raspberries, blackberries & corn.

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B As reported by the respondent and corroborated with aerial photographs.

^C Refers to income that accrues to the household of the raspberry grower interviewed. Sometimes income from the farm accrues to other households that utilise the land (especially the households of respondents' children or siblings).

^D Formal legal rights to irrigate through payment of dues to the local canal users' association, or 'informal' use of existing canals.

^E Refers to a garden or small plot near the house that is used for producing food for household consumption as opposed to market exchange.

^F Refers to commercial crops or animals.

Table 6. Technical assistance and training

<i>Grower code^A</i>	<i>BPA? (Y/N)^B</i>	<i>State assistance (Y/N)</i>	<i>Firm assistance (Y/N)</i>	<i>Details of assistance</i>	<i>Training undertaken</i>	<i>Group membership^C</i>
MC02	N	N	N	N/A	-	-
OM02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Course in book-keeping & computer use.	Local growers' syndicate for sharing information & buying inputs
OM01	N	N	N	N/A	-	Local growers' syndicate for sharing information & buying inputs
AB03	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Approx. 15 courses in raspberry production, small business management, pesticide handling, computer use (through SAG, FEDEFRUTA, INDAP).	-
AB02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	Pesticide handling course (SAG). Garlic course (INDAP, 1997).	-
MC01	Y	Y	Y	INDAP/PAMC technical assistance with production & BPA compliance. Support from the company consists of limited technical advice.	INDAP small business course.	Members of a small local cooperative of 4 families who collectively lease land adjacent to the plot. Share costs & help each other with picking where possible.
OM03	Y	N	Y	Assistance & advice on production from company technicians.	BPA course in Linares (SAG). Raspberry technical course in Chimbarongo.	-
SA02	N	N	N	N/A	-	-
LC01	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	None (respondent does not want to leave her elderly mother alone at home).	-
LC02	N	Y	N	INDAP/PAMC technical assistance with production & BPA compliance.	-	-
SA03	Y	N	Y	Assistance from the co. is limited – mainly the provision of required signage, packaging & basic equipment (e.g. hair-nets).	-	-

Grower code^A	BPA? (Y/N)^B	State assistance (Y/N)	Firm assistance (Y/N)	Details of assistance	Training undertaken	Group membership^C
AB01	Y (ChileGAP compliant)	Y	N	Intensive INDAP/PAMC technical assistance with production & BPA & ChileGAP compliance.	Course on ChileGAP requirements & certification.	-
PA01	Y	Y	N	INDAP/PAMC technical assistance with production, BPA compliance, managerial advice. Firm's involvement is very limited.	-	-
MC04	Y	Y	Y	INDAP/PRODESAL support and technical assistance.	Technical production courses through INDAP/PRODESAL. CONAMA programme on composting pruned raspberry canes.	-
MC03	Y	Y	Y	INDAP/PRODESAL support and technical assistance. Basic assistance and advice from company.	Technical production courses through INDAP/PRODESAL.	-
PA02	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance. Subsidy through SAT to build the packing shed.	Raspberry courses through INDAP/PRODESAL	-
TE01	Y	Y	N	INDAP/PAMC technical assistance with production & BPA compliance. Subsidy through SAT to build the packing shed and other facilities.	-	-
TE02	N	N	N	INDAP/PAMC technical assistance with production & BPA compliance. Did receive assistance from a company, but no longer supplies them.	-	None (but would like to cooperate with other growers)
SA01	Y	N	Y	Limited assistance from the company (technical advice), and explanation of requirements	-	-

Grower code^A	BPA? (Y/N)^B	State assistance (Y/N)	Firm assistance (Y/N)	Details of assistance	Training undertaken	Group membership^C
YB01	N	N	N	Had assistance from the company at the beginning, but they no longer provide support.	-	-

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

^B Compliance with *Buenas Prácticas Agrícolas* (BPA) requirements.

^C Membership of any growers' syndicate or cooperative.

Table 7. Raspberry income and expenditure

<i>Grower code^A</i>	<i>Income - observations</i>	<i>Expenditure - observations</i>
MC02	Raspberry income is a small proportion of total household income, but it is a good business for the respondent. Raspberry earnings do not allow for savings, but support investment in small potato patch & reinvestment in the raspberry plot (mainly covering inputs).	Inputs are the main expense, but respondent buys only small quantities. These are bought in Linares by his son. Expenditure on improving the infrastructure of the huerto is very limited.
OM02	Raspberry income supplements off-farm income significantly, but overall household income is modest. Earnings are reinvested in the plot & in improving production practices. Size of plot, & income, are constrained by household labour availability, & there is little scope for increasing output or raspberry income.	Inputs are the main expense. Some savings are made through purchasing them through the local syndicate & sharing transport costs.
OM01	Raspberry income is supplementary to off-farm & on-farm. It is an important component of overall household income, but given the small scale of the plot & its relatively low productivity, it is sometimes more lucrative to abandon the harvest in favour of off-farm work (often in collecting mora silvestre). Raspberry income is used to plant potatoes, which are then stored & sold over winter when prices are good. When raspberry income is high, some reinvestment in the plot in an effort to improve it.	Expenditure on the plot is limited to buying inputs & reinvesting in infrastructure to improve the plot (e.g. fencing, shelter). Some saving is realised on the purchase & transportation of inputs through respondent's participation in a local growers' syndicate. Labour costs are not relevant in this case as labour requirements are met from within the household.
AB03	Raspberry income is very important in overall household income, & is likely to increase as grower expands the plot onto unused land, but this is offset by increased labour requirements. Income from raspberries is used to buy bags of coal for stockpiling & selling over winter.	Some of the inputs required represent a significant expense. Some recommended inputs the grower chooses not to use. Labour costs are relevant at harvest time, but allow the harvesting of the fruit. Particularly when there is a lot of fruit, it is economical to hire help.
AB02	Respondent sells to one particular conchencho as she believes this will get her a better price in the long run. She also encourages the conchencho every day to raise the price. Income is good, but she is unable to save, as she has a large bank debt to repay. Raspberry income is supplementary to income from the almacén.	Grower has an inherited debt, & debt repayments limit the amount of expenditure on & reinvestment in the raspberry operation. Labour costs are low, as the respondent does all of the work on the huerto, except that this year for the first time she hired 1 helper at harvest time. Input costs represent a significant expense (calcium, pesticides, fertilisers).
MC01	Raspberry income is supplementary to off-farm income, but equally important to the household. Prices have been very good this year. In past years income has been insufficient to save much, but enough to reinvest in the plot & easily cover input expenses.	Land is collectively leased with 3 other families, but each family is responsible for its own plot. Inputs are purchased collectively, & some savings are realised in this way. Labour requirements are met from within the household or with the help of other families in the cooperative.
OM03	Raspberry income is a small component of farm income overall, but is highly significant during the raspberry season. Total farm income is also highest during the raspberry harvest season, but earnings from the raspberries are supplementary to income from both cows (milk and cheese) and annual crops.	Expenditure on inputs for the raspberry plot is significant, but not a major cost in overall farm expenditure. The raspberry plot meets its own costs, and provides extra income, which is reinvested in the farm.
SA02	The raspberry operation covers its own costs & supplements off-farm income significantly – especially this year. The income is used to meet day-to-day expenses, & some is saved for winter months when there is less seasonal & off-farm employment in the comuna.	Inputs are the most significant expense, especially pesticides & fungicides. Labour costs are low as only one or two neighbours are employed during harvest. However, it's becoming increasingly harder to find help, as most neighbours have their own raspberry plot. Labour costs are therefore slowly rising.

Grower code^A	Income - observations	Expenditure - observations
LC01	Raspberry income is supplementary to two main sources of off-farm income. Has been variable due to technical problems in the huerto (associated with heavy soils & poor drainage in parts). When prices are high (as they currently are) however, the income is a very important part of overall household income. It is saved for purchasing inputs for next season, & the remainder for improving the house and standard of living generally.	Relatively high expenditure on inputs has been required in the last couple of seasons to deal with root rot and fungal infections that have affected parts of the huerto. Labour costs are low, but at peak times there is a need to hire 1 or 2 pickers (paid by the tray – approx 500 pesos)
LC02	Income is important along with other farm income from blackberries and the rental of approx 3 ha. Income is definitely highest over the berry season, as off-farm work outside of the fruit season is hard to come by and low-paid. Income is saved for the purchase of necessary inputs and to help support the family over the winter.	Expenditure on the huerto is highest when it is necessary to buy inputs and employ workers at harvest time.
SA03	Income from raspberries has made possible the drastic improvement of the family home – it has a new roof & tiled outdoor areas. Earnings are also reinvested into the plot, & have been used to purchase a labelling gun & a polystyrene cool box (1 m ³) for storing fruit. Income also supports savings for the children's education.	Expenditure is highest when inputs must be purchased, & during harvest time when additional workers are employed.
AB01	Earning well – sufficient to reinvest in the plot, raise productivity & meet BPA/ChileGAP requirements. Saving for son's education & to purchase a motor vehicle. Took a 4-day holiday to the coast for the first time in many years.	ChileGAP investments were significant, but affordable & worthwhile. Inputs are a major expense (100-150,000 pesos per ¼ ha per year), & are delivered from Linares via colectivo. Labour costs at harvest – 3 to 4 relatives are employed in peak times, which raises costs, but allows the crop to be fully harvested.
PA01	Raspberry income is split between two dedicated plots – one for IQF & the other for fresco. Respondents believe in maintaining both so long as prices justify it. Currently prices for fresco are low & highly variable (currently 2,500 pesos vs. 4,000 pesos 2 weeks ago), prices for IQF are high, so they have temporarily abandoned fresco & are picking all fruit for IQF. Raspberry income is a significant supplement to income from M, 42's income from the adjacent family crop land. Blackberry income is also important, though for a shorter period.	Inputs for the raspberries are expensive – the land needs extra fertiliser. Labour costs are not so much of an issue, as they employ neighbours who do a good job and are paid a piece rate per tray (approx. 500 pesos). The fresco plot was recently fenced, which was a significant cost, but is a necessary requirement. Future expenses are likely to be incurred in bringing the plot up to new requirements, so long as the price of fruit justifies making this investment.
MC04	Paid weekly by cheque, which is difficult. Raspberries are the main source of income during the season, & the single most important source overall.	Pesticides & fertilisers bought in Linares or San Javier are expensive (approx. 150,000 pesos/yr). If workers are needed at harvest, this can become a significant expense.
MC03	Raspberry income is the main source of income for the household. It is supplemented by off-farm work (M, 40) outside of the raspberry season. Prices received through supply agreement with company are significantly lower than other non-affiliated neighbours selling to conchenchos or acopios. Price difference is not offset by significant assistance from the company. Despite this, income is good & has provided for household needs & supported reinvestment in the huerto.	Land for plot is leased, which is the most significant expense. However raspberry income covers this. Inputs are the next most significant expense. Labour costs are inevitable at harvest time, and are part of the costs of the business – these are kept as low as possible by respondents doing as much of the picking as possible.

<i>Grower code^A</i>	<i>Income - observations</i>	<i>Expenditure - observations</i>
PA02	<p>Income from raspberries is an increasingly important proportion of farm income. Most household income is from the farm.</p> <p>Raspberry income has supported reinvestment in & improvement of the plot, & paid for a camioneta and improvements to the family's house.</p> <p>Shed for packing fresco funded by INDAP subsidy, but fresco prices have just crashed, & they are focused on IQF.</p>	<p>Inputs and labour represent important expenses, but the operation has so far met these costs and remained profitable.</p>
TE01	<p>Raspberries contribute an important proportion of total farm income, but importance to the household varies depending on relative prices for other crops (e.g. wheat is also profitable this year & potatoes are not). Income from the raspberries has been valuable, but it is necessary for the respondent to have other crops – risk is too great to specialise too much. Off-farm income is also important and F, 45 takes on seasonal work whenever possible.</p>	<p>Input costs for the raspberries represent a small part of farm costs. Income from the plot more than covers the input costs (though these can rise rapidly too). Respondent often buys inputs in relative bulk, sharing costs with his brothers.</p>
TE02	<p>Income from the raspberries is an important part of overall household income, but it is very variable (prices are very changeable). Respondent does not want to sell to conchenchos, & each day he phones around several local centros de acopio & delivers his fruit to wherever the price is best (allowing for distance/fuel). Raspberry income & household income peaks in Feb/Mar at the peak of the harvest.</p>	<p>Land is relatively input-intensive as the soil is not ideal, therefore inputs are a significant cost. These (fertiliser & pesticides) are purchased in March, when income is high, & stored for use throughout the year. Prices of inputs are continually rising.</p> <p>Labour is a significant challenge, as the harvest is done purely with paid workers from Linares. Difficult to source workers locally because of the mora silvestre & because most families have their own huertos. It is very hard to find good workers, & he has implemented a bonus system to encourage them to pick more/work harder.</p>
SA01	<p>The plot has been in production for 3 years now & has generated sufficient income to support its continued expansion. Income peaks in Nov/Dec & Mar/Apr. The relationship with the company is good, as there is support and technical advice, but there are not many other benefits for the grower. Also, prices are relatively low compared to the prices paid by intermediaries to smaller growers, & payment is delayed.</p>	<p>Expenses are highest at the same time as income. Pickers are paid 600 pesos per tray for IQF and 1,000 pesos for fresco. One permanent worker is paid 150,000/month (min. wage).</p> <p>The investment in the packing shed was a significant cost, but was required by the company, and is necessary to pack & supply fresco.</p>
YB01	<p>Income from both raspberries & blackberries is highly significant in overall household income. Which is most important in a given year depends on relative prices. Whichever crop has better prices at the time that the seasons overlap is more fully harvested than the other. Income has been reasonable, but he is recouping large losses made when he lost almost 3 ha of raspberry plants 4 yrs ago.</p>	<p>The costs of establishing the huerto were significant. Respondent employed 40 people from the village to plant the canes, but had to re-plant them himself as the workers did such a poor job. This was after losing 3 ha of raspberries the year before to blight. He is still recouping these losses.</p> <p>Labour is a significant cost, and he does not employ enough workers to fully harvest the plot. Workers are paid 500 pesos per tray of IQF.</p> <p>Soil is poor & not well-drained, & huerto therefore requires relatively high inputs of fertiliser and fungicides.</p>

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

Table 8. Grower reflections and research observations

Grower code^A	Grower/respondent reflections	Researcher observations
MC02	<p>Prices are good this year, but because they were so bad last season the respondent pulled out almost three quarters of his raspberry plants over the winter. If this were not the case earnings would be much better this year. Farm income will therefore be more dependent on potatoes this year. Despite the small scale, the raspberry business is good. If prices were more stable it would be better – it is very difficult with the fluctuating prices.</p>	<p>Raspberries provide only a modest income in this case, but the plot only engages one household member, & very little land. However, the <i>huerto</i> is definitely BPA non-compliant, & would require significant investment to become compliant.</p> <p>There is a reasonably large amount of family land owned & worked by his brothers & sons adjacent to his land, which he can use or work on if he likes.</p> <p>Household income is reliant on off-farm sources, & particularly the work of 2 sons, one who has a good full-time job in the local pulp & paper mill, & the other who works on relatives' land nearby (growing sugarbeet or corn) or in seasonal orchard work.</p>
OM02	<p>The plot is the right size given that it is managed primarily by the respondent. Support & advice received from the technicians & agronomists through PAMC is the main opportunity for increasing productivity & quality. Similarly, courses & advice on plot management & book-keeping help to improve the overall management of the business.</p>	<p>Grower is enthusiastic, & has taken advantage of support & courses offered through INDAP & the PAMC programme. Despite the small size of the plot & the limited earnings generated, the plot is BPA-compliant & the grower is capable of maintaining compliance. However, investments required to meet higher quality standards (e.g. ChileGAP) could present a significant challenge given the scale of the operation.</p> <p>Household is reliant on off-farm income from M, 45. F, 40 is engaged in making <i>artesanías</i> (leather goods) with a group of women, but this is not lucrative. F, 40 also regularly helps on her father's farm milking cows & making cheese, but this is for household consumption only.</p>
OM01	<p>Prices improve only very slowly year by year, & fluctuate a lot. If prices were good it would be a very good business.</p> <p>Limited access to new information – especially technical information.</p> <p>It is difficult to save, but income from the raspberries is reinvested in potatoes & in slowly improving the raspberry plot.</p>	<p>Grower is striving for BPA compliance, but with limited capacity to make the required investments. Required signage is in place & the <i>huerto</i> is well fenced, but other structures are very basic.</p> <p>Raspberries are not harvested every year or necessarily all season. If prices are bad the crop is abandoned in favour of other work – principally collecting <i>mora silvestre</i>.</p>
AB03	<p>Intends to expand production & attain BPA compliance, but this is difficult.</p> <p>Moved from Valparaíso to Yerbas Buenas 3 yrs ago to return to the countryside, but has found that raspberry production requires a lot of learning & technical knowledge to comply with market requirements.</p> <p>Prices are too low & can be very unstable & unreliable. Best strategy is to have the plot in top condition to maximise yields & quality, but it also pays to be cautious with investments in & expenditure on the raspberry business.</p>	<p>Grower is very enthusiastic & has taken advantage of every opportunity offered through various state agencies. However, remains BPA non-compliant due to several gaps in on-farm investment (e.g. <i>huerto</i> is not fenced, no signage present). This has not impeded business so far.</p> <p>Household is reliant on off-farm income including respondent's freight/transport work with his <i>camioneta</i> (delivering firewood & coal), & spouse's hairdressing work. Raspberry income has supported consumption & reinvestment in raspberries, but not significant investment in the infrastructure/facilities required for BPA certification.</p> <p>Respondent also has shares in local cooperative company Sercocamp, but does not provide fruit to the company.</p>
AB02	<p>Started growing raspberries 6 yrs ago when she inherited a large debt. It is preferable to temporary/seasonal off-farm work, as it can be more lucrative, & it is better for her to be at home & able to tend the grocery store. Raspberries have been very productive, but this has all gone to debt repayments.</p>	<p>Grower is dedicated to repaying the bank debt she inherited. She has been achieving this with earnings from the raspberry plot. The bank has recognised her remarkable effort by gifting her a motor vehicle. Family received land in Agrarian Reform, only some of which they have managed to keep. Majority of this is managed by her sons, who grow blackberries, wheat, potatoes & corn. Raspberry plot is currently compliant with required norms, but may require significant investments of standards continue to rise.</p>

Grower code^A	Grower/respondent reflections	Researcher observations
MC01	Business is good, but the prices are too uncertain. They change from year to year with IQF (we were getting half this price last year) & change within the season with fresco. It's good being part of a small cooperative because we share information & help each other a lot. It's also good that each family has its own <i>huerto</i> because this avoids arguments & disagreements over the management & earnings. The relationship with the company is good, but co. input into the management of the plot is limited.	Family has been successful in achieving relatively high productivity & maintains a good relationship with the company, supplying premium fresh fruit (fresco) throughout the season. Raspberry income has supplemented off-farm income, but this season with such good prices it may be the main source of income overall.
OM03	Harvested 4,000 kg in 2006/07. Content with the scale of operation – can keep productivity high & don't have to hire workers often. Very enthusiastic growers, but the price is unreliable from year to year. It's a great business, but it's not possible to come home from (off-farm) work & relax – always have to be mindful of the plot.	Raspberry plot is on a small portion of a larger (6.6 ha) farm. Farm is inherited from respondent's father, & other siblings have more land nearby. The family is relatively well-off, & between several households they have access to a range of farm equipment (some of which is also leased out to neighbouring farmers). On-farm income relatively diversified (potatoes, onions, milk & cheese – mostly sold in Talca). Growers also had a small citrus orchard which was doing very well, but was destroyed by snow (the first in the <i>comuna</i> for many winters).
SA02	It's a great business & reasonably easy to learn. The crop is easy to handle provided you can afford the required inputs. Without pesticides, there are many pests & fungal infections in the area. Children enjoy working in the <i>huerto</i> as they can earn some extra money on top of the off-farm work they do. It is also more secure than many temporary/seasonal jobs (provided prices are reasonable).	Grower has received no state support or assistance from any company in raspberry production, but has learned over three years & by asking around in the community. One of her neighbours has been growing raspberries for 5 years, & she helped/worked there for two seasons.
LC01	The problems with the <i>huerto</i> (poor drainage in parts) make it difficult. Husband is preparing a better-drained site on the other side of the house to re-plant some canes (on the advice of the PAMC technician). Raspberries are a good business, but hard work – especially becoming familiar with the technical aspects. The assistance of the technicians is very important in this respect. Some raspberry income is saved for winter, but it is always difficult, as it is very hard to find good work in the <i>comuna</i> outside of the fruit season.	Respondent has 9 siblings that live on land adjacent to the farm, so there is a lot of land in the extended family. Respondent's husband and son work on this land with her brothers most of the year, but there is less work to be done in the winter & they also do other off-farm work where possible. Respondent is also busy in the house looking after her elderly mother and grandson. The plot is not BPA-compliant, & significant investments would need to be made to bring it into compliance.
LC02	Raspberries are a great crop. It is important to maintain the <i>huerto</i> in good condition and manage it for the highest possible yields. The season is long and provides good income over the summer if yields are high & the fruit is of a good quality. For this reason the support of the PAMC technicians is very important. Currently registered with SAG, but BPA will be the next step – at the moment though it is easy enough to sell the fruit via intermediaries. I am happy with raspberries and blackberries, & content to lease out the rest of my land. I don't want the cost or risk of cultivating a larger area of land. It's better to let someone else take that risk.	Respondent is highly enthusiastic about raspberry production and conscious of the need to maintain the plot in good condition. Income from the raspberries is a major component of farm income together with the rental income from around 3 ha of the farm (leased to a neighbouring farmer). Respondent also has a plot of blackberries on an adjacent <i>huerto</i> which is harvested over a shorter (but overlapping) season – at this time it is often necessary to employ additional help. This represents an extra expense, but it is justified as the fruit could otherwise not be harvested.

SA03	<p>We don't want any more or less raspberries – we have the perfect amount. It is a great business for us. Relationship with company is minimal & support is limited – some non-affiliated growers are getting better prices selling to <i>conchenchos</i>. It would be good if prices were more stable – they seem to rise slowly & fall quickly.</p>	<p>F, 42 oversees the running of the raspberry business & does most of the work. She is very enthusiastic about the business – it has allowed her to be at home with her children as opposed to working as a <i>temporera</i>, which she has done in the past. The house has obviously benefitted from recent investments, & she wants to establish a small <i>botillería</i> in the bedroom of one adult son who has left home. She is positive about her children's future education.</p>
AB01	<p>It is a great business, & with the support of INDAP/PAMC we can earn very well. We took a holiday for the first time in many years & it was our son's first time at the coast. We would like to expand a little, but no one around here is selling land.</p>	<p>AB01 is a pilot plot of PAMC & so is closely monitored & intensively supported. Productivity is therefore very high (in 2006/07 they harvested 8,150 off just over ¼ ha). ChileGAP compliance is uncommon among farms of this size, & is also largely attributable to intensive support through PAMC.</p>
PA01	<p>It is difficult operating with the variable prices. Price premium for fresco justifies the extra effort and investment when prices remain reasonably high and stable. Have put significant effort into developing the fresco plot but the market seems to be demanding more processing fruit. Would like more advice and assistance so as to learn about maintaining the plot in top condition, controlling pests, & managing crop for high fruit quality.</p>	<p>Respondents are capable of picking reasonable quantities of fruit for either IQF or fresco, & usually do both. However, price determines exact strategy (currently focusing on IQF). Respondents live adjacent to husband's (M, 42) father's land (approx. 20 ha). M, 42 and his brothers lease some of this land from their father (for a low rental) to grow corn, potatoes or wheat (depending on prices). Raspberries provide significant income over the season and allow F, 42 to combine the grocery business with on-farm work and household tasks (particularly childcare).</p>
MC04	<p>Would like to expand the operation, & are expanding on their own farm, incorporating fallow land. The land is not ideal & requires compost & quite a lot of fertiliser. Irrigation water is plentiful. Would like to also sell organic blackberries, but prefer the raspberries – it is a great business.</p>	<p>Very enthusiastic growers, experimenting with their own plant nursery & the use of compost – partly as a result of a local programme by CONAMA to promote the shredding & composting of pruned raspberry cane cuttings.</p>
MC03	<p>Confident with the technical side of production and the basic management of the <i>huerto</i> (have done several courses and have a lot of experience in production), but would like more support/advice on the commercial side of the operation. Relationship with the buyer company is not stable as requirements are high, but price is relatively low by local standards, and unreliable. Would like to learn how to add more value/take more control of the commercial side.</p>	<p>Respondents rely on raspberry production for the majority of their income, and are successful producers. However, off-farm work remains necessary outside of the season. State support and training courses have been highly beneficial & enabled them to meet the required BPA standards.</p>
PA02	<p>Plan to expand production & specialise in fresco, but the low prices currently are not encouraging. Raspberries have been the most important source of farm income this season & if prices are good it will probably become more important. Income has allowed us to improve our house, & invest in the farm, & reduced pressure to seek off-farm employment – it is much more rewarding to work on the farm & be your own boss. Father used to take fruit by bicycle to the house where it was sold to <i>conchenchos</i>. Now we have the <i>camioneta</i> we could deliver the fruit directly to the <i>centro de acopio</i> – but with <i>conchenchos</i> paying so well at the moment for IQF, it's not even worth doing that.</p>	<p>The farm is located several km from the family's house, so fruit is taken back to the house in the evenings & sold to <i>conchenchos</i> from there. Farm is also important for growing other crops (currently wheat & corn), & provides the bulk of household income. Price (& relative prices for IQF/fresco) is the single most important determinant of grower's activity. Despite INDAP grant to build the facility for packing fresco, this will go unused as long as IQF prices are relatively high.</p>

TE01	<p>No desire to enter into agreement with any company, as they do not pay as well as the <i>conchenchos</i>, & there is no real benefit.</p> <p>Hopefully will expand the plot & get into packing fresco on-farm now that we have the facilities, but this will depend on prices. Last year prices were lower overall, but fresco was relatively better. This year it is the opposite, so we are only picking for IQF.</p>	<p>Plot is adjacent to a 22 ha farm that was respondent's father's, & is now owned by respondent & 7 brothers & sisters, all of whom live on or near the <i>parcela</i>. The brothers farm the bulk of the land together, though all also have individual plots (and some work off-farm). Family members (paid) help in the raspberry plot during harvest time.</p> <p>INDAP SAT grant process was very helpful – in addition to providing the actual facilities, the process of qualifying entailed various upgrades on the farm. Now confident in basic BPA requirements.</p>
TE02	<p>Would like to associate with other growers to invest in a cool storage facility, benefit from cheaper inputs and transport, and maybe secure a better price. Eventually would like to export directly, but this would have to be achieved step-by-step. Does not want to deal with middle-men/<i>conchenchos</i>, but rather directly with a company.</p> <p>Would like to expand production, but the challenges with finding enough (& decent) workers would only be greater on a larger scale.</p>	<p>Grower has a lot of experience growing raspberries, but is experiencing difficulty adapting to changes. Local labour market is tight during the harvest season, & this is compounded by the growth of raspberry production locally – almost everyone is busy on their own plot. It is a long way (& costly) to bring workers from Linares every day.</p> <p>The plot does not have good soil, & requires relatively high fertiliser & pesticide inputs – the prices of these are increasing, while raspberry prices are unreliable.</p> <p>The plot requires additional investment to bring it up to BPA compliance and increasingly strict quality requirements.</p>
SA01	<p>Would like to continue to expand on the 2.5 ha block if prices remain good as they have been this year. Greater scale of production may make for a stronger position with respect to the company.</p>	<p>Grower is from a reasonably wealthy local farming family, & his father has a lot of land. This plot was given to him by his father, & he has now had 3 good harvests. Prices are very variable, but operation is generally able to cover running costs & is reasonably profitable. Grower has ambitions to continue to expand production and in some years maybe invest in cool-storage facilities. Once more established he may look to enter into agreement with another company – has yet to decide if there is a better company with which to work – support from the company is rather limited, as he has the capacity to meet their requirements, but prices remain lower than the local average.</p>
YB01	<p>Struggling to recoup losses made through initial plantings that were poorly located (based on bad technical advice). The plot is of a sufficient size now, and there is no need to expand. What is important is to recover from earlier losses, reinvest in the plot and raise productivity and quality. Would like to access technical advice and support but is unsure what he is eligible for or how to find out.</p>	<p>Respondent's son-in-law has a connection to a large raspberry processing company in Linares, & this was one of the main reasons he got into raspberries & blackberries. Initially established approx. 3 ha of raspberries & 3 ha of blackberries but a combination of poor soils & inability to maintain the plots has led to their being scaled back. Given the losses incurred initially, grower has insufficient resources to maintain existing plantings, & further down-sizing is likely. Farm is not BPA compliant, & would require significant additional investment to become compliant.</p>

^A Code assigned by the researcher and used in lieu of grower's name to preserve anonymity.

Key informant interviews

Organisation	Organisation type	Position of interviewee(s)	Date	Location
Embassy of New Zealand in Chile	Government (NZ)	Ambassador, Second Secretary	22/10/07	Santiago
New Zealand Trade and Enterprise (Chile)	Government (NZ)	Chile Country Manager, Business Development Manager	07/11/07	Santiago
Centro de Estudios Nacionales de Desarrollo Alternativo (CENDA)	NGO	Researcher	20/11/07	Santiago
Confederación Nacional Campesina y Trabajadores del Agro de Chile (CONAGRO)	Peasant organisation	Coordinator	25/11/07	Santiago
Movimiento Unitario Campesino y Etnias de Chile (MUCECH)	Peasant organisation	Technical coordinator	03/12/07	Santiago
Comisión Económica para América Latina y el Caribe (CEPAL), Unidad de Desarrollo Agrícola	IGO	Manager, Agricultural Development Unit	11/12/07	Santiago
Agrícola San Clemente Ltda.	Company	General Manager	12/12/07	Santiago
Pontificia Universidad Católica de Chile, Instituto de Estudios Urbanos y Territoriales (IEUT)	University	Researcher	12/12/07	Santiago
Agrícola Ponderosa Ltda.	Company	Owner	21/12/07	Requinoa
Sindicato Esperanza	Workers syndicate	Coordinator	10/01/08	Rosario
Municipalidad Talca, Dirección de Desarrollo Comunitario (DIDECO)	Local Government (Chile)	Manager	16/01/08	Talca
Centro Latinoamericano para el Desarrollo Rural (RIMISP)	NGO	Principal researcher	21/01/08	Santiago
San Basilio Vivero Ltda.	Company	Owner	22/01/08	Talca
Universidad de Talca, Departamento de Economía Agraria	University	Agricultural economist	23/01/08	Talca

Programa de Desarrollo Local (PRODESAL) Talca, INDAP	Government (Chile)	Manager	24/01/08	Talca
Municipalidad Talca, Departamento SIG	Local Government (Chile)	Technician	24/01/08	Talca
Programa de Desarrollo Local (PRODESAL) Talca, INDAP	Government (Chile)	Consultant/agronomist	25/01/08	Talca
Centro Norte S. A.	Centro de acopio de berries	Associate	25/01/08	San Clemente
Pontificia Universidad Católica de Chile, Departamento de Fruticultura y Enología	University	Professor	28/01/08	Santiago
Centro Latinoamericano para el Desarrollo Rural (RIMISP)	NGO	Principal researcher	29/01/08	Santiago
INDAP Talca, Departamento de Fomento Regional	Government (Chile)	Manager	30/01/08	Talca
Agrofrutícola Pehuenche S. A.	Company (cooperative)	Manager	30/01/08	San Clemente
PAMC Yerbas Buenas	Government/Local Government (Chile)	Agronomist	08/02/08	Yerbas Buenas
PAMC Yerbas Buenas	Government/Local Government (Chile)	Technician/consultant	08/02/08	Yerbas Buenas
Municipalidad Yerbas Buenas, Secretaría Regional de Planificación Coordinación (SERPLAC)	Government/Local Government (Chile)	Director of Planning	20/02/08	Yerbas Buenas
Fresh Approach Ltda.	Company	Manager	20/02/08	Talca
Comercializadora El Monte	Centro de acopio de berries	Manager	20/02/08	Molina
Top Berries S.A.	Intermediary/trader (berries)	Manager	25/02/08	Yerbas Buenas
Sercocamp S. A.	Company (cooperative)	Production Manager	27/02/08	Yerbas Buenas
Vital Berry Marketing S. A.	Company	Production Manager	27/02/08	Colbún
Programa de Desarrollo Local (PRODESAL2) Yerbas Buenas, INDAP	Government (Chile)	Technician	27/02/08	Yerbas Buenas
Valle Maule S. A.	Company	Quality Manager	28/02/08	Linares

Hortifrut S. A.	Company	Manager, Programme for the Development of Suppliers	28/02/08	Linares
Municipalidad Yervas Buenas, Secretaría Regional de Planificación Coordinación (SERPLAC)	Government/Local Government (Chile)	GIS Technician	29/02/08	Yervas Buenas
Centro de Gestión (CEGE) Maule Sur	Government (Chile)/ Consultancy	Manager	29/02/08	Parral
Agrícola Comercial Oriente S. A.	Centro de acopio de berries	Manager	01/03/08	Linares
Centro de Gestión (CEGE) Pelarco, Talca	Government/Local Government (Chile)	Manager	03/03/08	Talca
INDP, Departamento Gestión Estratégica	Government (Chile)	Manager, Departamento Gestión Estratégica	06/03/08	Santiago

*Historical exchange rates***Chilean pesos per 1 US dollar**

Year	Average Rate
1982	59.42
1983	78.78
1984	98.48
1985	160.86
1986	192.93
1987	219.41
1988	245.01
1989	266.95
1990	304.90
1991	349.22
1992	362.58
1993	404.17
1994	420.18
1995	396.77
1996	412.27
1997	419.31
1998	460.29
1999	508.78
2000	539.49
2001	634.94
2002	688.94
2003	691.40
2004	609.52
2005	559.77
2006	530.28
2007	522.47
2008	522.46
2009	570.61

Source: Banco Central de Chile (2009).

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