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MARKET ACCESS AND PRIVATE STANDARDS: CASE STUDY OF THE CHILEAN FRUIT MARKETS

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PREFACE

The case study of Chile is one of four which form the basis for the paper "Private standard schemes and developing country access to global value chains: challenges and opportunities". It provides background information on the Chilean fruit export sector. This report was prepared by a consultant, Dr. Eugenia Muchnik, of the Catholic University of Chile and Fundacion Chile.

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LIST OF ACRONYMS

ASOEX, Chilean Exporters Association, a private entity that represents the fruit and fresh vegetable exporters of Chile. Its mission is to facilitate and to promote Chilean fruits and vegetable exports by opening of new markets and stimulating professional upgrade of its members. It also seeks to disseminate technical and commercial information to operators in the chain as well as to and support research and development in the sector.

CAMPOCOOP, National Confederation of Peasant Cooperatives, an association of the regional federation of Peasant Cooperatives, composed of the local peasant cooperatives. Its main objective is to achieve self-sustainability of its member enterprises and to provide support to the activities of its associates and peasant cooperatives in the country.

CIREN, Center for Information on Natural Resources, created by CORFO in 1985 maintains an up-to-date data system on many aspects of the national stock of soils, climate and water resources, as well as a cadastre of rural properties involved in fruit production and their associated infrastructure. It is also responsible for Chile's modern geographic information systems using remote sensors use as well as new techniques to monitor and to improve natural resource management.

CNR National Commission on Irrigation created in 1975 to increase and to improve Chile's irrigated areas.

CONAMA, National Commission for the Environment, a government agency that promotes environmental sustainability in the development process and coordinates activities tied to the government policies and strategies in environmental matters.

CORFO, Chilean Economic Development Agency, founded in 1939 to promote economic development by encouraging competitiveness and investment. CORFO makes various financial instruments available to the business community, including long-term credits and co-financing. CORFO's financial Instruments include financing for technological innovation, infrastructure and technological transfer projects for Strategic Alliances. One of the instruments financed by CORFO within its support for Technological Innovations is the Program for Supplier Development, PDP.

FDF, Foundation for Fruit Development, a private non-profit institution funded in 1992 by a group of fruit export companies and producers to develop and promote R & D projects. In 1998 it agreed to include export firms and producers of fruits and vegetables. About 30 member firms directly finance the Foundation with a fee proportional to the number of fruit bins exported. FDF identifies the technical challenges that are faced by the industry and coordinates the resources and financing to solve them. It also provides consulting services needed by the industry to improve its international competitiveness. It has also developed ChileGAP®, a private quality standard specific to Chiles' needs.

FEDEFRUTA, a non-profit association of fruit growers and their associations founded in 1985 to represent the interests of the sector both domestically and abroad. It participates in the Board of the National Association of Farmers (SNA), the Council of the Export Promotion Fund and the Coordinating Committee for Fruits and Vegetables.

INDAP, Institute of Agricultural Development, a public, decentralized agency under the supervision of the president of Chile through the ministry of agriculture. Its main objective is to enhance the development of small farms through promoting conditions and developing capacities for sustainable production of small family agriculture and its associations.

INN, National Institute of Normalization, dependent upon CORFO is a public agency responsible for enhancing the use of normalization, accreditation and metrology. It operates the national system of accreditation generally voluntary, except when the law requires that INN authorize and recognize the organisms involved in certification, inspection and laboratories.

PDP, Program for Development of Providers, provides financial contributions to cover the cost of a group of systematic actions (consulting, technological transference, training) contemplated in a plan to develop the providing firms in a purchase of a larger firm.

PROCHILE, government agency of the Ministry of Foreign Affairs, is in charge of promoting Chilean exports. PROCHILE administers a variety of activities for export promotion such as, market studies and programmes to orient and to train entrepreneurs,. new information usage and communications technologies, organization of international fairs and study missions abroad for firm managers; the development of programs to facilitate the integration of small and medium enterprises into international markets, and organization of national competitions for co-financing export promotion programs.

PROFO, Associative Promotion Projects, provides financial contribution to cover part of the costs of preparing and executing new business projects. These must consist of at least 5 enterprises seeking to increase their competitiveness as a group and individually.

SAG, Agriculture and Livestock Service, is a public agency responsible for protecting and improving production resources in the sanitary, environmental, genetic and geographic areas as well as to improving food quality, competitiveness, sustainability and equity in the agricultural and livestock sector.

SENCE, National Service for Training and Employment, is a technical decentralized public agency tied to the Ministry of Labour. Its mission is to increase firm competitiveness and employment through the application of public policies and market instruments for training and labour intermediation.

SERNAM, National Secretariat for Women, created in 1991 with the objective to design, propose and coordinate policies, plans, legal reforms and norms to achieve equal rights and opportunities between men and women, and to reduce discriminatory practices One particular focus is that of employment opportunities and working conditions for women, specifically issues of seasonal work of women in agriculture.

MARKET ACCESS AND PRIVATE STANDARDS: CASE STUDY OF CHILE FRUIT MARKET

Introduction

1. Chile stretches some 4 200 km from north to south covering several climactic zones from the hot arid desert in the north to the cold Antarctic in the south. Its natural sea and mountain borders form natural barriers sheltering it pests and disease. Chile produces a variety of fruits that are available almost year-round, including table grapes, apples, peaches, plums, nectarines, cherries, berries, kiwi, and avocados among others. The fruit sector provides fresh summer fruits to countries in the northern hemisphere during the winter and winter fruits during the summer. With its modern air and seaport facilities, fruit is exported fresh through a fast and efficient fruit transportation network. About 95 % of the fruit exported by Chile is shipped by sea in 10 to 12 days and is almost always sent to port within 24 hours of being picked. The remaining 5% of high value fresh fruits is shipped overnight by air.

2. The country's commitment to clean and modern agricultural practices contributes to high quality fresh fruit production that benefits from a long harvest season. 7 000 commercial fresh fruit producers and over 500 export firms supply 1 300 importers in more than 70 countries around the world. In 2004 the sector produced some 1.6 million tons of fresh fruits, valued at USD 1.8 billion. The main markets for Chile's fruit exports are United States-39%, Europe-31%, Latin America- 18% to Latin America and the remaining 12% to Asia and the Middle East.

3. According to Ronald Bown, long-time president of the 65 member Chilean Fresh Fruit Association (ASOEX) representing 90 percent of all fresh fruit exported out of Chile, 'the fruit export sector has grown significantly during the last decade and is expected to continue do so in part due to a worldwide marketing campaign'. It is also active in the promotion of food safety and good agricultural practices (GAP) in the sector. A GAP scheme was first introduced in Chile by the private sector through , ASOEX and endorsed shortly after by the public sector in order to assist producers comply with international regulations in food safety and quality control procedures. Meeting international standards is also a basic concern of Fruit Growers Federation of Chile (Fedefruta) representing both individual growers and over 23 producer associations.

4. This study examines the impact of private standards as required by supermarkets and importers on Chile's fruit export sector in terms of the challenges and opportunities The information in the report has been obtained from interviews of exporters, producers, government officials, industry leaders as well as GAP trainers. Although the sample size is relatively small, it was selected to cover a wide spectrum of fruit production and export systems used by the two main fruit sectors of the country, table grapes and apples. The survey has provided valuable insights on the experience and perceptions of producers and exporters that have successfully implemented these standards, particularly GAPs. This information may help design programs in other countries that are only now embarking on this path.

Good Agricultural Practice standards: GAP

Good Agricultural Practices, GAP, applies recommendations and available knowledge to addressing environmental, economic and social sustainability for on-farm production and post-production processes resulting in safe and healthy food and non-food agricultural products. The protocols of GAP recognized in Europe by the food retail distribution system are known as EurepGAP and similarly PROSAFE in U.S.A.

According to EurepGap, until June 2004 there were 458 growers and 34 210 hectares certified in their protocols in Chile. Information provided by the Executive Secretary of the Commission for GAP indicates that in September 2005, about 40% of the area devoted to fruit exports is already being certified in GAP, and another 20% are in the phase of implementation, including production and packing plants at the farm level.

Part I. The Chilean economy and the fruit sector

Macroeconomic and regulatory setting

5. Chile's economy has performed quite well since major economic reforms and structural adjustment programmes were introduced in the mid-70s and again in the second half of the 1980s. Economic growth during and after structural adjustment has been significant and without precedence in the country. According to CEPAL (2005), compared to other Latin American countries, the behaviour of GDP per capita in Chile was about average in the sixties, below average in the seventies and it outperformed the rest of Latin American economies in the eighties and the nineties. During the last decade, the economic performance has been moderate, with an average growth rate of 4 % (versus 2. 6 % for the LAC region as a whole), and compared to 5.6 % in the period 1984-2001. Investment as a percentage of GDP has also doubled since the pre-reform period, from 12.8 % in 1970-73 up to 25.4 % in 1990-20011 and 21.5 % in 2002-2004[2].

6. The economic reforms eliminated many of the indirect negative effects on agriculture of the previous model of import substitution[3]. The agricultural sector grew strongly during and after the reforms-often more rapidly than the rest of the economy. Agricultural value added increased significantly after 1974, doubling on average its growth rate compared to the pre-reform period and diversifying output towards new export crops. A significant improvement in yields of all crops with adoption of new technologies was also experienced. The area sown to traditional crops has greatly contracted, while orchard, vineyards and flower production has expanded.

7. With the elimination of economic distortions in the sector, fruit exports became a driving force behind the expansion of orchards. The private sector invested in orchards and vineyards, farm level irrigation systems, cold storage facilities, refrigerated trucks and the like, while the public sector invested in large-scale irrigation projects, roads, ports and airports, thus responding to the needs of the private sector.

1 See Portilla (2000).

2 See CEPAL (2005).

3 See Valdés, Hurtado and Muchnik (1990).

8. In 1982, Chile was one of the first countries in the world to liberalize its information infrastructure sector, with the privatization of telecommunications. This provided for a rapid advance in an area that could otherwise have become a bottleneck for Chile's economic expansion. It also freed up resources for other social priorities. And it also opened up new opportunities for foreign and local investors. As a result of strong competition, Chile had a well developed information-telecommunication sector infrastructure by the end of 2000. In terms of service rollout, quality, costs and efficiency – the ICT sector was the best in the Latin American region and above average among countries of comparable income levels, though lower than in OECD countries. Mobile phone growth surged over the recent period and has been particularly impressive, especially when compared to fixed network service[4]. Since launching the Build-Operate-Transfer (BOT) concessions programme in the mid-1990's, the private sector has participated actively in the development of public infrastructure. These public-private partnerships have increased in scope and depth over time.

9. Chile’s transport net work is a mix of private and state run facilities. With respect to sea transport, ports are governed under a mixed system that includes state-run facilities (10), privately-owned ports (11), and private concessions within state ports (15). These handle 65 % of Chile's imports and 96% of its exports. In 2004, the cargo handled by Chilean ports was the third largest in Latin America after Mexico and Brazil and, at 89 million tons, represented only about 32% of their total capacity. Through eight separate concession contracts, all of which were in operation by March 2005, over 1,500 km. of the Pan-American Highway,-the backbone of Chile's road system, has been upgraded to high international standards. This represented a total investment of more than USD 3.7 billion[5].

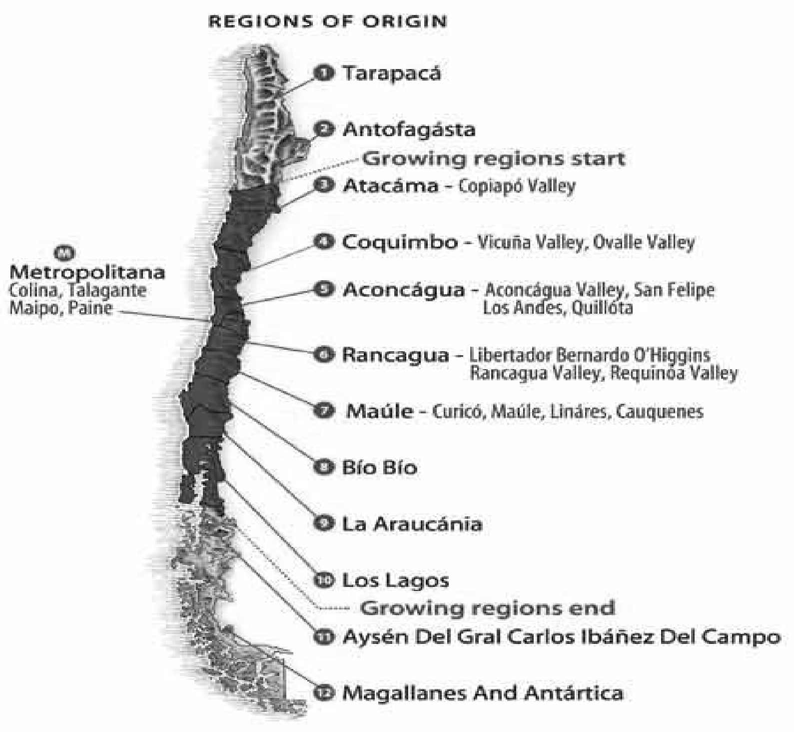
10. The literacy rate in Chile is high: Almost 96% of the population 10 years of age or older can read and write. It is relatively higher in urban than in rural areas, but rural areas have been improving—form 86% in 1992 to 89% in 2002. In particular literacy and educational levels among the rural female population has increased. In general for those less than 30 years of age literacy rates are higher for the entire rural population though significantly lower than for the urban population. There are no significant differences in the level of schooling by gender now. Rising educational levels have contributed to increasing the productivity of the rural workers and should help to integrate small farmers into the agricultural export chains.

The fruit sector

11. Prior to 1974, Chile's primary agricultural exports were traditional crops, of beans, lentils, and wool. But even these were of minor importance and Chile was a large net importer of food. Most earnings came from mining. Beginning in the late 1960s and early 1970s, Chilean farmers began to plant apple orchards and table grape vineyards in the Central Valley (Regions 5, 6 and Metropolitan area in the map below), convinced of the comparative advantages of the region. Technical support for the efforts also came from the development agency, CORFO, and Chilean agronomists returning from postgraduate exchange between University of Chile and University of California. Since economic liberalisation around 1975, Chile began exporting large quantities of these two non-traditional crops. However to avoid specialisation in only apples and table grapes, Chilean producers quickly diversified into other regions and fruits, moving mainly into the production of pears, peaches, nectarines, and other stone fruit, as well as kiwis, berries, avocados, asparagus and mandarins. The map below indicates the extension of fruit growing regions.

4 “*Chile: New Economy Study”,* World Bank, February 2004.

5 Chile Foreign Investment Committee.



12. Chile's emergence as a supplier of fresh fruit to the world market has been extraordinary. In 1974, Chile's fruit exports were a modest 57 000 tons, by 1986 they had grown to 674 000 tons. Over the same period, fresh fruits went from 17% of the total value of Chile's agricultural exports to 45%. The area under fruit cultivation has grown accordingly since 1974 –from 65 670 hectares (ha) to 1986 with 130000 ha and 171,000ha in 1990. Expansion has continued and reached 222 000 ha in 2004. The volume of fruit exports likewise increased and was about 2 157 000 tons in 2004 (Tables, 1 and 2).

Table 1. Chile: fruit plantations by year and species

Chile: fruit plantations by year and specie (Number of hectares)

	1990	1996	1997 1_/	1998 2_/	1999 2_/	2000 2_/	2001 2_/	2002 2_/	2003 2_/	2004 2_/
Almendros	3.750	4.930	5.860	5.742	5.800	5.850	5.900	5.990	6.100	6.200
Cerezos	2.970	3.990	4.902	4.509	5.288	5.832	6.020	6.550	6.990	7.200
Ciruelos total	8.566	11.747	12.398	13.039	13.055	13.070	13.115	13.530	14.115	14.460
Ciruelo japonés	5.403	6.125	5.605	6.799	6.880	7.058	7.200	7.600	8.150	8.485
Ciruelo europeo	3.164	5.622	6.793	6.240	6.175	6.012	5.915	5.930	5.965	5.975
Damascos	1.990	2.130	2.333	2.285	2.406	2.455	2.330	2.350	2.355	2.400
Duraznos total	10.150	11.335	11.828	11.682	11.470	11.385	12.630	12.850	13.015	13.168
Durazno consumo fresco	4.992	5.546	-	5.716	5.786	5.802	5.830	5.850	5.865	5.885
Durazno conservero	5.158	5.789	-	5.966	5.684	5.583	6.800	7.000	7.150	7.283
Kiwis	12.260	8.310	7.710	7.882	7.865	7.775	7.500	7.200	6.600	6.640
Limoneros	6.025	6.780	7.663	7.335	7.414	7.543	7.000	6.800	6.900	7.000
Manzanos	23.260	34.800	39.902	38.361	37.400	35.790	34.715	34.865	35.410	36.095
Manzano rojo	14.710	26.380	29.636	30.252	29.700	28.975	28.000	28.215	28.800	29.455
Manzano verde	8.550	8.420	10.265	8.109	7.700	6.815	6.715	6.650	6.610	6.640
Naranjos	6.100	6.494	7.294	7.033	7.237	7.571	7.450	7.550	7.666	7.800
Nectarinos	6.600	6.925	6.120	6.485	6.533	6.624	6.698	6.744	6.800	6.900
Nogal	6.955	6.880	7.575	7.412	7.565	7.808	8.300	8.650	8.900	9.230
Olivos	3.025	3.735	4.507	4.158	4.481	5.051	5.306	5.624	5.850	6.000
Paltos	8.190	15.050	17.047	18.463	20.181	21.208	22.290	23.260	23.800	24.000
Perales (europeo y asiático)	15.425	12.436	11.882	11.225	10.675	10.360	10.000	9.480	8.470	7.920
Vid de mesa	48.460	45.880	43.854	43.975	44.433	44.890	46.900	47.600	48.200	48.500
SUBTOTAL	163.726	181.422	190.875	189.586	191.803	193.212	196.154	199.043	201.171	203.513
Otros	7.950	14.823	20.042	14.417	14.980	15.629	16.284	16.400	16.571	18.402
TOTAL	171.676	196.245	210.917	204.003	206.783	208.841	212.438	215.443	217.742	221.915

FUENTE : CIREN-CORFO e INE

Nota : 1_/ Año 1997 cifras del VI censo nacional agropecuario. 2_/ Estimación ODEPA, sujetas a revisión

13. Of all fruits produced in Chile, table grapes account for the most land area. Most table grapes are destined for the United States, for which Chile is the largest supplier. Another major export crop, apples, are sold mainly to Europe.

Table 2. Chile: Evolution of Fresh Fruit Exports:

CHILE: EVOLUTION OF FRESH FRUIT EXPORTS 1980-2004		
	Million US $ FOB	**Thousand Metric Tons**
1980	168	261,0
1985	356	533,0
1990	716	1.034,6
1995	1.162	1.310,1
2000	1.386	1.506,4
2001	1.325	1.619,5
2002	1.505	1.773,5
2003	1.650	1.912,2
2004	1.911	2.157,0

Source: Central Bank of Chile

14. Chile is the world's largest exporter of grapes and the second largest exporter of kiwis and avocados. The country's primary Southern Hemisphere competitors are South Africa, Australia, New Zealand, and Argentina, which Chile has surpassed in terms of capturing shares of the European Community (EC) winter market. In the Southern Hemisphere, Chile is the largest exporter of grapes, apples, plums, peaches, nectarines pears, berries and avocados, and second in kiwis. Export earnings from fresh fruit exports however are still very concentrated in 2 species, table grapes and apples, as may be observed in Table 3. The opening of the Far East markets in the recent years, mainly those of Japan, Korea, and China, means that there is a possibility of a continued fruit export expansion into the future. And it could even be the case that future growth of the sector will be restricted more by supply-side considerations than from demand-side factors.[6]

6 The expansion of fruit plantations will require increasing investments in irrigation and in environmental-control infrastructure for fruit processing-plants, higher labor costs and probably higher investments in ports and highways in the south of the country.

Table 3. Chile fresh fruit exports by specie. Year 2003-2004

CHILE: FRESH FRUIT EXPORTS BY SPECIES 2003-2004				
SPECIE	Volume (Thousand Metric Tons)		Value (Million US$ FOB)	
	2003	2004	2003	2004
Grapes	730,0	693,1	645,6	796,3
Apples	585,0	739,0	275,1	392,0
Pears	122,5	115,8	63,0	71,5
Kiwis	107,0	132,6	86,7	103,3
Plums	80,8	103,2	68,9	81,2
Nectarines	58,5	58,5	44,5	48,8
Peaches	44,4	55,8	32,9	40,8
Cherries	11,0	11,3	37,5	33,3
Avocados	80,0	113,6	97,4	115,2
Raspberries	4,5	4,4	23,2	24,2
Blueberries	6,4	10,1	18,1	76,0
Lemons	30,0	35,1	31,1	20,9
Other fruit species	52,1	84,5	80,6	107,5
Total	1.912,2	**2.157,0**	**1.649,5**	**1.911,0**

Source: Central Bank of Chile

Table 4. Chile fresh fruit exports by specie and region of destination. Year 2003-2004

CHILE EXPORTS OF FRESH FRUIT BY EXPORT MARKET REGION VOLUMES (METRIS TONS) AGRICULTURAL YEAR 2003/2004 *						
	North America	America Latina	Europe	Far East	Middle East	Total
APPLES	122.924	226.166	266.525	37.676	77.736	**731.029**
GRAPES	414.327	60.250	158.048	64.767	6.474	**703.865**
KIWIS	19.507	10.659	89.164	8.642	2.084	**130.055**
PEARS	16.368	29.547	65.887	1.398	3.906	**117.105**
PLUMS	35.974	17.305	37.814	13.188	1.402	**105.684**
AVOCADOS	86.218	384	5.778	211	0	**92.592**
NECTARINES	35.933	7.593	9.474	3.644	95	**56.739**
PEACHES	34.989	15.553	2.131	175	0	**52.849**
LEMONS	18.753	2	222	14.646	800	**34.424**
CLEMENTINES	4.628	741	10.845	889	607	**17.711**
ORANGES	1.002	759	3.563	9.392	20	**14.736**
CHERRIES	4.414	1.065	1.961	2.194	8	**9.642**
BLUEBERRIES	8.322	11	779	356	0	**9.468**
RASPBERRIES	4.208	11	5.043	36	0	**4.376**
OHER FRUITS	10.835	7.251	7.641	1.352	78	**27.156**
Total 03/04	**818.403**	**377.296**	**659.954**	**158.566**	**93.212**	**2.107.430**

* November 2003- July 2004 Source: ASOEX

15. Chile's liberal market orientation is seen in the number of fruit producers working directly with export firms rather than asking for government assistance in production and marketing. Growers are free to choose the export firm whom they wish to work with. Since one-year contracts are the norm, it is possible for growers to readily switch firms. Export firms often provide technical assistance and financing to producers. Their staff usually include university-trained personnel to visit growers regularly to assist in solving production problems.. Exporting companies can negotiate lines of credit with banks and, in turn, extend credit to growers, whose terms and availability can influence a growers' choice of export firm.

Economic Importance of Chile's Fruit Sector

16. Table 5 provides information on the evolution of the Chilean Balance of Payments, total exports, fresh fruit exports and imports over the period 1996-2004. During the recent period, fruit exports have represented about 7 to 8% of total exports. Last year with high copper prices this share fell dramatically. The relative importance of fruits in Chile's Balance of Payments is greater than that shown in the table because exports of processed fruits are in the manufactures category not agriculture.

17. Producer income from the fruit sector, estimated on the basis of the Input-Output Matrix of National Accounts at 1996 prices in 1196 was about USD 622.527 million. Considering the 58 % increase in fruit exports and thus a similar proportion increase in fruit production between 1996 and today, gross income derived from fruit production is estimated to be about USD 2.400 million.

Table 5: CHILE: BALANCE OF PAYMENTS (Values in Millions U.S. Dollars)

CHILE: BALANCE OF PAYMENTS (Values in Millions U.S. Dollars)					
YEAR	EXPORTS	AGRICULTURAL AND FORESTRY EXPORTS	FRUIT EXPORTS	IMPORTS	BALANCE OF PAYMENTS
1996	16626,8	1594,1	1266,1	-17698,9	1122
1997	17870,2	1629,7	1284,1	-19297,8	3319,7
1998	16322,8	1708,8	1391,3	-18363,2	-2194,1
1999	17162,3	1719,6	1392,8	-14735,0	-737,4
2000	19210,1	1692,9	1368,2	-17091,4	336,8
2001	18271,8	1727,2	1433,4	-16428,3	-596,1
2002	18179,8	1794,3	1521,9	-15794,2	198,6
2003	21523,6	2090,4	1790,4	-18001,7	-365,6
2004	32024,9	2354,5	2025,3	-23005,7	-190,8

Source: Central Bank of Chile.

18. In Chile, most fruit for export is produced on medium-size commercial farms, while relatively little is produced either on large-scale plantations or on small farms. Data provided by CIREN, the institute which is responsible for the fruit plantation surveys in Chile, indicates that there are about 15 thousand fruit orchards which one could very cautiously relate to the number of fruit farms, but several may be

owned by one entity or farmer.[7] According to a high ranking official at INDAP[8], there are about 3 000 small fruit peasant farmers involved in the fruit export chain around the country, most of them growing berries (about 2 thousand), avocados (about 500 thousand) and the rest in nuts and other fruits. About 1 900 are at present included in a very ambitious program of INDAP to introduce and promote GAP among the small fruit farm farmers. This program is described in Part III, section F of the paper. According to the INDAP source there are about 40 small farmers that have already been certified GAP either for the US market or EurepGap for EU market. It is unknown, how many of those that are being trained will be finally certified. But, it is hoped that at least some 500 small fruit farms will be able to comply with these standards over the next 3 years. If we add some 1 000 producers that are members of FEDEFRUTA plus others which have not joined any of the Associations, it is possible that the total number of fruit producers in the fruit export chain are close to 4 000-5 000 producers.

Employment in the Fruit sector

19. According to Lund and Nicholson (2003), the employment provided by the fruit sector is close to 337 thousand persons, of which 85% are temporary or seasonal workers. The employment relations in the sector vary and include: Permanent work (a small core usually with contracts;

- Regular temporary or seasonal work (with or without contracts);
- Casual and irregular work for short periods of the season or on a daily basis (with or without contracts);
- Contract labour employed by a third party labour contractor (often without contracts);
- Migrant labour employed directly or through a contractor (often without contracts)
- Small holder production, often involving family labour (paid or unpaid).

20. Seasonal workers represent the largest share of total hired labour in the fruit sector of which more than 50 % are female. According to expert opinion, most male seasonal workers will continue to earn an income during the rest of the year from other sources, such as petty trade, construction work, work in open air markets, marketing some produce from their own small parcels and so on. But more than 30% of them will rotate in the country side, working in winter farm activities on commercial farms. Most female workers return to household non-remunerated activities. Labour legislation applicable to seasonal workers means 80% are covered by this legislation and GAP has been part of the factors behind this result. Wages paid to seasonal workers do not differ much from those paid to permanent workers because of labour scarcity during harvest times, but both are generally lower than wages paid in urban areas to other non-skilled labour.

21. Forms of wage payments within the sector are varied and can change according to the individual employer, tasks performed, employment duration, productivity of specific groups and individual workers. This means that the worker could receive different forms and levels s of payment as the season progresses. These payments can be based on:

7 This calculation integrated fruit plantation units under the same RUT in the region, but several huertos in different regions may belong to the same owner, as is the case with the farms belonging to the export companies.

8 Telephone communication with Mr. Marcos Montagna from INDAP. October 14, 2005

- fixed weekly wage rates;
- fixed daily wage rates for days worked;
- minimum fixed wage, plus bonuses according to overall productivity of team or enterprise;
- minimum fixed wage, plus piece rate according to productivity of individual;
- piece rates only, based on productivity of work team or individual worker.

22. At the production end of the value chain, employment is concentrated in growing and packing. Here, there is diversity and flexibility, with a relatively low level of formal employment and a high level of informal employment. Once the produce leaves the pack house, it enters the 'cool chain' distribution funnel, which is highly capital-intensive. The retail end of the chain is again much more labour intensive.

23. Research by Barrientos *et.al.* (1999) provides an overview of women's participation in the fruit labour force in the context of rural transformation, new 'flexible' employment patterns and Chile's integration into the global division of labour. The impact of this employment on the women themselves is analysed, as well as how 'traditional' gender relations in the household and community have been transformed and adapted through the extension of 'modern' agribusiness. The attitudes and policies of the state towards seasonal female wage labour are examined, exploring how these women are integrated through agribusiness into a global market, considering the significance of this for codes of conduct implemented by UK supermarkets. The key findings include:

- On one hand, this casual work can provide women with new opportunities for empowerment[9]. On the other, this potential is constrained by poor working conditions and low wages

- Although research in this area has been limited, parallels can be drawn between the experiences of women seasonal workers in Chile and women employed in many other countries locked into the global fresh produce supply chain (such as Mexico, Argentina, Brazil, Columbia, South Africa, Kenya, Zimbabwe, and India).

24. It must be borne in mind that this analysis was previous to the on-going implementation of GAP in the fruit-export chain of Chile. The application of GAP has definitely meant better working conditions for women and men alike, as employers have introduced bathrooms, dining rooms, good health and sanitary conditions, and those workers that are brought from other regions or areas are provided with adequate housing facilities. No workers under 18 years of age are employed in this sector.

Part II. Institutional setting: Private and Public roles

A. Private Associations and initiatives

25. Fundacion Chile (FCH) is a private non-profit institution whose objective is to of introducing and disseminating innovation in the natural resources sectors: agriculture, fisheries and forestry.[10] Since the early 1980's Chile has been anticipating the needs of the emerging fruit export sector. It thus has been

[9] In fact, several studies have indicated that this is an employment opportunity for women regularly involved in housekeeping that can work as temporary labour during the summer vacation of their children in the fruit harvest and packing activities. This contingent of women also includes some women from close-by urban areas.

[10] Today, the mission of the institution has widened as may be inferred from the website www.fundacionchile.cl

active in developing a very successful fruit quality control services unit, investing in modern laboratory facilities to provide routine analytical and other lab services as well as offering regular quality management training courses. It created a seal of "pesticide not-detected", which was used to identify compliance with these requirements. Inspection is performed in packing plants, on-farm sites, and in maritime ports and airports, in response to demands from importers. Fundacion Chile has also been organizing highly-reputed international seminars, which bring top experts in fruit production, marketing and analysis of international markets to Chile. Through such activities la Fundacion Chile gained a reputation as an innovative and highly reputable institution in the field both within and outside Chile. Certificates based on its inspections were recognized by exporters' clients, though the institution had no formal accreditation as a certification agency. Such a situation would make la Fundacion liable if accused of performing bad inspections or if a safety problem arose. In 1983-84, Fundacion was inspecting one fourth of all fruit exports and was able to rapidly increase its services in parallel to the growth in fruit exports.

26. Fruit exporters soon realized that with quality certification they could obtain better prices for the fruit and would also be able to sign up for export insurance. Later other private laboratories and certification companies, mainly international ones entered the market for such inspection and certification services. When ASOEX introduced GAP into Chile 2000, it signed an agreement with Fundacion Chile (as did Fedefruta), to conduct joint training activities in GAP, EurepGAP, and other production management tools. Fundacion Chile decided not to continue in the certification business, opting to provide training and consulting services, and thus foreign certification firms became more important players in this area[11].

27. In September of 2000, ASOEX announced that it would implement a GAP programme to provide necessary trust in the safety and quality in order to meet new foreign demands. This was a marketing strategy of the private sector and even though it was strongly supported by the government, it was not mandatory[12]. ASOEX then created the FDF, to handle matters such as research and technology transfer. FDF then obtained financial support from the Ministry of Agriculture to adapt GAP to Chile. In early 2001 ASOEX decided that within several years all Chilean fruit exports sold by its members (which control over 85 % of total fruit exports) would have to be certified for GAP. As a result, Fundacion Chile (FCH) took the decision to bring U.S. experts in GAP to train its own staff and other professionals, particularly those working in fruit export firms. Since then it has offered regular courses on GAP, mostly in cooperation with FDF or Fedefruta, including training to the staff of SAG, INDAP and to the private sector. In 2001, it also organized the first internet based interactive course on GAP, that was subscribed to from all parts of the country and even from Peru. In 2002, with the increased demand for EurepGAP certification, FCH sent some of its GAP trainers to be trained abroad on EurepGAP standards. At present 3 out of the 6 presently recognized Chilean trainers in EurepGAP are staff of Fundacion Chile. It also offers consulting services and training in GAP, BRC, PROSAFE, HACCP, Good Livestock Practices, Good Manufacturing Practices, ISOs and other training and consulting services dealing with food safety and food quality for all segments of the food chain. Over the past few months CORFO has begun accrediting auditors for GAPs, HACCP and ISOs in order to eliminate the proliferation of low-quality consulting or training companies.

28. The training services offered by FCH and other private firms are charged to the clients at market prices, but there is a subsidy available from SENCE for the employers to cover part of the training cost of their employees. The agricultural sector makes the least use of the benefits provided by SENCE. The FDF and Fedefruta have signed agreements with certification companies such as LATU Sistemas. Since a number of certification companies are accredited to certify to EurepGap, these are entering the Chilean market, such as CMI Agrivera Latinoamericana S.A. and BSI Chile as others such as SGS. This

11 GAP here refers to the USDA's recommended good agricultural practices protocol. EurepGap is the protocol specified by Eurep (Euro-retailer fresh produce working group) for good agricultural practices.

12 I t was mandatory for a few products and under specific conditions.

competition has lowered certification costs. On the other hand, CMI Chile seems to be the only company in Chile for certification in PROSAFE, the private standard for the US.

B. ChileGAP®

29. In 2004, only 2 years after ASOEX and Fedefruta signed an Agreement to initiate a National Program of GAP for the horticultural sector, which was adhered to by the Ministries of Agriculture and Economy, PROCHILE and CORFO, FDF developed a Chilean certification program, ChileGAP®. The objective was to harmonize those GAP requirements which are most requested in Europe and in US. This was done to simplify the adoption of private standards and allow farms to have market access to the main markets at a minimum cost. FDF is the technical secretariat of ChileGAP®, and it supervises the application and updating of the requirements, coordinates training by certification agencies and coordinates among them, resolving uncertainties and technical questions tied to the standard. It also represents the private sector in technical consultations with the standards owners, manages a web page and data bases, etc. (see: www.chilegap.com). Last year ChileGAP was benchmarked by EurepGAP and more recently by Davis Fresh Technologies, an independent company that is recognized by the PROSAFE standard used in the United States. Being benchmarked by EurepGAP was a very demanding process, requiring a very high level of scientific and technical knowledge as well as work with a number of international specialists for 7 months. Since the possibility of benchmarking was made available by EurepGAP in 2001, very few standards worldwide met the requirements. [13] ChileGAP is now accrediting certification companies such as LATU, BSI and CMI to audit for its standard. ChileGAP can now replace EurepGAP as it has been benchmarked by the latter, but it is too soon yet to judge to what degree producers will want to be ChileGAP certified or continue with EurepGAP. On the other hand, if a farm is certified for EurepGAP it is not automatically certified for ChileGAP because the latter include additional protocols.

C. Private Voluntary Standards and Role of the Public Sector and Private-Public Sector Initiatives

30. Several years before importers/buyers had started requesting a GAP, the more innovative farmers had introduced several management tools and processes. One export company interviewed, DDC, had previously implemented ISO 9000 and HACCP in the fruit packing, others had already started to implement field operation records and introduce better working conditions and environmental protection measures.. When buyers in OECD countries started to recommend the adoption of GAP suggesting that these were to become a must in the future, many producers and exporters were already well along the way to meeting such standards. After September 11 of 2001, the USA began to require protocols on food safety and anti-terrorism controls. TESCO UK has been in forefront of demands for standards on labour standards and food safety. The GAP commercial requirement forced a systematic application of these new management tools, changes in the habits and hygiene standards of farm workers, environmental care and forced producers into investing in infrastructure, such as bathrooms, dining rooms for workers, storage places for pesticides, dressing rooms, drinking water and so on.

31. The Government of Chile plays a relatively small but direct role in supporting the fruit sector in its compliance with foreign standards. Required reports and documentation are kept relatively simple and accessible to exporters. The Chilean Government examines foreign regulations regarding fertilizers, pesticides, post-harvest treatments, and labeling standards, then disseminates the information to exporting companies and growers. Chemical residue and labeling standards that will meet the regulations of importing countries were being recommended. By helping growers and exporters conform to international regulations, the government facilitates fruit exports even if it has no role in certifying compliance with these requirements

[13] ASOEX (Sept./Oct.2004).

32. The role of the public sector in terms of the overall development of the fruit sector has been to accompany the commercial private sector in its efforts. Nonetheless most of the effort comes from the private sector itself. The government is engaged in supporting the development of norms and regulations when necessary, and helping small family farms share the benefits of export growth.

33. The institutional framework to support the adoption of GAP in Chile is based today on four main pillars:

- Accompanying the commercial private sector in two ways : The Agreement on Clean Production which includes not only the fruit sector, but also livestock, wines, agro industry, and other sectors, and establishment of National Commission on GAP which is private-public instance to promote clean and high quality agriculture, presided by the Under-Secretary of Agriculture to advise the Minister of Agriculture and to maintain dialogue between both on this important matter ;

- Generate norms to regulate and certify food safety through SAG with a National Sanitary Policy and Certification and Traceability Policy. Since 2004 it has been used for Apiculture, Berries, Avocados, Grapes and Flowers. In general; SAG has been an important as exports must meet SAG requirements and inspection for food safety.

- Enhancing the integration of small peasant family farms to export-chains, berries and avocados in the case of the fruit sector, with the implementation of a National Program on GAP, Training Seminars, Technical Tours, Support of a National Network in Fruit. Financing Investments, Technical Assistance and Loans through INDAP; and

- Accreditation of private research laboratories for the analysis of pesticides and contaminants by INN, the Institute for Normalization and Accreditation, and beginning last year accreditation by CORFO to consultants on GAP, HACCP and ISO protocols, with written examinations as part of the procedure.

34. The government has been promoting and implementing a policy for enhancing clean production since 1997 to meet the challenges faced by firms to manage the environmental consequences of production on health and worker safety. A Clean Production became a legal requirement for the period 2001-2005. The Economics Ministry also instituted the National Council of Clean Production in January 2001, whose aim is to articulate and promote clean production using an array incentives and clean production agreements. This also serves as an advisory body to the Ministry consisting of 10 representatives from government agencies and the private sector, both entrepreneurs and workers and presided by the Minister of Economy CORFO has been a significant player in this strategy. Incentives are provided to all economic sectors that have voluntarily signed an Agreement on Clean Production, in a spirit of dialogue and public-private cooperation.

35. Agriculture is treated by this council as any other industry. An Agreement was signed by the fruit and vegetables sector, with 20 of the largest exporters and producers of fruit signed on, along with the presidents of ASOEX, FEDEFRUTA, the Minister of Economy, the Minister of Health, and the Directors of CONAMA and ProChile. The document resulting from the Agreement indicates that the Ministry of Agriculture homologated Clean and Quality Agriculture to GAP. Firms agree to adopt GAP because it makes possible for the sector to fulfil the rising demands of the main foreign markets to ensure safe, high quality fruit produced under conditions protecting the environment, and worker health and safety. GAP is not however not a legally binding requirement, except in the case of raspberry and honey production in the fruit sector. The Agreement seeks to promote clean production in the fruit and vegetable export sector through the implementation of GAP (Good Agricultural Practices) in the selection, storage, use,

management and application of pesticides, hygiene and food quality, worker welfare and protection of the environment. It also provides for implementation and follow-up audits. . This type of agreement is important for the government, because it allows a better or more focused design of legislation regarding agricultural production that is shaped in accordance with the standards of GAP. It also should benefit: consumers, in terms of food safety and particularly with respect to pesticide residues; exporters, by facilitating access to the main export markets such as USA and Europe, where norms and regulations have been progressively established for the application of GAP along the entire chain of horticultural production; and workers involved directly or indirectly in the production because it promotes the application of practices that ensure the necessary health and safety protection. This is a case where government has in general moved after industry.

36. The Agreement can be signed by all producers and export firms in this sector, which are interested in participating on a voluntary basis in this initiative. Those which sign must comply with all the requirements and goals which are set in the document and according to the established time schedule. The implementation of the agreed upon measures is to be financed by the firms themselves. The government through CORFO supports compliance with the goals of the Agreement by use of different promotional instruments and loans which the CORFO channels through the banking system. It has already done this other Agreements on clean production previously held by other sectors. Subscription of this agreement was done on the web and the deadline was November 30, 2002. The main instruments available for co-financing from CORFO are 3: i) PROFO(Promotion Programs), here CORFO finances up to 70 % of a predetermined amount for activities of a group of firms that collectively wish to improve operational aspects of their processing plants, to comply with HACCP certification, and to develop a traceability system using with IT t ii) PDP, Programs for Supplier Development, a subgroup of suppliers of export companies receive technical diagnostic and assistance, for example, to incorporate logistics technology for receiving the fruit, improving the handling and materials used in packaging, and to achieve HACCP and good manufacturing processes(GMP) certification for the packing plants; iii) FAT, Funding of Technical Assistance, here Corfo co-finances up to 60 % of a predetermined amount specialized consulting services for implementation of GMP. These 3 instruments are used across the board for all sectors of economic activities. Nonetheless it is not a simple to comply with all the requirements.

37. The National Commission on GAP, led by the Under-Secretary of Agriculture, became a formal entity in the year 2001. Shortly afterwards the National Plan for GAP was launched as a mechanism to coordinate information and articulate specific activities between the private and public sectors, such as exchange of views on institutional issues, engage in management and coordination of the diffusion of GAP, or development of voluntary technical norms in GAP. The Commission includes different agencies of the Ministry of Agriculture and associations of producers such as ASOEX, FEDEFRUTA, CAMPOCOOP, MUCECH (Association of Small Farmers), FEDELECHE (Federation of Dairy Farmers), FEDECARNE (Federation of Beef Producers), APA-ASPROCER (Association of Poultry and Pig Producers), SNA (The National Association of Farmers), etc Representatives of other government agencies and Ministries are permanent invited participants from ProChile, CORFO, SERNAM and the Ministry of Health.

38. INDAP is involved in GAP training and in assisting internal GAP audits for small fruit producers for specific products such as grapes and avocados. An external consulting firm has also been hired by INDAP to audit each of the participating farms and provide written reports as feedback information. This information should include a work plan for certification and the identification advisory services and infrastructure needs. A special program has been put in place by INDAP, the PDI, Program for Developing Investments, which will provide incentives to help farmers finance the investments needed to comply with GAP. Norms have been introduced in the country by SAG on minimum standards for GAP for farms involved in the production of raspberries for the export market and for Good Manufacturing Practices for small storage and processing plants.

D. Institutional framework surrounding the fruit export chain

39. In 1995, PROCHILE together with the Ministry of Agriculture created a Fund for the Promotion of Agricultural Exports. It was funded by the Ministry and managed by a public-private council, including ASOEX and Fedefruta members. The horticultural sector has been thus far the main beneficiary of this special Fund, which promotes agricultural exports and supports the process of internationalisation of firms in the sector by co-financing programs for export promotion. It includes three main strategic branches: international market development, firm export capability building and conformity with foreign market requirements and firm strategy support in order to consolidate their insertion into the international market.

E. The fruit supply chain and the vision of fruit producers

40. To understand the impact of GAP on fruit producers and exporters, it is important to consider the structure and operation of the fruit supply chain. Although there are no official statistics on the number of fruit farms, their size distribution, type of ownership or contract systems, some information can be gleaned from secondary sources.[14]

41. A fairly recent survey of fruit producers involved in the export supply chain, conducted by the Faculty of Agriculture of the Catholic University of Chile attempts to understand the challenges and opportunities in the fruit export sector (Dominguez et. al., 2003). This survey makes clear that further training and information on private standards is considered by producers and exporters of utmost importance for the continuation of a successful growth in fruit exports.

42. The survey covered 425 fruit producers and 80 senior executives of fruit export firms in Chile plus 22 additional leaders of farmer associations, public sector representatives and academicians. The objective was to identify what were the shared visions on markets evolution, research and development, technology use, training and the role of the public institutions and farmer associations and the relationship between producers and export firms.

43. A representative number of farms were surveyed in each region and a selection of fruit export firms was chosen at random from the ASOEX directory and proportional to the relative numbers in each region. Those surveyed were owners, administrators and/or agricultural managers of the firms.

44. About 56% of the surveyed farms were smaller than 50 hectares and 23% represented farms with more than 100 hectares each. With respect to the fruit species, 31% produced only one species, 24% were involved in the production of two different fruits and the remaining 45% produced three or more species. Grapes and apples were the 2 main species produced, with 236 and 172 farms respectively producing them, followed by plums, peaches and pears.

45. The following is a synthesis of the main findings of this survey in those aspects which impinge directly or indirectly on the impact and role of private standards:

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14 There is good information on area in fruit plantations by region, species, varieties and age of the trees, but the data is organized around "orchards" and not in terms of farms or farm owners. It is very common that one farm will be made of several orchards, often not neighbouring properties, and many orchards belong to export companies. The main reason for this land ownership structure is that due to the subdivision of land property as a result of land reform which took place in the late 60s and early 70s, land consolidation is not easy.

1. Participation of producers in Farmer Associations: 33 % of the sampled farmers belong to a farmer union, typically FEDEFRUTA and SNA, and 17 % participate in export firm associations, typically ASOEX.
2. Marketing Channels: 85 % of the producers market all or part of their fruit for export with contracts with export firms, and only 15 % export by themselves. Within the latter group, 79 % have created their own export firm or with family members, and the other 21 % export in a group with other producers. The main reason given to export by themselves is the wish to personally undertake this task and because it gives them more confidence. It should be mentioned that 4 % of the total sample (that is 25 % of those who export by themselves) are in fact farms that belong to export companies.
3. Relationship between producers and export firms: the vast majority of fruit producers export indirectly via the export companies. During 2001-2002, 63 % of this group sold their fruit to only one export firm, 22 % had contracts with 2 export firms and about 6 % sold the fruit to more than 3 export firms.
   The majority rated as good or very good their relationships with the export companies during the previous year, the most often mentioned reasons being (qualitative open ended question) a good personal or professional relationship, having obtained good prices or having received good technical assistance. When faced with a structured list of choices, 81 % indicated that the good relationship was due to compliance with the contract signed, trust in the export firm (75%) and expedient payment (64%). As to the future, 87 % indicated that they would continue working with the same export firm, and almost two thirds indicated that they have been working with the same export firm for more than 4 years.
4. Contracts between producers and exporters : 96 % of producers have formal contracts with the export firms, most are annual contracts and in general express satisfaction with the contract
5. Knowledge and position with respect to contract legislation: the majority of producers do not agree with a law proposal that may regulate the relationship between producers and exporters. If anything regardless of whether a law is introduced or not, producers would like to see more transparency on sales prices in export markets, more transparency in general on the marketing process, in the system used to establish the price paid to producers and the time taken to pay the producers.

46. As to the vision of producers and exporters on the needs in terms of export promotion and market access, R & D, training, and economic information and prices:

1. support of the public sector to the fruit sector : only 26% of producers are satisfied with the support given by the public sector, 37% feel that it has been acceptable and 25% are unhappy. Among exporters, 40% indicate satisfaction with government support, and 43% say it has been acceptable.
2. vision on institutions linked with training: almost half of the farmers were not aware that there public institutions provide training, and although to a lesser degree, many exporters also did not know which institutions offer training for fruit producers. The subsidy available for training from the public sector (SENCE), was known by many producers and exporters but its use is not widespread. Half of them say that there is inadequate supply of training opportunities, it is not very relevant, it is not accessible and it is low quality. It was worth noting that there is lack of interest in training opportunities among medium-sized firms. The topic that was mentioned most frequently as requiring more training courses was that of GAP, followed by technical aspects of production and management. Exporters expressed similar preferences for additional training opportunities.

Part III. Results of Interviews: OECD questionnaires for producers and exporters

47. In the following section we summarize the main results of the interviews of producers and exporters undertaken in the summer of 2005 following questionnaire guidelines of the OECD with the objective to understand the effects of private voluntary standards on exports. The following table describes producer and export firms interviewed by size.. Only one of the firms interviewed is a producer that has integrated own production and export operations which it complements with purchases from third parties. Another export firm AE , with two of the medium sized producers.[15]

Table 6. CHILE: Sample Interviewed

Producer	Size	Export Firm	Ownership	Fruit Specie
AP	Medium	AE	Domestic	Apples
BP	Large	BE-integrated	Multinational	Apples
CP	Medium	AE	Domestic	Cherries
DP	Medium	DE	Domestic	Cherries
EP	Medium	EE	Multinational	Grapes
FP	Large	FE	Domestic	Grapes, stone fruit
GP	Medium	GE	Domestic	Grapes

A. Description of Producers and Exporters

48. Table 7 summarizes basic information on the fruit producers interviewed. Producer 2 is both a farm and a direct exporter of cherries, so that the number of permanent workers includes those involved in the fruit packing as well as farm workers.

Table 7 CHILE: Description of Producers in the Survey

Producer	1	2	3	4	5	6	7
Region	6	6	7	7	5	R.M.	R.M.
Total hectares in fruit plantations	250	450	43	90	85	58	220
Has expanded in last 3 years	yes	yes	no	yes	yes	no	yes
How many years in fruit production	20	15	23	25	14	50	25
Nº of permanent workers	15	250	16	25	14	50	25
Nº of seasonal workers	250	600	57	60	140	250	250
% female workers	40	30	20	5	60	80	40
Annual volume of fruit exported (tons)	3200	3280	800	960	1230	1230	1000
% production not exported	20	25	40	5	35	10	na

Source: this study

15 On the other hand, most of the large export firms have integrated vertically and today own in some cases a significant number of fruit plantations.

49. Among the export firms interviewed were the following, Copefruit, Chiquita, Dole Table 8 shows the relative importance of each of the export firms included in the survey and their size ranking in terms of the specific product analyzed and in terms of total fruit exports. Copefrut is the only export firm that originally developed as a Cooperative of farmers but which is now a regular private firm.

Table 8. CHILE: Information on Export Firms in the Survey

Company	Product	Volume of exports (bins)			% of total fruit exports	% total exports	Nº in ranking	
		2002-03	2003-04	2004-05	of the firm	Of species	total	product
AE	cherries	306,7	305,9	423	5,5	3,4	7	1
DE	cherries	190,7	98,1	203	23,6	0,4	51	3
BE	apples	3.309,8	3.704,5	3.320	29,0	5,1	2	2
AE	apples	3.234,8	4.348,4	3.792	49,2	3,4	7	3
EE	grapes	3.780,0	37.554,0	4.592	54,9	3,7	6	5
FE	grapes	5.105,3	4.219,0	4.091	40,4	4,5	4	6
GE	grapes	3.187	3.160	3.960	63,0	2,8	10	7

50. Table 9 gives the volume of fruit exports handled by each of the 15 main fruit export companies in Chile. Altogether, these 15 firms concentrate 87% of Chilean total exports, out of a total of 534 fruit export firms.

Table 9. CHILE: Ranking of Export Firms by Size of Exports

Ranking in 2004-5	Export Firm	Type of firm	Thousand bins
1	Dole	Multinational	17.744,7
2	Unifrutti	Multinational	11.465,0
3	Del Monte	Multinational	10.763,7
4	DDC	National	10.136,7
5	Río Blanco	National	8.870,6
6	Chiquita	Multinational	8.362,8
7	Copefrut	National	7.707,7
8	Agricom	National	7.570,2
9	Frusam	National	6.443,6
10	Subsole	National	6.285,3
11	Rucaray	National	6.023,0
12	Aconex	National	4.833,5
13	Propal	National	4.251,5
14	MR fruti		3.229,7
15	Agua Santa	National	2.912,0

Source: ASOEX 2005

B. Mechanisms for information acquisition

51. Information on required private standards is acquired by the large export firms from their clients abroad as they have close links with many of them and have been in the export business for many years (some times as long as 2 decades). In the case of the smaller or newer exporters, information on requirements is obtained from their association (ASOEX). In the case of individual fruit producers the main sources of information on the private standards or protocols is from the exporter. For example, Unifrutti or COPEFRUT, provide timely information to their associates; specialized professionals which act as consultants or managers of PROFOs and of the certifying companies. Knowledge on relevant Chilean legislation is many times conveyed to farmers through seminars organized by universities, where representatives of the different public agencies are invited as speakers. Training courses are also organized by Associations- ASOEX and Fedefruta as well as by Fundación Chile and private firms. In the case of small farmers, these are organized by INDAP. Interactions between producers are not very common, except when participating in courses or if associated in PROFOs.

52. Large export firms and their providers have to satisfy the requirements of a diverse set of clients located in different countries and regions of the world. The wide array/diversity among importing countries is seen in the table describing Chilean fruit exports by destination. This means having to be informed about and to satisfy different standards. It also means having to pay for different certificates.

53. In Europe the most widely known and demanded standard is EurepGAP, for orchards and packing plants. Export firms are aware that TESCO, from the United Kingdom imposes stricter protocols, “Best Agricultural Practices” and that all the fruit it purchases must be certified according to their own standards. So far, TESCO has not been as strict as it would want to be apparently because of the lack of enough volume supplied under their own standards. The protocols for USA retailers include several different ones, the main one being that of the United Fresh Fruit Association which includes not just orchards and satellite packing located on supplier farms but also the Central Plants.[16]

[16] See E.Araya, Director General of FDF in IICA (2002, p.57-66).

Export Firm	European Importer	Importing country
Unifrutti	Citrona	Holland
	Fruttital	Italy
	NuFri sat	Spain
DDC	Fruchthansa GMBH	Germany
	Leo Pels import	Holland
	Orimex trading BV	Holland
Subsole	Griffin Brand	UK
	Chingford Fruti	UK
	Cultivar S.A.	Spain
San Francisco	Frutas Alba	Spain
	Norton Folgate marketing	UK
	Zimpelmann Agentur GMBH	Germany
Copefrut	Fruttital	Italy
	Norton Folgate marketing	UK
	NuFri sat	Spain
Chiquita	Primafruit	UK
	Alfred Price	UK
	Timerfruit	Holland

54. Interviewees noted that EurepGap emphasises environmental issues, such as pesticide use and social welfare, while the emphasis of the protocols for U.S.A is on food safety. The protocols British Retail Consortium, BRC, are addressed to the entire food industry, including fruits and vegetables, where there is some element of processing or packing. Parallel to BRC in the UK is the Food Marketing Institute in the US/ Another complexity that had to be faced was due to the existence of two codification systems for

traceability and thus 2 supporting information systems: EAN (Europe) and UCC from U.S:A. which gave rise to 2 big monopolies on bar codes. Later on these 2 systems were combined and formed one monopoly, EAN-UCC which is managed in Chile by the Chamber of Commerce.

C. Contracts with Exporters

55. Most farmers interviewed have a long history as fruit producers, many exceeding 20 years. All farmers have similar year to year annual contracts with the export firms, mainly under a consignment system, non-exclusive, with a minimum guaranteed price (basically for tax purposes). Clients do not generally impose a minimum or guaranteed volume (one exception was a multinational export firm which had contracts that included delivery volumes of different fruit species and varieties. The export firms 'forecast" volumes to be purchased, in order to plan the export process. In several cases, the export company may provide technical assistance on GAPs, and in one case it does so, using financial support from CORFO, under a PDP instrument.

D. Identification of constraints to comply with private standards and Consultation Mechanisms

56. Producers and exporters both noted that the initial stages of moving into GAP were not easy and generated a lot of resistance because it meant moving away from "business as usual". Its adoption implied more hard work, particularly more intensive management. The constraints mentioned as the most important in the initial years of adoption of GAP were:

- low education levels of workers and their slow adaptation to new ways of working,
- introduction of record keeping,
- adoption of new eating habits and personal hygiene habits by workers as well as informing management when sick.

57. Another challenge they faced was to improve farm administration and management in order to implement all the record keeping tasks. This required better educated workers because they had to manage the information in the field, know how to read and write, and understand and know how to apply chemicals in the field. They often need special training and are required to be certified to undertake the task. For the large export firms, introducing GAP in their own farms was straightforward but much more difficult when dealing with outgrowers from which they purchase fruit, because these producers often do not see the advantage of complying with GAPs, however they are very much aware of the additional out of pocket investments required. It is hard to communicate to these farmers the advantages and increases in efficiency that come from adopting GAP protocols.

58. The most significant constraint faced by producers today concerns the restrictions on chemical (pesticides) use and the Maximum residue levels, particularly in the case of European clients. EurepGap, which applies EU legislation seriously limits the number and type of phytosanitary products that can be used for the control of pests and diseases. This is because the products allowed do not have a wide spectrum of coverage, thus allowing certain diseases and pests to develop. This in turn often limits the export of fruits to other markets, particularly those of other South American markets, where oftentimes fruits not satisfying size(calibre) attributes of EU or US are then re-routed for export. Many of these countries have zero risk tolerance for disease and pests. In addition, certain products are registered for use in some fruit species but not in others and some products are prohibited in one continent and not in another. The upshot is that the phyto-sanitary products allowed are found to be very restrictive and those allowed are most frequently only the most expensive ones. The question was posed by at least one of the

farmers was: 'If some of the chemicals are applied in winter time and a risk analysis is undertaken, why can't they be used?' Sometimes the norms do not seem to be rational. This means that in fact there are non-intended consequences of private standards in Region A impacting the trade between country B and country or Region C.

59. Another significant constraint due to private standards is the traceability requirement and the definition of its boundaries. There are many risks involved in theory, from physical problems, microbiological, chemical and so on. In the extreme, one would have to keep track of everything. How far can you go in this respect? Into how much detail should one get into? If the probability of a certain risk of contamination is very small, is it necessary to go into detailed traceability? At present, it was noted that a guide for applying minimum traceability requirements at the farm level is being developed by a Committee in ASOEX together with public sector officials and should be published shortly.

60. As to the existence or not of a consultation process to introduce changes in GAP, export firms have said that changes in the protocols are not frequent, these changes have a certain structure, they are published, they accept comments for a given time period, and then an agreement is reached, This is not the case with the producers who say that they are not consulted in the process and often find changes to be arbitrary.

E. Voluntary Chilean Standards for food safety and food quality

61. Having had to implement EurepGap standards has made farmers discover the existence of legislation for food safety and quality, worker welfare and environmental protection, which is mandatory. Though these regulations were not being enforced, they are, in some instances, stricter than those in importing countries. For instance, regulations regarding water quality, use of toxic materials, and are stricter in Chile than in Europe. This Chilean legislation had been introduced for use by the manufacturing sector in general, but is also applicable to fruit production. The existing Chilean laws and regulations involve many different agencies, and their application is often quite subjective, differing widely from one place to another. Because of lack of any effort to unify these diverse criteria and regulations as well as their application, such information was not readily available. It is possible that for these reasons, there was no real effort being done by the public agencies to enforce these standards on farmers.

F. Auditing and Certification

62. Farmers consider that it is important to have regular audits and certification, because without them, there would be a tendency to relax, to postpone record keeping and making notes of actions carried out and leaving everything for the last moment which does not lead to good results. So the audit process forces you to comply with all aspects of production management. It also gives the producer the opportunity to clarify concepts and misunderstandings. An interesting observation was made by one of the executives of a Chilean export company. He mentioned that "in old days the clients came to Chile and to the farm to see the fruit. Now they come to see other things such as the bathroom floors…perhaps they already trust the quality of the fruit, because they know it". This underlines the importance to importers of having the necessary infrastructure in place to be able to enter the export market.

63. The certification company most often cited is LATU (from Uruguay) although there is now more competition as other certification companies have moved into the country. A minimum of 2 audits per year are undertaken, although regulations only require one audit per year. Generally speaking, one audit is external and the other is an internal audit. Moreover, farmers may be audited at any point in time without notice. EurepGAP accepts group certification of producers that are working together either for one exporter or a cooperative, and it is assumed that ChileGAP does the same. One of the largest exporters COPEFRUT has adopted this procedure for its suppliers. These producers function under one common scheme, with

technical assistance from Copefrut. In this way, only some of the farms and satellite packing plants are audited and the entire group obtains the certification. Nevertheless, samples of the fruits of all producers are sent to the laboratories and all farms are visited by the technical staff and inspected according to a pre-defined protocols and standards.

64. Audits take between half a day and a full day, and include an inspection of the fruit orchards, the infrastructure and interviews with workers. This is a relatively short time frame, but given that a lot of information has already been gathered by the export firm, such as lab exams, it actually uses up more time than the audit day. The export company in the case of COPEFRUT pays for the internal audits; external audits as well as the cost of all laboratory analyses are paid by farmers. Audits are considered to be very helpful to do a good job, to identify problems, to produce more transparent information, and to make the business more efficient.

G. Direct and Indirect Costs of Implementation

65. Many farmers had to invest significant resources to comply with GAP in terms of infrastructure, and these were financed with their own resources or with bank credits. Among the investments that had to be undertaken were: hygiene facilities improvements, such as bathrooms and special bathrooms for those involved with pesticide applications, dining rooms for the workers, separate storage rooms for chemicals, introduction of signage and purchases of machinery. Export companies have had to introduce a special office or node to handle all matters dealing with GAP, and several producers also put a particular individual or a consultant in charge of GAP in their enterprise. One farmer estimated that he had to invest about USD 22 000 and would have to continue to invest in signage, loading platform and machinery. But as mentioned by several producers, in the past the fruit business was so good that it didn’t matter. Today the situation is quite different, and any mistake may mean going from a very tight profit to a loss.

66. Controlling costs is thus a crucial matter for farm profitability. Such large upfront investments, are unavailable for small farms and would not be profitable due to lack of economies of scale in their operations.. Thus unless they are heavily subsidized or are able to work together in associations so that they can share a large portion of the infrastructure, these required investments would represent serious constraints for their participation in the fruit export supply chains. Hiring personnel for managing conformity of the production system to GAP/EurepGap standards is also a binding constraint for small producers or exporters.

67. The recent efforts by ASOEX to develop Chilean Gap system that meets several protocols simultaneously is regarded as a highly valuable activity. By making ChileGap compliance equivalent to protocol compliance of EurepGap and US Gap and PROSAFE it facilitates market access for producers.. This makes possible cost reduction in the implementation of different Gaps. Another improvement in this same direction is the recent effort by certifying agencies to forge alliances between themselves in order to be able in one audit to verify compliance with several of the private protocols. This would be welcomed by producers and exporters as they market fruit to different countries and different clients, with each requiring a different standard.

68. The cost of audits and certification has decreased over time, from an initial amount of USD 800 to USD 1 000 several years ago and now only about US$ 500. This is less than one percent of the value of fruit exports for all the farms interviewed. But the costs of laboratory analyses also have to be included. For EurepGAP, it is necessary to conduct a multi-residue analysis for each product and during the growing season complementary analyses of water and soil are also required. On occasion other verifications are requested. And if fruit is sold in North America, additional certifications and audit reports may be requested. When added together these procedures can be costly in time and money to meet.

69. The above figures represent an important cost to small farmers because the cost is the same independently of the volume of production or sales. More constraining than audit costs are the investments that are needed at the farm level to comply with the private standards, which again are up to a certain point independent of the volumes produced. Again given that small farmers cannot take advantage of economies of scale, these costs can weigh significantly on viability of small and medium farms.

H. Benefits of the implementation of private standards

70. The farm owners were interested in differentiating their produce by obtaining higher quality fruit and using production processes that were more environmentally friendly and achieved better working conditions for labourers. Having to adopt GAP helped them to make the appropriate changes in habits and operations. Its diffusion also helped workers to understand that they had to change their personal habits, if they do not wish to destroy what is being done for their own sake. In the application of pesticides firms y were already requiring medical exams on workers and these knew that they had to wear masks, but EurepGap gave them an additional incentive and helped them avoid the risk of returning to the traditional, 'cultural' way of doing things in the country-side. This is important given the frequent lack of labour resources available in the countryside. According to one producer, the adoption of the protocols has meant improving farm management and providing more training to labourers and employees.

71. Being certified GAP does not necessarily mean obtaining better prices for their output, but it is regarded as "indispensable" in order to remain in the market of OECD countries. In a more indirect way, it allows you to be in preferred marketing chains of supermarkets that do pay somewhat better even if this is not perceived on an individual basis.

72. The growth in fruit exports has meant more and better employment opportunities, better working conditions for the unskilled labourers, and better care of the environment. But producers do not perceive these economy-wide benefits as a direct consequence of GAP, but rather as a consequence of "economic progress", that is a normal and logical outcome of a process begun in the case of Chile more than 20 years ago.

I. Perceived role for the government and specialized public sector agencies

73. The general view of commercial producers is that government should not interfere too much in many of these issues, because it may mean bureaucracy, slowing the possibility of rapid, flexible responses to market changes. In terms of external infrastructure to farms, the preferred public sector actions are in seen to be supporting training activities, diffusion of information, and improvement and maintenance of roads, while the existing infrastructure in terms of communications and public utilities is considered adequate.

74. There is a consensus that there exist a good number of good quality laboratories, at least some 5-7 accredited laboratories.

J. Have there been differential economic effects for large and small players?

75. First of all, it must be pointed out, that except in a few cases, such as in the very fertile lands of the Central Valley where there are small farmers producing basically nuts and avocados; grapes in the north and berries in regions in the south, activities where small farmers have proven to be competitive, it is very rare to find small farmers involved in fruit exports, a capital-intensive and knowledge-intensive activity. Moreover the fruit production takes several years before it generates an income flow thus can be a difficult undertaking for small farmers without additional income resources. A small fruit farmer is considered to be one that has a fruit plantation of say some 7 hectares or less. Some of the farmers interviewed considered that a small fruit farmer had as equal a chance as large fruit farmer in terms of

market access, because access has more to do with management, and the profitability of the product and the interest of the producer in his work than with size of farms per se. The majority of those interviewed considered that small farmers are at a disadvantage because they have lower management skills, lower knowledge base, and training as well as lack of financial resources or access to credit. In addition, their willingness to enter into associative business efforts is very low.

76. The agency which has the task to help small farmers in accessing markets and adjusting to such changes is INDAP. It initiated a program to bring small farmers into conformity with GAP protocols and certification requirements in 2004. It is providing training to about 3.000 small farmers which produce mainly berries and honey, products in which small farmers tend to be competitive because of the labour-intensive nature of these products. Moreover, INDAP is helping these small farmers through an initial diagnostic of each farm, the design of a tailored intervention program for the implementation of GAP, funding of the audits and certification, and loans for implementing the infrastructure investments required to comply with GAP. During this year (2005), the program has been enlarged to incorporate small farmers which produce avocados, flowers and a few other products. INDAP has also contracted work to develop manuals for implementation of GAP among small farmers. According to the high officials of INDAP in charge of the program, the main constraints for market access by small fruit farmers will continue to be their limited skills in management and education. These seriously affect their ability to keep records and to comply with traceability standards. During the past 5 years there have been efforts to introduce the use of costs and sales recording at the farm level among peasant farmers, and this has not been generally successful.

Part IV. Economic Policy Issues

77. The very strong and professionally-led fruit export and producer associations, including multinationals and national companies have been extremely important for the success of Chile in accessing markets in OECD countries. These organizations, very early in the game, realized the importance for the country of integrating and requiring a GAP standard in the production and marketing system for fruit. Voluntary adoption of GAP was integrated into the development strategy of the fruit sector as a strategic axis to maintain Chilean competitiveness in world fruit markets. They have worked towards medium and long-run targets, all the while cooperating and generally interacting with public sector authorities. Although there are no legal requirements for most GAP protocols in Chile, the Association of fruit exporters and producers took it upon themselves to "force" GAP into the export supply chain by requesting producers to introduce these standards and to obtain due certification[17]. This process is still taking place. Although there are no official estimations on what proportion of fruit farmers and fruit plantations have already been certified for EurepGAP or other private standards, it is estimated that, about 40% of the area devoted to fruit exports is already being certified in GAP, and another 20% are in the phase of implementation, including production and packing plants at the farm level.

78. The strategy of seeking benchmarking of the newly developed ChileGAP with both EurepGAP and those of the GAP of the United Fresh Fruit Association has been very important in lowering certification and compliance costs. It also contributes to simplifying somewhat an increasingly complex system of different protocols requested by different food retailers around the world given that Chilean exports are widely exported across the OECD markets of North America and Europe..

79. The development of the Chilean fruit sector started more than 20 years ago and has achieved recognition for the quality of its fruit and reliability of its supply even before the introduction of the private standards. Fruit production and exports are expected to continue to grow in the future due to rapid increases in demand with rising incomes, increasing health considerations by consumers , as well as

[17] It is worth noting that local supermarket chains do not request GAP from their fruit or vegetable suppliers.

increased market access due to trade agreements which are being signed by Chile with several fast-growing countries around the world. The adoption of GAP in the fruit export supply chain will help to further increase the efficiency in the production, management and the competitiveness of the sector. It should also provide benefits to workers and to the environment. Several of the professionals and managers interviewed in this study considered that farm and processing plant workers have been the main beneficiaries of the introduction of GAP within the country. Few interviewees noted the environmental benefits from the adoption of GAP. Environmental management that comes with the use of GAPs, especially with EurepGAP should have signalled this benefit. Better environmental management should also be an important positive aspect of adopting GAP in a sector which is characterized by very intensive production systems.

80. There is no question of the importance of the existence of good physical infrastructure and its efficient management for the growth of fresh fruit exports. Fresh fruits are very sensitive to post-harvest conditions and require care to maintain their food quality and safety characteristics. In Chile, the social infrastructure necessary for a successful operation of a fruit export sector, such as good roads, ports and airports, and efficient telecommunications, have been already in place for many years. The existence of strong fruit farmer and exporter associations prior to the introduction of private standards on the fruit supply chain also gave Chile a head start in the area.

81. The lack in other developing nations of satisfactory infrastructure and farmer and exporter associations, as well as good working relationships between the private and public sectors may seriously inhibit successful adoption of GAP. This is because the capacity to meet the stringent demands of these protocols, such as traceability and the need for farm/firm level investments and training of farm managers and workers may be lacking. Deficiencies in the adoption of these protocols may then lead to market exclusion. Consequently, in the future there may likely be a greater concentration of fruit exports from countries with vertically integrated or coordinated fruit production-export systems. Even within a country there is likely to be increasing differences between large and small producers in integrating to the efficient and standards compliant export system and thus its global value chains. Similarly, within a country production will be found located in privileged locations such as near to ports or airports.

82. Commercial farmers in Chile consider that the government has played an important role thus far by very wholeheartedly adhering to the GAP project, assisting in construction a good image for Chile abroad, and providing technical assistance and training, even if financial support remained limited. Farmers and export firm representatives interviewed in this study would like to have the government facilitate access to training, to information and assist in diffusing of the GAP system. Good roads are also a very important consideration, but all farms in the survey were accessible through a fairly good road infrastructure, and appropriate development of telecommunications, energy and other social infrastructure such as large irrigation systems.

83. With respect to small farmers, the support given by the public sector so far has been very limited and is only just starting. Its aim is to integrate this segment of producers into the export supply chains. This has been recognized as a very difficult task because of the lack of sufficient education, technical knowledge and management skills among small family farmers. The recommendations for other countries wanting to help small farmers to comply with GAP and private standards based on the experience of Chile are:

1. Identify products for which small farmers can really be competitive internationally given their capabilities and resources ;

2. Select small farmers to be supported, on the basis of an entrepreneurial profile. This, along with product selection, is important to achieve visible results in a fairly short period of time;

3. Work with small farmer organizations in order to mobilize this segment and achieve the needed sociological changes; and

4. Implement policies to bring the public sector activities in close correspondence to the needs of the export industry so as to permit linking the small farmers to the export process. This could involve an alliance between both groups to achieve this objective. In this light it could be desirable to stimulate and negotiate contract agriculture between export companies and small farmers supported by specialized public sector programmes.

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