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THE IMPACT OF GLOBALIZATION ON LOCAL COMMUNITIES: A CASE STUDY OF THE CUT-FLOWER INDUSTRY IN ZIMBABWE

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13. The Impact of Globalization on Local Communities: A Case Study of the Cut-Flower Industry in Zimbabwe
    Robert Davies, 2000

Table of Contents

Tables, figures and boxes

Foreword

Many developing countries are attempting to diversify their export base with a view to gaining new sources of income and reduce their exposure to price volatility in international markets. African countries are amongst the forefront of these, particularly because a handful of primary products often constitute over three-quarters of countries' total exports. Flower-growing is being targeted in many such countries with the objective of reducing this dependence. As an agricultural activity, it has the attraction of being a natural adjunct to the more traditional exports, while the availability of ready markets in the developed countries is a powerful financial draw.

This study of how Zimbabwe has taken advantage of the opportunity afforded by export diversification examines the positive and negative aspects of flower-growing. While documenting cut-flower exports as an example of a sector that copes successfully with globalization, the study examines many aspects of its social impact, in particular employment, income, and working conditions.

The research shows that the main influence of floriculture has come through the impact of quality requirements. In order to market their produce, producers have to meet high international standards regarding both the quality of the flowers themselves, and the methods used to produce them. International labelling programmes governing waste management, occupational safety and employment conditions create a "market incentive" for farmers to meet environmental and ethical guidelines in their cut-flower production. Meeting these requirements has required higher worker training, which has in turn promoted greater job security and better working conditions for some workers, while decreasing demand for seasonal workers.

This report was written by Robert Davies, Associate Professor and Chairperson, Department of Economics, University of Zimbabwe. He has written extensively on issues surrounding international trade, the environment, health policy and employment. Similar studies of the local impact of the cut-flower industry were undertaken in Uganda and the United Republic of Tanzania as part of the Global Project on the Impact of Flower-growing under the direction of Vali Jamal (Rural Specialist, ILO Sectoral Activities Department, Geneva).

This report was prepared as part of the research undertaken for the Action Programme on Globalization, Area-based Enterprise Development and Employment (ILO Employment and Training Department). One purpose of this Programme was to demonstrate how communities can adjust successfully to change caused by globalization, in terms of enterprise development and opportunities for decent work. Further work in this area is continuing under the InFocus Programme on Boosting Employment through Small Enterprise Development.

The research was also supported technically and financially by the ILO's Southern Africa Multidisciplinary Advisory Team (SAMAT). SAMAT includes specialists in areas such as

labour standards, employment and labour markets, small enterprise development, occupational safety and health, social security, labour administration, and workers' and employers' activities, as well as in such cross-cutting fields as gender. Demand driven, SAMAT responds to requests from ILO member States, trade unions, and employers associations for advice on policy issues, and assists governments in the design and implementation of development programmes and projects. Based in Harare, Zimbabwe, SAMAT provides these services to nine countries in Southern Africa.

As one of its services, SAMAT publishes a series of discussion papers on labour and social issues of which this paper is a part. Through this series, SAMAT seeks to create an ongoing dialogue with workers, governments, and employers by suggesting applications of the ILO Conventions in a regional context, presenting ideas for new labour and social policy directions, and providing regional statistical data and comparative analyses which enable the member States to learn from others' experiences.

We are very pleased with this successful collaboration between ILO units at the headquarters and in the field and hope that our constituents will find some food for thought and action in the paper that follows.

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Overview[1]

The Zimbabwean cut-flower industry is a highly export-oriented sector, with close to 100 per cent of commercially grown flowers finding their way into foreign markets. It has been an extremely fast growing sector, both as compared to other Zimbabwean exports and in terms of its rise in its world share of the cut-flower market. Between 1990 and 1997, the US$ value of cut-flower exports has increased by an average of 87 per cent per year. Zimbabwe is currently the second largest exporter of cut-flowers in Africa (after Kenya), and the third largest in the world. In 1995 Zimbabwe was the third largest supplier of roses to the European Union. These and other attributes of the industry make it eminently suitable as a case study of the impact of globalization.

At a macroeconomic level the main impact is through foreign exchange earnings (Section 3.1). This has benefits for the Zimbabwean economy as a whole. However, this is probably the only major macro-impact. There is evidence to suggest that links between horticulture and the rest of the economy are small. Although a number of activities supplying the sector have developed, most of the inputs have a very high import content, so multiplier effects are small.

While any expansion in employment opportunities is important, the rapid expansion of the industry has not had a significant impact on total employment. Although floriculture is labour intensive, the relative size of operations is small compared to overall agricultural activities. There are about 900 hectares under cut-flowers. There are, on average, 30 workers per hectare,[2] suggesting that there are 27,000 workers in floriculture. Even if all of these had been additional workers — which they were not — this is less than 8 per cent of the total workforce on commercial farms.

At the micro-level, the main influence of floriculture has come through the impact of quality requirements. In order to market their produce in increasingly discerning foreign markets, producers have to meet high international standards regarding both the quality of the flowers themselves, and the methods used to produce them. Due to the production processes involved, the floriculture industry makes intensive use of pesticides and fertilizers. Waste management, chemical and water usage, occupational safety and employment conditions are coming under increasing scrutiny in markets. International labelling programmes (Section 4) encourage farmers to meet environmental and ethical guidelines for cut-flower production.

[1] I would like to thank Harriet Davies for her excellent research assistance, without which this study would never have been completed. Isaadore Dzuranyama, Jonah Mushayi and Felix Sakanya all provided valuable assistance with the field work interviews. Both Hamid Tabatabai and Jonathan Munemo of the ILO/SAMAT in Harare, are responsible for my involvement in this project. I would like to thank them for their comments and advice.

I would also like to thank all of the people and organizations who have provided the information upon which the Report is based: Frank Brassel, Andrew Brooke, John Dunlop, Mary Dunphy, Export Flower Growers' Association of Zimbabwe (EFGAZ), Foodfirst Information and Action Network (FIAN), General Agriculture and Plantation Workers Union of Zimbabwe (GAPWUZ), Jan Gilmore, Stanley Heri, Horticultural Promotion Council (HPC), Blaise Jowett, Dave Kirkman, Doug Langley, Louise McAllister, Ewan Rodger, Una Woodhouse, Brad Wroe, Juliet Ziebari. Of course, the analysis and interpretation of the information they provided is entirely my responsibility.

I would also like to thank the 34 farmworkers who were willing to spend time in interviews. They are not named here in order to protect the confidentiality of their responses.

[2] Mary Dunphy, EFGAZ, pers. comm.

This agenda is partly driven by consumer pressure, but is also supported by growers in the destination countries, as a form of import protection.

This has meant that although the growth of floriculture has not expanded total employment significantly, it has influenced the composition of the workforce, both in terms of seasonal vs. permanent and in terms of male vs. female workers. After Independence, with the introduction of minimum wages coupled with 'non-firing' regulations, commercial farmers shifted towards using a larger proportion of seasonal relative to permanent workers. In floriculture, this workforce was primarily composed of female employees — very often wives of permanent male employees on the farm. However, because of their concern with labour conditions, labelling programmes have reversed this trend. They encourage growers to promote job security by making all workers permanent, leading to an increasing number of permanent female employees.

Job security for women has two important results. Firstly, there is an increasing number of two-income families living on cut-flower farms, raising the standard of living for farmworker families. Secondly, providing women with a permanent income empowers them, as financial independence provides more freedom of choice. While most people would regard the long-run consequences of this beneficial, in the short run it brings social challenges, with an apparent conflict with 'traditional' values in a male dominated society. Although this shift has benefited mainly women who were already on the commercial farms, it has also reduced the linkage between farms and surrounding areas, from which seasonal workers (also mainly women) were predominantly recruited. There thus appears to be opposite effects on the segmented labour market in the same geographical communities.

The sector has grown enormously and has the prospect of growing further. However, there are obstacles to such growth, mainly arising from domestic economic problems related to the high cost of financing new investments. As with the whole economy, there is also a threat to continued viability posed by the AIDS pandemic. The approach adopted by Government to land redistribution also affects the sector through its general effect on agriculture.

The main conclusion of the report is that globalization, operating through the international standards transmitted by labelling programmes, is increasing the pace of modernization of Zimbabwean commercial agriculture.

1. Introduction

1.1 Globalization and Zimbabwe

Although world trade has been an important change agent for centuries, the globalization witnessed in the latter part of the twentieth century appears to have a qualitatively different nature from global interaction in the past. It is difficult to be precise about the difference. Some have characterized globalization as 'free trade with information technology'. Clearly both openness and the 'small world' effect that the IT revolution has had are key ingredients. Transport technology — with airfreight speeding up delivery — is another. Another would be the centrality of global financial markets and global portfolio investment, which has itself been stimulated by the information technology revolution. Related to this, the unprecedented growth of transnational conglomerates lends the current phase of globalization a character which, for many, conforms more closely to the nineteenth century Marxist vision of capitalism on a world scale than any preceding period.

But globalization is not simply about economic issues. A key non-economic ingredient is the international transmission of values. Western, and particularly, American cultural values have long been exported through film and television, but the explosion in satellite television has accelerated this process. There is a growing acceptance of the right of the international community to intervene in sovereign nations because of human rights issues. The recognition of the global nature of the environment has led to global approaches to environmental issues. The moral values of northern consumers are also being exported to the south, as is most notably demonstrated through the 'Nike syndrome'.

All of these features of globalization raise questions for a country like Zimbabwe. A major set of questions centres around the appropriate response of countries to globalization. The issue is not whether Zimbabwe should participate in the new world order, but *how* it should. Can globalization be managed? What are the consequences of different approaches? A second set of questions concerns the impact of globalization on Zimbabwe. Clearly this is in part determined by the way the first set of questions is answered. Different policy responses produce different results. It is likely that the initial circumstances and the structure of the economy will also condition the impact. Impacts will therefore differ from country to country. It is also likely that within countries, the impact will differ from sector to sector, community to community, depending on how they are positioned and what their response is.

This study looks at the sector and local impact of globalization by examining the cut-flower industry. At the general level, Zimbabwe is typical of a wide range of developing countries, particular in Africa. Its entry into the globalization process was through a structural adjustment programme introduced in 1990.[1] Many of the central issues in the management of globalization are encapsulated in Zimbabwe's experience since then: sequencing, fiscal management, privatization, price deregulation, and trade and capital account liberalization. These are discussed in Section 3.1. While the cut-flower industry itself is not Zimbabwe's major export activity, it is nonetheless an archetypal example of a global industry. Its entire

[1] It is wrong to speak of globalization as if it is an event with a specific starting date. It is a process and all countries have been continuously affected by it. Nonetheless, it is convenient to think of liberalization as marking a country's acceptance of global integration after attempting to resist it.

output is exported; the perishability of the product makes it reliant on modern air transport and communications; there is a strong impact of northern standards on southern producers. Indeed, the one globalization characteristic mentioned above which is missing in the Zimbabwean industry is penetration by international capital: the sector is predominantly Zimbabwean owned.

1.2 Sources of information

Discussions held with producer associations (Horticultural Promotion Council (HPC), Export Flower Growers' Association of Zimbabwe (EFGAZ)), labour institutions (General Agriculture and Plantation Workers Union, Agricultural Labour Bureau), growers, farmworkers and marketing/freight agents, have contributed to this report (see References for a full list of persons contacted). Some of these organizations have provided written information which has been used extensively. Macroeconomic data published by the Central Statistical Office has also been drawn upon.

At the start of the study, it was hoped to select a random sample of cut-flower producers for in-depth interviews and case studies. However, due to the reluctance of the HPC and EFGAZ to allow investigation of conditions on cut-flower farms, problems were encountered setting up meetings with farmers. As a last resort, five farmers who were already enrolled in labelling programmes were interviewed. For this reason, the case studies do not represent the full spectrum of floriculture projects in Zimbabwe, but rather illustrate the "best case" scenario of farmers who have already improved social and environmental working conditions on their farms (see Box 1).

Findings from the case studies have been summarized in subject boxes throughout this report. Names of people and places have been changed to ensure informant confidentiality. The five farms visited were located in three different major rose production areas close to Harare. Summaries of farm details are provided in Table 1.

At each study site, the farmer was interviewed (Appendix 1), and meetings were set up to interview cut-flower workers on the farm. A total of 34 workers, representing all areas of cut-flower production (pickers, graders, bunchers, sprayers, foremen/women and supervisors, see Table 2) were interviewed on a one-on-one basis (see Appendix 2).

2. Background to the Zimbabwean cut-flower industry

Although floriculture has existed in Zimbabwe for a long time, the industry began to take off in the mid-1980s, following Independence and the re-introduction of Zimbabwe into the international trading community. Between the mid-1980s and late 1990s, it became one of the fastest-growing of Zimbabwe's export industries. Table 3 shows the relevant data (this is discussed further in Section 2.2 below). The annual growth rate of US$ export earnings from flower exports (last column) has consistently been higher than that of total exports (except 1994, when there were specific problems with airfreight). In 1985, it ranked about 88th in terms of contribution to total export earnings. By 1997, although it contributed only 1.8 per cent of total export earnings, it ranked as the 11th highest export earner.

Box 1: Bias of the sample

As is indicated in the text, the sample of farms visited, and on which the main conclusions of this study are based, consists entirely of 'best practice' farms. Without a more representative sample, there is no way of knowing how far the results can be generalized across the whole sector.

It would be wrong to assume that the unexpectedly rosy picture found within the sample is representative of all farms. It is clear that labour relations on most commercial farms remain at best 'paternalistic'. Job security is fragile, with tenure often dominated by the whims and personality of the farm owner or manager. Although 'progressive' farmers have improved conditions of work — providing better housing, schools and other facilities — there are many who have not.

Estimates show that rural poverty in Zimbabwe is lowest in commercial farming areas (CSO, 1998). Based on data collected in the 1994/95 Income, Expenditure and Consumption Survey, in 1995 56 per cent of households in large scale commercial farm areas were judged to be below the poverty line, compared to 88 per cent on Resettlement areas, 82 per cent in Communal Lands and 66 per cent on small scale commercial farms. While this might be accounted as a plus for commercial farmers, it should be evaluated against the background of other indicators. Much commercial farming is in good agricultural regions, and it is not known whether the lower poverty indicators are due to this. The share of wages in value added in 1995 was 15 per cent — compared to an economy wide average of 35 per cent. There are also occasional newspaper reports that provide anecdotal evidence of mistreatment of farmworkers by employers.

Some attempt was made to counter-balance this bias by interviewing Union representatives. However, the Union under which cut-flower workers fall, the General Agriculture and Plantation Workers Union of Zimbabwe, represents all farmworkers, and it was difficult to determine from the Union which of the problems they identified related to farm-workers in general and which specifically to cut-flower workers.

Table 1: Details of the five farms used in case studies

Farm Number	1	2	3	4	5
Cut-flower hectarage	4.5	2.5	5	4	3
No. of cut-flower workers per hectare	21	28	18	30	25
Percentage of women cut-flower workers	35	60	83	50	75
Percentage of permanent cut-flower workers	64	100	100	83	100
Percentage of total farm turnover from cut-flowers	-	>50	18	-	35

A number of factors have contributed to this success. The climate and southern hemisphere seasons give Zimbabwe an advantage over other major competitors in her main export market, Europe. A relatively literate workforce has made the necessary training and skills-acquisition easier. Recent improvements in airfreight and the removal of the monopoly previously held by the state carrier have removed an important bottleneck. The various grower and marketing groups have also been active in promoting the industry. The depreciation of the Zimbabwe dollar has also increased the viability of the industry.

Diversity of product: Roses constitute approximately 70 per cent of cut-flower exports from Zimbabwe. Banket, Trelawney, Concession, Glendale, Bindura, Harare, Goromonzi and Kwekwe are the main rose growing areas. Other flowers grown and exported include proteas, asters and chrysanthemums. Annual varieties produced in large volumes include ammi majus and buplearum. Smaller volumes of delphinium, carthamus, craspedia, euphorbia,

callistephus and molucella are also produced. Volumes of perennial flowers, of which there are over 30 varieties, are increasing.

Table 2: Cut-flower workers interviewed during farm visits

Position	Permanent		Non-permanent		TOTAL
	Male	Female	Male	Female	
Supervisor	1				1
Foreperson	3	1			4
Sprayer	5		1		6
Maintenance worker	1		1		2
Cutter	1	7		1	9
Buncher		2		1	3
Packer	2	1			3
Quality controller		3			3
Waiter		1		1	2
Farm clerk	1				1
TOTAL	14	15	2	3	34

Table 3: Zimbabwe's cut-flower exports relative to total exports, selected years

Year	Total exports	Cut-flower exports	Share of flowers in total	Exchange rate	Total exports	Cut-flower exports	Average annual % change in US$ value	
	Z$m	Z$ '000	%	Z$/US$	US$m	US$ '000	Total	Flowers
1981	833	22	0.0	0.69	1 202	31		
1983	995	74	0.0	1.02	978	72	-9.3	65.7
1985	1 528	337	0.0	1.61	949	210	-1.4	94.6
1988	2 537	5 201	0.2	1.82	1 392	2 854	15.5	420.6
1990	3 578	12 717	0.4	2.47	1 447	5 145	2.0	40.1
1991	4 619	20 307	0.4	3.75	1 231	5 412	-15.0	5.2
1992	6 360	55 445	0.9	5.11	1 244	10 846	1.1	100.4
1993	8 561	174 002	2.0	6.52	1 313	26 685	5.5	146.0
1994	16 056	157 652	1.0	8.18	1 964	19 285	49.6	-27.7
1995	16 009	282 487	1.8	8.72	1 835	32 379	-6.6	67.9
1996	21 012	335 255	1.6	10.07	2 087	33 293	13.7	2.8
1997	25 552	455 673	1.8	12.44	2 053	36 619	-1.6	10.0

Source: Central Statistical Office, trade data supplied.

2.1 The structure of the industry

The administration of the industry falls under both government and grower-based institutions.

Government institutions: Several government Ministries are involved in activities which affect the industry: the Ministry of Lands, Agriculture and Water Development; Ministry of

Finance; Ministry of Transport and Energy; and the Ministry of Industry and Commerce. The parastatal Agricultural Development Authority (ADA), and Zimtrade[2] also provide support.

Through these institutions, the government provides research and development, extension services, and irrigation infrastructure. In addition, the national cargo airline, Affretair, has provided freight services (implicitly subsidized, given the losses it has made) although its relative importance has declined in recent years (Section 3.7). In the early 1980s government was suspicious about growers' integrity in respect of export sales remittances (a suspicion which extend to most of the private sector). However, in the late 1980s government committed itself to support the industry.

The Horticulture Promotion Council (HPC): The Horticultural Promotion Council, a Zimbabwean producer-based association, was formed in 1984. It is the central coordinating body of the horticulture sector (of which floriculture is a part), and provides an interface between the industry, government and the international community. It is responsible for four main horticultural categories; fresh produce, citrus and sub-tropical fruits, deciduous fruits, and flowers. The HPC derives its income from membership fees and levies on horticultural exports. These levies are 0.5 per cent of the f.o.b. value of members' exports.

The Export Flower Growers' Association of Zimbabwe (EFGAZ): Initially, floriculture was administered by a sub-committee of the HPC. However, in 1995 it was recognized that the industry had become large enough to warrant its own producer association, and the Export Flower Growers' Association of Zimbabwe (EFGAZ) was formed. As of early 1999, EFGAZ membership stands at over 200.[3] This includes growers, marketing agents, refrigeration, packaging, and consultancy services. The main objectives of EFGAZ are to:

- promote the interests of growers of export quality cut-flowers;
- promote standards of excellence in the industry, in line with international standards of cut-flower production;
- facilitate cut-flower exports by establishing adequate, reliable and economic airfreight and transport facilities;
- provide training and expert advice for cut-flower growers;
- address quality management issues related to cut-flower production.

Most growers find it beneficial to belong to EFGAZ. However, there are a few growers who are not members.[4]

Growers: Cut-flower growers can be divided into two main categories, namely Large Scale Commercial Farmers (LSCFs) and Small Scale Commercial Farmers (SSCFs). Although SSCFs do export some summer flowers produced through outgrower schemes and pool-marketing systems, they have played a comparatively insignificant role in the rapid expansion of the cut-flower sector. LSCFs are responsible for the bulk of cut-flower production. The

[2] Zimtrade is Zimbabwe's national trade development organization. It provides practical assistance to exporting companies, identifying export opportunities and carrying out market research covering a wide range of products and markets.

[3] Mary Dunphy, EFGAZ, pers. comm.

[4] Mary Dunphy, EFGAZ, pers. comm.

initial investment costs and the continued requirements for efficient and fast delivery to world markets are too great a barrier to entry for undercapitalized communal farmers.

There are more than 200 commercial cut-flower producers in Zimbabwe. In 1993, cut-flower production was being undertaken on just over 5 per cent of LSCFs in Zimbabwe (Table 4). Although cut-flowers can be grown in most parts of the country, the majority of producers are situated in Mashonaland Central Province — within easy access of air freight facilities. Growers have most representation in the Eastern Districts, with more than 10 per cent of LSCFs in this region undertaking floricultural production to some degree. The distribution of cut-flower farms differs very significantly from the overall distribution of commercial farms (chi-test, $p<0.001$, d.f. 7). For example, while 27 per cent of commercial farms are in Mashonaland Central Province, nearly 45 per cent of cut-flower farms are located there. This again highlights the importance of access to airfreight facilities, which are located in Harare.

Table 4: The distribution of cut-flower producers by sub-region, 1993

Sub-region	No of farmers	% of all commercial farmers	Cut-flower producers	% of all cut-flower growers	% of farmers in cut-flower production
Midlands	355	7.7	14	5.6	3.9
Makonde	972	21.1	31	12.4	3.2
Marondera	562	12.2	35	13.9	6.2
South West Mashonaland	292	6.3	12	4.8	4.1
Mashonaland Central	1,260	27.3	112	44.6	8.9
Eastern Districts	361	7.8	38	15.1	10.5
Masvingo	253	5.5	4	1.6	1.6
Matabeleland	554	12.0	5	2.0	0.9
TOTAL	4,609	100.0	251	100.0	5.5

Source: HPC; compiled in August 1993 from lists of large-scale horticulture producers.

Other players in the sector: The rapid expansion of the Zimbabwean floriculture sector has had an impact on various other industries, both domestic and foreign. These include service providers (marketing, exporting, freight, consultancy, forwarding, financial) as well as input suppliers (agro-chemical, greenhouses, packaging, coverings, fans, uniforms, irrigation, refrigerated trucks, timber, electrical instruments). The most important of these are the agents which deal with the marketing, many of which have been established specifically to deal with cut-flower exports. Most of the other companies deal with other sub-sectors of agriculture as well as cut-flowers.

2.2 Production and export trends

Table 3 presented data on flower exports as provided by the Central Statistical Office. These data are collected through the CD1 forms which all exporters have to complete and submit to the Reserve Bank of Zimbabwe. When payment is received, the foreign exchange has to be remitted to the Bank and is acquitted against the CD1 form.

An alternative source of detailed data on floriculture production and export volumes is the records collated by the HPC and then EFGAZ. EFGAZ collates freight records to estimate monthly and annual export figures. As most cut-flowers (>99 per cent) are exported, air

freight records provide a good estimate of the actual quantities produced, and the markets to which cut-flowers are sent.

The figures from this source (presented in Table 5) suggest US$ earnings more than twice those reported by the CSO. While there may be differences in the accuracy with which growers report to the two sources, there are also differences in valuation methods. The HPC figures are derived by multiplying the volumes recorded on the bills of lading by an assumed average price; this price appears to be the price received in the foreign market, and is thus a c.i.f. price. The CSO figures are the values taken from the CD1 forms and are f.o.b. prices. The CSO data thus give a more accurate reflection of the export earnings which accrue to Zimbabwe.

Table 5: The contribution of cut-flowers to the mass and value of Zimbabwe's horticultural exports, 1985-98

Season	Mass of exports (metric tons)			Earnings ('000 US$)		
	All horti-culture	Cut-flowers only	Percentage contribution of cut-flowers	All horti-culture	Cut-flowers only	Percentage contribution of cut-flowers
1985/86	3,006	338	11.2	3,515	1,555	44.2
1986/87	6,229	593	9.5	6,267	2,728	43.5
1987/88[1]	9,426	1,326	14.1	10,843	6,100	56.3
1988/89	11,672	2,411	20.7	17,998	11,091	61.6
1989/90	14,475	2,872	19.8	24,665	13,211	53.6
1990/91	14,237	3,722	26.1	31,908	17,121	53.7
1991/92	18,042	4,758	26.4	37,984	21,885	57.6
1992/92	18,205	5,206	28.6	39,003	23,948	61.4
1993/94	25,972	5,770	22.2	47,248	26,541	56.2
1994/95	39,084	9,095	23.3	75,606	41,839	55.3
1995/96	45,831	11,630	25.4	92,262	53,497	58.0
1996/97	53,625	13,832	25.8	103,205	63,628	61.7
1997/98	55,677	14,729	26.5	110,797	67,753	61.2
1998/99[2]	77,644	18,411	23.7	142,689	84,692	59.4

Notes: 1. May figures not included in 1987/88 figures.
2. 1998/99 figures are estimated.

Source: Horticultural Promotion Council.

This lack of comparability makes it difficult to compare the HPC's data with export earnings from other sectors, since the equivalent c.i.f. values are not available for other exports. According to the HPC, horticulture is Zimbabwe's second largest foreign currency earner within the agricultural sector after tobacco. According to the CSO, it ranks below cotton, on a par with sugar as the third biggest. This difference is consistent with the different valuation methods.

Export quantities and values: The value of Zimbabwe's horticulture exports increased more than 18-fold between the 1985/86 and 1997/98 export seasons. Floriculture contributed significantly to this increase (Table 5). In the 1997/98 export season, earnings from cut-flowers were more than 40 times greater than those 12 years previously. This increase is greater than those for fresh produce (28 times) and citrus (13 times) over the same period. In the mid-1980s, earnings from cut-flowers represented 44.2 per cent of total horticultural earnings. By the late 1990s, they were consistently more than half.

Cut-flowers have a relatively high value to weight ratio — in the 1997/98 season they comprised only 26.5 per cent of the horticultural tonnage exported, but contributed 61.2 per cent of earnings. Export cut-flowers fetch an average price of US$4.60 per kilogram, as compared to US$3.00 per kilogram of produce, and US$0.34 per kilogram of citrus.[5]

Export Destinations: In a relatively short period, Zimbabwe has become a major world producer of cut-flowers. It is currently the second largest exporter in Africa (after Kenya), and the third largest in the world. In 1995 Zimbabwe was the third largest supplier of roses to the European Union, supplying 224 million stems in that year alone (Table 6). About 70 per cent of Zimbabwe's flowers go to the Netherlands, while the rest are exported to the United Kingdom, Germany, Italy, Sweden, United States, Scandinavia and Australia.

Table 6: Zimbabwe's contribution to European Union imports of roses, 1991-95*

	1991	1992	1994	1995
All imports of roses into the EU (millions of stems)	1,803.5	1,908.3	2,381.8	2,755.0
Imports from Zimbabwe (millions of stems)	53.4	77.7	1,23.9	2,24.0
% of total imports supplied by Zimbabwe	2.96	4.07	5.20	8.13
Zimbabwe's rank among supplying countries	3	3	4	3

* Excluding Austria, Finland and Sweden
Source: Adapted from G. Van Liemt, *The World Cut-flower Industry: Trends and Prospects*, ILO, Geneva, 1998.

Traditionally, most cut-flowers were sent to auction markets in Holland. However, there has been a shift towards direct sales of cut-flowers to supermarkets and buyers in the United Kingdom, Germany, Switzerland and other countries. The number of different market destinations for Zimbabwean cut-flowers has increased over time (Table 7).

Table 7: Number of countries to which Zimbabwean cut-flowers are exported, 1981-98

Year	1981	1983	1985	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998[1]
Number	7	8	9	14	16	25	23	27	25	23	29	34	24

Notes: 1. 1998 figures only up to May.
Source: CSO, data on exports.

3. A framework for analyzing the cut-flower industry

3.1 The macroeconomic context

Perhaps one of the most remarkable aspects of the growth of the cut-flower industry in Zimbabwe is that the major expansion has taken place against a backdrop of serious economic decline elsewhere in the economy. Although this study is not concerned with macroeconomic performance, it is important that the macroeconomic context is understood.

[5] Source: Horticultural Promotion Council.

Zimbabwe became independent in 1980 and for the first ten years followed a self-proclaimed socialist policy, with far reaching regulation of the economy. In 1990, in line with global policy fashions, it embarked upon a structural adjustment programme designed to deregulate the economy and to give more sway to market forces. This programme has 'succeeded' in so far as trade and capital account liberalization are concerned, but has failed with regard to stabilization, as government has not reduced the budget deficit, with knock-on effects on inflation and the exchange rate. The record on privatization has also been tardy.

The salient features of the macroeconomic context are:

- declining GDP per capita,
- inflation,
- depreciation of the Zimbabwe dollar,
- rising unemployment,
- worsening income distribution driven by inflation, and
- rising poverty.

The general performance of the economy since structural adjustment, and particularly in the last few years, has given increasing cause for concern. By 1999, inflation had reached 50 per cent p.a.; the Zimbabwe dollar was trading at 38 to 1 against the US dollar (compared to 18 a year earlier and 2.5 when the programme was announced in 1990).

This depreciation has of course stimulated the cut-flower industry, since its output is exported. Many growers see involvement in flowers as a hedge against further depreciation. While other agricultural crops — particularly tobacco — are more significant export earners, it has been suggested that the price of tobacco does not move in line with the decline of the Zimbabwe dollar. Even though the tobacco auctions are held in US$, because they are held in Zimbabwe buyers have at the back of their minds what the Zimbabwe dollar price should be and therefore adjust the US dollar price downwards as the Zimbabwe dollar depreciates. Cut-flowers, on the other hand, are sold directly in foreign markets, and the foreign currency price is less directly affected by the value of the Zimbabwe dollar (although it may fluctuate for other reasons). This argument, which was put forward by several growers, has not been tested rigorously. However, it is intuitively plausible and, even if it is only a perceived difference, it nonetheless provides an incentive to enter the industry.

The depreciating Zimbabwe dollar also increases the importance to the general economy of export earnings from the sector.

Two other general factors in the economy have offset the positive stimulus from the depreciation. The first are high interest rates. With financial deregulation, nominal interest rates rose sharply and have remained high. From 12 per cent in 1990 (the start of the reform programme) average lending rates at commercial banks rose to 47.5 per cent by September 1992. Although they subsequently fell back to the high thirties, in 1998 they started to rise again and are currently over 50 per cent. Of course these rates are related to the inflation rate, so that real rates are considerably lower. A simple measure of real rates — the different between nominal rates and the current rate of inflation — shows them jumping from below zero before 1991 to above 20 per cent in 1993, where they have remained since. These relatively high real rates have inhibited expansion, and not only in the cut-flower sector. In

addition, the effects of high rates have been compounded by the uncertainty that the macroeconomic instability has created. Both borrowers and lenders have been unwilling to lock themselves into high cost loans. It is striking that the interest rate offered by commercial banks on 24-month deposits rates fell below those offered on 3-month deposits in 1992 and have remained lower since. There has been a marked shift towards short term lending. Finance houses prefer short-term government paper to longer-term real loans, even though the real return on the former is currently negative. The traditional role of banks as financial intermediaries has been undermined.

Financing for expansion is therefore both difficult to obtain and, when it can be, carries unattractive terms for borrowers. Finance of working capital has also been affected. The high domestic interest rates have made it more expensive to provide trade credit.

A second factor off-setting the stimulant provided by the depreciating Zimbabwe dollar has been the *de facto* reintroduction of some pre-reform foreign currency restrictions. Until November 1997, companies were entitled to hold foreign currency denominated bank accounts in Zimbabwe, a facility introduced as part of the structural adjustment programme. Many growers found this a useful facility, since it helped them to smooth exchange rate fluctuations occurring between importing inputs and receiving export payments. The facility was removed in 1997, as a policy response to exchange rate instability. Its removal has been viewed as a major constraint, and not simply by cut-flower exporters. In February 1999, the Reserve Bank of Zimbabwe also reduced the period between when exports are undertaken and when the foreign exchange has to be remitted to the Reserve Bank, from 180 to 90 days. Many exporters complain that this reduces their export competitiveness by restricting credit terms.

3.2 Identifying the community impact

To examine the impacts of the cut-flower industry on local communities, 'local communities' have to be identified. The natural interpretation of 'community' has a spatial dimension: a group of individuals living in an area such as a village, a specific rural area or a suburb. From this point of view, the community most directly affected by the cut-flower industry is the farmworker community, which is the focus of much of the rest of this study. The historically determined weak linkages between commercial farms producing for export markets and communal areas producing for local consumption have also limited the community impact of the growth of the cut-flower export industry. It is perhaps useful to discuss why.

Zimbabwe has a dualistic agricultural system, deriving from legislative apportionment of land between black and white ownership. The Commercial Farming areas operate 'modern' privately owned farms, using wage labour, and relatively capital and chemical intensive methods. In Communal Areas there is no private ownership of land, although usufruct rights are well-defined. Production methods use more family labour, and are much less intensive than on commercial farms. The land is not apportioned into two clearly separated areas; there are rather many communal and many commercial farming areas (although there are relatively more commercial farms in good agricultural regions and relatively more communal lands in bad ones). This means that many commercial farms are adjacent, or nearly, adjacent, to communal areas.

This geographical contiguity might suggest that the impact of cut-flowers (grown on commercial farms) on the 'local community' of neighbouring communal areas should be high. However, because of the historical development of agriculture in Zimbabwe, the economic linkages between commercial farms and neighbouring localities are likely to be relatively weak, so that the geographic spillover from changes on the farm to the neighbourhood is relatively small. The commercial farms have developed largely as enclaves within the rural areas. Potential linkages are through:

- the labour market. However, many farmworkers have historically been migrants from outside the country, with little linkage to local areas. Communal areas have, however, been an important source for seasonal workers on commercial farms. It will be seen later that the evidence suggests that this is diminishing, partly under the impetus of globalization.
- the product markets. The commercial farms themselves buy little directly from communal areas. Their farmworkers have traditionally been permitted to grow their own crops so there has been little purchase of foodstuffs from neighbouring areas. If anything the linkage runs the other way with some commercial farms running stores that have been frequented by neighbouring communities.
- non-market linkages. There clearly have historically been some important non-tangible links — demonstration effects, technology transmission. However, since communal farmers do not grow cut-flowers, such of these effects as exist are unlikely to be affected by the expansion of cut-flower production.

Another geographically defined local community could be rural towns. In most commercial farming areas, towns have grown up with small industries servicing the farming community. One has the impression however that such industries are increasingly supply depots of larger firms operating from Harare or Bulawayo. The regional multipliers are thus low, with increases in local activity being quickly siphoned back to the main cities.

These factors suggest that the links between commercial farms and local communities, conceived geographically, are likely to be weak. Furthermore, while it may well be that expansion of cut-flower production on commercial farms affects local communities, these effects are unlikely to be very different from the impact of *any* kind of expansion. There is thus nothing particularly interesting about the fact that the expansion has been caused by globalization rather than, say, a positive response to a government policy. It will be shown later that high initial capital costs have precluded non-commercial farmers from entering the industry.

3.3 The price chain

The price chain for cut-flowers identifies the intra- and inter-sector linkages in the cut-flower industry. Figure 1 provides a breakdown of domestic and foreign players in the sector, and their linkages with other sectors. The first sector is the same as that identified above — the farmworkers. But we see here that there will be many others affected — even though not geographically connected to the sector.

This price chain can also be expressed algebraically as an accounting identity (see Appendix 3), allowing the main variables entering the price chain to be identified. It is useful to group

these according to who has influence over them. This suggests five groups of variables, which can be ranked according to how removed they are from the grower's influence.

Figure 1: The cut-flower price chain: Direct and indirect effects

PRICE CHAIN*	AFFECTED ACTORS	
	DIRECT EFFECT	INDIRECT EFFECT
WAGE BILL	Cut-flower workers; farmers	All agricultural workers
DOMESTIC RAW MATERIALS	Domestic suppliers (packaging, greenhouses, chemicals etc.)	Domestic suppliers' employees; suppliers of domestic suppliers
IMPORTED RAW MATERIALS	Domestic import agents; government (customs duties)	Foreign import agents and suppliers.
PROFITS TO GROWER	Farmer; government (income tax)	Cut-flower workers (incentive schemes) Government (tax revenue)
INTEREST PAYMENTS	Financial sector	Financial sector employees
PAYMENTS TO DOMESTIC AGENTS	Marketing companies	Marketing company employees
CARRIAGE, INSURANCE AND FREIGHT	Aviation industry; trucking companies	Government (air traffic fees); fuel providers
PAYMENTS TO FOREIGN AGENTS	Foreign import agents; foreign governments;	
COSTS OF RETAILING	Foreign retailers	
RETAILER'S PROFITS	Foreign retailers	
FINAL PRICE	End consumers	

*Regular font indicates the Zimbabwean price chain; bold font indicates that impacts are both domestic and foreign; and italics indicate foreign links.

The first are global variables, whose values are determined in the world market. These include the prices of the output and the imported inputs, international transport costs, retail mark-ups in the destination country and such like. The second group are economy-wide variables — the domestic cost of inputs, interest rates, the exchange rate and domestic freight charges. Then there are sector specific variables — for example the minimum wage in agriculture. Grower level factors include the premium which the farmer pays her workers over the minimum wage (including non-wage costs such as housing and social amenities). This is something which the grower has most control over. They also include the choice that farmers have about their source of financing. At the final level are technical variables — the labour and input coefficients. While these are driven by technical considerations, the grower has some choice as to the technique adopted.

None of these variables is completely outside the grower's influence. For example, while growers may not be able to influence the world market price of the final product, they can influence the price received through the quality of the product and through the mix of different flowers grown. Within limits, they can change the impact of the economy wide variables by judicious choices, even though they cannot directly change the variable. For

example, although there is little that can be done by the farmer about the high interest rates in Zimbabwe, the impact these have on the farm will depend on the ways in which operations are financed.

It is useful to begin thinking about the issues in this framework, because it focuses on how far cost-reducing or profit-maximizing measures have to concentrate on wage and labour costs. The typical view of an export industry — based mainly on primary exports such as minerals — is that the global market imposes a price discipline on exporters which eventually translates back into pressures to keep labour costs down. Wages take the main brunt of this discipline because of the limited scope for reducing other cost components and because of the social power that employers have to avoid having to take a profit cut. The analytical framework of the price chain is intended to allow an analysis of whether other possibilities exist. The following sections discuss the cut-flower production process in some detail, in part with a view to understanding what flexibility there is for maintaining competitiveness.

The pressure on labour costs in exporting industries is, in the cut-flower industry, balanced by a countervailing pressure from globalization, which stems from the 'green' or 'ethical' labelling movement. This increasingly forces farmers to pay attention to environmental and employment practices, not only constraining how far they can go in cutting wages, but possibly adding to costs of production. The price chain framework is also intended to throw light on the options growers have in this regard. If the impact of labelling is solely to raise costs, then it is almost entirely a non-tariff barrier. If, however, the grower is able to make choices which reduce the cost raising impact of labelling, then it becomes less of a barrier and more of a process for influencing choice of technique.

The following description of the process of cut-flower production shows the choices involved at each stage and allows us to see how globalization affects these choices. The following section outlines the basic processes involved in cut-flower production in Zimbabwe. Because roses are the most important cut-flower variety (by both volume and value), and globalization issues related to all major flower varieties are similar, rose production has been selected as a representative example of the issues to consider.

3.4 Set-up costs

The initial investment includes preparing the site — tillage, mulching, and soil sterilization. Soil sterilization is necessary to avoid loss of yields due to problems caused by nematodes, insect larvae, fungi and bacteria. Although steam/heat treatment could be used, in Zimbabwe chemicals are used. Heat processes make some economic sense in, say, the Netherlands, where heating is already provided for other purposes. It will be shown later that international marketing arrangements tend to restrict the types of chemicals that can be used — a case of northern standards being exported.

Once the site has been prepared, a greenhouse has to be erected. Due to the opening of the Zimbabwean economy, there is a choice of imported or local greenhouses. Imported are more expensive than local, but do have certain advantages. They tend to be of steel, to be longer lasting, to have lower maintenance costs, to be designed and produced to international standards and to be guaranteed. By comparison, most local greenhouses tend to be of wood, to have a shorter life span, to have higher maintenance costs and do not incorporate modern

international designs and standards. In addition, because the local ones are generally erected by the grower, they do not come with guarantees.

The most important difference is that imported tend to be high-tech and local low-tech. It is possible to produce high quality flowers in a low-tech greenhouse, but all the high-tech additions make management easier.[6] Because it is harder to regulate the climate inside a wooden greenhouse, they have more pest-related problems and therefore require higher consumption of chemicals than high-tech greenhouses. Although no rigorous tests have been carried out in Zimbabwe to compare production capacities, preliminary results from an experimental station at Blackfordby suggest that locally produced wooden greenhouses produce 122 stems per square meter compared to 224 stems per square meter from imported steel greenhouses.

Despite the advantages of imported structures, most growers in Zimbabwe continue to use locally produced wood-and-plastic greenhouses, because they are cheaper. The devaluation of the Zimbabwe dollar has made the comparison progressively worse over the past few years. In 1996, a typical domestic greenhouse costs Z$463,000, or 60 per cent of the cost of an imported one (US$124,000 or Z$800,000). By 1999, a low-tech wooden greenhouse costs Z$600,000 to Z$1m or less than a quarter of the Zimbabwe dollar cost of an imported one (Z$4.6m).

There are duties of between 10 and 20 per cent on imports of materials used in the construction of greenhouses, and of 15 per cent on greenhouses themselves. Growers interviewed felt that this is a misguided attempt to "protect local industry", arguing that it raises the costs of greenhouses and greenhouse components, and restricts the choices of the local floriculture industry and that the industry that needs protection is the floriculture industry, not the greenhouse industry. However, there may be a case for protecting the greenhouse industry, although it should be recognized that doing so may reduce the competitiveness of the final producers. As with any import duty on intermediate and capital goods, the costs are borne by the final user. Import duties in general harm exports, which may not be sensible.

Going the high-tech route does not mean that a producer can make a significant reduction in his work force. The most labour intensive operations occur in the packshed (grading, bunching and packing) and the greenhouse technology does little to change this. However, high-tech greenhouses can serve to reduce the cost of spraying because it is possible to better control their internal environment and therefore reduce pest-related problems.

The grower also has to choose what irrigation method to adopt. Drip irrigation is the most common method used in Zimbabwe. This has a number of advantages over other systems, chief of which is that it reduces the use of pesticides and herbicides by cutting the potential for disease and by permitting more efficient use of chemicals and water. There is also less labour, energy and preparatory work required. However, drip irrigation can suffer from clogging due to the small size of the dripper orifice. This militates against the use of locally produced fertilizers, as they are unable to produce greenhouse quality chemicals.

[6] Una Woodhouse, Wingflora, pers. comm.

The initial investment also includes the building of packshed and storage facilities. While there are many designs of grading facility, there are some basic requirements that must be met in order to achieve the quality of product expected by the export market. Ideally grading houses should be situated near to the greenhouse in order to get the flowers into the cold chain as quickly as possible. The refrigeration unit used in the cold room should be able to keep temperatures between 2°C and 4°C. On large projects, there is usually one cold room to store freshly harvested flowers prior to grading, and another to store graded and bunched flowers prior to packing. Temperatures in the grading shed should not exceed 22°C. Measures to keep temperatures below this include painting the grading shed roof with reflective paint, positioning shade cloth beneath the roof, and keeping the floor wet. The latter also helps to increase humidity, which should not fall below 60 per cent so that water loss from harvested stems is minimized.

Clean running water must be readily available for harvesting, post-harvesting and cleaning purposes. A one-hectare project can be expected to use around 5,000 litres of water daily.[7] The floor of the grading shed should be kept clean to reduce the spread of disease.

Electricity must be available for lighting, the cold store refrigerators and computers used in the office. The cold room also contains equipment such as guillotines, bunch binding, box strapping and grading and bunching tables. The first three of these tend to be imported.

Plant material is one of the major capital outlays when developing a cut-flower project. In addition to the costs of the actual plants themselves, growers pay royalties for the right to sell certain breeds. These are approximately US$1 per bush, and must be paid within one year of the start of commercial production. They are quoted in foreign currency (usually US dollars or Dutch guilders), regardless of whether the plants themselves are imported or locally propagated. Because of this, their domestic cost increases as exchange rates increase. A one hectare rose project requires 60,000 to 70,000 rose bushes.[8] In 1999, propagated bushes cost around Z$17 per bush,[9] or between Z$1m and Z$1.2m per hectare. The total cost of plant material for a new 1-hectare rose project, including royalties, would therefore be in excess of Z$3m. This is an additional cost to the initial outlay for infrastructure.

Summarizing the above, the typical set-up costs for a one hectare cut-flower project are Z$8m for a local wooden greenhouse and Z$12m for an imported high-tech greenhouse. High startup costs make it difficult for small-scale growers to enter the industry. However, these costs focus on greenhouse production of roses, which are the dominant product. Although it is possible to grow other varieties that avoid the royalty and greenhouse costs associated with roses, in Zimbabwe most cut-flowers for export are grown in greenhouses. In any case, the site preparation, irrigation and packshed costs remain, taking the set-up costs of these projects beyond the capacity of a typical small-scale farmer.

Both the initial set-up costs and the running costs include imported and local costs. With the devaluation of the Zimbabwe dollar since liberalization, the relative returns on the two basic choices — imported or local greenhouses — have changed markedly in favour of the latter. This shift in incentives runs counter to the pressures arising from general quality

[7] *EFGAZ Grower's Handbook*, 1996.
[8] *EFGAZ Grower's Handbook*, 1996.
[9] 1999 prices for propagated bushes.

considerations. Although it is possible to grow good quality flowers in the local greenhouses, they do require greater use of chemicals. As the environmental standards required by northern markets become tighter, this could constrain the options for the industry.

Box 2: Infrastructure development on cut-flower farms

Farm infrastructure for workers includes housing, water provision, sanitation, health, educational and recreational facilities. Although clinics, housing and schools can be found on nearly all commercial farms in Zimbabwe (and are therefore not a result of cut-flower production *per se*), flowers provide farmers with ready cash to develop infrastructure. On all the farms visited, several improvements had been made since the rose project began. While some of these improvements were essential to satisfy labelling requirements, others (such as recreational facilities) were voluntary changes that farmers made to improve workers' way of life.

One of the farms interviewed has built a new school (Grades 1-7) since the initiation of its rose project — partially funded by profits from flowers.

While label programmes do not formally require that childcare be provided to employees, they do suggest it. On all farms visited, crèches have been built since initiation of the cut-flower project. One of the larger farms has actually built four crèches and employed child-care workers in different areas of the farm to cater to the needs of all farmworkers — not just cut-flower workers. Every child 3 months or older can be left at the crèche when its mother is at work. However, they were not erected to satisfy any international standards of labour regulations. They were built before labelling because the farmer perceived they were sensible given the female labour intensive nature of cut-flower production. On another farm, workers are required to pay Z$10 per month to use the crèche facilities, and this fee goes towards hiring a childcare worker to run the crèche.

Recreational facilities on farms provide workers with activities to keep them entertained when they are not working, and improve their standard of living generally. Nearly all farms in Zimbabwe have a community hall, a beer-hall and a soccer club for their employees. Although flower-labelling programmes do not have specific clauses for the provision of recreational facilities, it appears that some cut-flower farms have given more attention to employee recreation since the initiation of such schemes. These improvements range from building a new beer-hall to developing a farm library. Other activities include farm development committees, women's clubs, netball clubs and provision of television. Despite the improvements made on these farms, many women employees still feel that there are no leisure activities designed for them.

The most important thing about infrastructural developments that take place as a result of cut-flower production is that these changes affect everyone on the farm. Floriculture has wide reaching benefits to rose workers and tobacco workers alike.

3.5 Production process and costs

Running a cut-flower project is a labour- and management-intensive process. Caring for the plants requires regular spraying, budding, pruning, watering and monitoring for disease and other problems. All of these activities require a trained workforce with proper supervision.

Although there are variations, the process by which flowers are harvested and prepared for sale is fairly standard. They are picked at least once a day (but up to three times daily in hot weather). It is essential that they are harvested at the right stage, so that they have adequate vase life when they reach the end consumer. Again this requires trained workers who are able to judge when a bud should be picked. Once picked, the flowers are treated to eliminate bacteria. They are then taken to the packshed in preparation for grading, sizing, defoliation and bunching. They are then packaged and stored in the coldroom before shipment. Typically it takes 3 to 4 days between picking in Zimbabwe and sale on the foreign market.

Recognizing that Zimbabwean growers are competing in Europe with growers who are able to pick and deliver in one day highlights the importance of the process to keep the quality just right. This raises the premium on training of workers and is one of the influences pushing farmers towards the use of permanent rather than seasonal workers.

The most important thing to note in this process is the apparent division of duties by gender. Traditionally, at least half the workers on cut-flower projects are female, and packshed workers (graders, bunchers, and packers) are invariably female. Packshed duties — where great dexterity is required in order to avoid damaging the newly picked flowers — are thought to be "women's jobs". During interviews with growers, a number of instances of this "nimble fingers" outlook were encountered.

Combined with the fact that very few packshed duties can be automated, this has implications for workforce composition. All of the farmers interviewed in this study indicated that even with automation there was very little scope for reducing their workforce — grading, sizing, and bunching must be done by hand. The outcome is that work will always be available to women.

Unless a farmer receives exceptional prices for his produce, it is necessary to export 30 tons per hectare per year to remain viable.

Table 8 provides a breakdown of the proportional running costs of a rose project.

Any chemical imported into Zimbabwe for the purposes of re-sale must be registered by the ACIA, the board that governs use of agricultural chemicals. In order to be registered, up to 3 years of product testing must be carried out, and all the research results and toxicological data submitted for examination. The budget for horticultural research and development is small, and this means that very little research has been done, and very few chemicals are available to horticultural producers.

One way the cut-flower growers can get around this is to bring in their own chemicals. This, however, is time consuming and logistically difficult.

Although Zimbabwe has its own chemical manufacturing industry, the grade required for drip irrigation in greenhouse cannot be made locally, and growers rely heavily on imported products. More than 80 per cent of the chemicals used in floriculture are imported. Even domestically supplied chemicals have a high import content. This means that devaluation has affected chemical prices enormously, increasing running costs. In addition, suppliers now find it too expensive to hold stock of chemicals and there are often shortages.

Table 8: Typical variable costs, 1992/93

Details of costs	Percentage contribution
Running costs	5.20
Wages	14.21
Repair and maintenance	9.32

Packaging	4.43
Airfreight	59.65
Incidental growing costs	0.50
Fertilizer	2.22
Chemicals	1.92
Administration	2.55
TOTAL	100.00

Note: These proportions relate to 1992/93. The subsequent devaluation of the Zimbabwe dollar will have raised the proportion of imported components — airfreight, fertilizer and chemicals — relative to the domestic costs.
Source: Ndlela, 1994.

It was not possible to estimate the amount of jobs in the domestic chemical industry which could be attributed to the existence of the cut-flower industry. The impression is that although cut-flower production makes intensive use of chemicals, the additional demand for chemicals created is very small in relation to the overall agricultural industry, and that the employment consequences are therefore likely to be low.

Growers are responsible for packaging their roses before export. Packaging materials are either locally produced or imported. Locally produced packaging materials are usually not up to international standards set by major competitors. Each carton must contain all the information required by the importer to describe the contents and destination of the flowers. Packaging materials can be bought from marketing and freight agents.

The influence of labelling is discussed below (Section 4). However, it should be noted here that parts of the production process are beginning to be influenced by globalization through environmental and health concerns in market destinations. For example, the European Union does not condone the use of methyl bromide, a chemical that is used extensively in Zimbabwe as a nematodicide, a weed killer and fumigant. However, if Zimbabwean producers do not use methyl bromide, they have to use a range of alternative chemicals — at greater volumes — to achieve the same results. It has not been possible to verify whether this raises the costs of chemicals, although this seems likely.

3.6 Financing

It has been shown that the set-up costs for a cut-flower project are high. This means that both new entrants to the industry and, to a lesser extent, expanding existing growers typically rely on borrowed finance. The macroeconomic instability in Zimbabwe has resulted in high and rising interest rates, reducing the viability of investment projects. Bank lending rates are currently around 50 per cent. The simple rates of return calculations suggest that rates of return are approximately of the same order. This bears out what one interviewee suggested: that although the returns are good for those already established, in the current climate it is not worth borrowing to enter the sector.

Borrowers face other problems besides the high interest rates.

- The approach to land reform adopted by government has made banks reluctant to accept land as collateral on loans. The need for land reform, away from the inherited colonial patterns, is indisputable. However, in an attempt to acquire land from commercial farmers for redistribution, government has adopted a policy of designating farms that

will be acquired, at some stage in the future. The uncertainty that this introduces over the future of farms undermines investment in agriculture. In addition, the designation exercise has entailed several reversals of policy by government, with some designated farms being subsequently undesignated. This lack of clarity and transparency over the rules and procedures has added to uncertainty.

- The financial market liberalization, coupled with high government borrowing, has induced banks to channel investment funds into the money market rather than into real investment. This means that there is still extensive credit rationing, so that it is not always possible to borrow, even at the high interest rates.

It is possible for cut-flower producers, as exporters, to seek offshore financing. However, the recent volatility in the exchange rate has made investors wary of doing so.

These financing problems affect not only the initial investment, but also financing of working capital. To some extent, because of the quick turnover of the output, flower growers are more sheltered from this problem than other producers.

Another finance-related aspect of the business is related to Foreign Currency Accounts (FCAs). After the economic reforms in 1991, corporate FCAs were introduced, so that exporters were allowed to hold export proceeds in foreign currency, converting it to Zimbabwe dollars as and when it was needed. This provided some hedge against depreciation. It also meant that growers could avoid transactions costs associated with converting export proceeds into local currency and then having to buy foreign exchange to pay for imported inputs. The spread between buying and selling rates is relatively high in Zimbabwe, as are commissions, so that moving in and out of currencies is expensive. However, at the beginning of 1998, the government removed these accounts, on the grounds that they were being used to speculate against the Zimbabwe dollar. While this may have been the case in some instances, the blanket removal of the accounts has imposed a cost on many real producers in the economy, including cut-flower growers.

3.7 Transport

Once harvested and packaged, flowers must expeditiously find their way to market. Nearly 60 per cent of running costs go towards airfreight (see Table 8). The majority of Zimbabwean cut-flower exports are air freighted to major markets in Europe, America and Australia. Some exports are transported by refrigerated truck to Johannesburg. Growers use insulated trucks to deliver produce from the farm to a refrigerated holding space provided by a marketing or freight agent. Flowers are often sent to Holland and then trucked over to the United Kingdom to supermarkets.

Because flowers are perishable goods destined for foreign markets, efficient, reliable and adequate airfreight facilities are essential for the sector. Up until around 6-7 years ago, the state-owned company, Affretair, carried most cut-flower exports out of Zimbabwe (Table 9). Freighting was highly unreliable and there were many stories of lorry loads of flowers been sent back to farms.[10] However, with the opening up of the skies, and the growth of chartered freight services, airfreight has become much more reliable,[11] and 1998 was the best year yet.

[10] *EFGAZ Growers Handbook*, 1996.
[11] Jan Gilmore, pers. comm.

Table 9: Share of cut-flower exports carried by Affretair, 1989-98

Export season	Total tonnage of cut-flower exports (tons)	Percentage carried by Affretair	Percentage carried by other airlines
1989/90	2,883.57	47.7	52.3
1990/91	3,722.04	40.9	59.1
1991/92	4,792.26	36.9	63.1
1992/93	5,216.91	63.8	36.2
1993/94	5,769.21	64.4	35.6
1994/95	9,095.44	40.9	59.1
1995/96	11,629.74	38.3	61.7
1996/97	13,832.19	22.5	77.5
1997/98	13,837.61	16.6	83.4

Source: EFGAZ records.

For some markets, shippers have to rely on transshipping to other carriers at various points along the route. This can create problems for agents. It sometimes turns out that, for various reasons (such as high temperatures), the carriers have to reduce the load they can carry. When this happens at Harare airport, agents can intervene to ensure that it is not their cargo which is off loaded. However, when this occurs along the route, they lose out to pressures from other agents at the airport where transshipment occurs. Interviews with freighters provided some anecdotal evidence of Zimbabwean consignments being dumped in Johannesburg, in preference to South African exporters. The perishability of the flowers means that these consignments have to be written off.

3.8 Marketing

Because floriculture is an export business, growers rely heavily on marketing agents to sell their products. While one or two of the big growers export directly, most operate through companies that have been formed to market cut-flowers. The *EFGAZ Growers Handbook* lists nineteen exporters and four forwarding agents. Most of the marketing agents use separate freight forwarding companies for handling transport. Only one marketing company with its own coldroom and freight forwarding facilities was found in the sample interviewed. It appears that growers tend to establish permanent relations with a particular marketing agent, although this is by no means universal. Those agents who do establish permanent relationships with growers appear to invest in providing growers with information on quality requirements. Some even do their own quality control testing. They also attempt to establish permanent relations with particular outlets in the destination countries, although the relatively small volumes of Zimbabwean production make this difficult.

Other agents essentially act as local buyers, making up their own consignments from a number of different growers. These agents tend to supply the auction markets, rather than specific outlets. It was suggested to us that this type of arrangement leads to less concern about the quality from individual growers.

At peak periods of the season, even agents with permanent relationships will seek *ad hoc* suppliers to make up consignments to meet the larger quantities they have contracted to

supply. This means that there is competition amongst the agents, with consequent pressures on them to be efficient and to maintain the quality of their services.

The intricacies of agents' arrangements have not been explored in detail, although it is clear that these have important implications for the viability of the industry. It is common in the industry for consignments to be discarded at the destination because they are regarded as substandard. The testing for this is based on sampling, so that it is possible for acceptable quality flowers to be discarded because they are pooled with substandard ones. Some agents base the price paid to the different growers in a consignment on the average for the whole consignment. There is then little feedback to the individual growers about the quality of their produce. Others give detailed feedback to the growers about the prices received for their individual output. In the long run, it seems to us that this latter approach is more conducive to raising quality in the industry. However, the costs of freighting can be reduced by pooling, so that small grower have to rely on it. If the commission to agents is influenced by the amount of information and feedback they provide, it will be rational, at least in the short run, for small growers to trade off the higher quality for the lower cost service provided by pool marketing.

Detailed information about both the amount and the quality of employment created by these ancillary services would have been useful for this study. Unfortunately time has made this impossible. However, the agents all appear to be relatively small employers, so that it is unlikely that they have collectively created more than 1000 jobs in total. Since some of these agents also work in other areas, the net employment that can be attributed to cut-flowers is much lower.

3.9 Labour

The floriculture industry is extremely labour intensive. According to the HPC and EFGAZ, cut-flower projects employ an average of 30 employees per hectare, and this equates to roughly 27,000 workers on cut-flower farms in Zimbabwe. This would be 8 per cent of the 340 000 workers employed by the large-scale commercial agricultural sector in 1997.

Cut-flower workers are classified as general agricultural workers, whose employment conditions are regulated by the National Employment Council (NEC) for Agriculture, a body which includes employer, employee and government representation. The relevant details of the current NEC agreement are provided in Box 4 below.

The HPC indicated that cut-flower producers tend to pay their employees more than the minimum wages laid down for agricultural and plantation workers. There is indeed some evidence for wage premia on all the farms visited. (The unrepresentative nature of the sample should be recalled, so this may not be the case for 'bad practice' farms.) While all of the farms paid their workers the agreed national minimum as the basic wage, they supplemented this with a variety of bonuses. This approach means that farmers are not legally required to increase the total remuneration package when the NEC agrees to increases in basic rates. The farmers interviewed generally indicated that it made economic sense to pay more than the agreed minimum, because of the improved labour relations it created. The motivation appears to be akin to the 'efficiency wage' theory in economics. It was not clear what role globalization, through international labour standards, played in determining the premia, but most farmers were insistent that producing cut-flowers had little to do with their decision.

This seemed to be supported by the fact that on only one farm were cut-flower workers paid more than similar grade workers in other areas of the farm. This evidence had been sought to determine whether improvements in the conditions of cut-flower workers spilled over to other farmworkers. Since there are no differentials, it is clearly possible that the conditions of cut-flower workers pull up the conditions of all workers. However, given the argument in the previous paragraph, this improvement cannot be directly attributed to international labour standards. In so far as globalization does lead to higher wages across the board, it is probably through the greater economic viability it creates. It would be interesting to undertake a fuller study to compare wages on farms with and without cut-flower production.

Even on the one exception, the difference was small (Z$28/day for rose workers compared to Z$26/day for other workers). The farmer indicated that this difference was due to the fact that rose workers work full days, longer hours, and are more skilled than other workers on the farm. She had received no complaints about this wage difference from other workers on the farm.

Box 3: Example of labour payments

On Farm X, all permanent general workers on the farm are paid the same wages. Each worker receives minimum wages plus a Z$20 company benefit, and lights and fuel allowances of Z$5.28 and Z$7.92, respectively. In addition, foremen receive incentive bonuses, and there are production incentives for packers and sprayers which range between Z$30 - Z$70 each month. These incentives are deductible if there are problems (e.g. absenteeism). The farm manager feels that there should be different wages and incentive schemes for workers in tobacco and the roses because responsibilities in these sections are different. Overtime work is paid at 1.5 to 2 times normal hourly rates depending on when overtime hours are worked. December bonuses are calculated at double the basic monthly salary. The farm has a policy to reduce this if there has been a lot of vandalism and theft on the farm in the previous year.

Some farms pay some or all of their workers incentives for production. In some cases, these production bonuses are based on the numbers of stems sold each month, and varied between Z$30 and Z$140 per month on the farms visited. Several positions — most notably bunching, grading and packing — lend themselves well to incentive payment. On one farm, bunchers were paid 26.5 cents per bunch — and as a good buncher can bunch an average of 200 bunches per day this amounts to more than Z$1,200 per month. Sprayers are also given bonuses because they often have to work late at night or early in the morning to get the spraying done.

Box 4: National Employment Council regulations

Wages, conditions of work and allowances are laid out in the Collective Bargaining Agreement: Agricultural Industry. This covers all agricultural workers and there are no special clauses relating solely to those in the cut-flower sub-sector.

The relevant features of the current agreement are as follows:

- Minimum monthly wages vary from Z$664.08 per month for a Grade 1 worker, to Z$945.53 for a Grade 7 worker. Details of grades are laid out in Appendix 4.
- Employees who do work in a Grade lower than their normal one must be paid their normal wages.
- Employers cannot reduce the wage of an employee for any time not worked if the worker was able and willing to work.
- Employers must pay allowances for accommodation, transport, light and fuel if they do not provide these directly. The total allowance are currently set at Z$76.56.
- Hours of work are limited to 299 hours per month for herdsmen, watchmen, boilermen, firetower attendants, pump attendants, guards and caretakers and 221 for all other employees.
- Every employee should receive at least one day off per week
- Before placing an employee on short-time work, employers must obtain written consent from NEC and must give the respective employee at least one month's notice. Short-time workers must receive at least 60 per cent of their normal weekly wage.
- 24 hours notice must be given before overtime work is required. Overtime work during industrial holidays must be paid at twice the normal wage rate. During working hours employees receive 1.5 times their normal hourly pay for overtime work. Outside working hours employees receive 2.5 times their normal hourly pay.
- Deductions are only allowed when an employee is absent from work on days other than industrial holidays, sick leave, and vacation leave. The employer is compelled by law to pay on behalf of the worker (e.g. National Social Security Administration (NSSA) levies, GAPWUZ membership).
- An employee must be paid within 72 hours after termination of employment.
- Workers can be paid more than the minimum wage based upon performance.
- A seasonal worker is one who works for an employee for less than 8 months in one year. Seasonal workers can be employed on a daily notice basis within the first seven days, but must be employed on a weekly notice basis thereafter.
- Permanent employees accumulate 1 day of paid vacation leave per month worked. They are required to apply for vacation leave 6 weeks in advance. Employees in positions of work with a seasonal peak may be required to take their vacation leave during off-season.
- During the probationary period, employees are not entitled to paid sick leave. A total of 26 working days can be paid sick leave provided a doctor's certificate is issued stating the employee is unfit for work.
- Every employee shall be provided with protective clothing as required in terms of the Hazardous Substance and Articles Act. Protective clothing remains the property of the employer if the employer maintains the clothing; if the employee does this, the clothing becomes his property after 3 months.

Source: National Employment Council for the Agriculture Industry of Zimbabwe, *Collective Bargaining Agreement: Agriculture Industry (Wages)*. Statutory Instrument 259 of 1998.

Several farms gave their workers attendance bonuses, either in the form of cash (e.g. Z$20 per month) or maize-meal (see Box 5). These bonuses are reduced if workers are absent without explanation. On one of the farms, all workers were paid a "permanent workers bonus" of Z$20 per month. The idea behind this is to encourage workers to become permanent. On two other farms, each worker on the farm is paid a bonus of Z$20 per month to ensure that everyone is paid above the national minimum.

Farmers have different ways of paying for overtime work. Most farms pay an hourly overtime rate. In some cases, workers are given time off in lieu of overtime. One farm pays a flat payment of Z$12-Z$13 per day that overtime work is done, no matter how long the overtime

hours worked. Since workers do not do more than a couple of hours overtime each day, this works out to be a very reasonable hourly overtime wage rate.

Box 5: Assistance to workers on cut-flower farms

> "*Inflation and the devaluation of the dollar is not affecting us very much because we are provided with many of the basic things — for example, maize-meal and meat — at a rather subsidized price by the farmer*."
>
> Felix (27), maintenance worker on a 5-hectare rose project

Flower labelling schemes insist that cut-flower workers are paid a living wage that is at least commensurate with the legal national minimum wages for the agricultural sector.[1] In Zimbabwe agricultural minimum wages are so low that they do not meet basic needs of workers, or provide them with discretionary income. For this reason labelling programmes have encouraged growers to increase salaries of cut-flower workers. This however, has potential problems because there are workers in other areas of the farm who will be disgruntled if they earn less than a worker of similar grade in the cut-flower section. Farmers who are trying to enrol on labelling programmes also have problems with neighbours when they increase wages too far above the minimum.

One way to get around these problems is to improve non-wage benefits to workers. Usually this is in the form of food assistance, where each employee receives free or subsidized maize-meal, meat and other food products. One farmer spoken to gives each farm employee (including non-rose workers) 20 kg of maize-meal a month, with the option to buy a further 20 kg for Z$50. As current (1999) maize-meal prices are approximately Z$115 per 20kg, these food benefits contribute significantly to workers income . . . without being a tangible "wage" benefit. Another farm provides maize-meal at Z$80 per 50 kg and meat at Z$20 per kg, and the farmer produces 100 tons of maize-meal each year solely for on-farm consumption by his staff.

All the farms visited allow workers to set up vegetable gardens where they can grow their own food. In some cases, a water source has been provided specifically for these gardens. One farm has large eucalyptus plantations, and gives employees free firewood.

Transport assistance is another important non-wage benefit. During the cut-flower season, delivery trucks go into town on a daily basis and on all but one of the farms visited, employees can catch lifts on these trucks. In addition, farms provide transport for furniture purchased by employees, and take employees to the hospital when they are ill.

Funeral assistance in the form of time-off, wood for coffins and food is another important way the farmer can help his employees. In some cases, money is also given to the worker, and this may be as a direct cash payment or as an advance of monthly wages. On one of the farms, workers do not rely solely on the farmer for assistance with funerals, but have organized a fundraising group in the compound which sells beer to raise money to assist workers with funeral expenses.

Non-wage benefits help to improve the morale of workers. Many of the workers interviewed gave such benefits as a reason for their satisfaction with their current working conditions.

[1] *International Code of Conduct for the Production of Cut-flowers.*

4. Labelling

4.1 Background to labelling programmes

"Trade union rights, a living wage, the exclusion of child labour and highly toxic pesticides and the protection of the health and safety of the women workers on the flower plantations"

Frank Brassel
FIAN Director

Environmental and social issues in international trade have become very prominent in recent years. Consumers in destination countries have become increasingly concerned about the impacts of flower production on the environment, and on cut-flower workers. These concerns have, in some countries, been perceived by growers as non-tariff barriers to their products in European markets.

The floriculture industry makes intensive use of crop protection agents and fertilizers. In Europe, environmental organizations have put pressure on producers to reduce the usage of these chemicals, and environmental regulations have been strengthened. Flower growers in Europe have had to examine their production processes in order to meet increasingly stringent regulations. Growers who export their flowers to Europe have also had to meet consumer demands. The industry now has several special "labels" by which to identify produce which has been produced in an environmentally and socially acceptable manner.

Initially, floriculture labels were set up by interested private parties in the North as a means of protection, or to obtain a marketing advantage over competitors. This non-tariff barrier continues to be of concern.

The Dutch-based Floricultural Environmental Project (MPS) is an example of a labelling programme created by the private floricultural sector. Dutch producers, forced to follow strict environmental regulations, were concerned that they were at a competitive disadvantage to growers in the third world where such regulations were more lenient. Growers on the MPS scheme must keep a record of the amount of crop protection agents and fertilizers used, the energy consumed and the amounts of waste produced. Over 50 per cent of suppliers to the Dutch auctions are MPS accredited. MPS became international, reaching Zimbabwe in January 1999. The emphasis of MPS is on environmental issues such as waste management and water usage. To date, 14 Zimbabwean growers have been examined by MPS. This requires that they keep detailed records on waste management, water and energy usage, and pesticide/fertilizer levels for one year. They then submit these records and are assessed on both the records and an inspection. After assessment, growers are graded on a scale according to their compliance with the laid down standards. Another 30 Zimbabwean cut-flower producers started on the MPS scheme in January 1999, and these will be inspected in January 2000 for grading.

Another green label has been developed by a large supermarket chain (Migros) in Switzerland as a way of obtaining a marketing advantage for their flowers. Working closely with Foodfirst Information and Action Network (FIAN), they developed the *Fairtrade* criteria for green floricultural production. Migros is willing to pay an extra 0.5 US cents per stem for roses from inspected and accredited farms. The philosophy behind this is that they pay more to the farmer who then passes on these profits to his workers in the form of higher wages, improved

infrastructure and facilities.[12] Immediately farmers began to see the financial advantage of following green regulations, workers wanted to co-operate with the scheme and the supermarket improved its sales and reputation. The interesting thing is that the end Swiss consumer does not pay more for a green product — rather the supermarket sells more flowers because of its reputation. Migros has developed an image for Zimbabwean flowers in Switzerland, and this is good for Zimbabwean growers. FIAN believe that while labelling programmes might constitute a non-tariff barrier to trade, they also serve to promote flowers from the South.

A number of independent labelling programmes have developed around the floriculture industry. One such programme is the German-based Flower Label Programme (FLP) which was developed in 1997 by the German importers association, BGI, to meet the requirements of the European flower campaign. This campaign is sponsored by a number of environment and human rights organizations. These organizations — which include FIAN, the Protestant relief organization, Bread for the World, and *Terre des hommes* — assert that production methods in third world countries commonly involve infringement of human rights and damage to the environment. Independent monitoring of a socially and environmentally sustainable cut-flower production involves a coalition of organizations. Germany is the biggest importer of cut-flowers in the world, and has some clout to insist on green production techniques.

The FLP is an example of a labelling programme that is not privately owned. FLP comprises an unusual alliance of NGOs (both human rights and environmental), growers, consumers and trade unions. The first country to start on the FLP label was Ecuador in 1997. Until recently, the FLP has been difficult to market to the consumer because NGOs and human rights groups do not agree that the German importers should benefit financially from the label. However, in early 1999, FIAN reached an agreement with BGI, such that the organization has given its seal of approval to the FLP, as long as BGI agrees to principles laid down by FIAN. The FLP moved to Zimbabwe in mid-1998, and 8 Zimbabwean producers were accredited in January 1999. These growers are on a pilot scheme funded by the German government. After one year on the label, growers will have to start paying subscription fees to remain in the programme.

The *International Code of Conduct for the Production of Cut-flowers*, which was presented by NGOs and trade unions in August 1998, aims to guarantee that flowers have been produced under socially and environmentally sustainable conditions. The *Code* — which is based on the core ILO standards, the universal human rights standards, and basic human rights standards — states the minimum labour, human rights and environmental standards for the international cut-flower industry.

The main areas covered by the *Code* include:

1. Freedom of association and collective bargaining
2. Equality of treatment
3. Payment of living wages
4. Acceptable working hours
5. Satisfactory health and safety procedures

[12] It is not clear whether farmers' practice actually follows this philosophy. Although farmers have improved conditions, it is likely that this is more as a result of the inspections than the extra price incentive.

6. Adequate control of the handling and disposal of pesticides and chemicals
7. Security of employment
8. Protection of the environment
9. No use of child or forced labour.

The *Code* is intended to ensure that hours of work comply with legal and industry standards. However, although these standards are defined at a national level, there is also an implication that they should be internationally acceptable. At present the National Employment Council in Zimbabwe provides for a 51-hour working week, which is above levels acceptable in industrial countries. Already, one or two cut-flower farms have shifted their entire workforce (not just cut-flower workers) onto a 48-hour week. A change in the cut-flower industry might force the entire agricultural industry to reduce the working week, with huge implications for farmers and agricultural production.

The *Code* also attempts to ensure that adequate protective clothing is provided. Cut-flower workers must be provided with waterproof shoes, which has caused occasional problems because tobacco workers are not provided with footwear. Some farms have responded to this by giving gumboots to all their workers. This is an instance of the positive impact of cut-flower labelling spilling over to improve conditions for other workers. Where housing is provided, the *Code* requires compliance with a minimum standard for size, ventilation, cooking facilities, water supply and sanitary facilities. Although FLP has no strict requirements regarding housing, producers are encouraged to move from the traditional pole-and-dagga housing towards electrified housing with running water. Such changes require capital input, much of which comes from tobacco profits. Small-scale growers might have difficulty making the changes fast enough.

Finally, the *Code* also addresses the conditions of seasonal workers. Work which is not by nature seasonal or temporary shall be done by workers on permanent contracts. Provisions for non-permanent and seasonal workers should not be less favourable than for permanent workers. Both of these stipulations provide an incentive for farmers to shift towards a permanent work force.

4.2 Environmental issues

Zimbabwean producers have difficulty meeting international chemical requirements for several reasons. Firstly, Zimbabwe has very stringent laws governing the use and distribution of agricultural chemicals. New chemicals need to be trialed and tested over a period of three years, which means that alternatives to banned chemicals require some time before they can be used.

Secondly, Africa tends to be a bit of a dumping ground. Large international drug cartels still produce chemicals banned in many first world countries and make them available to third world producers. Where these are accepted by local laws, there may be strong price incentives to use chemicals that are not acceptable to labelling programmes. Changing to acceptable alternatives takes time and often involves higher costs, either because of higher prices or because *more* of other chemicals have to be used to achieve the same result.

Finally, Zimbabwe has problems with pests not found elsewhere — and therefore needs specific pesticides to combat these pests. Certain pests require potent chemicals which may not be acceptable to labelling programmes.

Box 6: Occupational safety on cut-flower farms

Floriculture makes intensive use of chemicals and pesticides and it is for this reason that occupational safety in cut-flower projects has become a major concern. Flower label programmes stress the importance of providing a safe and hygienic working environment to workers, whereby farmers are expected to provide "free and appropriate protective clothing" to their employees. In addition workers should be consulted and trained on safety issues in the workplace. All of the five farms surveyed were very conscious of the need to provide adequate protective clothing to their workers, and that the workers themselves were also aware of the dangers of working with agricultural chemicals.

A range of protective clothing is provided according to the position of the employee. Spray teams — made up entirely of men — have the most contact with (and are most likely to be affected by) chemicals and pesticides. A spraying outfit includes goggles, gumboots, PVC jackets and trousers, overalls, hat and gloves, and currently costs around Z$2,000 for each sprayer. Of all the employees interviewed, it was found that sprayers expressed the most concern about health and safety issues. Headaches after spraying, chest pains caused by inhaling chemicals, skin rashes and eye problems are among the complaints reported. However, all sprayers are required to have periodic blood (cholinesterase) tests, and a negative test result does help to appease some of their concerns about safety. Indeed, one worker stated that he is not worried about his health because every three months he is sent to the clinic for a check-up!

Workers in the packshed and coldroom have less contact with chemicals, and consequently require less protective clothing. They are usually provided with a minimum outfit of gumboots, aprons and gloves. However, working with the guillotine is dangerous, and several bunchers expressed concern over this.

Protective clothing is very expensive, and farmers are continually searching for alternatives to costly commercial products. For example, commercially produced waterproof aprons currently cost Z$108 each (early 1999 prices). One respondent told us that to outfit all workers in his rose project with such aprons costs him in excess of Z$10,000. To avoid this expense, he is currently employing a tailor to sew "home-made" aprons from sheets of waterproof plastic. Another farmer is attempting to design a rubber glove that is comfortable, not hot, and provides protection against thorns.

Other issues of occupational health are not related to chemical and pesticide use, but to the environmental conditions — particularly in the greenhouses and the coldroom where extremes of temperature are experienced. However, most of the workers interviewed indicated that they prefer to work on the cut-flower project rather than in the fields, because they are more sheltered from the elements.

It is interesting to note that because the *Fairtrade* label insists on the provision of shoes to rose workers, one of the farms visited now provides everyone on the farm (including tobacco workers) with shoes. Labelling requirements are having a direct effect on working conditions and occupational health of everyone on the farm.

Re-entry periods — the minimum amount of time that must lapse between spraying chemicals and workers entering the greenhouse — are another issue that Zimbabwean producers must consider. Three years ago, minimum guidelines laid down by labelling programmes included re-entry periods of between 12 and 36 hours depending on the toxicity of the chemicals used. This was completely impractical, and many growers refused to comply with such restrictive regulations. Currently minimum re-entry periods vary from 2 hours to 24 hours, and growers have become more tolerant of these guidelines. When temperatures are high, it is necessary to harvest flowers three times a day, and therefore even 24-hour re-entry periods result in loss of production. Although European growers might be able to work with 24-hour re-entry periods,

since market proximity means they sell their produce the day after it is picked, such extended periods are not feasible for Zimbabwean producers whose produce reaches markets five days after picking. Zimbabwean growers have argued that Zimbabwean greenhouses differ from European ones, in that they have open vents and therefore chemicals dissipate into the atmosphere more quickly than in the closed greenhouses of colder climates.

The unstable economic climate has forced growers to change to cheaper chemical products — and these are not necessarily the most environmentally friendly ones.

Alternatives to chemicals can help to reduce chemical usage. "Fogging" involves closing all the vents in the greenhouse and vaporizing the chemicals and is an efficient way of ensuring that all the plants are treated. Heating the greenhouse can reduce the incidence of downy and powdery mildew.

Most labelling programmes include some leeway about chemical usage — otherwise every grower in Africa would fail the test!

4.3 Labour issues

In Zimbabwe, a seasonal worker is one who works for less than 8 months continuously. This is an unusually long seasonal period. In Kenya, seasonal workers include those workers who work for up to 3 months, in Europe, up to 6 weeks. However, the seasonal period in Zimbabwe is designed to fit in with the long agricultural season. Very often seasonal workers are offered permanent jobs after working for 8 months, with the 8-month period being treated as a probation.

Commercial farmers receive no incentive from government to provide housing for their workers. The National Employment Council collective bargaining agreement creates a very rigid structure, and so even if a farmer wants to raise his wages this causes problems with neighbouring farms. For example, one farm started to give free maize-meal to its workers which created an uproar among other farmers in the area who could not afford to do so.

Labelling programmes provide a way to circumvent some of the rigidity of the collective bargaining agreement. For example, farmers can provide subsidized maize-meal, have a credit system in the farm store, provide workers with vegetable gardens — these are ways to improve non-wage working conditions of farmworkers without going against the collective bargaining agreement, i.e. without "rocking the boat" too much. Often these are things that farmers just have not thought about before, and do not take too many changes to implement.

Some human rights organizations feel that the General Agriculture and Plantation Workers Union (GAPWUZ) is too weak on some issues (e.g. length of the working week). However, GAPWUZ is up against a powerful commercial sector which can apply pressure.

The main impact of labelling on work conditions discerned is that it has increased pressure to shift from a seasonal to a more permanent labour force, thus promoting job security. Because of the high preponderance of female workers in the industry this has had the effect of creating more permanent jobs for women. This has also increased the number of two-income families living on cut-flower farms.

There is an idea that women employees do not want to become permanent because they have to then pay National Social Security Administration (NSSA) levies. In theory, both seasonal and permanent employees are required to pay NSSA contributions. However, in practice, seasonal workers do not pay contributions. Frequently, where both husband and wife are working on the farm, only the husband pays contributions. Since NSSA is primarily concerned with providing retirement benefits, there are no immediately tangible benefits from paying contributions, and many workers see them as simple deductions from their pay.

The FLP has forced growers to give maternity leave benefits to female workers. Farmers have to sign a contract which gives women employees access to three lots of maternity leave, separated by two years. During maternity leave, women are paid 60 per cent of their normal monthly wage.

Some farmers have attempted to cover themselves by getting women employees who do not want to be permanent to sign a waiver saying that this is the case. While this is tolerated by human rights organizations, these documents are not legally binding and will not hold up in court.

4.4 Assessment of labelling issues

It is clear that labelling programmes are one of the major ways in which globalization impacts on the cut-flower industry. It is one of the key aspects of the industry which sets it apart from other, more traditional export industries. It is through these programmes that the 'international values' aspect of globalization is manifested. Moral and environmental values tend to have a high income elasticity, so that rich countries tend to place higher values on these factors than poor countries do. These values are transmitted to poor countries, so that they are forced to adopt not only higher standards than they would if left to their own devices but also than were adopted historically by the currently rich countries at similar levels of development.

Growers interviewed in the field surveys suggested that they had embarked upon some of the measures required by labelling programmes even before they started cut-flower production. This probably reflects the biased nature of the sample (discussed below). However, apart from direct and measurable effects on environmental and work practices, they start a momentum for change. So although the effects may take some time to permeate the whole industry, even producers who have not adopted them have begun to think about how they are dealing with environmental and social issues on their farms. Also growers are starting to react differently to pressure from external sources. Several years ago, the demands of interest groups might have been met with outright refusal from most Zimbabwean growers — now producers are learning how to compromise and tolerate international influences.[13]

Labels have also served to formalize the employer-employee relationship. Workers now have written contracts instead of verbal agreements.

It appears that those farmers who are willing to undertake audits and participate on a label are those who are already concerned about environmental and labour issues on their farms. There is no evidence from this survey as to whether pressure from international labelling programmes is forcing "old guard" farmers to change their production methods.

[13] Louise McAllister, Cargo Park, pers. comm.

The disparity between labelled and non-labelled farms is huge. Even those farms that have recently started on a labelling programme are ahead of those that have never considered enrolling on a programme. Labelled farms have higher production, better quality of product, more regular production, and greater worker co-operation. Those who are not involved in labelling programmes are stagnating, or even slipping backwards. There are huge quantities of flowers produced internationally, but only a small market for these flowers. Eventually some weeding out process will be required to determine who gets to sell their flowers. Labelling will become an issue not of "better prices" but of "do you have a market?"

Although labelling requirements are initially viewed as imposing costs on growers (and this was the researcher's view at the start of this project), in practice the position is much more complex. Growers interviewed were strong in suggesting that the practices adopted actually led to more efficient use of labour. One of the interviewees stressed several times that the improvements on his farm were not done for moral reasons, but because they made sound economic sense. Maternity leave for permanent workers is a case in point. The traditional attitude is that, if permanent workers are entitled to maternity leave, it is more cost effective to use seasonal workers. However, one grower had undertaken a study of the issue on his farm and concluded that, when the full cost of seasonal workers — including training and 'hand over' costs — are accounted for, there was little difference.

Growers can derive high benefits from having a permanent workforce. It is possible to recoup training costs and therefore there is a bigger incentive to train and to create a more efficient workforce. Social stability on farms is promoted by having two-income, permanently settled workers. In the current context, one of the major impacts of such stability is that it reduces the spread of HIV/AIDS (see Box 7 for a discussion of HIV/AIDS). This is of benefit to both the grower and to the country. If these benefits are accounted for properly, then the 'maternity leave' argument falls away.

It would not be true to say that this process is driven solely by globalization through labelling programmes. As indicated, many growers had embarked upon this path prior to starting cut-flowers. Essentially the underlying process is one of a shift from feudal/paternalistic to capitalist agricultural practices. This shift is being driven by many factors which force farmers to make more effective use of labour. Labelling probably speeds up the process.

The feedback from growers — that the various labour practices related to labelling actually improved productivity and cost efficiency — was echoed in discussions with representatives of labelling programmes. They indicated that they had had similar experiences in other countries, where growers who were initially reluctant to adopt the practices were enthusiastically supporting them two years later.

At present MPS is more concerned with environmental issues than FLP, but is currently adding a social chapter to its stipulations, based on the Zimbabwean HPC's Code of Conduct. There are some problems with this because the HPC's Code of Conduct is basically a reiteration of the collective bargaining agreement — and does not include all the stipulations laid out in the ILO Code of Conduct. FLP includes everything laid out in MPS. All labels have basically the same criteria regarding chemical regulations, re-entry times and chemical storage. However, the introduction of a social chapter into MPS regulations is controversial,

because the Dutch growers who initiated MPS are not completely squeaky clean on these issues. It was suggested to us by several interviewees that although Dutch workers on Dutch cut-flower farms are treated fairly, illegal Turkish immigrants may not fare so well. However, it was not possible to verify this independently within the confines of this study.

Box 7: AIDS on cut-flower farms

AIDS is a national problem, which has had impacts not only on labour intensive cut-flower farms but on the agricultural sector as a whole. While there are no concrete countrywide statistics on the incidence of HIV, current estimates suggest that around 40 per cent of people of working age are infected. In recognition of this, the Commercial Farmers Union (CFU) distributes free condoms and sends information videos, drama groups and experts to discuss AIDS with farmworkers. Many farmers themselves give lectures on AIDS every month before pay day, and distribute condoms freely in workshops, packsheds and even at the main farmhouse. However, one of the respondents feels that the government does not make the issue of AIDS public enough, and it is unclear how effective these farm-level strategies are at reducing the incidence of infection.

At least 6 adult workers (from all sections) on one of the farms visited have died of AIDS. The numbers are actually likely to be higher than this because the cause of death is rarely specified as AIDS. One farmer reported that on his farm he is probably losing one to two people every second week to AIDS-related deaths, and that very young people (18-21 years old) are starting to die from the disease. On another farm there have been no deaths in the rose section for the last two years, although workers in other sections of the farm have died.

Survey respondents reported that although very few cut-flower workers have died of AIDS, the disease has had several noticeable impacts on farms as a whole. The number of people taking time off to go to funerals has increased in the last few years, and workers are having to take more paid sick leave. Farms are becoming a refuge for an increasing number of AIDS orphans — both from the farms themselves and from communal areas — and this puts stress on existing housing and educational facilities provided to farmworkers. There is a shortage of labour and farmers are often forced to employ younger people because there is no one else available.

One respondent suggested that AIDS has impacted on the religious beliefs of the workforce. Although many people are Christian, they are falling back on traditional beliefs — i.e. visiting traditional healers — as a means to overcome their fears about the disease.

Although AIDS has negative impacts on the agricultural sector, the cut-flower industry may help to reduce the incidence of the disease. By providing permanent jobs to women — many of whom are married to farmworkers — cut-flowers increase the number of two-income families living on the farm. These families are able to purchase more personal effects (i.e. household goods) and settle down in one area. The resultant stabilization of the workforce reduces traditional inter-farm migration by seasonal workers, and thus the spread of the disease in the long run.

The *Fairtrade* label is soon expected to fall away and be replaced by the FLP which will become the industry standard. Overseas consumers are already demanding green products and labelled growers are almost guaranteed to sell their product because there are so few of them — labelled products sells before non-labelled products. In the next two or three years it is expected that non-labelled product will not sell at all.[14]

There is a move to standardize labelling requirements so that growers who satisfy the regulations laid down by one labelling programme automatically pass the tests for other programmes.

[14] Louise McAllister, Cargo Park, pers. comm.

Box 8: How cut-flower farms can improve working conditions for their employees

One way to quantify working conditions of cut-flower workers is to ask them to compare conditions at their current workplace with those at their previous one. Most of the 34 cut-flower employees interviewed appeared to be content with current conditions. For example, of the 22 workers who have previous work experience on another farm, 14 felt that the working conditions are better at their current place of employment, 4 preferred their previous job, and 4 felt that both places were similar. Of the 25 workers who had experience working in a section of the farm other than cut-flowers, 18 felt that working with cut-flowers was an improvement, 4 preferred the other section, and 3 said that conditions between sections were similar.

Workers were also asked how they would improve their non-wage working conditions. Their responses include:

- employ more workers in the greenhouses to reduce the work load for each worker
- give workers time to go for training courses on chemical usage
- give seasonal worker their own personal protective gear like permanent workers, rather than having a general clothing pool which they share
- pay more attention to workers grievances
- be less strict about work times
- introduce new machinery to make the work easier
- pay overtime wages (only on one of the farms, where overtime was rewarded with time off in lieu)
- provide goggles to defoliators to protect their eyes form thorns
- do not make people spray in the greenhouses when it is hot.

Obviously these suggestions do not apply to all farms. However, working conditions were found to be fairly similar among the farms visited, and these general comments were widespread among the cut-flower employees.

Many workers reported that their lives had changed since working with cut-flowers. Positive changes include:

- the family is now a two-income household
- workers can now support their families
- work is lighter in the cut-flower section than in the fields
- the cut-flower section has a good future
- workers are able to buy furniture, clothing, other personal items and basic commodities
- workers are provided with free housing, electricity and water
- general welfare has improved
- workers are getting better wages than in their previous jobs
- workers can now send their children to school
- workers now have permanent employment (not seasonal).

One worker reported that his lifestyle is diminishing because he used to be a cutter but is now a sprayer and has to work with chemicals. Another worker said that although his working conditions have improved since working with cut-flowers, due to high rates of inflation he is no better off in terms of pay and financial welfare.

One grower is of the view that there are too many different labelling schemes and that Zimbabwe needs to develop its own programme. Although many Zimbabwean growers are not on a labelling scheme, they have had to move in that direction to satisfy their markets. Foreigners want traceability and accountability for the products that they purchase.

It is best if labelling issues are administered through a governing body such as EFGAZ — and not through private companies. Labelling needs to become an industry-wide issue. Until recently, EFGAZ concentrated on the MPS scheme. However, EFGAZ now employ a full-time labelling officer to deal with such issues. In addition, FIAN wants to set up a local

inspectorate to reduce the costs to growers (which amounts to a trade barrier if they have to pay huge amounts every time someone comes out to check their progress!).

5. Conclusions

The major conclusion of this study derives from the impact of labelling programmes, analyzed above. It is clear that this aspect of the cut-flower industry has had, and continues to have, a major impact on the nature of the industry and on the lives of people associated with it. The pressure such programmes place on growers to improve working conditions, particularly by moving towards a stable permanent work force, does seem to improve the lives of workers in the industry. Coupled with the gender balance in the industry, much of this improvement accrues to female workers. There was no evidence to suggest that such programmes increase the costs of production in such a way that the growers respond to them by finding other methods of reducing labour costs. It has been argued above that one interpretation of the influence of labelling programmes is that they speed up the process of transforming labour relations in Zimbabwean agriculture from paternalism/feudalism to capitalism. This appears to be the major conclusion that can be drawn. However, it must be emphasized once again that the 'sample' was biased entirely towards 'best practice' growers. While this does not negate the conclusion, the size of this impact cannot be assessed. To do so would have required surveying 'worst practice growers' and gauging how widespread the influences of labelling are. Nonetheless, discussions with various actors in the industry, including representatives of labelling schemes, suggest that the shift towards them is gaining force: most of the actors believe that the trend is such that in the next five years or so, growers who do not meet labelling standards will find it difficult to export.

The study does not allow much to be said about the impact that these trends in the cut-flower industry have on other sectors of the economy. There is some evidence that they do affect workers in other activities on the cut-flower farms positively (Box 2 and Box 5). However, whether this effect spreads to other farms could not be determined. Intuitively, it would be expected to do so, but perhaps only over a long period. The channel through which the effect is likely to operate is the labour market. Some growers indicated that they faced labour shortages. This would imply that even though the cut-flower sub-sector is a relatively small component of the agricultural sector, its impact at the margin could be high. Improvements in labour conditions in agriculture can only have a positive effect on other sectors, again probably over a long period.

The environmental side of labelling could also have far reaching impacts. The heightened environmental awareness they create is likely to have a demonstration effect. In so far as the programmes cause growers to use certain chemicals, they could also influence the domestic chemical industry to change its output.

Although the positive consequences of globalization through the 'value transmission' in the cut-flower industry have been emphasized, it would be wrong to conclude that everything is rosy. Even with the improved conditions, agricultural workers are amongst the lowest paid workers in Zimbabwe and conditions are not satisfactory by any objective standard. Even on these 'best' farms, the gap between low paid workers and owners/managers is enormous.

However, it seems to us that globalization is, on balance, a positive force in ameliorating this historical structural legacy. If this study had been bigger, conditions on 'non-globalized' farms could have been studied to provide a control group.

Finally, this assessment has concentrated on those in the industry. It is clear that there are some negative impacts on others. For example, the shift away from seasonal workers, which is a major positive influence on the lives of workers who have jobs, means that there is less demand by the agricultural sector for labour from areas surrounding commercial farms. The impact of this on those areas has not been measured. As commercial farming becomes more capitalistic, it is likely that its use of internal labour migrants will decline. This will increase pressures on communal areas and probably reduce income-earning opportunities there. Previous studies of rural income distribution have shown that migrants' remittances are a significant determinant of the standard of living of communal area households. The increasing separation of the commercial and communal agricultural labour markets will reduce such remittances.

It is likely that the Zimbabwe cut-flower industry will grow in the next couple of years. However, this will probably be due more to the expansion of existing projects rather than entrance of new growers. Although the industry expanded considerably in 1998, foreign investment accounted for most of this expansion.[15] The very high investment required to start up a new project, coupled with high finance costs make it difficult for new entrants. This factor is important when considering whether the industry will expand to incorporate more indigenous and small-scale growers. This seems unlikely: there are other areas of agriculture — such as horticulture — in which returns and growth prospects are attractive and which are more accessible to undercapitalized small scale operators.

Obstacles to growth, at least in the short run, are most likely to come from domestic macroeconomic instability. High interest rates have been cited as a major constraint. The depreciation of the Zimbabwe dollar has been an enormous stimulus to the industry. However, it is not clear what the long run future of the dollar is, and this uncertainty is likely to encourage a more cautious approach to expansion. Uncertainty about land reforms — partly driven by the way the reforms have been approached by government — is also likely to reduce expansion.

In the long run it is also necessary for Zimbabwean capacity for research and development in the sector to expand. EFGAZ and the HPC already provide some assistance relating to management and marketing of flowers. This support probably needs to diversify into actual research and development activities if the sector is to become a self-sustaining Zimbabwean activity.

[15] Una Woodhouse, Wingflora, pers. comm.

Box 9: Comparison with Uganda and Tanzania

As part of the overall project, similar studies to the current one have been undertaken for Uganda (Economic Policy Research Centre, 1999) and Tanzania (Semboja and Mbelwa, 1999). There are some strong similarities between the industries in all three countries. In all three, it is a young industry which has grown rapidly in recent years and is becoming an important earner of foreign exchange. Its development has mainly taken place after economic reforms have liberalized the economy. The impetus has come from the private sector with little government intervention, either in the form of controls or explicit incentives. The industry faces similar constraints in all three: the high start-up costs necessitate adequate access to finance which is sometimes difficult. Transport and air cargo handling bottlenecks pose a threat to an industry dependent on fast movement of its products, although these problems seem greater in Uganda and Tanzania than in Zimbabwe.

In all three countries, apart from the economy-wide benefits from foreign exchange earnings, the impact on local communities appears to be largely through direct employment effects, with few spillovers. The Ugandan study only suggests that the industry has contributed to rural stability through provision of jobs, income, public services and amenities to villages surrounding flower farms (Economic Policy Research Centre, 1999: 32). In Zimbabwe, the relatively insulated position of commercial farms in the rural economy restricts the effects on neighbouring areas largely to those operating through the labour market. This appears to be the same in Tanzania.

Although the industry has created employment in all three countries, the amount remains relatively small. However, since women make up the majority of the workforce in all three, the qualitative impact is important. The intensive use of chemicals and of greenhouses gives the industry a high import content, reducing its linkages to other domestic industries.

Against these similarities, there are some striking differences. The industry is dominated by foreign multinationals in Tanzania and by large-scale domestic commercial farmers in Zimbabwe, while there appears to be much more involvement of small-scale domestic producers in Uganda. In Zimbabwe there appears to be a stronger linkage with other domestic industries, reflecting the greater development of Zimbabwe's manufacturing sector. In Zimbabwe there appears to be a much smaller use of temporary workers than in the other two countries. This could well reflect the greater impact that the green labelling movement has had on the industry in that country, although it could also reflect the more biased sample upon which the study was based.

Many of the issues confronting the Zimbabwean industry are faced by growers in other African countries as well. Box 9 draws on studies of the industry in the United Republic of Tanzania and Uganda to highlight some of the most striking similarities and differences. Most of the similarities appear to come from the inherent characteristics of the industry, while the differences come from the different socio-economic structures of the countries, which reflect their different colonial histories. It is interesting to reflect upon the extent to which the industries in the three countries are rivals, or whether there should be some co-operation amongst the growers in the three countries to tackle problems of common interest. Although they compete for shares in the same markets, and are thus rivals, these markets appear to be growing fast, so that there is scope for all African growers to expand without threat to each other. Questions of market access, inter-continental transport, environmental and labour regulation and technological adaptation are of common concern to growers in all three countries and might benefit from a multi-country approach. Similarly, each country might be able to benefit from lessons learned in the others.

The current studies in Tanzania, Uganda and Zimbabwe, are not of the cut-flower industry *per se*, but are rather case studies of the impact of globalization on local communities. There appears to be need for a more detailed study of the industry across the continent, to see whether there is scope for more inter-country co-operation.

The author of this report began the research with the prejudice that, as an export oriented industry, the cut-flower industry in Zimbabwe would display the typical attributes of a traditional export activity. In particular, it was expected that the evidence would show how the globalized nature of the industry put pressure on producers to cut labour costs by keeping down both wage and non-wage elements of remuneration. Although the fieldwork was limited and non-representative, the study suggests that the opposite conclusion could be drawn: the cut-flower industry in Zimbabwe provides a good case study of the positive effects that globalization can have.

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Appendices

Appendix 1: Questionnaire administered to cut-flower farmers

1. When did you start growing cut-flowers?
2. What were you producing before this?
3. Do you farm anything other than cut-flowers?
4. What are your main product lines?
5. Which of these are export-related?
6. What area of land do you have under cut-flowers?
7. How has this changed since you first started in cut-flowers?
8. What proportion of your total turnover comes from cut-flower earnings?
9. How has this changed since you began producing cut-flowers?
10. Are you familiar with the Horticulture Promotion Council's Code of Conduct Manual?
11. If so, have you started to implement any of the suggestions made in the Manual? Which ones?
12. Have you undertaken the Self-Audit outlined in the back of the Manual?
13. Are you participating in the MPS or any other labelling programme?
14. If on another labelling programme, please provide details.
15. How many permanent workers do you employ on your farm?
16. How many of these work only with cut-flowers?
17. How has the total number of workers on your farm changed since you started producing cut-flowers?
18. How has the number of cut-flower workers changed since you started producing cut-flowers?
19. How many additional cut-flower workers do you employ at the peak of the cut-flower season?
20. Since you started producing cut-flowers, have you improved non-wage working conditions (e.g. housing, schooling, recreational facilities) for cut-flower workers on your farm?
21. Have you improved non-wage working conditions for other (non-cut-flower) workers?
22. The National Employment Council has agreed minimum wages for farm employees. Do you pay your cut-flower workers more than the agreed minimum?
23. If so, how much more than the minimum (in per cent) are your workers paid?
24. Has this amount above the minimum increased, decreased, or remained the same, since you started producing cut-flowers?
25. Do you pay your other workers above the agreed minimum?
26. Do cut-flower workers get paid the same as similar grades of workers in other areas of production?
27. How has this changed since you started growing cut-flowers?
28. What proportion of permanent workers on your farm are female?
29. What proportion of permanent cut-flower workers are female?
30. What proportion of your seasonal workers are female?
31. What proportion of seasonal cut-flower workers are female?
32. When you employ seasonal workers, are these the same people each year?
33. What scope do you see for cutting your costs by reducing the work force?
34. What measures do you take to remain internationally competitive?
35. Do you have any observations on any present or future problems/obstacles faced by cut-flower growers in Zimbabwe?
36. What are your views on the future of the Zimbabwe cut-flower industry?
37. Do you mind if we mention you in our list of contacts?

Appendix 2: Questionnaire administered to workers on cut-flower farms

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I. Previous employment

A. How long have you been working on this farm? ..... years

B. How long have you been a farmworker, even on other farms? ..... years

C. Where did you work before being employed on this farm? .....

D. What was your job position at your previous work place? .....

II. Job description and duties on cut-flower farm

A. Work details:

1. What is your current job position? .....
2. What are your duties? .....
   .....
3. How many hours do you work per week/month? .....
4. Do you only work with cut-flowers on the farm? Yes No
   If no, what else do you do? .....

B. Type of employment:

1. Are you a permanent or seasonal worker? .....
2. If seasonal, what do you do when not working on this farm?
   .....

III. Wages

A. What is your salary (details of bonuses, etc.)? .....
   .....

B. How frequently are you paid (is this payment punctual)? Daily Weekly Monthly

C. How much do you get paid for overtime work?.....

D. Do you do much overtime work?.....

IV. Expenditure

A. Do you live on the farm? Yes No

B. What proportion of your monthly wages do you spend on:
   accommodation .....
   food .....
   transport .....
   child education .....

V. Benefits and work-related welfare facilities

A. Do you receive an annual bonus? Yes No
   If yes, how much is it? .....

B. Is housing supplied to you by the farmer? Yes No

If not, where do you live? .....

C. How far do you travel each day to come to work? .....

D. Is transport provided by the farm? Yes No

E. How many days of paid leave do you receive each year? .....

F. How many days of sick leave do you receive each year? .....

G. Do you belong to a Medical Aid Society? If so, which one?.....

H. Do you have access to paid maternity leave? Yes No

I. Do you receive assistance for funerals? Yes No

J. Does the farmer provide food assistance/discounts/rations? Yes No

If yes, please provide details: .....

.....

K. Do you contribute to a pension scheme? Yes No

L. When you retire, where will you go? .....

M. Is there a farm school/crèche provided for your children? Yes No

N. Does the farm have any extra-curricular/recreational activities? Yes No

If yes, please provide details: .....

.....

VI. Worker organisation

A. Do you belong to a worker's union/trade union? Yes No

If yes, which one? .....

B. What benefits do you receive from your union?.....

.....

C. How often do labour inspection visits occur? .....

VII. Occupational health

A. Do you come into contact with pesticides/agro-chemicals? Yes No

If yes, which ones? .....

B. Do you wear protective clothing? Yes No

If not, why not? .....

C. Do you have knowledge of occupational safety and potential health problems that may be caused by working on this farm? Yes No

If yes, please provide details .....

D. Do you ever feel that your health is jeopardised? Yes No

If yes, please provide details .....

VIII. Other information

A. Do any other members of your family work on this farm? Yes No

If so, what do they do? .....

B. Do any members work with cut-flowers? Yes No

If so, what do they do (e.g. packing, picking)?.....

C. Have you always held the same position on this farm? Yes No

If not, what did you do before this? .....

D. If you worked on a different task on this farm, would you say your current work conditions (not pay) are: better worse similar?

E. If you had a previous job at another farm, would you say that conditions of work (not pay) were: better worse similar?

F. Are there prospects for career advancement or promotion? Yes No

G. In what ways would you improve your working conditions (not pay)? .....

.....

.....

H. In what ways has your life changed since you started working with flowers?

.....

.....

.....

IX. Personal details

A. Age? ..... Sex? .....

B. Marriage status? Single Married Divorced

C. Are you the head of your household? Yes No

If not, what member are you? .....

D. How many members in your household? .....

E. Number of children? .....

F. Where is your family home? .....

G. What level of education do you have? Gr. 7 ZJC O-level A-level

Appendix 3: A basic framework for analyzing the cut-flower price chain

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Taking a single type of cut-flower, the final retail price on the world market is made up as follows:

$$eP^w = [(\Sigma(w_s + \theta_s)l_s + \Sigma a_i P_i + \Sigma a_m eP^w{}_m)(1 + \alpha r)(1 + \pi_g)(1 + c_f) + cif\ ](1 + t)(1 + \pi_r)$$

where	e	exchange rate
	P^w	world retail price of cut-flowers
	w_s	national wage rate for labour of skill type *s*
	θ_s	premium paid above national wage rate for labour of skill type *s*
	l_s	input of labour of skill *s* per unit of output
	a_i	domestic input *i* per unit of output of cut-flowers
	P_i	price of input *i*
	a_m	imported input *m* per unit of output of cut-flowers
	$P^w{}_m$	world price of imported input *m* in foreign currency
	α	proportion of costs financed through borrowing
	r	interest rate
	π_g	profit rate for domestic growers
	c_f	commission charged by freighters
	cif	international freight costs per unit
	t	foreign tariff rate
	π_r	foreign markup (retailers) or auction commission

The domestic profit rate per unit of output is then determined by

$$\pi_g = \left[\frac{eP^w}{(1 + t)(1 + \pi_r)} - cif\ \right]\left[\frac{1}{(\Sigma(w_s + \theta_s)l_s + \Sigma a_i P_i + \Sigma a_m eP^w{}_m)(1 + \alpha r)(1 + c_f)}\right] - 1$$

These elements can be thought of as falling into the following categories:

1. Global	— P^w, $P^w{}_m$, t, π_r, cif
2. Economy wide	— P_i , r, e, c_f
3. Sector specific	— w_s
4. Technical coefficients	— l_s, a_I, a_m
5. Grower specific	— α, θ_s

Obviously no grower has sufficient freedom to determine any aspect of this price chain completely independently. Nonetheless, these different categories move along a continuum from those over which the grower has least control to those over which he has most.

The grower probably has the most choice over the wage premium and the sources of financing.

$(w_s + \theta_s)$ should be interpreted as the producer cost of labour. This includes not only the wage but also the costs of benefits such as bonuses, medical insurance and the costs of indirect

benefits such as clinics and schools. The sector specific wage rate, w_s, is determined through the collective bargaining process for the whole industry. However, individual employers normally pay above these; this is captured by θ_s.

Although technical coefficients are constrained by substitution possibilities, a grower has some choice about which techniques to use. The main choice is at the initial stage in deciding what type of greenhouse to build. There is not much possibility of substitution after that.

The economy wide variables — P_i , r, e, c_f — are largely beyond the influence of the grower. Within limits, he can reduce their impact by judicious choices, but cannot directly change the variable. This is the same for the global components, but it is useful to distinguish between them for purposes of identifying the impact of domestic economic policies.

The typical view of an export industry — based mainly on primary exports such as minerals — is that the competitive global market imposes a price discipline on exporters which eventually translates back into pressures to keep wages down. It is wages which take the main brunt of this discipline because of the limited scope for other cost components to be reduced and because of the social power that employers have to avoid having to take a profit cut.

In the cut-flower industry there is a countervailing pressure from globalization, which stems from the 'green' or 'ethical' labelling movement. This constrains how far firms can go in cutting wages.

Broadening the framework to cope with multi-product Farms

The above framework is based on the assumption that there is a single type of cut-flower being produced. In practice, there are a range of flowers and, even within flowers, a range of qualities. The framework could be broadened to accommodate this by making the left-hand side

$$\Sigma \beta_j \, \phi_j \, P_j$$

where β_j is the proportion of flower type *j* in total sales
ϕ_j is a parameter capturing quality
P_j is the price of type *j*

The importance of making such an adjustment is that it is possible for growers to change their output composition and to change their quality. Both of these decisions may affect the costs and techniques of production and therefore have an impact on the communities.

Appendix 4: Grading and wages for agro-industrial workers

Classification of occupations in Grades — Minimum monthly wage
1/9/1998 to 31/8/1999

Grade 1 — Z$664.08

Blaster worker, box-strapping, butchering worker, cafe/canteen worker, canteen worker, checker, club worker, coal lasher, dispatch worker, driver's assistant, eviscerator, farmworker, field worker, fishpond worker, garden worker, general cleaner, general mill/plant workshop worker, general worker, grounds worker, incinerator, laundry-man/sweeper, laundry worker, loader, machine operator assistant, maintenance assistant, messenger, offal separation, office separation, office messenger, packer, pinner, plumber worker, scalder, scale grader, slaughterhouse worker, slime-dam cleaner, sprayer (hygiene), stock attendant, stocker, team maker, watchman

Grade 2 — Z$714.67

Bank-saw operator, boiler attendant, boilerhouse worker, chicken portioner, circular saw worker, crèche attendant, drum-cleaner, electrical worker, estate/factory watchman, fan attendant, heat-seal-machine operator, kiln attendant, lawn-mower worker, leaf checker, machine operator, maker, mincing machine operator, packing machine operator, power-saw worker, pump attendant, pump house worker, quality control, saw-sharpener's assistant, seamster, sewing machine operator, sign writer, watchman (senior), welding worker, workshop attendant assistant

Grade 3 — Z$765.27

Assistant technician, autoclaver, boarding master/matron, boat driver, boiler attendant, butchering attendant, chain-saw serviceman, chargehand, chipper/logger, clerk (class 1), leaf clerk, tools clerk, wages clerk (class 2), cook, corporal, crossout, destacker, tractor driver (class 1), lorry/van/car driver (class 2), factory leaf clerk, first aid attendant, fisherman, field foreman, foreman, frame-saw, grounds supervisor, handyman/carpenter, handyman (class 1), journeyman's assistant, junior clerk, kiln operator, kiosk attendant, light vehicle driver, machine operator, machine shop operator, maintenance operative (class 1), maintenance worker (class 1), medical attendant (Red Cross), net maker, order assembler packer, order clerk, resaw, storeman clerk, supervisor (class 1), telephonist, timekeeper, tractor driver (licensed), tractor driver/unlicensed lorry driver, typist/receptionist, van salesman, wages clerk, workshop attendant serviceman

Grade 4 — Z$800.05

Accounts typist, clerk (class 2), clerk (class 3), deep-freeze attendant, experienced saw-sharpener, graded welder, handyman (class 2), heavy vehicle driver, laboratory assistant, lorry driver (< 10 tonnes), machine minder, machine operator (class 2, one machine), maintenance operative (class 2), maintenance operative (class 3), maintenance worker (class 2), mechanical assistant, NCR machine operator, personnel assistant, senior clerk, supervisor (class 1), vacuum-pan operator, vehicle driver, welfare assistant

Grade 5 — Z$841.17

Clerk (class 3), handyman (class 3), hatchery technician, heavy duty driver (>10 tonnes), maintenance hand, maintenance operative, medical orderly, senior foreman, senior personnel assistant, supervisor (class 2)

Grade 6 Z$879.13

Clerk (class 4), clinic orderly, factory supervisor, fork-lift driver, head clerk, maintenance operative, senior foreman, sergeant, supervisor (class 3)

Grade 7 Z$945.53

Head clerk, maintenance operative, senior medical orderly

Source: National Employment Council for the Agriculture Industry of Zimbabwe, *Collective Bargaining Agreement: Agriculture Industry (Wages)*. Statutory Instrument 259 of 1998.

Appendix 5: Some responses from cut-flower workers on case study farms

This Appendix provides a summary of five interviews with cut-flower workers in order to give some idea of the kind of information obtained during the case studies.

Jonah (24): Sprayer, temporary worker

Jonah is from Mozambique. He has been working on the farm for 6 months and is still on probation. He used to work on another farm, where he was a general worker. When he was first hired by his current employer he started as a "waiter", carrying flowers from the greenhouses to the packshed. He then became a sprayer.

Jonah earns Z$665 per month plus a production bonus which varies between Z$80 and Z$140 each month. He is paid Z$4 an hour for overtime work, which he does nearly every day. Although the farmer has offered him accommodation, Jonah does not live on the farm, but stays on another farm about 1 kilometre away. He spends about Z$150 on transport each month. The farmer will only give Jonah a limited number of days off to go to funerals, but does lend money.

As a sprayer, Jonah comes into contact with many chemicals (Hunter, Ridomeal, Meltatox, sodium bicarbonate). The farmer provides him with gumboots, overalls, goggles, gloves and a mask. Although he is provided with protective clothing, Jonah says that his gumboots are torn and it is no longer safe to use them. Sometimes he has headaches after spraying but not always. Jonah has a brother who is also a sprayer.

Jonah likes being a sprayer more than a "waiter" as there is slightly less work involved. His current employer pays him much more than his previous one. Jonah feels his job would be better if he was promoted. However, he feels that there is little chance of this unless he works very hard — prospects for career advancement are not good. Jonah says cut-flowers have improved his life by providing better pay with which he can buy furniture and other things.

Isaadore (24): Flower cutter, permanent worker

Isaadore is from Nyamapanda. He has been working on the farm for 1.5 years, and was a tobacco picker on another farm for 2 years prior to that. Isaadore feels that working in flowers is more interesting than being a tobacco picker. When Isaadore started with his current employer he was employed as a budder/scouter. He preferred this to being a flower cutter — which is his present position — because there was less work and he was his own supervisor.

Isaadore is paid Z$665 per month, a production bonus which depends on flower sales, and a permanent workers' bonus of Z$20 per month. He is paid Z$52 per day for overtime work which is done on Sundays, and he works two overtime days each month. In December, the farmer gives him a present of clothes, sugar, beer, bread and/or meat. He does not know if he is given assistance for funerals, and does not know about the benefits that he may receive from the farm when he retires.

Isaadore's pay has improved since working on flowers and he feels that he has job security. Although he can now afford to buy household items he is still unable to save any of his monthly income. Isaadore says that inflation is affecting farmworkers a lot, since they buy most goods at retail prices and not at subsidised prices. Isaadore sends about Z$1,000 each year to his home in Nyamapanda.

Anna (21): Buncher, permanent worker

Anna is from Malawi. She has worked on the farm for 1 year, and this is her first job. When first employed on the farm she worked in the fields, weeding and planting paprika.

Anna works 48 hours each week. As a buncher, she is paid according to production. Her wages vary between Z$500 and Z$1,000, according to the number of bunches she ties. Payment of wages is very punctual. Anna never does overtime work.

The farmer allows workers to buy groceries on credit at the farm store. These groceries are sold at normal retail prices and no subsidies are given for food products.

Anna only comes into contact with packshed chemicals such as Jik and Alginate. She says that water with alginate in it can be harmful to the skin, and this is why the workers wear gumboots.

Many members of Anna's family also work on the farm (father, mother, husband, brother-in-law, younger sister), but only her sister works with flowers as a packer. Her husband is a guard.

Anna likes the conditions under which she works because she is under shelter and protected from rains, heat, and cold. She feels that this job is easier than the previous one and that the pay is better.

Her only complaint is that she has to stand while working. However, she has become used to this.

Mary (20): Flower cutter, permanent worker

Mary is from Malawi. She has been working on the farm for 5 years. Before this she worked for 4 months as a vegetable planter on a different farm.

Mary's basic monthly wage is Z$673.92 plus a permanent workers bonus of Z$20 each month. She is paid around Z$3 for overtime work but says that there is not much overtime work to be done in the greenhouses.

Mary is provided with housing. She says that the farmer provides married couples with four-roomed houses — unmarried people get single rooms. Everyone is given a big garden. The farmer gives her food assistance for various commodities (e.g. 25 kg maize-meal, Z$45; 50 kg maize-meal, Z$80; 500g meat, Z$10; 500g beans, Z$6.50; 500g cow fat, Z$2.50; chicken heads, 10c each). Sometimes she is given vegetables. When she retires Mary will not be provided with housing on the farm.

Mary is given access to 90 days maternity leave during which time she receives 60 per cent of her monthly salary. She is allowed to take up to 7 days off to go to funerals. Each year Mary receives an annual bonus equal to her monthly salary. She is also given a present of food and groceries.

Mary says that although the farm has a soccer club and beer-hall, there are no recreational activities that are geared specifically for women.

Mary says that conditions of work are better than in her previous job because there was no maternity leave, no food discounts, and because she was a seasonal worker there were no bonuses. Mary says that her contract states that she is a flower cutter and that is what she will always be — there are no prospects for advancement. But she loves her job and cannot think of ways to improve it. She says that flowers have changed her life by providing good housing and providing her with basic things. Mary is divorced.

Charity (34): Assistant supervisor, permanent worker

Charity is from Chinhoyi. She has been working on the farm for 5 years, and before this she worked for 3 years in the fields at another farm. Her current duties include checking the work of the bunchers and flower cutters. She was a flower cutter herself before becoming assistant supervisor. Charity prefers being a supervisor because there is less work and she feels that she learns a lot.

Charity earns Z$730 per month, and her husband also contributes to the household income. She is paid double pay for working on public holidays, and earns Z$12 each Saturday that she works overtime. At Christmas time the farmer gives her a present of rice, maize, flour, jam, milk, Royco and cooking oil. She also receives a December bonus of around Z$1,010 per year, although this varies between years.

Charity says that she is given access to 4 months maternity leave with full pay. The farm also gives assistance with funerals by allowing her to take time off, providing wood for coffins, and providing transport. Charity pays Z$10 per month to use the crèche facilities on her farm.

Charity is not interested in belonging to a worker's union. She does not come into contact with chemicals. She does not know about the dangers of the chemicals used in the rose section, and is unsure whether the flowers she comes into contact with are safe for handling. She prefers to work in-doors where she is not affected by the weather. When she worked in the fields at her previous job she used to get rashes, but now everything is all right.

Charity says that as long as she works well and "wholeheartedly" then there are prospects for promotion. Cut-flowers have changed her economic well-being for the better. She has 4 children, 3 of whom work in the tobacco fields.