



The Centre For Business Relationships,
Accountability, Sustainability and Society

WORKING PAPER SERIES No. 27

The Contested Regulation and the Fresh Fruit and Vegetable Sector in Europe



Samarthia Thankappan
and
Terry Marsden



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Abstract

In this paper, the case of the fresh fruit and vegetable sector is used to explore the complex relationships between State, corporate and private interests, consumers and social interest groups that is developing in response to the need for accountability within the UK agri-food chain. This paper provides an overview of the fresh fruit and vegetable (FFV) supply chain and concentrates on the extent to which the food retailing industry is actively managing its supply chain by the introduction of private standards to ensure food quality and safety all along the chain. The research indicates that in the FFV sector, more retailers have developed their own “codes of practice” including good agricultural practice (GAP) and specifications related to intrinsic and extrinsic qualities. These private specifications are based on national and EU food safety and quality regulations and in most cases exceed these regulations. However, exercising extensive private standards is a way to prove they have exercised ‘due diligence’ based predominantly on third party certification, rather than a way to address sustainability issues and concerns of workers in the horticultural export industry.

About the BRASS Centre

In 2001, Cardiff University won £3.1 million in research funds from the Economic and Social Research Council to develop a Research Centre for Business Relationships, Accountability, Sustainability and Society (BRASS). The Centre is a joint venture between the University's Schools of Business, City & Regional Planning and Law. It brings together the three Schools' existing research expertise on issues of sustainability, business ethics, company law, corporate reporting and business communication.

The Centre started work in October 2001 under the leadership of Professor Ken Peattie of the Business School, Professor Terry Marsden of the Department of City and Regional Planning and Professor Bob Lee of the Law School. The funding of the Centre covers an initial five-year period, but this should just mark the beginning of BRASS' contribution to creating more sustainable and responsible businesses locally, nationally and globally.

Published by

The Centre for Business Relationships, Accountability, Sustainability & Society
(BRASS)
Cardiff University
55 Park Place
Cardiff CF10 3AT
United Kingdom
<http://www.brass.cf.ac.uk>

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ISBNs 1 904393 58 6 (print)
1 904393 59 4 (web)



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List of abbreviations

FFV	Fresh Fruit and Vegetable
EUREP	Euro-Retailer Produce Working Group
GAP	Good Agricultural Practice
EIM	European Internal Market
IGD	Institute of Grocery Distribution
GATT	General Agreement on Tariff and Trade
WTO	World Trade Organisation
DMEs	Developed Market Economies
PPT	Post Productivist Transition
ACP	African, Caribbean and Pacific
MRL	Maximum Residue Level
LOD	Limit of Determination
IPM	Integrated Pest Management
EMD	European Marketing Distribution
AMS	Associated Marketing Service
NAPCCI	North American Pallet Carton and case Initiative
RFID	Radio Frequency Identification
CSR	Corporate Social responsibility
ICM	Integrated Crop Management
HACCP	Hazard analysis and Critical Control Point
CITES	Convention on International Trade of Endangered Species of Wild Flora and Fauna
GFSI	Global Food Standards Initiative
PIP	Pesticides Initiative Programme
IFOAM	International Federation of Organic Agriculture Movements

1.0 Introduction

Food regulation is now deep rooted and integrated into the European political project. Though agricultural corporatism has declined in its political and economic power in European policy-making, it has laid a foundation for a more comprehensive and commercially-led regulatory system - a hybrid model - that is more sensitive to the consumer and private sector concerns. It is increasingly universal, scientific and normative; global as well as local in reach as well as inter-sectoral. And, as observed in our earlier findings (see for example Marsden *et al.*, 2000; Smith *et al.*, 2004; Thankappan *et al.*, 2004) it is being sustained by, the interaction of a larger diversity of actors and policy networks. This makes the development of public policy all the more complex.

The food and retailing industry is also increasingly paying more attention to food quality and safety issues by actively managing its supply chains of food products. A plethora of private safety control systems, standards, and certification programs are responding to more demanding consumer requirements. Many leading retailers in Europe have developed programmes for integrated production; thus paving a way for both supply and demand, and playing a pivotal role in bringing about a change in the way crops are cultivated in a safe and sustainable manner.

Our earlier research indicated that retailers are also becoming more influential, in food policy-making in the UK and EU, in the name of the consumer and public interest, partly as a result of their knowledge of and authority over the constructions of the consumer interest. Despite the increasing power of both manufacturers and retailers, it will be these constructions of consumers and those bodies most closely allied to them who drive the food supply chain in the future.

The 'new consumer' is increasingly influencing the food system by selection or rejection of food considered healthy or hazardous; and large-scale retailer's organisations acting as intermediaries between the production and consumption are both very sensitive to these pressures and attempt to shape consumers' preferences.

The importance of some key consumer trends can be evidenced in several important developments. *First*, the different links in the supply chain are increasingly attempting

to communicate more directly with the end customer as they vie for consumer's business. *Second*, all the players want to have a greater impact on the shopper's buying behaviour. Retailers are trying to influence the consumer mindset by presenting themselves as a better brand. Indeed, brand competition is a key battleground between retailers themselves, and between them and the large food manufacturers.

Marsden *et al.* (2000) noticed a pendulum movement during the 1990s in which the deregulation in food markets and the disappearance of representative (production-based) corporate organisations were gradually replaced by large-scale retailer's organisations. According to the authors, "retailers, given their pivotal position in supplying choices and enhanced degrees of freedom conferred on them by government, become acutely important for the legitimisation of the state and more specifically for the management of the food system on behalf of the state and the consumer interest"(p.193). While this power has been maintained and developed as they have sustained their market and regulatory power, the governance of food has now also, again become a territory for new state and consumer bodies as well as private-sector interests.

It is against this background and with the recognition that compliance with European Commission level decisions are beginning to have a strong impact on food safety policies within the UK, that the research on contested accountability and the changing dynamics of food regulation in EU/UK is being undertaken.

While the first phase of the research, involved mapping the changing dynamics of food regulation and accountability across the agro-food chain in the EU (see Smith *et al.*, 2004.); the second phase focused on the National (UK) level (see Thankappan *et al.*, 2004). The third phase of the research dealt with regulatory case studies, examining in detail the conventional and organic supply chain of the fresh fruit & vegetable sector.

Given the recent trends in corporate behaviour, taking the example of the fresh fruit and vegetable sector, this paper attempts to map through the fresh fruit and vegetable supply chain, the extent to which the retailing industry is actively managing its supply

chain by the introduction of private standards to ensure food quality and safety all along the chain. The paper also attempts to chart the impacts these have on the governance system.

2.0 Methodology

The research utilises a range of data, analytical techniques and extensive documentary research between 2002-04. The broad assessment of the secondary material enabled a clear understanding of the driving forces for change in the food safety regulatory framework in the UK, their aims and impacts, as well as the path that future development is likely to follow.

Data collection for the third phase of this research, involved identifying Europe-wide, key organisations dealing in the fresh fruit and vegetable sector. A series of face-to-face interviews were carried out in the UK and in Belgium. The organisations interviewed included four leading retailers from the UK, a UK farmer, three fresh vegetable auctions in Belgium and a certification body from Belgium. Table 1 has the list of organisations interviewed.

Table 1. List of organisations interviewed in the research

Organisation	Role
ASDA	Major UK retailer
Budgens	UK retailer specialising in FFV
MACK Services	Supplier of fresh fruits and vegetables
Waitrose	Major UK retailer
J E Piccaver	UK farmer growing salad crops
Mechelse Veilingen	Belgian FFV auction
REO Veilingen	Belgian FFV auction
Calsa	Belgian FFV auction
Integra	Belgian Certifying body

The aim of the third phase of this research was to map through the fresh fruit and vegetable supply chain, the extent to which private standards initiated by retailers contribute towards sustainable production, and the effects on retailer-producer relationships. The face to face interviews mentioned above and two further major researches in the fresh fruit and vegetable sector conducted in Brazil and the Netherlands by the authors and their collaborators have been used as a launch pad to summarise the findings of the third phase of our research.

Of the two researches mentioned above, one carried out by van der Gripp *et al.*, (2004), focuses on the retailer-led EUREPGAP program in combination with fruit production in Brazil, the authors draw attention to the fact, that multinational food producers and retailers are increasingly adopting programmes for safe and sustainable agriculture, thus playing a role as '*agents of change*' in the transition process towards socially and environmentally responsible production methods.

The second research focussing on the FFV producing and exporting region of São Francisco Valley in North-east Brazil, was carried out by Cavalcanti and Marsden, (2004). The research points out that, new forms of integration and regulation are operating in the globalised systems of fruit-culture production and consumption. Further, significant changes in the operation of the globalised relationships inside the production arena, and the distribution arena, involving external distributor and corporate retailer firms have been observed. This strand of research also highlights that the rules and conventions developed by the retailers are now much stronger and far more recognised by all the actors at the local level. This research paper brings together the three strands of the FFV project: (i) the analysis of production and export oriented supply chains in Brazil; (ii) their development and interface with EU and retailer form of regulation emanating from Europe (van der Gripp *et al.*, 2004); and (iii) new empirical evidence from the UK and Belgium with regard to major European-based private sector actors (including retailers, certifying bodies and distributors).

3.0 Food policy in the UK: extent of changing governance

In the period prior to the mid 1980s, strategies to manage food risk depended heavily upon science-based, technological approaches. Under the regulatory regimes that were in place then, food and agricultural production systems were regarded as being safe unless proven otherwise by technical and quantitative analyses. In this way, the state had a rational and scientific basis on which to rest relevant public health and food quality assurance policies. This time-honoured food regulatory approach, along with periodic on-site monitoring reinforced by a graduated scheme of penalties for breaches, allowed the state to play a key role in the food supply sector (Marsden *et al.* 2000). This conventional food regulatory regime was, for an extended period, successful in addressing food safety and related public health concerns.

Marsden *et al.* (2000) in *Consuming Interests* traced the transformation, since the mid-1980s, in how food risk is perceived and the new regulatory framework that has emerged to mediate the new concerns. In portraying the evolution that was taking place in food safety assurance strategies in the UK between, the 1980s to 1990s, they pointed to a transition from a traditional government-led corporatist regulatory and monitoring model, to a new phase dominated by supply chain management, and food standards strategies, designed and applied by the large multiple food retailers. This phase in the evolution of food regulation in the UK is corporatist in nature, and driven primarily by the way food safety issues are perceived by large food retailers; leaving the state to act mainly as auditors rather than standard-setters and enforcers of the mainstream process.

However, because the greater assurance of food quality that the above phase (private-public) of food regulation engenders, it does not encompass the entire food supply chain, and given the continuing diversity and intensity of food risks, the pressure for further changes became apparent.

In response to these new set of relationships – a newer phase in the evolution of food safety regulation started to take shape that saw major institutional changes across various countries in the EU and attempts made to introduce policy-making processes that are more open and consultative. As, one retailer put it.

“...the whole regulation environment is done on a different premise ... food law traditionally was all based on legislation, and in public legislation there wasn't anything.... people weren't expected to do anything on the basis of good will or arms research, yet on the environment side it's been different from that in arm-twisting packaging, waste regulation, and a whole plethora of other controls and climate-change levy or whatever. There's been lots of quasi-soft law....” (Retailer)

Taking a lead on the aftermath of the BSE saga, the UK Government, for example, set up the Food Standards Agency (FSA) in 2000, and this was followed by the inception of Department of Environment, Fisheries and Rural Affairs (DEFRA) in 2001. The Government believed that creation of the FSA would put an end to the climate of confusion and suspicion that had resulted from the way food safety and standards issues had been handled in the past. This radical new approach distanced Government

from the problem, while attempting to ensure that activity relating to food would be subject to public scrutiny, and that the public's voice would be heard in the decision-taking process.

As a result, responsibility has been devolved to a single agency, based outside Government departments, whose essential aim is the protection of public health and with the right to make public its advice to Ministers. The UK Government hopes that the effectiveness of controls on food will not in the future be undermined by overlaps, conflicting objectives or incoherence. In creating the FSA, Government sought to remove the conflict of interest that lay at the heart of the old MAFF, which was seen as compromised by both promoting the food industry and protecting the consumer interest.

The creation of the FSA with an aim to promote food safety and food standards as a non-ministerial department focussing on the protection of consumers and their interests was marked as the emergence of a new phase of food regulation in the UK. One which complemented the private interest model set up by the corporate retailers.

Our earlier research (See Thankappan *et al*, 2004 for more details) assesses some of the key conceptual parameters and dynamics of this *new phase* in the evolution of food safety regulation in the UK, and the powers responsible for shaping this current regulatory framework.

3.1 Europeanisation of UK food policy

It is recognised that the EU is increasingly the main source of food law that needs to be formulated in the UK. Directives covering food composition, food labelling, food marketing standards, additives, contaminants, nutrition, adulteration and food fraud provide a constant stream of new legislation. A clear example is the sentiment, expressed by the Department for Environment, Food and Rural Affairs (DEFRA) and the FSA, that the UK government did all that was possible to consult with key UK stakeholders on the implementation of UK food law, but that the decisions on standards were often made at EU, rather than national, level. This thinking was reflected in our interviews with retailers:

“...the vast majority of legislation now is definitely European.” (Somerfield)

Similar views about decisions on standards being often made at EU, rather than national, level were also expressed by consumer interest groups (CIWF). They argued:

“...legislation on all aspects of farm animal welfare has been European based. It has come from a directive that’s been agreed on a European level and has been taken by the UK and implemented directly into UK law with very few changes, very few additions. And now we have the situation where we know that any directive will be almost verbatim translated into UK legislation and that nothing else will be brought in and changed.”

The general pattern so far has been one of a gradually increasing set of rules on how to conduct European business. Thus there has been a proliferation of ‘guidance’, whether through the use of precedents or of codified rules. From the preceding interview extracts we can identify some of the key facets, and more specifically dynamics, of the gradual *Europeanisation* of UK food policy. This new transition brings about challenges for the various interest groups and their inter-relationships.

We can see an increasingly wider diversity of organisations playing a European role and seeking to influence as well as to articulate different knowledge concerning foods, health and ethical issues. For example, animal welfare groups and the consumer groups now have to tackle the intricacies of issues such as the precautionary principle, GM and traceability. Part of *Europeanisation* now involves accommodating a wider and more disparate range of concerns and interests than those just associated with the quality of foods and safety baseline.

3.2 Rising consumerist & institutionalisation of policies

It was clear from the interviews that most of the consumer interest groups now claimed to play a pivotal role in influencing policy-making. They seemed to be more vociferous and responsive to consumer advocacy. The following excerpts from our interviews highlight this:

“... it’s (food safety) an important issue because it’s what consumers are really, are very much concerned about, and we are aware that consumers tend to see these issues as a bit of a package, there

is safety, there's animal welfare, there is a natural form of production, there are these various values that consumers go for..." (Consumer Association)

The views reflected by the private interest groups were similar to the consumer interest groups, in arguing that the consumers play a vital role in the policy making process; and that the private interest groups in turn, value and communicate the consumers' perceptions into the decision making process. One retailer argued:

"I've got personal views on consumer groups. A lot of the consumer groups do an awful lot of good, they are almost a kind of conscience of society and I think have a very important role to play in terms of ensuring that consumers perceptions are fed into the decision making process, but at the end of the day there has to be a balance at the various levels. I think they are knowledgeable, they are articulate". (Sainsburys)

Considering the importance of the consumers in the policy-making process, regulatory activity of the food control organisation now establishes well-designed and well-publicised procedures for receiving and considering consumer and industry inputs at the policy-making level. A Defra representative stated:

"We have a division which is marketing and consumers and that provides us focus for consumer considerations." (DEFRA)

3.3 Complex private interest model of food regulation

The earlier phase of our research identified significant developments where the State, corporate and private interests, consumers and social interest groups build relationships in response to the need for accountability within the agri-food chain. This represents the development of a more complex public/private set of relationships, which now embodies new public institutions (like the EFSA and the UK FSA) and a greater competitiveness to react to consumer and media concerns.

"..... I would say that this (food safety regulations) has been more commercially driven than government driven. I would say government is catching up with what the commercial side of the game has actually got into. I mean, I'm very pleased that it has because it then means everybody's, by law, has got to conform to the same standard, and we are, as far as I'm concerned, I think right at the front of the game. One of our objectives here has always been to provide safe food for people to eat and I don't have any problem in anybody, who ever wanted to, coming and asking us what we're doing, or if they wanted a traceability or whatever I wouldn't have any problem in providing that. I don't have any problem with that whatsoever." (UK FFV grower)

3.4 The Food Standards Agency in the framework of the private interest model

While there were criticisms on the way the Food Standards Agency functioned, some suppliers/manufacturers were of the view that the Agency has done a commendable job; and that it is now more willing to consult the industry. The transparent policy adopted by the Agency and the efforts made to dispel panic through its vast communication procedures among consumers were also appreciated.

“... things have changed now, for the better in the last few years, with the creation of the Food Standards Agency and DEFRA and they’re much more willing to consult with the industry.” (Northern Foods)

Views expressed by one of the private interest organisation reflect the fact that they appreciate the different mechanism of functioning of the FSA, as compared to the MAFF.

“The Food Standards Agency definitely thinks differently to what MAFF used to be, they are far more willing to discuss complicated issues in public and through that come to sensible certain decisions, where MAFF would have been absolutely petrified of having the discretion in the first place. So the FSA is dealing with is actually the most noticeable things, it’s done easy, its just that everything is open. We don’t have secrets and their view is very clear that their view is to protect the customer.” (Somerfield)

3.5 The emergence of a hybrid model

Private interest groups (particularly retailers) are increasingly playing a major role in (re)shaping the UK food policy; further, there is a more flexible and participatory relationship between the private interest, policy and regulatory interest and consumer and social interest groups. The latter indicates that this is an amalgamation of a state-private sector model of food regulation; where there is a specific response from public and private sectors to the various pressures on food regulation (for example see Smith *et al.*, 2004).

This complex model seems to emerge as a response to the (post BSE) food regulation pressures in ways which safeguard the broader macro-economic and political concepts of the European Internal Market (EIM) and increasingly integrated exchange of food

goods within and beyond Europe, while also simultaneously enunciating new standardised and ‘non-competitive’ greater controls in the name of the European consumer and public interest. The emerging model of food regulation has begun to lay a foundation for a more, all-inclusive and business-led regulatory system based on appealing consumer and private sector apprehensions. And it appears (in the context of the UK at least) as though this trend will be maintained by the interaction of a larger number of actors and policy networks, which, in turn, makes the evolution process more complex and potentially contingent. In this paper, the case of fresh fruit and vegetable sector is used to explore this hybrid model which is playing a pivotal role in reshaping the UK food policy.

4.0 The operation of the new hybrid model: the case of fresh fruit and vegetable (FFV) sector

4.1 The global fruit and vegetable sector

The world annual production of FFV totals approximately 1 billion tonnes, and global trade in fruits and vegetables is worth US \$70 billion. However, Cook (1998) reports that only 4.4% of global vegetable production and 8.9% of fruit production are traded internationally. After bananas, the primary internationally traded commodities are citrus, apples, tomatoes and grapes. China, India and Brazil account for 30% of the world fruit production, but their impact on global trade in fresh produce has been minimal. The US and EU are the largest fruit and vegetable importers and exporters, with 40% and 11% global market share respectively.

4.2 The European fresh produce sector

The EU is a major player in world horticulture, with 9% of world production. Around 15% of the value of EU agricultural production comes from the horticulture sector, and the EU is both a major importer and exporter. It accounts for around 11% of world exports and 25% of world imports and is thus the second largest exporter and the biggest importer of fruit and vegetables in the world. Leading products traded are citrus fruit, apples, tomatoes and onions (Eurostat, 2003).

Figure 1 highlights the size of the EU fresh fruit and vegetable production. Total vegetable production in the EU was 51 million tonnes in 2004. While the fresh fruit

production stood at 62 million tonnes for the same year (Data source: DEFRA). Consumption of fresh fruit and vegetables has been generally stable at 44 million tonnes and 46 million tonnes respectively in 2002. The leading fruit and vegetable producing Member States are Italy, Spain and France.

Fig.1 Production of fresh fruit and vegetables in the EU

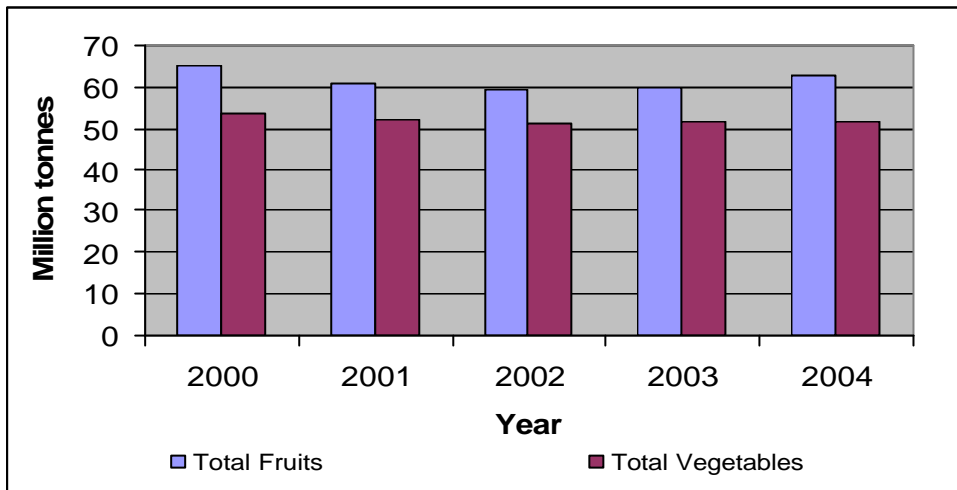
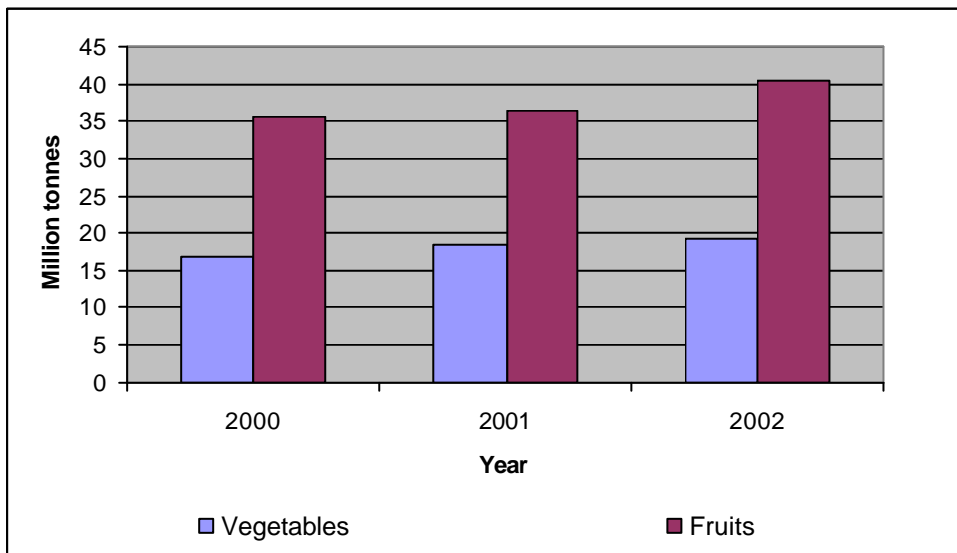


Fig.2 Imports of fresh fruit and vegetables in the EU



The EU's main imports are bananas (3.3 million tonnes), citrus fruit (1.9 million tonnes), apples (0.7 million tonnes), grapes (0.3 million tonnes), and pineapples (0.3 million tonnes); fruit juices are also important imports. The EU's main exports are citrus fruit (1.0 million tonnes), apples (0.5 million tonnes), grapes (0.2 million

tonnes), peaches and nectarines (0.2 million tonnes), onions (0.4 million tonnes) and tomatoes (0.2 million tonnes).

EU support programmes in the sector are largely implemented through producer organisations. Support programmes are financed by members of producer organisations and the EU on a 50/50 basis. EU aid however is limited to 4.1% of the value of the production handled by the producer organisations. Funds can be used to finance withdrawal of products from the market at times of surpluses or to top up compensation payments. They can also be used to finance operational programmes of support. In the EU nearly 1,400 producer organisations are recognised, channelling 40% of all fruit and vegetables to the market.

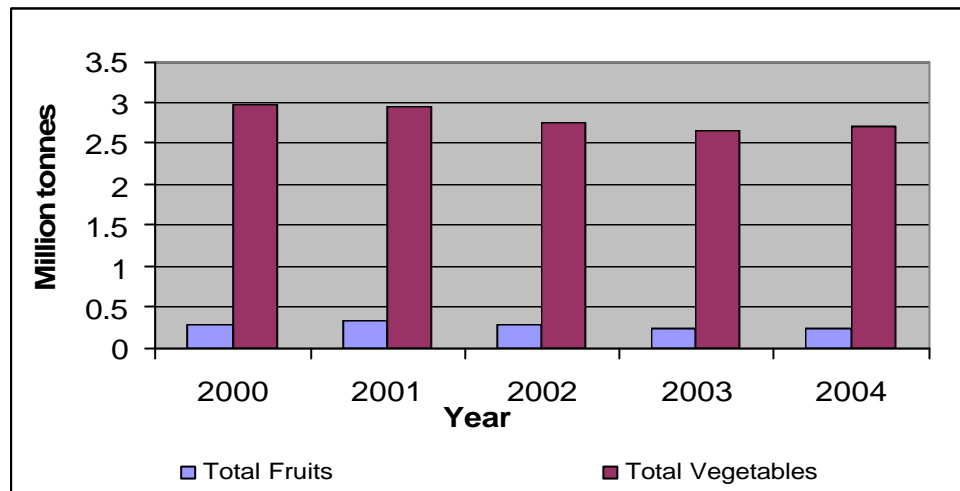
The EU budget for the fruit-and-vegetable sector was €1,650 million in 2002 (3.7% of the agricultural budget). About 56% of this budget is for fresh fruit and vegetables. Specific aid schemes exist for processing of tomatoes, peaches, pears and citrus fruit; dried figs and dried prunes; cultivation of grapes for drying; the storage of sultanas, currents and dried figs; nuts.

The UK has been a major importer of fresh produce. Over the past decade, UK domestic growers of fresh produce have lost out substantially to imported products. By 2001, the UK producer value shares of domestic vegetables (including potatoes) and fruit markets were 71% and 10.4% respectively. When potatoes are excluded national self-sufficiency in vegetables is much lower. Despite a national health campaign to increase consumption of fruits and vegetables there is a crisis in national primary production (IIED, 2003), partly driven by a mismatch between domestic varieties, changing consumer preferences and retailer strategies. The decline in domestic production is mirrored in data of planted area with the area under vegetables declining from 156,264 ha in 1993/94 to 119,351 ha in 2002/03 and under fruit from 37,339 ha in 1993/94 to 27,648 ha in 2002/03 (Data source: DEFRA).

UK fruit and vegetable production (fig. 3) is however to some extent successful and competes well in some areas with the best in the world; for example, in protected tomatoes and root and green vegetables, soft fruit, quick frozen vegetables and added value prepared salads and other vegetables. The structure of the primary production sector is currently fragmented with some very large but also many small growers. In

the past, the fragmentation and the segmentation of added value has meant that a consolidated sector view on priorities has been difficult to obtain.

Fig.3 Production of fresh fruit and vegetables in the UK



4.3 Globalisation of FFV trade

Consumer spend in the convenience store sector is growing and fresh produce is set to play a key role in the battle for market share. IGD's report on convenience retailing, 2005 states that 20p in every pound is spent on food and grocery in convenience stores in a market which is now worth £23.9 billion. According to a survey of 6,000 stores in the UK by the IGD, fruit and vegetables sales have almost doubled. Sales have grown from 2.3% in 2003 to 4.1% in 2005. FFV is growing significantly in terms of sales contribution. The forecourt area has also seen significant change. Many stores have seen strong growth, with 18.8% of forecourts now stocking fresh produce (IGD, 2005). Fresh fruit and vegetables accounts for 61.3% of all sales, and this sector has grown by 1.2% at current prices in 2000, primarily as a result of increased sales of fresh fruit and fresh green vegetables (UK Food Market Review, 2001).

Trade liberalisation and advances in post harvest technology and long distance chains have driven rapid increases in trade in fresh produce from a low base. Over the recent years, a process of fragmentation and segmentation is occurring amongst the UK consumers (Barrett *et. al.*, 1999), who tend to give more emphasis to aspects of quality and convenience than to price and quantity. Further there is an increasing demand for healthy foods and foods from market 'niches' often reflecting ethnic variety and traditions (Goodman and Redclift, 1991).

To meet the increasing consumer demands (Figures 4 and 5) for FFV in the western world; international trade of FFV is increasing in scale and variety. This is a trend that has been encouraged by a liberalising international and national regulatory framework associated with GATT/WTO, IMF and World Bank policies, and has been further facilitated by considerable improvements in communications and packaging technologies (Barrett *et al.*, 1999). FFV exports from the developing world, has become a major growth sector in international trade (Friedland, 1994; Jaffe, 1995; Thrupp, 1995). At the same time agricultural networks have become increasingly global (Bonnano *et al.*, 1994; Friedland, 1994).

Fig.4 Fresh vegetables balance sheet for the UK

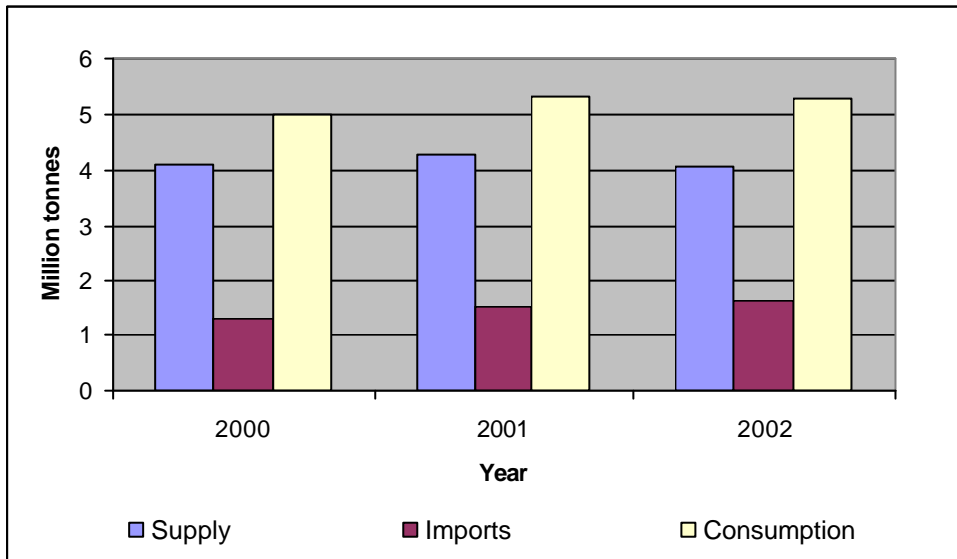
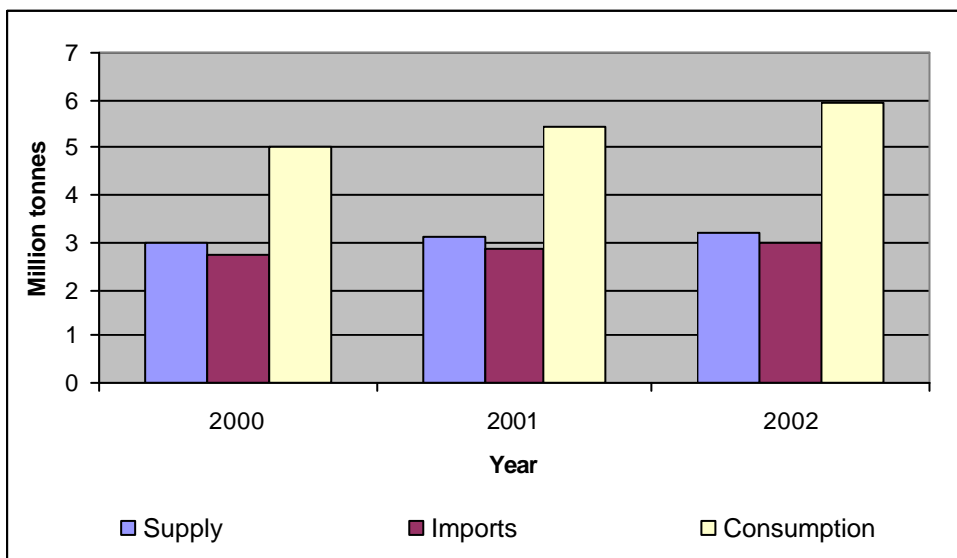


Fig.5 Fresh fruits balance sheet for the UK



This change in demand as also discussed in our earlier research is consumer-led and is articulated in the UK by the powerful retailers, who are increasingly adopting a global sourcing policy to satisfy these new demands (Barrett *et al.*, 1999). Shucksmith (1993), Ilbery and Bowler (1998) state this shift in consumer demand and subsequent changes in production methods in the Developed Market Economies (DMEs) as a part of the Post-Productivist¹ Transition (PPT). A transition, that extends throughout the entire food chain, from production and processing to consumer choices and the marketing systems that have evolved to link them.

With the increasing emphasis given to consumption of fruit and vegetables as part of a healthy diet, and the importance of a varied and round-the-year supply of high quality fruit and vegetables for enhancing the image and competitiveness of supermarkets, demand for imported fruit and vegetables in Europe is substantial and likely to increase. Many non-EU exporting countries have responded to this demand due to the relatively high returns per volume for horticultural crops compared to other agricultural exports, seasonal and climatic advantages, lower labour costs, and promotion and support for export horticulture from international aid agencies.

Since horticultural production and processing is very labour intensive, many people are employed in the industry. An estimated 45 million people depend on export horticulture for their livelihoods in African, Caribbean and Pacific (ACP) countries (Eurostat, 2003). The growing emphasis on quality standards and public concern about food safety in the developed world have led both governments and retailers to set increasingly high standards on production and processing methods, and these are putting increasing pressures on suppliers. The European Union (EU) pesticide legislation has contributed to this trend towards increasingly stringent standards, and has generated particular agony amongst those involved in the fresh produce industry.

¹ The term Post-productivism encompasses both micro and macro changes and pulls together a wide range of rural issues. It captures, within a single catchphrase, problems of land-use planning, rural development and both on farm and off-farm social and economic change (Evans *et al.*, 2002).

5.0 Implications of EU legislation in the FFV sector

There are two interlinked EU legislative processes associated with pesticide use which are affecting growers exporting fruits and vegetables to the EU: the Maximum Residue Level (MRL) Harmonisation Programme and the Pesticide Approvals Review Programme.

5.1 MRL harmonisation programme

Since 1993 the EU has been implementing a programme to establish harmonised maximum residue levels (MRLs) which restrict levels of pesticide residues in foodstuffs sold in Europe. MRLs for foodstuffs are established both nationally and internationally with the key objectives of:

- (a) controlling the correct use of pesticides in terms of the registered use;
- (b) permitting the free circulation of food commodities that have been treated with approved pesticides and comply with the established MRLs; and
- (c) minimising the exposure of consumers to harmful or unnecessary intake of pesticide residues.

The stated aims of the EU harmonisation programme are to iron out current inconsistencies in national MRLs in the different member states, by establishing common and obligatory MRLs for all active ingredients approved for use within the EU, based on systematic and scientific procedures. The relevant EU Directives establish obligatory MRLs for specific crop/active ingredient combinations where sufficient data is available, and also specify what data is required to establish an MRL where data are not currently available. Where there is insufficient data, the EU has left the MRL position as an 'open position' for a limited period of time. During this period, data collected and analysed according to defined procedures can be submitted to the EU to defend the establishment of an MRL, which is usually done by agrochemical companies, but can also be done by other parties. If the period expires and no acceptable data has been received, then the MRL is set at the limit of determination (LOD), i.e. analytical zero.

5.2 Pesticide approvals review programme

This programme aims to systematically review the registration of the 823 active ingredients approved for use within the EU prior to 25 July 1993. As with the MRL harmonisation programme, the continued registration of a pesticide depends on appropriate data being generated and submitted by interested parties, again usually agrochemical companies. This is indicative of the fact that, in practice, only those active ingredients which are commercially important are likely to remain registered for use.

5.3 Consequences of the regulation

It is clear that the two programmes will together lead to:

- (i) withdrawal of approximately 350 of the 823 active ingredients from the approved list (although producers outside of the EU may be able to secure import tolerances for some of the 350)
- (ii) a substantial increase in the number of crop/active ingredient combinations for which MRLs will be set at LOD.

These programmes are causing and will continue to cause problems for EU growers; the impact on growers exporting from non-EU countries to the EU is likely to be particularly harsh.

Growers of tropical, sub-tropical and out-of-season fruit and vegetables are being particularly hard hit by the legislation because a disproportionately high number of relevant MRLs are set at LOD, and many of the most widely used active ingredients are likely to be phased out through the approvals review programme. This situation has arisen because, first, agrochemical companies are not likely to want to invest in generating and collating datasets to defend registration of, or set MRLs for, older, out-of-patent pesticides; yet these pesticides also tend to be cheaper and more widely available, and hence widely used, in developing countries. Second, agrochemical companies have in general only been interested in generating data for establishment of MRLs for crops they classify as 'major crops' i.e. crops of major economic significance, for example bananas and citrus fruits. In the UK, the fresh produce industry has worked with the government to generate data for establishment of MRLs

for key crop/active ingredient combinations which were not being defended by agrochemical companies.

While the two programmes could potentially benefit exporting countries through encouraging more rational use of pesticides, which in turn could lead to health, environmental and sometimes economic benefits; the current process of implementation is such that these benefits are not easily realised. The communication of the legislation and its implications has been poor, as a result of which exporting countries have not had time to respond by defending essential MRLs or by making alternative pest control measures available to their growers.

European markets are currently not willing to lower cosmetic and other quality standards, so growers cannot risk anything but very low levels of pest and disease infestation. As a result, growers and exporters especially from the developing countries are likely to face increased costs of production at least in the short run, due to the reduced options for pest control, making export production even more risky. Further, due to the increasing demand from importers for traceability systems i.e. systems which allow any irregularities to be traced to the 'offending' producer.

These factors are likely to have a negative impact in the affected exporting countries, in particular. There is a risk that smaller and less well organised export industries may be abandoned by EU importers because they are not able to provide appropriate pest management/IPM training to growers, set up robust traceability systems, or to conduct their own trials on new pesticides to speed up the process of national registration of EU-approved pesticides. Small-scale growers, especially independent smallholders, may be abandoned by exporters, because exporters may consider the costs of training and running traceability systems for a large number of dispersed, small production units, outweigh the benefits of sourcing from smallholders. Even if smallholders still have the opportunity to supply exporters, they may find it difficult to continue exporting due to the higher cost of EU-approved pesticides, extra costs passed down by the exporter, and/or unacceptable increases in labour requirements for implementing non-chemical pest control methods.

6.0 Role of retailers in FFV supply chain

6.1 Retailer driven chains

The retailing industry continues its central position in the food system due to its capability to create and respond to the customers' preferences. The rapid spread of retailers in terms of market penetration and geographical reach has resulted in an important restructuring within the agri-food system in many countries around the world.

Experts² in the agri-food sector recognise that retailers influence the rest of the agricultural chain up to the farmers' level. This clearly indicates a power shift in the FFV distribution chain from suppliers and wholesalers towards retailers. This further weakens the bargaining power of farmers and food producers. For many producers and farmers, retailers have become their only possible outlet. For fear of losing their business, many farmers and producers accept some of the low prices offered by large retailers and sell with low or no profit margins. In contrast, retailers often take very high margins on the fresh fruit and vegetable products they sell (see figure 8 and the section on 'Impact of Retail Governance on FFV Production in the Developing Countries' later in this paper).

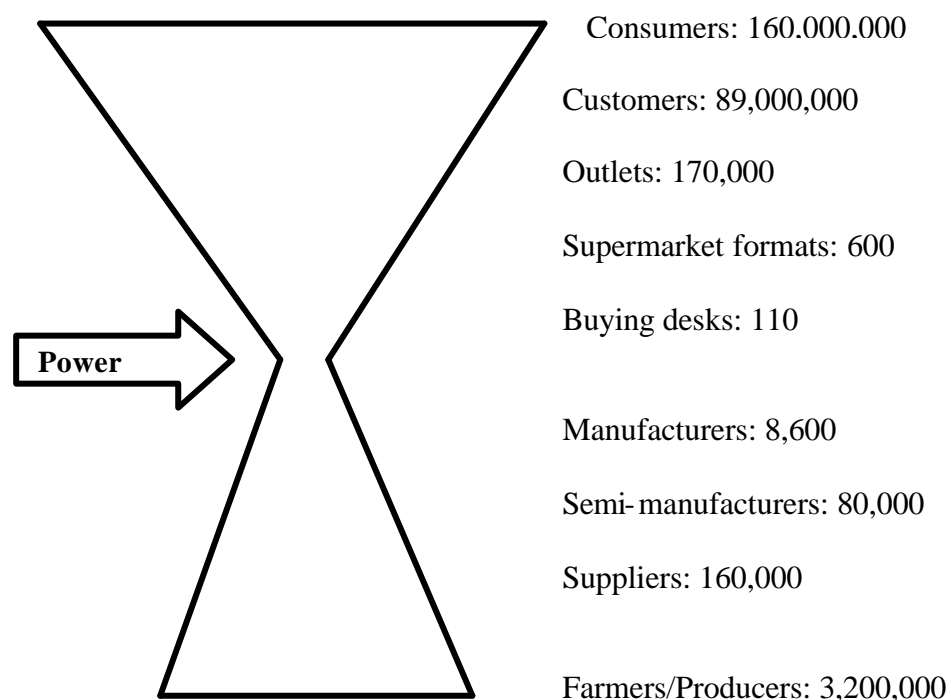
Figure 6 below, shows the retailers' role of 'gatekeeper' at the most narrowest point of the 'hourglass' or 'bottleneck' between farmers and consumers. This has led to a wave of civil society and regulatory scrutiny of this sector in the recent years. This is partly driven by the farm-retail price gap, and different levels of profitability between the farming and retail industries.

In the UK, the total profit of all 230,000 farms has been roughly equivalent to the profit of just six supermarket chains in the recent years. The top five retailers have around 70% of the grocery market in the UK. The average return to capital in the UK is around 10-15% in the entire retailing sector compared to 0.5% in the UK agriculture (Qualmam, 2001).

² See for example: <http://www.agribusinessaccountability.org/>; <http://www.regoverningmarkets.org/>; B. Vorley, Global dynamics of grocery

The retail sector has concentrated rapidly, with the top 30 retailers accounting for 33% of global sales in 2002³ compared to 29% in 1999. The buying power of the retailers in a number of countries is threatening high ranking national supermarket players with extinction. European retailers also pool their buying power together into large buyer alliances such as European Marketing Distribution (EMD) and Associated Marketing Services (AMS), which raises buyer concentration to a higher level (the narrowest part in the above figure)(Dobson Consulting, 1999; Dobson *et al.*, 2003).

Fig. 6. The food supply chain ‘bottleneck’ in Europe



Source: Grievink (2003)

In the FFV sector, in terms of industrial concentration, fresh produce market is not characterised by narrow bottlenecks in trading or processing. Governance of the chain resides at the retail end (IIED, 2003). In the FFV sector, uniformity and high quality are necessary for further processing, branding and large-scale buying by food service and retailers. To ensure this, ways of preserving traceability and identity are needed, buyer-driven chains has therefore evolved in this sector (Gereffi, 1994). These are

³ Return on equity is an appropriate method of comparing industries, than returns on gross sales. If farmers measure their return to equity as would a limited company subtracting a modest amount for labour, management and risk, they would show substantial losses.

more regulated and characterised by high levels of governance by and long-term vertical co-ordination between the producers, supplier-integrators, processors and retailers. The resulting chains have barriers to entry such as voluntary standards, codes and benchmarks.

The two main factors driving the restructuring of the FFV sector and the increasing role of supermarkets in explicit co-ordination of the chain can be attributed firstly to the competitive strategies of the supermarkets around product differentiation, and secondly the need to control risk in the face of a more complex regulatory and consumer environment.

For the UK supermarkets, FFV is a key item in the competition for market share as it is not only profitable (as it has some of the highest profit margins per square metre of shelf space of any product category in the store rivalled only by wine and chilled food (see for example Garcia and Poole, 2002); but also one of the few products that influences consumer's choice of stores (Burch and Goss, 1999). Hence the FFV sector is an important element in retailers' competitive strategies.

Retailers are narrowing their fresh produce supply base, which is driving consolidation at all levels of the chain. Global sourcing of fresh produce by the trans-national retailers as implemented by Wal-Mart (see box 1) with their purchase of bananas is just beginning in other fruits and vegetables. Preferred suppliers or 'category managers' are often integrators or grower-packers providing year round supply, through alliances with overseas suppliers. Mack Multiples, for example sells £270 million of fresh fruits and vegetables to UK retailers from over 60 countries.

"...the majority of whole fruits, specifically in the south, come through Mack Multiples.... They (retailers) will give us a spec. and they will say, you can use these three or four suppliers and that's the product, these are the brands..." (MACK-UK FFV Supplier).

Fresh vegetable production and packing in the UK has a trend towards very narrow specialisation in response to supermarket, processor and caterer requirements for category management and traceability. An example of a specialist grower- packer, is

Geest, with 2002 sales of £762 million. Geest is very active in the convenience/prepared salad market with a 40% share.

Box 1

In the year 2002, Wal-Mart, the world's largest retailer which owns Asda in the UK, renegotiated its banana buying. It had invited the biggest distributors to bid for a global contract to supply its stores in several countries. Del Monte, sourcing in Latin America, won a large chunk of the contract and because of the scale of it agreed a deal which enabled Wal-Mart to slash its prices. Bananas fell from £1.08p last August to 81p per kilo at the end of March.

Bananas are retailers' largest selling and most lucrative item. They are known as "value items", that is, shoppers know what they cost. Cutting prices on bananas would put intense pressure on the competition. Other retailers have to follow suit and slash their prices. The Windward Islands, which produce bananas on family farms with far fewer chemicals, could not compete. Their fruit started to disappear from some of the shops, threatening the livelihoods of thousands of smallholders.

The episode neatly encapsulated some of the global forces that have transformed the food chain. By the end of the 1990s, three quarters of world banana trade was in the hands of just five companies: Chiquita (26%), Dole (25%), and Del Monte, Fyffes and Noboa, (8% each). Between 1990 and 2000 the value of banana exports from the Windward Islands fell from \$387m to \$161m.

The foreign sales of the 100 largest trans-national companies are equivalent in value to one quarter of world trade. What is more, about two thirds of all trade takes place within companies. "That does not necessarily mean that there is no competition, but it does mean that in global markets small, fragmented producers are competing against a handful of corporate buyers," Oxfam's report on global trade, *Rigged Rules and Double Standards*, points out. They nearly always lose, whether they are Caribbean tropical fruit growers or English apple farmers.

*Unfair trade winds, Felicity Lawrence, John Vidal and Steven Morris
The Guardian, Saturday May 17, 2003*

The level of private sector governance of the FFV sector is high especially by multiple retailers. As the fresh produce chain is relatively short, primary producers get involved in standards and due diligence issues at an early stage. Price pressure is very important, however, and the brunt is felt by labour. UK horticulture is sustained by a

casual labour force of migrant and often undocumented workers (IIED, 2003). Half of the 72,000 people employed for planting, harvesting and packing in the UK food industry are supplied by 'gangmasters'. They provide the industry with a flexible workforce to meet the seasonal demands of planting, harvesting and packing crops and the market demands of fluctuating daily and seasonal retail requirements.

".....we employ a lot of East European labour and we also use labour providers. That's the polite word for 'gangmasters'. We are trying to be a little bit more sophisticated about it, seeing as it is so much in the public eye.... I have no problem getting East European labour, and it is all legal. As far as the labour providers, we've had problems there in trying to get them to be legal. And in actual fact, we are currently going through the process now. We've actually weeded quite a lot out over the last year or two, because they seem to be getting more and more of the illegal people, and we are sorting that out..." (UK salad crop grower)

As competing interests from consumer lobbies and regulatory bodies have grown, retailers have been skilful in accommodating a wider range of the overall political shifts into their approach to promote their wellbeing. Corporate retailers at the EU level now operate both independently and jointly through organisations like Euro Commerce (Flynn, *et al.* 2004). In the UK, retailers have to position themselves continuously and carefully as custodians of the consumer, distinguishing themselves from both the producer and food manufacturing interests. As the increasingly integrated European food market continues to show major food safety problems, the retailers have taken the opportunity to further embed retailer-led supply chain management. Retailers are a dominant force in the food chain, reflecting the level of consolidation in this sector. They in turn compete to meet the changing needs of consumers. The processors, and ultimately farmers have to respond to the needs of consumers through the retailers.

"We have given them (retailers) the power." (REO- Veiling- Belgian Vegetable Auction body)

"...what you have to do in retail is to be as close as you possibly can to what your customers actually want. At the end of the day we exist to meet the needs of our retail customers,..... everything is largely governed by what the customer wants and what the sales of a particular line are...." (ASDA)

As the direct link between the consumers and the food industry, retailers are likely to remain the main force in setting the agenda for the food supply chain. Retailers have the commercial power to force business process change further down the supply chain.

“.....in terms of the products that we want and the standards that we want to meet, then obviously we have a fair degree of influence in what our supply base actually does, even for branded lines, And for own label we can direct whatever standards we actually want. Down on the ethical trading front, which is more difficult, we can in theory... theoretically we can specify whatever we want wherever we want it....” (ASDA)

However in reality they effect change with their suppliers which can then have dramatic changes further down the chain. The degree of responsibility that they are prepared to take for those changes which are one or two steps removed varies with retailers.

The UK has a particularly highly concentrated and oligopolistic retail sector (Clarke *et al.*, 2003). With the development of a model of supply chain management that is retailer led, power has shifted down the food chain from the farmers to the retailers. This definitely is not a new form of contractual relationship, but an important political, economic and market dimension. Marsden *et al.* (2002) argue that ‘the regulatory state has become critically dependent upon the continued economic dominance of the retailers in their role as the main provider of quality food goods.’ The regulatory state at least as far as food policy is concerned is also a retail state in which the large retailers act as proxies for the consumer. This leads to the emergence of a model of retailer-led food governance.

One example of this in work is the case of pesticides. Retailers are constantly seeking to reduce pesticide residues on the fruit and vegetable products sold in their stores and have required that the level of residues should be below what is required by regulatory standards. Some retailers have a long-term objective of making all the produce they sell free from pesticide residues. It is not entirely clear how this will be reconciled with the demands for produce to be free of pest damage and to have a long shelf life.

6.2 Trends affecting the retailers

Among the many tools available to retailers, private labels can be viewed as one of the most effective instruments for actively securing customer loyalty to a store, as labels help ensure the same product cannot be available in any other store in the local market. In implementing the private label strategy, retailers seek dual objectives: lowering retail price and enhancing product value. Retailer brands offer consumers products perceived to be of higher quality than the standard product at prices below recognised leading brand products of similar quality. Retailers across Europe have implemented private label strategies to cater to particular consumer demands, and there has been a trend to develop high-quality, differentiated private label products. The retail share of private labels among food products is high in many European countries, as can be seen in table 2 below.

Table 2 . Private label penetration in Europe 1999

Country	Volume share %	Value share %
United Kingdom	45.4	43.5
Belgium	34.7	27.4
Germany	33.2	26.0
France	22.1	19.1
Netherlands	20.6	18.4
Spain	20.5	14.8
Italy	17.1	15.5

Source: *PLMA Yearbook 2000*.

Demand influenced changes in retail strategy have implications for the way retailers choose suppliers. In deciding to implement a private label strategy, retailers consider a set of criteria when selecting suppliers and the type of product for branding. Research by Skytte & Blunch (2001) show, in addition to traditional factors like price, quality, and the ability to supply required volume, the ability to trace back products and the willingness of suppliers to engage in long-term relationships with retailers are important selection criteria. The prominence of private labels has likely affected this shift.

In response to increasing consumer demand for safety, quality, and convenience in food, retailers have adopted more proactive marketing strategies, where they try to achieve customer loyalty not only by improving service, location, and store layout but also by having more influence on the overall value creation process in the food chain.

Retail changes implemented in Europe are primarily in response to consumer demands for process attributes in food. European consumers are more concerned about food safety and process attributes of food than American consumers. For example, over 60 % of British consumers are concerned about BSE, over 50 % are concerned about animal welfare and the use of hormones and antibiotics in livestock, and 50 % are concerned about the use of biotechnology in food production (Henson, 2001). In contrast, only 20 percent of Americans are concerned about BSE, about 40 % are concerned about hormone use in livestock, and about 30 % are concerned about animal welfare or the use of biotech in food production.

In the FFV sector, retailer private label strategies are largely geared to provide assurances regarding sensory attributes and the levels of chemical residues in products. Private brands in this sector are less segmented in the types of branding visible on the retail shelves. Retailer brands for produce are generally associated with the integrated farming, which consumers have associated with a lower use of chemicals, and, to a lesser degree, better land stewardship. In addition, private labels are also required to meet the necessary grades specified by retailers with regard to sugar content, firmness, size, and other product characteristics. Sensory attributes, much valued by consumers, are difficult for retailers to guarantee and measure and the implementation of control and the monitoring of such characteristics can be costly. However, cooperation between suppliers and retailers can be mutually beneficial and tends to reduce the quality assurance costs for retailers (Brousseau and Codron, 1998). Given the risks and uncertainties associated with growing and marketing produce, suppliers on the other hand, appreciate the guarantee of an outlet provided under the cooperation with retailers.

The retail branding scheme practiced in the FFV sector is mainly of the substitution type, where the retailer draws up production standards for suppliers.

“They give specifications in terms of how they want the crop grown and then... well, our customer will give us the specification, which happens to be, as far as Marks & Spencer is concerned it's Geest and G's marketing. So they will receive whatever it is that they would receive in that area from Marks & Spencer's, they will then tell us.” (UK salad crop Grower)

The farming practices prescribed are not always precise, and sometimes it may be necessary to ascertain whether the suppliers meet the necessary standards. Production practices can be measured by maintaining a register of chemical treatments, planting dates and growth measurements, soil analysis results, and other practices. However, suppliers may be granted some leeway, for instance, if chemical treatments are employed when pest populations exceed a certain threshold. To avoid this contingency resulting in an erosion of consumer confidence, retailers may employ a set of clear standard operating rules and ensure that suppliers are knowledgeable about the procedures to be adopted. A good example of a similar case was highlighted by one of the UK growers interviewed in this research.

“...as far as we are concerned, the people who are supplying us, the stuff during the winter, are supplying to the same level and standard that we are. We know what they are entitled to use, we know where we get into problems is they are allowed to use certain chemicals and we are not. And there is not a lot you can do about that. We accept that there is a difference. They are not breaking the law”.

(UK salad crop grower)

A third party may be employed to ensure that suppliers adhere to the standard. This produce scheme does not lead to the type of extensive cooperation that exists when a retail brand product is produced. However, retailers may also employ more complex schemes where producers and retailers mutually set standards with the view of adopting measures to enhance environmental quality as well as the safety and sensory attributes of products, as is evident in the following case.

“...for own label we can direct whatever standards we actually want. Down on the ethical trading front, which is more difficult, we can in theory... theoretically we can specify whatever we want wherever we want it. Not quite as easy when you are dealing mainland China or something like that”.

(ASDA)

“...we are not (audited by each customer), because... and this is where the game starts to get a bit interesting in that if you are an M&S supplier and people know you are, then they haven't got to worry too much”. (UK Salad crop grower)

Such arrangements require confidence and long-term relationships between the parties involved and may result in a well-differentiated product on the retail shelf (Codron *et al.*, 2002).

The major retailers will continue to grow and therefore consolidate their share of the UK market through the opening of new store formats especially in the convenience sector. This will further increase the pressure retailers put on the suppliers to increase efficiency. Retailers also seem to consolidate the number of suppliers they use.

“I think inevitably you will see consolidation in the supply bases as people pursue efficiencies in terms of costs”. (Budgens)

In the supply networks, globalisation continues in terms of international retail networks. These are now managed often on a collaborative basis across both countries and continents. In search of greater efficiency, retailers are looking for stable and predictable supply chains as it enables them to drive cost out of the system. Marketing initiatives such as consistent everyday low pricing are also driving the need to have stability in the cost of goods. This drives different kinds of commercial relationships with suppliers.

The rate at which consumers’ needs are changing is accelerating and creating more flexibility and innovation in the supply chain. This means demand is becoming less homogenous and more segmented as a result of changing lifestyles, household structures and demographics. This in turn creates the need for a wider range of product quality, price and food solutions.

Literature states the existence of three models between the retailers and supplier relationship.

- a) A partially vertically integrated supply chain, where there is a level of retailer ownership of processors but not farms - Integration
- b) A close and long term commercial relationship with processor - Partnership
- c) A short term arrangement, with the suppliers – Trading

There has been a growth in the partnership model. This includes true collaborative partnership arrangements but also encompasses pragmatic partnerships which are not necessarily long term, but are a simple way to achieve short term needs. Both, however, are driven by the need for consistency, predictability and lower prices all of which are easier to deliver within a partnership framework.

Each retailer uses a combination of these models to varying degrees. Even where there is integration, this does not represent the totality of trade in a particular sector and partnerships are often loose groupings with relatively weak formal agreements. Growth in the partnership model is a key area of opportunity for those suppliers and producers capable of delivering the requisite goods. Most retailers see further growth in this area as a route to a more efficient supply chain.

Retailers' rationalisation of their supply base and foreign competition has led to food processors consolidating through merger or acquisition. Retailers are demanding higher technical standards from their producers and traceability of supply is gaining importance. For example, Wal-Mart's North American Pallet, Carton, and Case Initiative (NAPCCI), its Radio Frequency Identification (RFID)⁴ tracking initiative seeks to supplant generic barcodes with supply chain identifiers that will result in a unique number on each pallet, carton, and case. The initiative has put suppliers into a position, where they are attempting to understand it, and enable them to become compliant, to technologies that are largely new to their supply chains.

There has been an associated proliferation of private standards often as part of Corporate Social responsibility (CSR) or risk management initiatives. Voluntary standards and associated codes and certification schemes are emblematic of globalisation, linked as they are to the growth of international supply chains, a reduced role for state organisations and recasting of regulatory systems and voluntary self-regulation (Jenkins, 2001).

⁴ RFID tags are tiny microchips, which have been shrunk to half the size of a grain of sand. They listen for a radio query and respond by transmitting their unique ID code. Most RFID tags have no batteries: They use the power from the initial radio signal to transmit their response.

One sign of the importance now being attached to sourcing is the 1999 establishment of the Euro Retailer Produce Working Group (EUREP) guidelines for Good Agricultural Practice (GAP). The GAP protocol seems likely to become the industry standard against which national assurance schemes are benchmarked. Where there is no equivalent national scheme, producers will be inspected against GAP by a EUREP accredited verification body. Central to GAP is a commitment to adopt Integrated Crop Management (ICM) practices.

7.0 Development of EUREPGAP program for fresh fruit and vegetables

7.1 What is EUREPGAP?

EUREPGAP started in 1997 as an initiative of retailers belonging to the Euro-Retailer Produce Working Group (EUREP). It has subsequently evolved into an equal partnership of agricultural producers and their retail customers. The mission being to develop widely accepted standards and procedures for the global certification of Good Agricultural Practices (GAP).

Technically EUREPGAP is a set of normative documents suitable to be accredited to internationally recognised certification criteria such as ISO Guide 65. Representatives from around the globe and all stages of the food chain have been involved in the development of these documents. In addition the views from stakeholders outside the industry including consumer and environmental organisations and governments have helped shape the protocols. This wide consultation has produced a robust and challenging but nonetheless achievable protocol which farmers around the world can use to demonstrate compliance with Good Agricultural Practices.

It is possible for producer organisations to seek an independent and transparent recognition of equivalence with the EUREPGAP standards and procedures through a benchmarking system thereby facilitating global trade and aiding the harmonisation of technical criteria.

EUREPGAP members include retailers, producers/farmers and associate members from the input and service side of agriculture. Governance is by sector specific EUREPGAP Steering Committees which are chaired by an independent Chairperson.

Both the standard and the certification system is approved by the Technical and Standards Committees working in each product sector. These committees have 50% retailer and 50% producer representation creating an effective and efficient partnership in the supply chain. The work of the Committees is supported by FoodPLUS a non profit limited company based in Cologne, Germany.

7.2 Factors leading to the development of EUREPGAP

EUREPGAP was driven by the desire to reassure consumers. Following food safety scares such as BSE, pesticide concerns and the rapid introduction of GM foods consumers throughout the world are asking how food is produced; and they need reassuring that it is both safe and sustainable. Food safety is a global issue and transcends international boundaries. Many EUREPGAP members are global players in the retail industry and obtain food products from around the world. For these reasons a need has arisen for a commonly recognised and applied reference standard of Good Agricultural Practice which has at its centre a consumer focus.

These factors sometimes known as “the triple bottom line: people, planet and profit” recognise the importance major corporations and multinational supply bases place on ensuring agriculture is undertaken in a responsible way that respects food safety, the environment, workers welfare and the welfare of animals. Good Agricultural Practices, which are understood by producers the world over, deliver clearly defined outcomes in these areas.

7.3 Goals of EUREPGAP

By adhering to good agricultural practices risks in agricultural production is reduced. EUREPGAP provides the tools to objectively verify best practice in a systematic and consistent way throughout the world. This is achieved through the protocol and compliance criteria. There are about 214 control points divided into 49 major musts, 99 minor musts and 66 recommended, a diagrammatic representation is given in the figure below. EUREPGAP’s scope is concerned with practices on the farm, once the product leaves the farm they come under the control of other Codes of Conduct and certification schemes relevant to food packing and processing. That way the whole chain is assured right through to the final consumer.

Another key goal is to provide a forum for continuous improvement. The technical and standards committees, consisting of producer and retail members, have a formal agenda to review emerging issues and carry-out risk assessments. This is a rigorous process, following the principles of HACCP, and involves experts in their field leading to revised versions of the protocol.

7.4 Other competitive strategies adopted by retailers

Several supermarkets are trying to generate competitive advantage through superior environmental performance.

“...the main thing with retailing, because selling products and anything can be copied, then the real bit of advantage is to do whatever it is first. Industry leadership are lead first to do the right thing, which means speed of action and second-guessing what your competitors are going to do on a whole range of different issues, making sure you don't get wrong footed and certain of our competitors where we used to just get on and trade in our own way and do our best....” (ASDA)

As well as being a part of EUREPGAP, Tesco, for example runs its own assurance scheme, Nature's Choice, which according to the company's strategic technical development manager, is *“significantly broader and deeper than EUREP”*. This food labelling scheme, developed by Tesco is essentially a code of practice and Tesco has adopted a policy that they would only accept produce accredited with the Nature's Choice label. Through this scheme, accredited growers are audited against seven criteria, one of which is that growers have to demonstrate that they are maintaining and enhancing the nature conservation and landscape values of their properties. Nature's Choice is underpinned by a 'green' philosophy of stewardship and essentially aims to combine production efficiency and conservation values through the Code of Practice.

Sainsbury's, has developed a policy on the sourcing of wild products⁵, which seeks to ensure that threatened species and habitats are not harmed, for example, shells, moss, crocodile meat, plant bulbs and sea food (based on the CITES⁶ Convention and consumer concerns). It is also working with suppliers on an initiative that encourages farm-level biodiversity action plans. Similar views were expressed by various actors in the supply chain, as is evident from the following excerpts

"...we have these games that go on, so. It's a fiercely competitive market at the present time and that can get a little bit excited..." (ASDA)

"...in terms of the salt-reduction program, Tesco's already announced they're doing this traffic light system on products, and that's obviously jumping ahead of what the FSA are wanting to do. They (FSA) want to develop it in conjunction with everybody so everybody's singing off the hymn sheet." (Budgens)

"...that's (self-regulation) something that we are seeing an advantage to, to our competitors. Everybody has got the same produce so in some ways we have to, it has to be competitive with the competitors, and also because it's always important to look a little bit ahead so..." (CALSA-Belgian Vegetable Auction body)

8.0 Regional and other key assurance systems

8.1 Flandria label

In 1995, the Belgian auctions introduced the Flandria quality label. Flandria label is recognised across most European countries for excellent quality, which is cultivated by family businesses in an environmental friendly way. The tomato was the first vegetable sold under the Flandria quality label. Currently, more than 50 vegetables bear the Flandria quality label.

The cultivation of Flandria products is subject to strict conditions for production. In addition, an ecological balance is established with the use of a balanced set of natural

⁵ This policy recognises that the uncontrolled harvesting of animal and plant species from the wild can have serious effects on wild populations which are under increasing pressure from both trade and land development. All Sainsbury's suppliers have been provided on guidance on how to address and prevent these effects.

⁶For more details see <http://www.ukcites.gov.uk/>

cultivation measures. Minimum requirements for Flandria products are set for the varieties used (very important for taste, shelf life, etc.), shape, grading, ripeness, the firmness, and the lack of foreign substances.

In order to meet the requirements of the people in the trade and of the government, the auctions 'Mechelse Veilingen' and 'Veiling Hoogstraten' have taken the decision to extend the content of the quality label Flandria by adding the FlandriaGap Specifications. As a result of these specifications, the strict standards for hygiene, environmental friendly planting and sustainable horticulture, that apply to Flandria, are now set even higher.

8.2 FlandriaGap

FlandriaGap is a new specification for the production of Flandria produce. The Flandria label, though will continue to exist, but at the auctions 'Mechelse Veilingen' and 'Veiling Hoogstraten' it is combined with new specifications. The FlandriaGap specifications, encompasses the already stringent standards for hygiene, environmentally-friendly production methods and sustainable horticulture which apply to Flandria, but are more stringent. Extra attention is being paid to food safety and traceability, care for the environment and the workforce (accident procedures, safety...). FlandriaGap is an integrated system which combines quality and Good Agricultural Practice.

FlandriaGap has been introduced in anticipation of new legislation - self-assessment and duty to report - from the Federal Food Chain Safety Agency (Federaal Agentschap voor de Veiligheid van de Voedselketen (FAVV)). FlandriaGap is an alternative for existing and future specifications, such as HACCP, BRC, QS, EurepGap. FlandriaGap's real asset is its residue monitoring programme. Every year, approx. 14,000, mostly carefully directed, samples are taken at the LAVA auctions, and this at the most critical points. In the case of most other specifications, this sampling is not carefully directed.

Hygiene is another strong point. Approximately 70 of the 148 inspection points within FlandriaGap relate to hygiene. Under Flandria, the grower had to achieve a score of 80% on the hygiene inspection points, regardless of the type of directive, whereas

FlandriaGap comprises a number of compulsory hygiene directives. Another strength of FlandriaGap is that the emphasis is on verifying whether there effectively is compliance with the directives or not. Whereas the emphasis of EurepGap tends to be on registration.

Even if higher environmental standards can enhance brand reputation, retailers face another challenge getting the message across to consumers. As one of the major retailer states:

“The key, is to ... develop tangible, quantifiable measures that assure customers that we are taking responsible decisions with our suppliers to protect and enhance the environment. This needs to be done in a way that customers can relate to easily.” (ASDA)

In a culture of harsh price competition, fuelled by over supply and governed by the power imbalances of market concentration at the retail level and fragmentation at the farmer level, retailers will inevitably pass on the added costs to the weakest link in the supply chain-and that is the farmers. The following quote highlights the issue.

“... When they (retailers) have a problem, instead of trying to find a fundamental solution for their problem, they try to find a solution which should be placed, or the effort should come always from the grower.” (REO-Veiling- Belgian Vegetable auction body)

Some producers are calling for mechanisms to allow more transparent reciprocal auditing. This would enable them to check how their produce is being labelled and marketed. Such measures would help reassure farmers that food assurance schemes are legitimate commitments.

“.....why should we risk taking the freedom of a supplier to contract with other people if there's no need for us to do that. In a way, it would look improper to do that..... So we don't put any restrictions on any of our suppliers as to who else they trade with. We wouldn't do that. Philosophically it's not something we would do...” (ASDA)

8.3 The Global Food Safety Initiative (GFSI)

In 2000, a group of international retailer CEOs identified the need to enhance food safety, ensure consumer protection, strengthen consumer confidence, to set requirements for food safety schemes and to improve cost efficiency throughout the

food supply chain. Following their lead, the Global Food Safety Initiative (GFSI) was launched. The initiative is facilitated by CIES and was launched in the aftermath of the Dioxin Crisis of 1999. In its origins, GFSI is a retailer-led initiative, but manufacturers and other stakeholders are wholeheartedly invited to participate in GFSI projects. One of the key projects of the Global Food Safety Initiative is to implement a scheme to benchmark food safety management standards world-wide. Retailers accept certificates based on standards in order to be able to make an assessment of their suppliers of private label products and fresh produce (fruits, vegetables and meat), to ensure that production is carried out in a safe manner. There are many of these standards and the plethora of criteria used for audits means that suppliers with many customers are audited many times per year, at a high cost and with little added-benefit. GFSI has issued a Guidance Document, now in its 4th edition, containing commonly agreed criteria for food safety standards, against which any food safety standard can be benchmarked. GFSI does not undertake any accreditation or certification activities but encourages instead the use of third party audits against benchmarked standards, with the goal of enabling suppliers to work more effectively through less audits and reducing travel costs for retailers so that resources can be redirected to continually ensure the quality of food produced and sold world-wide.

The mission of GFSI is to strengthen consumer confidence in the food they buy in retail outlets. GFSI aims to:

- implement a scheme to benchmark food safety standards (for private label products) world-wide
- facilitate mutual recognition between standard owners and
- ensure world-wide integrity in the quality and the accreditation of food safety auditors.

8.4 Pesticides Initiative Programme (PIP)

The sector of fresh fruit and vegetable exports from Africa-Caribbean-Pacific (ACP) countries to the European Union is faced with serious difficulties that stem from the harmonisation of European regulations on pesticide residues currently under way to the growing demands of European distributors in terms of the quality and safety of the

products they sell. It is imperative that fresh fruit and vegetable producers and exporters from ACP countries make their products comply with these regulatory and commercial requirements as soon as possible. If they fail to do so, they are in danger of losing their market shares in the EU, which would threaten an important source of earnings for the ACP countries and the jobs of a large number of those employed in the sector.

The Pesticides Initiative Programme (PIP) intends to respond to applications from private companies in the ACP fresh fruit and vegetable export sector to the European Union. They are confronted with strengthening of European buyers' requirements in terms of food safety (pesticide residues) and traceability. The European Commission and the ACP Group of States placed management of the PIP in the hands of the sector's inter-professional association. This decision demonstrates their will to enable the sector itself to define its own expectations and to focus the programme on the private sector.

The PIP was set up by the European Union at the request of the ACP Group of States in order to forestall any negative effects on the ACP export sector resulting from ongoing regulatory changes in the EU and ensure the sector's long-term sustainability. This is done mainly by helping enterprises revise their practices and implement food safety and traceability systems.

More generally, the PIP aims to contribute to the development of safe and sustainable trade between responsible partners.

The PIP programme aims to:

- ensure that the specific needs of tropical crops (so-called minor crops - excluding bananas) are taken into account in the harmonisation of European Union regulations.
- provide support for building the local capacity necessary for the sustainable development of the sector by supporting so-called intermediary structures (professional organisations, local consultants and experts, laboratories, etc.).

8.5 International Federation of Organic Agriculture Movements (IFOAM)

IFOAM was founded in 1972 and represents the complete spectrum of stakeholders in organic agriculture movements worldwide. IFOAM provides a market guarantee for

integrity of organic claims. The Organic Guarantee System (OGS) unites the organic world through a common system of standards, verification, and market identity. It fosters equivalence among participating IFOAM accredited certifiers, paving the way for more orderly and reliable trade whilst acknowledging consumer trust in the organic 'brand'.

IFOAM aims to

- Provide authoritative information about organic agriculture, promote its worldwide application and exchange the knowledge.
- Represent the organic movement at international policy making forums.
- Make an agreed international guarantee of organic quality a reality.
- Establish, maintain and regularly revise the international 'IFOAM Basic Standard' as well as the 'IFOAM Accreditation Criteria for Certifying Programs'.
- Build a common agenda for all stakeholders in the organic sector

IFOAM's Basic Standards and Accreditation Criteria (the IFOAM Norms) are the international guidelines for organic agriculture. Members build their own standards on the basis of the IBS and Accreditation Criteria, and they are also utilized as models for setting national and intergovernmental standards. Additionally the norms form the basis for harmonised inspection and certification of organic products by over 30 internationally recognized IFOAM accredited certification bodies (ACBs).

IFOAM Basic Standards are the keystone of the organic movement. They define the principles, recommendations, and required baseline standards that guide operators in producing their organic crops and maintaining organic integrity in the further handling and processing of organic commodities. IFOAM Accreditation Criteria are strictly based upon ISO 65 requirements, adapted to the specific needs of organic agriculture and manufacturing using a process based approach. The criteria require that accredited certification bodies have effective quality systems.

One might argue that this is bringing forth a much more precautionary approach to intensive fresh fruit and vegetable production through private sector means, and by establishing privatised and highly specific criteria of traceability and assurance.

Together with these requirements also come highly specific mechanisms for controlling the growth, shape, aesthetics and content of the crop, such that the producer is now almost completely controlled at a distance in terms of their production strategies. It is the post-farm sections of the supply chain-led especially by the globally sourcing retailers, who are now using the banner of customer assurance and quality in order to enhance their arms-length control over selected producers. From the producer perspective, acceptance and participation in these regulatory systems becomes the only option if they wish to maintain their markets.

8.6 Consumer involvement: a vital ingredient

A race to reach the top rung on the environmental performance ladder, requires not only a more equitable sharing of the costs along the supply chain, but also customers who are well informed about the food they eat. The danger of proliferating schemes by individual supermarkets, on top of the existing national assurance programs and umbrella initiatives such as EUREP, Flandaria, FlandariaGap is that the consumer will be left more confused than ever. Research undertaken by the National Consumer Council, shows that consumers are completely baffled by the range of schemes, logos and claims that surround the food industry. Consequently, they are just as likely to see such schemes as purely marketing hype, with nothing substantial behind it.

Further, to the proliferation of such private schemes, some key definitions and legislations vary across Europe. For example one of the Belgian Fruit and vegetable auctioneers stated:

“It would be better if there would be one standard, one European standard. That would be a combination of most of the systems, because that is a problem that there are so many systems that you need so many paperwork and then so much work also for the producer ...” (REO-Veiling- Belgian FFV auctioneer)

Yet another Belgian Fruit and vegetable auctioneer stated:

“...For example, the non-uniformisation in Europe of food safety residue harmonisation, in Europe started in 1991 to uniformise the pesticide regulations. They have not even achieved 15% of it, so there's the problem. And that's not only a problem for the farmers, there's a problem for the co-ops, and there's a problem for the retailers, too. The big discussion with the retailers now is... should there be compliance with country of production or country of destination? And then farmers will say, we

can't comply with country of destination because we don't know where it will be heading to..."
(Mechelse- Veilengen- Belgian FFV Auctioneer)

9.0 Impact of retail governance on FFV production in the developing countries

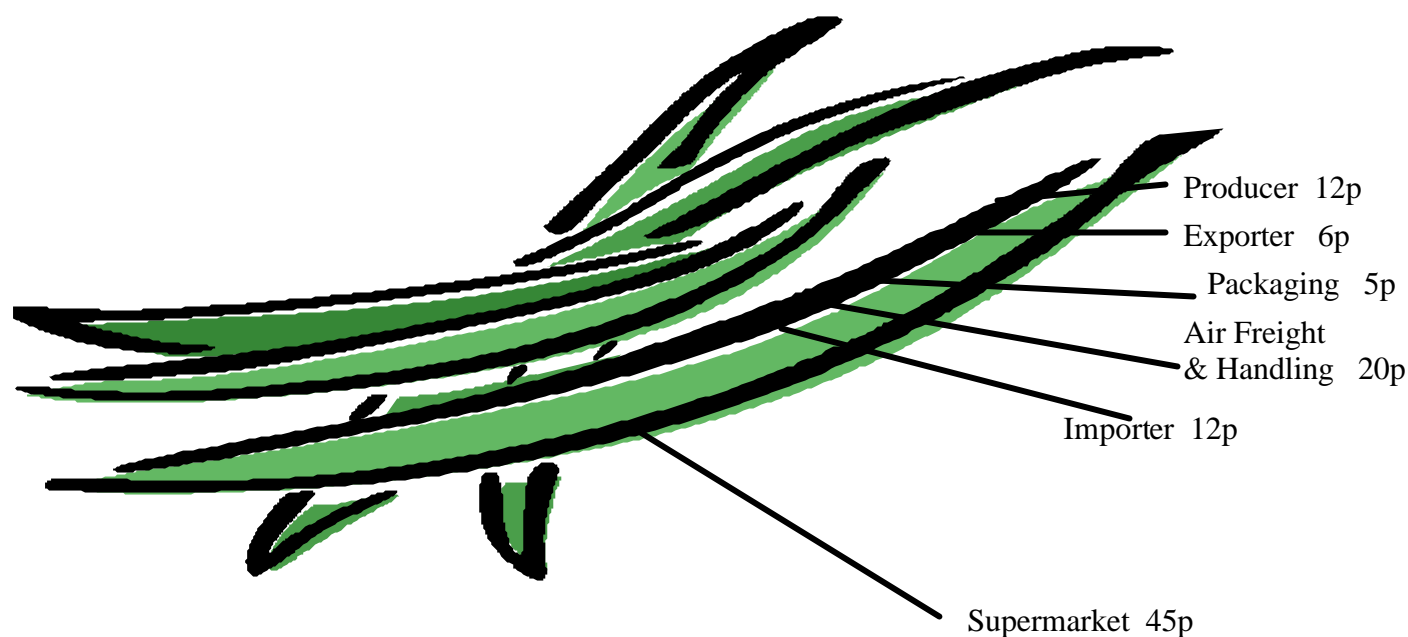
Over the recent years, sizeable FFV export-oriented horticulture industries have developed in some of the African countries for the European market. A similar niche is filled by Guatemala, Costa Rica, Columbia and Mexico for exports to the US (Thrupp, 1995). This is an area where the developing countries have been able to engage in global markets in the export of tropical crops to meet supermarkets' demand for consistent year round supplies of fresh produce.

Returns however are highly concentrated at the end of the chain in the importing countries. Dolan *et al.*,(1999) found that for mangetouts imports from Zimbabwe, 45% of retail value is retained by supermarkets to cover costs such as wastage and to ensure a profit margin while the producer share was only 12% (see figure 8 below). The team found very similar figures for fresh vegetable exports from Kenya, with producer and supermarket shares of 14% and 46% respectively.

Supermarkets' standards focus on food quality and management of risk (safety and traceability). Pack-houses are required to have increasingly sophisticated equipment for tracing and labelling produce which increases the scale and cost of operations. There are also standards for environmental protection and welfare of workers even specifying the brand of fire extinguisher used in packing houses, but suppliers report that these are secondary requirements of supermarket buyers⁷. But the high capital requirements associated with meeting standards for due diligence may be a major barrier to market entry and driver of differentiation.

⁷ Unpublished IIED report.

Fig.8. The retail value (£1.00) of mangetout exported to the UK from Zimbabwe



Source: Dolan et al., 1999

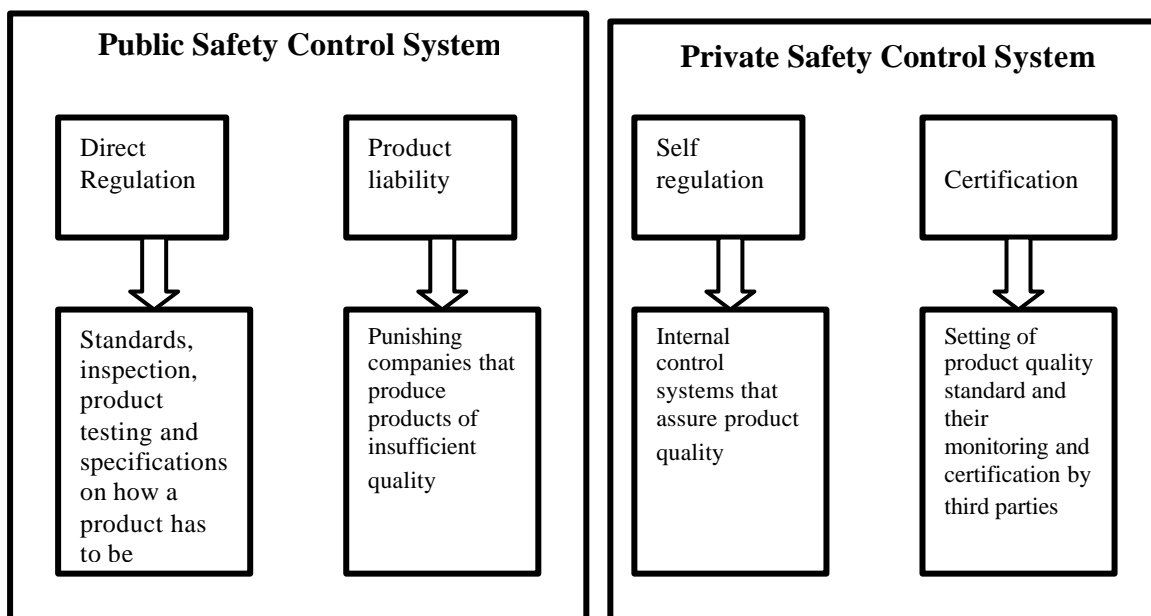
Quality standards may improve pesticide management and also indirectly drive quality competition in domestic markets. But as Friedburg (2003) states, “*Efforts to impose such standards on African horticultural exports thus respond more to the particular anxieties of corporate retail management rather than to the concerns of workers in the horticultural export industry themselves*”. Based on observations in the San Francisco valley of post-liberalisation Brazil, Cavalcanti and Marsden (2004) echo this perception of retailer imposed quality protocols as a “*Re-regulation of agriculture along private lines, around a particular construction of consumer interests which is having severe implications for farm structure*”.

10.0 Private and public systems of regulation in the FFV sector

A wide array of both public and private safety control systems has evolved for any food product being offered for sale to consumers in retail stores or food service operations as detailed in figure 9 (Henson, 1997; Caswell, 1997; Caswell and Johnson, 1991). Public quality control systems involve direct regulation in the form of standards, inspection, product testing, and other programmes attempt to ensure the quality of the product by specifying how it is produced and/or its final quality. Product liability involves punishing companies that produce products of insufficient

quality through damage awards to those harmed by their actions. Direct regulation and product liability may complement or substitute for each other (or even conflict) in establishing incentives for companies to engage in effective quality control.

Fig. 9. Food quality control systems



Source: Adapted from Henson, 1997; Caswell, 1997

Private systems include self-regulation and various forms of certification by other parties. Self regulation includes internal control systems that assure product quality, where the company sets, monitors, and self certifies the control parameters. It can take place at the level of the individual firm or be instituted by trade organisations that cover the predominance of market supply. Certification involves the setting of product quality standards and their monitoring and certification by parties outside the firm, for example customers, industry trade associations, or bodies such as the International Organisation for Standardisation (ISO). Such certification may be voluntarily sought by the company or required by those with whom it does business. The relative importance of these public and private modes of food safety control will reflect, amongst other things, the nature of public regulation and the structure of the food supply chain. The product liability system for food products in the UK has hinged on the concept of ‘*due diligence*’. Evidence that a company took all reasonable precautions and exercised all ‘*due diligence*’ to avoid commission of an offence provides a defence against liability. This public provision has motivated extensive

private quality control activity amongst food companies that want to be able to prove they have exercised '*due diligence*', based predominantly on third party certification (Henson and Northen, 1998; Bredahl and Holleran, 1997; Zaibet and Bredahl, 1997).

The state as a regulator in food safety is far from new; while at the same time it is known that food safety has been a concern for both public and private interests, and that the distribution of responsibility among public institutions, manufacturers, distributors and individual consumers in securing safe food has changed historically.

Shifts associated with the more recent development of 'the regulatory state' necessitates a change in governmental control, where traditional mechanisms of government tends to be replaced by newer mechanisms for example, privatization, contracting out and various means of standard setting linked to more or less independent agencies for monitoring and enforcement. These are examples of governing at-a-distance, often involving the 'self-regulation' or 'quasi-regulation' of businesses and consumers (Moran 2002).

The regulatory state model has been widely criticised for its centrist conception of state power (Black 2000, 2002). Private actors, like firms, industries, private associations and NGOs, regulate their own members, suppliers, costumers and internal affairs (Teubner 1998; Black 1996). The significance of this private governance will increase with ongoing organisational growth, mergers and acquisitions. This emerging tendency is often done by means of private contracts stating the proper expectations and responsibilities of the parties involved (Shearing 1997). The way these contracts are formulated will depend largely on the international and commercially available voluntary standards. Such standards offer procedural norms based on 'best practice', third-party-based monitoring and auditing systems and procedures for the managing of deviations from norms (Brunsson & Jacobsson, 2000, Power, 1997, Scott, 2003).

It has been noted that the balance has shifted from one set of private actors (producers) to another set (retailers). This phenomenon has been very obvious in the UK, where the big retailers have more or less taken over from farmers and manufacturers in taking the lead, both in terms of initiatives towards public

authorities, in private regulatory efforts, and related to consumer trust (Marsden, *et al.*, 2000). However in Norway there has not been a parallel shift (Jacobsen & Kjærnes, 2003). Hence it could be assumed that these shifts are strongly country and context specific.

Stigler (1971) noted that public regulations often reflect or have been 'captured' by private interests. Based on this perspective, according to Majone (1994): '*regulation is not instituted in the interest of the public at large or some sub-class of the public, but is acquired by an industry and designed and operated primarily for its benefit*'.

One of the retailers interviewed in this research had the following view:

"I think the driving force has to be two things. A. is product safety and the fact that obviously we have to show due diligence and B. obviously to protect the brand image, which is probably even more important nowadays...". (Budgens)

Coordination based on an understanding of stakeholders blurs the distinction between public and private regulations. Corporative, consensus oriented processes of decision-making have been very significant in Europe. The more recent stakeholder versions, including the state and usually also consumers, seem important in food safety policies both at the national and the EU levels (Héritier, 2003).

"...we want to have it as uniform, and then our lawmakers have to provide the law for that. So we have that for two things. We have it for the integrated fruit production, on the one hand, and we have it also for the leafy vegetables under glass house." (Belgian FFV auctioneer 1)

"... by law it is required to have a pre-harvest residue analysis. So we have a pre-harvest residue analysis. Because 80% of the lettuce is sold through producers' organisations and is controlled, and was controlled on voluntary basis, but 20% was not controlled and there we were afraid. People who were not in order for selling through the organised markets went to the non-organised markets, with product which is poor in quality or which had too high a residue content. If in Germany they write in the paper that the Belgian salad or Belgian lettuce has a high content in the residue our sales drop, so we want to make sure that everybody is following the same standards and that's why we want the government to step in and to make it a governmental regulation, a regulation for everybody." (Belgian FFV auctioneer 1)

The increased reliance on the part of the State on more indicative instruments of regulation, 'like guidance, circulars deployed with the intention of shaping the behaviour of those to whom they are directed' (Scott 2002), without having to use laws and direct commands means that this allows for a reduction or an escape for some of the procedural costs involved. This points to a process whereby norms and standards are (still) decided in a public setting, but where the responsibility of market actors has become more emphasised, more visible and cost effective. Some of the private sector respondents agreed that:

"...the whole regulation environment is done on a different premise than... food law traditionally was all based on legislation, and in public legislation there wasn't anything.... people weren't expected to do anything on the basis of good will or arms research, yet on the environment side it's been different from that in arm-twisting packaging, waste regulation, and a whole plethora of other controls and climate-change levy or whatever. There's been lots of quasi-soft law...." (ASDA)

"... we see different interpretations, you know, you can have two stores in two bordering counties and see two interpretations on a piece of legislation." (Budgens)

"One of the biggest issues I have is, is where we do transgress is trying to convince the enforcers to actually go down the route of using the enforcement concordat." (Budgens)

"And dealing with the issue through the enforcement concordat rather than the more formal route. And whilst everybody has signed up with the vast majority of enforcement agencies have trading standards and environmental, health labels, have signed up to enforcement concordat. It's given lip service. They say that they've signed up to it, but in the end it still gets pushed to one side..." (Budgens)

"A problem I see with Lacors is I think that they... whilst they try to be impartial, at the end of the day it is an enforcement authority. It's managed and run by X enforcers or enforcers on secondment, but then you were saying the same argument about the BRC, you know, it's run by retailers." (Budgens)

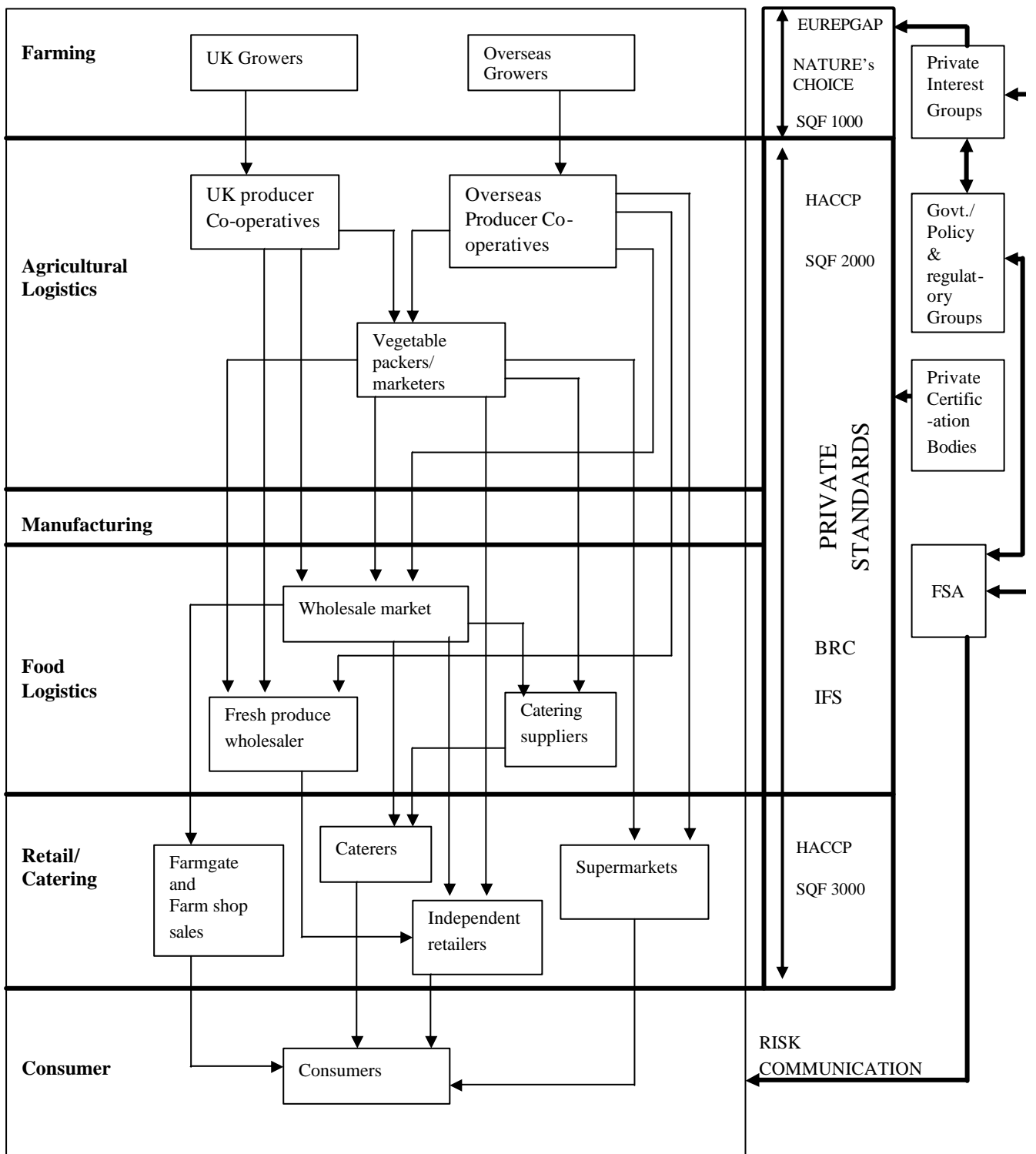
"I mean, I would say that in that area, this has been more commercially driven than government driven. I would say government is catching up with what the commercial side of the game has actually got into. I mean, I'm very pleased that it has because it then means everybody's, by law, has got to conform to the same standard, and we are, as far as I'm concerned, I think right at the front of the game. One of our objectives here has always been to provide safe food for people to eat and I don't have any problem in anybody, who ever wanted to, coming and asking us what we're doing, or if they wanted a traceability or whatever I wouldn't have any problem in providing that. I don't have any problem with that whatsoever." (UK salad crop grower)

Food manufacturers and food retail outlets have a great deal of capital invested in their brand images. Legal liability and loss of consumer confidence can have devastating effects on a company's market share and long-term survival prospects in a highly competitive market. This creates a clear incentive for firms to move towards closer strategic partnering relationships with suppliers.

The current food safety legislative environment is encouraging firms to follow an organisational strategy aimed at building closer supply chain relationships. This is occurring in a number of countries despite the differences in legislation between these countries. The reasons for these similar strategic developments given the differences in regulation is perhaps due to the core problem at the heart of food safety, that it creates information asymmetries along the supply chain. Closer supply chain relationships are one way in which to reduce these information asymmetries and the resulting transaction costs.

The quality and safety of FFV produce are controlled by different public and private entities at different points in the supply chain. Figure 10 maps the various stages of the fresh fruit and vegetable supply chain in the UK and the EU and the corresponding stages where public and private standards operate in the chain. The research indicates that in the FFV sector, more retailers have developed their own "codes of practice" including good agricultural practice (GAP) and specifications related to intrinsic and extrinsic qualities. These private specifications are based on national and EU food safety and quality regulations and in most cases exceed these regulations.

Fig.10 Fresh fruit and vegetable supply chain and its regulation



11.0 Conclusions

Our earlier research (Smith *et al.*, 2004, and Thankappan *et al.*, 2004) indicated that retailers are becoming more influential in food policy-making in the UK and EU, in the name of the consumer and public interest. Consumers are increasingly influencing

the food system by selection or rejection of food considered healthy or hazardous; and large-scale retailer's organisations acting as intermediaries between the production and consumption are both very sensitive to these and attempt to shape consumers' preferences. This represents the development of a more complex public/private set of relationships, which now embodies new public institutions (like the EFSA and the UK FSA) and a greater competitiveness to react to consumer and media concerns.

In this paper, the case of the fresh fruit and vegetable sector is used to explore this hybrid model which is playing a pivotal role in reshaping the UK food policy. This paper has sought to provide an overview of the fresh fruit and vegetable supply chain. It has concentrated on the extent to which the retailing industry is actively managing its supply chain by the introduction of private standards to ensure food quality and safety all along the chain.

Over recent years, the UK consumers are giving more emphasis to aspects of quality and convenience than to price and quantity. Further, there is an increasing demand for healthy foods and foods from market 'niches' often reflecting ethnic variety and traditions. This change in demand is consumer-led and is articulated in the UK by the powerful retailers, who are increasingly adopting a global sourcing policy to satisfy the new demands of the consumers. Governance of the chain resides at the retail end. One example of this in work is the case of pesticides. Retailers are constantly seeking to reduce pesticide residues on the fruit and vegetable products sold in their stores and have required that the level of residues should be below what is required by regulatory standards. The reigning position of the retailers is made possible in the FFV sector because: In the FFV sector, uniformity and high quality are necessary for further processing, branding and large-scale buying by food service and retailers.

For the UK supermarkets, FFV is a key item in the competition for market share as it is not only profitable (it has some of the highest profit margins per square metre of shelf space of any product category in the store rivalled only by wine and chilled products. It is also one of the few products that influence consumer's choice of stores. Buyer-driven chains have therefore evolved in this sector.

These chains are more regulated and characterised by high levels of governance and long-term vertical co-ordination between the producers, supplier-integrators, processors and retailers. The resulting chains have barriers to entry such as voluntary standards, codes and benchmarks. The growing emphasis on quality standards and public concern about food safety have led both governments and retailers to set increasingly high standards on production and processing methods.

There has been an associated proliferation of private standards often as part of Corporate Social Responsibility (CSR) or risk management initiatives. Some of the key private standards operating in the fresh fruit and vegetable sector are: EurepGap, The Global Food Safety Initiative, IFOAM etc.

The retailers have developed their own quality assurance systems to demonstrate due diligence as a defence against any food safety breakdown. A logical sequence therefore, is to explore their integrating supplier activities and demand that they develop systems to meet retailers' due diligence position. Retailers use private standards to standardize product requirements over suppliers.

The private quality and safety standards imposed by the retailers relate to the physical aspects of the products, as well as to cost, delivery and volume requirements, thereby enhancing supply chain efficiency and lowering transaction costs. Private standards of a given chain are also designed to ensure (at a minimum) that public standards are met in all the markets in which the retail chain operates. Often, retailers design private standards as substitutes for missing or inadequate public standards (Reardon and Farina, 2002). In this respect, private standards can function as a means of competition against other retail outlets by supporting claims of superior product quality attributes.

It is evident from this paper that large scale retailers are restructuring the agri-food chains from which they buy their products, in several crucial ways. This form of "Top-up" regulations by private interest groups in the name of consumer interests will have serious implications for the farm sector. This perception of retailer imposed quality protocols is echoed by Marsden and his Brazilian colleagues based on

observations from their work in Brazil, which formed an important strand of this research.

All this boils down to the fact that sustainability as a set of quality standards may provide leverage for large enterprises to control markets and raise barriers to competition. Therefore, when a retailer develops a strategy for sourcing more sustainable products, they as governors of the supply chain can push all compliance costs and risks down to the suppliers. Standards and codes of practice therefore favour the well-capitalised farmers. The efforts to catalyse a public-private response that packages sustainability into technical, regulatory and managerial frameworks has shown that supply chains respond with another drive of marginalisation of small farmers (Vorley, 2001). A debate therefore needs to open as to what the effects are of these private standards, and how public policy should take them into account, such as harmonizing with them.

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