Getting Produce from the New Zealand Paddock to the European Plate – reducing supply chain vulnerability through the management of employment relations critical control points

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Abstract

This article explores the employment relations of the primary industry supply chain from the New Zealand paddock to the European plate. Primary sector produce has been a major component of New Zealand exports for a long time and has been the focus of major port conflicts in 1890, 1913 and 1951, with many other less public disputes. Supply chain concepts have been integrated with potential employment relations flash points, and this has lead to the development of a focus on, what is described in this article, as the management of employment relations critical control points. These are points which managers should focus on if they wish to avoid conflict which has the potential to disrupt primary industry supply chains to northern hemisphere consumers.

Introduction

New Zealand is so remote from the rest of the world that transport has always played a central role. Europe is exactly on the opposite side of the world to New Zealand. It could not be further away. In New Zealand, the main cities were built around ports, or their port suburbs. The *New Zealand Official Yearbook* (2004: 387) sums up the situation:

> "While international air and telecommunications links are helping to overcome New Zealand's isolation as a trading nation, there remains a heavy reliance on sea transport for movement of the bulk of the country's exports and imports.
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> The period from the late 1970s has been marked by ongoing and continuing change in the New Zealand transport sector. Major regulatory changes have encouraged competition within the industry and allowed the ongoing introduction of a wide range of new technologies. Organisational changes have seen a greater use of commercial structures for publicly owned transport systems, with some being transferred to the private sector."

When measured by weight, nearly all exports and imports are carried by sea (99 percent of each, or 25 and 16 million tonnes respectively). Measured by value, the figures are 83 percent of exports and 75 percent of imports (*Yearbook,* 2004: 387). National shipping policy since the 1990s has reflected the view that the country's best interests are met by New Zealand being a ship-using rather than a ship-operating nation. Thus, exporters and

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importers have unrestricted access to carriers of their choice in a free market with high levels of competition. Consequently, New Zealand is now served by more independent carriers than previously (ibid.: 388).

Sea transport has been the scene of major industrial upheavals since the Maritime Strike of 1890. Major wharf confrontations also occurred in 1913 and 1951. In both cases, the government of the day won the dispute, with the strong support of the farming community. This fertile ground for unrest has not gone away in the new millennium for Green concludes her study of the waterfront from 1915 to 1951:

> "The history of labour relations on the waterfront has relevance for contemporary developments in the ports. Increasingly casualised over the past decade, port workers are once again facing many familiar problems, including insecurity of employment and intensified hours of work." (Green, 2001: 15)

Further, she suggests that those who have not learnt from the history of the waterfront and understood it may well repeat it.

This is important today because exports still represent almost a quarter of the gross supply of goods and services in the economy and primary exports together with secondary sector processed goods from the primary sector make up about two-thirds of all merchandise exports, almost all of which pass through one or more of New Zealand's sea ports (Encyclopedia of NZ, 2005). Thus any port disruption interrupts New Zealand's supply chains to distant consumers with potentially disastrous economic consequences.

Transport and logistics issues form part of the wider management of agribusiness supply chains. In recent years, the emphasis on the wider supply chain has become more dominant. This is because consumers of agricultural products have become much more demanding with respect to food quality and safety, variety of product offerings and information on products purchased (Saxowsky and Duncan, 1998). Partly in response to these demands, the regulatory environment has changed, and not only businesses, but also the supply chains within which they operate, are being forced to comply with these regulations. Competition between agribusiness firms has also become more intense, and as a result of all of these forces, firms, and the chains within which they operate, are placing far greater attention on how to most effectively meet consumer demands in the most efficient way possible. Increasing chain co-ordination is one way in which this is being done (Boehlje, 1999).

How these issues present themselves today is the reason for this paper. Following this introduction, the paper is divided in five parts. First, the role of supply chains in agribusiness in the new millennium is discussed in relation to the changing pattern of regulation and globalization. Secondly, the key concepts underlying the agribusiness supply chain and the roles of human resource management and changing technology are reviewed. Thirdly, a case study of the supply chain for New Zealand apples is discussed, while fourthly attention is paid to the identification and nature of what are described as

'Employment Relations Critical Control Points'. Finally, suggestions are made as to how participants in New Zealand's agribusiness supply chains might manage these points of vulnerability to minimize their risks and maximize the wellbeing to New Zealand.

Agribusiness Supply Chains

In order to appreciate more fully the current situation with respect to agribusiness supply chains, it is useful to trace their development. In the past, and more so prior to deregulation in 1984, a large volume of New Zealand's agricultural products were sold in bulk as commodities in a system dominated by statutory marketing boards (Martin, 1986; Le Heron, 2005). That regime was turned around by the neo-liberal reforms of the mid 1980s, which promoted marketization, privatization and trade liberalization. These deregulatory changes have enhanced the role of private companies and producer marketing boards have decreased markedly in influence. At the same time, the commodity chains that were a feature of the pre-deregulatory era started to transform into supply chains that stress the alignment of businesses along the chain with the purpose of meeting the needs of the end consumer. In addition, there has been substantial concentration in the retail sector, and a shift from government regulation of cross border transactions to regulation by private contract through corporate or supermarket intermediaries.

The meat industry, in particular, has been subject to many changes over this period, with the processing industry now being dominated by domestic firms rather than foreign investors, and meat processors competing vigorously through product development to meet the needs of their overseas consumers (Martin, 2004). Through these changes producers are now coming into more direct contact with overseas purchasers, with a greater emphasis by all chain participants on "…adding value, maximizing profits, assuring quality, defining standards, bench marking, and growing brands." (Le Heron, 2005: 54). Hence, the move from commodity to more differentiated and customer-focused production has been associated with a tightening of relationships and interdependence of all actors along the supply chain (Le Heron, 2005: 54).

In addition to the changes in overseas markets and the greater responsiveness of supply chains to their customers' needs, the New Zealand end of the supply chain has been experiencing changes in the employment relations regime as well. Essentially, the employment relations context of the supply chain has been through two major changes since deregulation and the move away from commodity chains. Prior to 1991 New Zealand operated under an arbitration based system (Tipples, 1987). Then in 1991 deregulation hit employment in the form of the Employment Contracts Act. That has been described as re-regulation (Tipples, 1995), because it did not remove all regulation of employment. Then a change of government resulted in the Employment Relations Act 2000, which was further re-regulation (Tipples, 2006), but not as extreme as the Labour movement expected, in that it did not restore collective union powers as fully as it might have done. However, while the level of regulation has varied, the level of enforcement has also been variable. While the arbitration system functioned largely at the state's expense, that of the Employment Contracts Act was 'user-pays', but the real difference

was that the Department of Labour was not resourced to enforce the regulations that remained. The change to the Employment Relations Act regime was accompanied by the creation of the Employment Relations Service, which was to help establish the new system with a focus on building lasting employment relationships, provide information, and help those being short changed by employers to obtain redress. This has particularly aided those working in rural occupations, which had never received much attention from the enforcement side of the Department of Labour. They have been helped in quest for better conditions by the shortage of workers in the rural labour market.

More demanding consumer requirements and the greater responsiveness of supply chains to these demands has prompted an increasing emphasis on the provision of quality products, food safety, and production methods that pay greater attention to the environment and sustainability. This has led to the increasing use of Quality Assurance schemes, which are beginning to specify not only worker health and safety requirements, but also employment features (EUREPGAP, 2004). The implication of such schemes is that failure to comply with the conditions required will not just result in a slap on the hand and a small fine, but possibly the loss of the whole sale and succeeding sales, and potentially the farmer or grower investment. Such schemes are required to be audited by approved independent auditors at the supplier's expense, so a much more powerful sanction hovers over the recalcitrant employer.

However, in the deregulatory era which swept the world from the mid 1980s, the employment relations context also changed at the receiving end of the supply chain. British ports had been traditional trade union strongholds for dock workers. In 1989 the Thatcher led government passed legislation that was aimed at the privatization, deregulation and de-unionization of most of Britain's ports. It prohibited secondary strikes, and was not repealed by the subsequent Labour administration. Allen has argued that British dock owners, including the government itself, were adopting a global strategy aimed:

> "…to employ workforces that would be fully utilized, low cost and available on a 'just-in-time' or 'as needed' basis. They wanted to employ only atomized workers who were isolated from each other, competed with each other for work and could be called to the docks on short notice at the employers' discretion to load or unload a ship that was still on route" (Allen, 1997: 1).

Turnbull, Woolfson and Kelly (1992) described the consequent national dock strike as a historic defeat for labour, which could be best understood as a "process of class restructuring in which the relations between labour and capital are transformed" (cited in Arnold and Cooper, 1999: 137). The previous Dock Labour Scheme was, for right-wing opponents, an inflexibility affecting the free functioning of the market, but for the 'political left', it had provided security and protection against formerly capricious dock hiring practices for casual workers.

Supply Chain Concepts

The transformation of commodity chains into more integrated supply chains has led to a change in the way in which business is conducted between firms and countries. To gain some understanding of these changes and their impact, it is necessary to explain the key concepts relating to supply chains. First and foremost, supply chains are driven by the final consumer and all chain participants align themselves in order to play their part in creating value for the final consumer. A supply chain must not only create value for the final consumer, but must do this better than competing supply chains.

The value creation process occurs right along the chain from input suppliers, producers, processors and distributors, and each of these businesses can be considered as intermediate customers in this value creation process:

> "While driven by the ultimate consumer, chains are made up of many intermediate customers, each of which must meet the needs of the customer above them in the chain. When they do this, they create value for their customer, and in turn, they expect their suppliers to create value for them. Thus, a value creation process occurs along the entire chain with the objective of meeting the needs of the final consumer." (Martin and Jagadish, 2005: 3)

As noted by Martin and Jagadish (2005), each business along an agribusiness chain will use their physical, natural, financial, and human resources, and their innovative capability, to create value for their intermediate customer by transforming or enhancing their inputs. Product transformation usually involves some kind of processing, while product enhancement includes cleaning, grading, packaging or presentation. A business can also create value through the integration of its processes with those of its suppliers and customers. These processes will centre around purchasing and selling, logistics and product maintenance (or quality control).

Hence, supply chains create value through the operations of the businesses within the chain and the integration of processes, such as logistics and quality control, between businesses in the chain. This value creation is supported by information flows up and down the chain and achieved through vertical integration of activities within key businesses and/or the management of relationships between businesses. Relationship management is usually associated with changes of ownership of the product, and can take forms along a continuum from open market transactions at one end to very close strategic alliances or joint ventures at the other. Chains are usually controlled by one or more chain leaders, who match the needs of the market with the resources of the chain. In doing this, they tend to set standards, manage chain-wide processes and facilitate information flows along the chain (Martin and Jagadish, 2005).

From the above conceptualization of an agribusiness supply chain, Martin and Jagadish (2005) derive a set of performance standards for such chains. They claim that sustainable competitive advantage in an agribusiness supply chain is obtained when it achieves particular macro and micro level performance standards. At a macro level, they argue that

such performance requires: that a chain have a chain focus and be consumer driven (effective), that it be cost-efficient in its operation (efficient), that it does this better than competing supply chains (superior benchmark performance), and that it can continue to do this over time (chain stability). They also postulate a set of micro-level performance criteria that focus on effective and efficient value creation along the chain, efficient logistics and effective quality control, effective and efficient information transmission up and down the chain, and the effective vertical integration of processes within key firms and effective relationship management (Martin and Jagadish, 2005)

The authors then argue that chains may not perform well for a number of reasons. The reasons are: the lack of a supply chain orientation, lack of chain resources, inadequate information flows, and inadequate infrastructure to support logistics (Martin and Jagadish, 2005). Employment relations issues can impact or interrelate with each of these performance impediments. If different members of a chain behave opportunistically towards each other and are not working in unison to meet the consumer needs (lack of a supply chain orientation), then the chain will not perform well. For example, an external inspecting organization may be more concerned with its own internal staffing budget than maintaining good employment relations and the integrity of the chain. Likewise, lack of chain resources could include the inspecting organization lacking appropriately qualified staff such as veterinarians to facilitate optimal chain operation. Employment relations concerns can derail the best organized businesses if their staff are taken for granted. The likelihood of this happening will vary depending on the structural characteristics of the point in the chain where the sensitivity occurs (as discussed below). Similarly, inadequate information flows up and down the chain can mean that important intermediary personnel at some point of transshipment can break a 'cool chain' if they do not realize the significance of keeping the chain intact for maintaining produce condition. For example, Nadi airport in Fiji used to be notorious for flowers in transit to the USA being left on the runway unprotected in the tropical sun. Finally, inadequate roads, shipping or air links can cause great difficulties, especially if a lot of transshipment between transport modes is required. Each point of transshipment then becomes a point of vulnerability. These are also points at which employment relations issues may come to a head.

Human Resource Management and the supply chain

There has been little research on how the movement to more managed supply chains has impacted on participants' human resource management (HRM) policies and employment relations, or on the importance of these on the smooth management of these chains. For example, there has been a failure to consider the employment relations implications of polices such as outsourcing, casualization, work intensification and their impact on employer – union dynamics. There are both opportunities and threats to employers, workers and trade unions operating in 'integrated work settings' (Lund and Wright, 2003: 102). The technical innovations in the chain have promoted productivity and customer responsiveness, which have led to greater integration and consequently more cross enterprise interdependence, which is where the greater vulnerabilities may exist. Significant literature had developed around three subjects:

1. The need for new HRM policies and practices to promote new employee skills and behaviour.
2. How the adoption of 'lean production' strategies leads to intensified work effort and increased managerial control over the labour process.
3. The human resource and other organizational implications of closer relations between enterprises within supply chains. (Lund and Wright, 2003: 103)

In contrast, little attention had been given to the macro employment relations implications of ever 'leaner' production, where there were concerns about issues of cross-enterprise integration, dependence and vulnerability to industrial disputes. These have implications for the industrial bargaining power of strategically located groups of workers and their trade unions, which could shut down an entire supply chain causing industry wide havoc. So strategic location within the distribution and transportation parts of the chain becomes even more critical with increasing integration and the need for timely responses. The most vulnerable points of the supply chain expose management's greatest weaknesses.

Lund and Wright (2003) provide case studies of successful campaigns by the Teamsters Union. In the Associated Wholesale Grocers (AWG) case, 1300 members were locked out. Two months redundancy notice was given with the information that AWG were planning to contract out two distribution centres. The Teamsters did not call an illegal strike and thus breach their labour agreement, but began a campaign of lobbying through the media, store drops of flyers asking buyers not to buy from stores that AWG supplied, picketed specific stores, ran an effective community campaign, and alleged that AWG had not negotiated 'in good faith'. The combined actions, some intermediate customer defections and the 'good faith' threat led to a quick settlement with the third party provider of logistics. The latter had good relations with the Teamsters and about half of its US operations were unionized. The settlement recognized AWG's right to outsource its operations, but reduced such providers from four to one. Back pay was agreed for reinstated strikers, but AWG still achieved multi-million dollar savings. Clearly, the third party logistics provider had a very good relationship with the Teamsters, which reciprocated with positive views of their management. A win-win outcome was achieved. Another case featured a similar win against Kroger Company, the second largest grocery company in the USA. Wal-Mart, however, is a vigourous user of SCM techniques and vehemently anti-union. While a target for union organization it has a lower cost structure from its un-unionized labour force and is a competitive threat to other supermarket chains. Its low cost non-union operations may provide both stiff competition and a model for other employers to follow.

Overall, Lund and Wright conclude that effective union bargaining power will be defined by: the extent of unionization throughout the supply chain, how fragmented bargaining structures are, the nature and shape of inter-union relations, and the degrees of demarcation. Employer responses are likely to include: union avoidance, outsourcing, or building more co-operative relations with other unions (Lund and Wright, 2003: 112).

Technological change and the supply chain

Recent technological changes have had a major impact on the management of supply chains. Many of these innovative changes have been digitally based. These include improved systems for product traceability utilizing individual product identification - for example, using bar codes, or Radio Frequency Identification (RFID) (Tang, 2006) - to enable products to be located precisely on their journey from product to plate. Coupled with the ability to record the precise conditions of storage throughout the journey of individual containers and their contents, the risks faced by producers and international customers, whether of imperfect transportation, or chemical or biological contamination are radically reduced and can be precisely located if they occur. New software systems permit obtaining greater efficiencies in loading cargo, whether in terms of the maximum filling of hold space, or locating the cargo so it is relatively easy to retrieve when destination ports are reached. Shipping itself has been undergoing significant changes with containerization and container ships largely replacing the more traditional pallet filled reefer vessels. Reefer ships have themselves undergone significant improvements with pallet loading by lift, lateral cargo doors, no hatch covers and up to 70 percent of hold space refrigerated (Barry Rogliano Salles, 2003). Such changes have had major effects on port labour productivity, with a decline in the UK port labour force from 80,000 in 1948 to less than 10,000 in 1988, when privatization began (Turnbull et al., 1999).

In the UK, new technology has also helped the radicalized dockworkers dismissed as a result of privatization, who were not supported by their traditional union, the Transport and General Workers' Union, or by the Trades Union Congress. They established a 'dispute' website to highlight management manipulations and capitalist strategies. It helped gain international support. For example, through it the Maritime Union of Australia learnt of events at the port of Liverpool, where the privatized employer, the Mersey Docks and Harbour Company, dismissed and replaced striking dock workers. Subsequently, the internet directly facilitated the globalization of the dockworkers' conflict as it permitted dockworkers across the world to see the similarity of their struggles. January 29, 1997 was designated as a day of international action to back the Liverpool dockworkers. Dockworkers in 27 countries and in 105 ports staged actions of solidarity (Allen, 1997). However, their fight was in vain and a settlement was reached eventually, with 70 percent of those dismissed receiving a financial settlement, while most of the remainder became unemployed in Liverpool's oversupplied labour market. By 1999, every port in Britain had become non-union as a result of the union breaking activities begun back in 1989. The process of privatization had succeeded. The trade union movement (e.g. TGWU) never had any intention of supporting the strikers. The strike had been ruled illegal and union involvement would have made union funds liable to sequestration under the Thatcher legislation. The International Transport Worker's Federation (ITF) would not become involved with an illegal strike either (Bacon, 1999).

The formation of the International Dockworkers' Council (IDC) in Tenerife in 2000 followed. It was seen as the creation of a rival organization by the ITF, which had been founded in London in 1886 (ILA Newsletter, Summer 2002). Inter-union rivalry is not a new phenomenon, but the IDC has tried to occupy the more radical ground.

Subsequently, it claimed it had led the opposition to the draft European Union (EU) Port Services Directive in 2003, by calling for international protest strikes against it (IDC, 17 November 2003). The international action was effective because when the Directive was debated by the European Parliament, it was rejected by 229 votes to 209 (IDC news, 20 November 2003). The ITF called it "A major step forward", but the UK based shippers' body, the Freight Transport Association (FTA) said it was a major mistake and:

> "…robbed ports of a vital opportunity to modernize and increase cargo handling efficiency with all of the productivity and competitive advantages which would have flowed. *The current restrictions on pilotage and handling do not well serve the European supply chain.* (PortServicemag.com 13.03.03)

A similar piece of legislation promoted by the EU Commission was voted down by a substantial majority (532 to 120, 25 abstentions) early in 2006. European ports account for 70 percent of the 25 country EU's trade with other countries ("Strasbourg rejects bill that would de-regulate EU ports", Bloomberg-Reuters, quoted in *The Press*, 20 January 2004). That point takes the argument full circle to the key issue of where or when employment relations issues can interrupt supply chains.

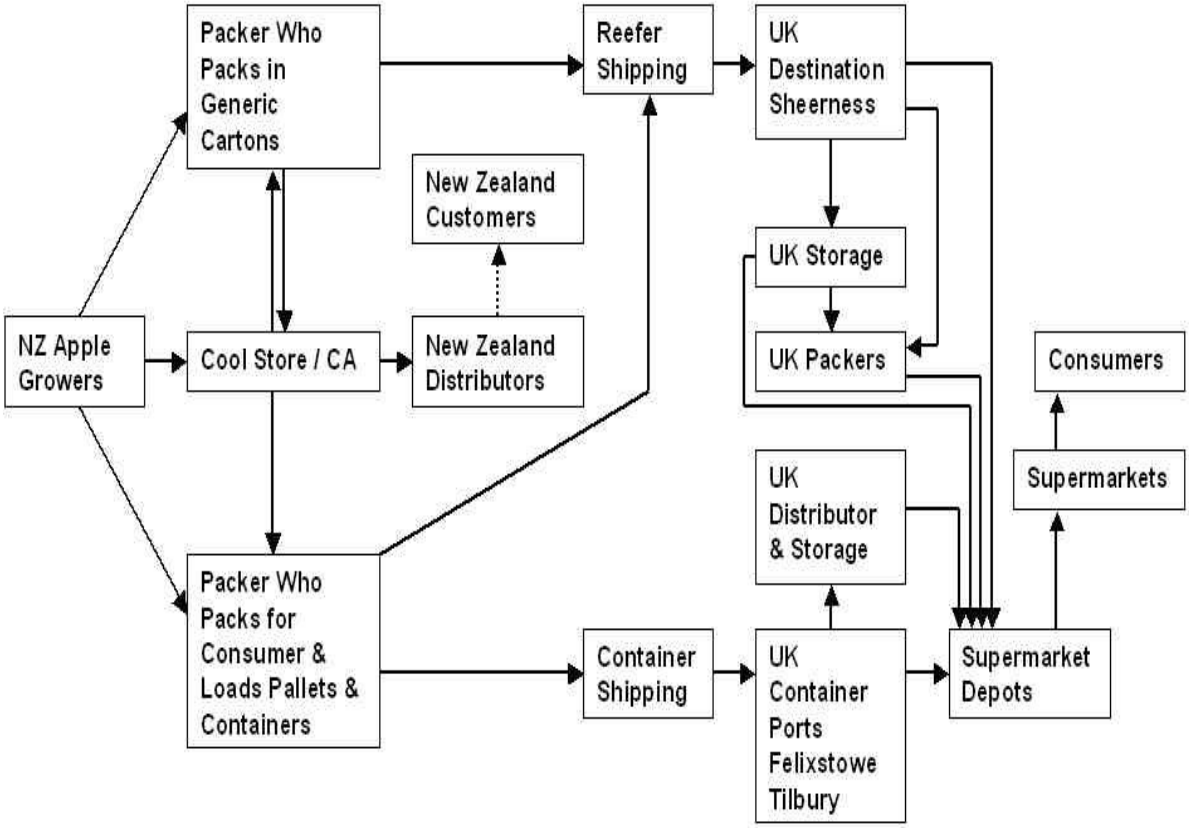
Agribusiness Supply Chain Configuration

Each supply chain will have its own configuration, and its design will be driven by a number of factors. One of these factors is the logistics of getting produce from the New Zealand paddock to the European plate, as can be illustrated by this basic 'chain': producer/road/port/ship/port/road/rail/distribution-centre/road/supermarket. Depending on the product, the nature of the supply contract, the nature of New Zealand food regulations and the nature of the importing country's quarantine and endpoint customer requirements, this basic 'chain' may be more or less complicated by contractual or regulatory terms and/or stages.

In Figure 1, the Apple supply chain from the New Zealand orchard to the English plate is portrayed (Beeching, 2006; Russell, 2005). As has already been explained this chain has continuously evolved. Orchard employment relations have rarely been the subject of collective employee action, with no union representing orchard workers. Recently, employees unhappy with their pay or conditions have been able to resolve their problems by moving to a more congenial employer because of the prolonged labour shortage that horticulture has experienced (Tipples, 1995 and 2006).

Deregulation of the apple industry's export procedures accelerated the move to containers for which the specific environment can be individually controlled. Up to 1997, all apples were exported in reefer ships, but by 2003 one third of exports were transported in containers. By then, the Nelson and Napier service could reach Sheerness for Britain or Antwerp for Europe in just 26 days (InforMARE, 2003). There are far more channels than were initially expected, depending on the initial packing of the product and whether or not it is put in storage when it gets to the UK.

Figure1: NZ Apple Supply Chain Diagram



At Sheerness, Worldwide Fruit (WWF) is the chain partner of Turners and Growers (Enza). WWF is a leader in fruit procurement, sourcing, marketing and category management so it can supply the best ranges of ready to eat fruit in the UK (Worldwide Fruit, 2006). Sheerness is a non Union Port as a result of the privatization policy and manipulations of the Thatcher government (see Arnold and Cooper, 1999), so employment relations problems are not a frequent issue. Medway Ports are now owned by the Mersey Docks and Harbour Company, which introduces its currently flourishing business with the following statement: "A commitment to excellent service, delivered by responsible employees and always underpinned by a strong culture of health and safety – Medway Ports sets itself the highest standards…". That is reinforced by a commitment to meet the increasingly exacting standards of supermarkets for fresh fruit and vegetables, for which they have obtained ISO 9001 2000 certification for accreditation (Medway Ports, 2006).

Antwerp, on the other hand, has a very strong union influence. Costs tend to be pushed up at non-standard times, e.g. weekends, and there have been strikes in the past at this port. Worldwide Fruit itself has very little usage of Antwerp as most of its cargo comes

via Sheerness or the principal container ports of Felixstowe or Tilbury. While the latter are union free, major problems flow for product sourced from France, Spain or Italy, which has to pass through the Port of Calais. The latter is frequently 'blockaded', whether by disgruntled fishermen, farmers, truck drivers, dockers or sailors. They have interrupted cross-Channel ferries and caused major truck and car traffic congestion in Kent from the accumulation of vehicles awaiting ferries across the Channel (e.g. Latest Ferry News, 2005).

Upon arrival at Sheerness Port, agriculture checks are undertaken by staff of the Department of Environment, Food and Rural Affairs (DEFRA), a UK Government department. They take a sample for inspection to ensure consistency with EU Class guidelines. WWF have to advise DEFRA of all imports into the UK (by maintaining a web page for them), and DEFRA then advise which consignments (a container or specific parcel of fruit) they wish to inspect. All such inspections are effectively quarantined until cleared for further distribution by DEFRA. Any contraventions have to be rectified in a bonded location and re-inspected before they can be released, and all costs are attributed to the importer's account. In 2005, the cost of DEFRA inspections equated to about £4 per container, or £0.20 per pallet over the entire crop.

After unloading, cargoes go in a variety of directions. WWF often feed to production units (to convert to Supermarket packs) or to long term controlled atmosphere (CA) stores. From these points, WWF deliver on a daily order basis to retailer distribution centres, which then feed the individual stores. Road transport is always an issue in the UK, with overcrowded roads and ever increasing fuel costs. Retailer distribution centres are in the main unionised. The centres are owned (or leased) by the retailers, and either directly run by themselves or run by specialist logistical subcontractors (eg Hays / Wincanton / Christian Salveson / Tibbett and Britten). There is regularly discussion in the trade press about possible union action as a result of changes in such factors as working conditions. The most vulnerable points for WWF are, in their opinion, the supermarket depots as interruptions could have severe implications on sales rates and long term quality. Once fruit has cleared the ports it is effectively under WWF control, and the facilities WWF use are privately owned by members of the WWF group and so there is little impact there. There is always the remote possibility of a port blockade or fuel strike which could impact WWF severely; although, in terms of containers, WWF do have the option of changing destinations. For example, WWF could land containers in Antwerp, if required, and then bring fruit back from Europe.

Quality Assurance (QA) procedures do not just take place as apples are grown, picked and packed from the orchard, but at all stages through to the ultimate point of sale in England. Taking New Zealand as the starting point, there will be an element of QA before packing in order to ascertain whether the raw material meets specification for the specific customer or Enza grade standards. It will then be quality controlled online, and again before being shipped to a market. *Agriquality New Zealand* will invariably act as the final arbiter at this point. Once fruit reaches the UK port, WWF will take a sample upon arrival in Sheerness, and a further one before putting into store or re-packing. This is to ensure that the fruit WWF is putting before the packers is in the correct specification

for the retail customer they are packing for. Fruit will also be quality assured at any point prior to delivery to the supermarket depot (eg ex Sheerness, ex UK Storage, ex Packer). Finally, the supermarkets themselves will do an intake QA to ensure that WWF have done their job and fruit meets their specific requirements. It is a fairly complex process and WWF perform the extra checks in order to minimise on costs of additional transport and the issues surrounding supermarket rejections (which can lead to loss of business).

Employment Relations Critical Control Points (ERCCP)

Food quality assurance programmes often have to meet HACCP standards (Food Act 1996). HACCP stands for Hazard Analysis Critical Control Points and are used to identify points of maximum risk for producers, suppliers and retailers. Inventing a similar phrase to describe hazardous high risk points for employers in the agri-food supply chain may be useful, when appropriately illustrated, to highlight what Lund and Wright (2003) have described as an un-researched topic. Therefore, the phrase *Employment Relations Critical Control Points* (ERCCP) is coined to draw attention to areas which should be attended to by supply chain intermediate and final customers to avoid or control high risk employment relations events.

New Zealand farmers and growers have long been aware of their vulnerability to disruption of sea transport to ultimate markets. Today those pressures are more acute because a more perishable range of produce has to be transported more quickly. There is nothing to suggest that their dislike of dock workers has diminished with the passage of time. The changed employment relations legislation in New Zealand has probably strengthened their position:

> "On the New Zealand waterfront, the ERA has enabled new unions to emerge, as representatives of employees working for companies that have been at the forefront of efforts to casualize and de-unionize employment….vehemently anti-union employers seeking the legitimacy of employing unionized workers, so as to challenge further an established union." (Barry and Reveley, 2001: 15)

The so-called Mainland Stevedoring/Carter Holt dispute of 2001 fits this pattern exactly (McAndrew, 2001: Software Associates, 2006). A new stevedoring firm, based in Mount Mauganui in the North Island, started to shift its 'casual' staff around South Island ports to help load logs 'more efficiently'. This sparked major confrontations in the South Island ports which caused considerable media interest (Rasmussen and Ross, 2004)

While quieter than formerly, the wharf has not ceased to be a contentious area, particularly at contract renewal time, when there have been a series of heated disputes. One, at Lyttelton, led to only the second death in an industrial dispute in one hundred years of New Zealand's employment history. Most recently, there has been ongoing industrial action in support of negotiations for a new collective agreement where the Lyttelton Port Company has only settled after staunchly resisting for nearly two years (*NZJER*, 30(2): 89).

Besides the direct confrontations between members of the supply chain and their employees, there are those more indirect disputes which can disrupt the chain and over which the parties involved in the chain have no direct control. Three recent examples are of the dispute of the MAF/Asure New Zealand meat inspection veterinarians in 2001, which lasted one week and resulted in about 9,000 meat workers being stood down (*NZJIR*, 26(2): 243), while contract renegotiation difficulties were resolved. The second in 2002 concerned Customs Officers also seeking collective agreement renewal. This was complicated by a restructuring of pay rates so that base wage rates were lifted but allowances and overtime payments cut back, and by there being three unions involved: The Customs Officers Association, the Public Service Association, and the National Union of Public Employees (*NZJIR*, 27(3): 367). The third is the 2005 dispute between MAF and its Quarantine Service staff affecting Biosecurity. This had a much less direct linkage but if an exotic disease were to enter New Zealand during such a dispute the potential impact across the agricultural sector would be huge from lost overseas sales. As Federated Farmers described them, they are the country's 'Gatekeepers' and to have no front line of protection was worrying. The employers did not propose lowering any standards, just delays to cargoes and passengers (*NZ Herald*, 24 November 2005). In two of the cases, the Ministry of Agriculture and Forestry was either the employer directly or the 'owner' of the contracting State-Owned Enterprise (SOE). It was confronted by the competing claims of employees and the state (as the central government's wages policy limits the Ministry's budget flexibility).

While third party employment relations disputes have periodically disrupted supply chains from New Zealand, they have not been, for at least the last fifteen years, a problem at the British end. Weather factors such as high winds or rain, and computer problems at DEFRA have been far more disruptive. For example, in 2005, when high winds prevented docking at Felixstowe, containers were unloaded at Rotterdam, and then fed back to Britain a week later (Beeching, 2006).

Managing Vulnerability

Based on the New Zealand apple case study, the most serious employment relations critical control points were: in highly unionized sites such as the Port of Antwerp, any part of the chain subject to collective employment negotiations in third party organizations which have to grant permissions for produce to pass from one chain member to the next (such as MAF, AgriQuality and Customs for New Zealand), and sites where the state of inter-union relations is poor. To these may be added any points of transshipment, for example where 'cool chain' integrity is compromised; or any points where there are issues of demarcation, whether current, latent or potential. Disruptions may not only lead to losing sales but, in a worst case scenario, for companies losing the chance to do any further business with the affected endpoint customers.

Managers can carry out risk identification processes to identify where they may be most vulnerable to chain disruption. As unions, and their members, are one of the groups which may be affected by such disruptions to a supply chain, employers may then have a

proactive relationship with their unions to ensure their members are not adversely affected by other disputes outside of their control. In effect a win-win outcome is aimed for and should be achieved (Gilbert and Gips, 2000; Sheffi, 2003). They should concern themselves to identify where they would be most inclined to focus to maximize their negotiating power. Where high risks are then identified they have to decide whether to avoid the problem by going round it, perhaps by a less convenient route with possible adverse side effects, or whether they can afford to wait for it to be resolved; or whether they decide to confront it. Direct confrontation was clearly the dominant policy in the 1980s and 1990s, with the result that many parts of the supply chain are now free of unions and operate with a fraction of the staff they did before. That is clearly not an acceptable policy in Continental Europe and probably less feasible in New Zealand under the Employment Relations Act. So it is likely that more cooperative rather than conflict-based solutions must be found, one of which may be avoidance.

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