

Regoverning Markets

Small-scale producers in modern agrifood markets

Innovative Practice

Sri Lanka

Innovative practice in integrating small farmers into dynamic supply chains: a case study of Ma's Tropical Food Company

Parakrama A Samaratunga

Institute of Policy Studies of Sri Lanka

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Regoverning Markets is a multi-partner collaborative research programme analysing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle- and low-income countries. The aim of the programme is to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of the dynamic changes in local and regional markets.

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1. Executive summary

Historically, the spice sector (consisting mainly of cinnamon, pepper, cloves, cardamoms, nutmeg and mace) has played a key role in the economy of Sri Lanka. Over 80,000ha equivalent to 6 per cent of land under perennial crops is under spice cultivation. The value of spice exports was equivalent to 1.5 per cent of total export and 8 per cent of agricultural exports by earning LKR¹10,287.7 million in 2005. Sectoral contribution to the total GDP is around 0.75 per cent. Over 200,000 small-scale growers are involved in spice cultivation where 70 per cent of production comes from smallholder farm units of less than 1ha of land.

Despite these performances, the sector is facing several challenges and threats related to the traditional marketing system. The traditional supply chain of spices in Sri Lanka is characterized by decentralized purchasing, low quality product purchases and sales and the presence of a number of intermediaries without essential functions, such as travelling collectors, village traders, wholesale buyers, commission agents and auction brokers. They unnecessarily extract exorbitantly high profits while suppressing the farmers' price. This has resulted in low value added in the chain, poor incentives for the farms and sluggish growth of the sector. This set up has been dominating spice marketing for a long time without any changes until now.

Rapid and ongoing changes are occurring in the domestic and export procurement systems in terms of increased quality due to the development of high quality retail markets (supermarkets), bulk procurement by domestic manufacturing firms, increased quality awareness on the agenda and the reality of the global trading system. This phenomenon has been further influenced by urbanization, income increases, increased migration of Sri Lankan citizens, increased female participation in the labour force, etc. These factors have created a new demand pattern shifting the focus towards continuous supply of high quality, value added products with improved processing, packaging and labelling.

The impact of modern and restructured markets has had a number of repercussions on small-scale spice producers who are unable to keep up with emerging marketing trends. This situation has triggered the need for new innovative practices working with smallholders in improving their ability to face restructured market conditions. Ma's Foods have introduced an innovation that is basically a "business model" change with limited "collective action strategies by farmers" that fulfils these consumer demands while effectively integrating the farmers in the supply chain.

¹ LKR denotes Sri Lanka rupee.

The research primarily focused on the method of case study, comprehensively exploring all the aspects of the innovative practices of integrating small-scale farmers into dynamic food markets linked to the Ma's Foods. The case study was conducted using a combination of research activities and instruments (i.e. surveys, personal interviews and group discussions). A survey was carried out using a pre-tested semi-structured questionnaire for both the supplying and non-supplying farmers in order to analyse the innovation precisely. Semi-structured interviews and group discussions were conducted according to prepared guidelines with relevant representatives of the company, backward linkages, forward linkages and also other external organizations to facilitate the case study. Secondary information was collected from different sources of literature (i.e. the financial records of the company, farm records and with the help of library search and internet search).

This innovation introduced a package of activities and strategies that causes changes in technological, managerial, organizational and financial aspects of the supply chain. First, the company has shifted its focus from a decentralized procurement system to a centralized procurement system. The centralization process has increased the efficiency of procurement through reduction of the coordination cost and number of officers required for procurement. The centralized procurement is centred on the Regional Agribusiness and Perennial Crop Initiatives and Development (pvt.) Ltd. (RAPID), which is responsible for the backward integration of the company's activities in the supply chain and for delivering the social responsibilities to the region as well.

It is responsible for providing extension services to the farmers with regard to training and technical assistance in production, record keeping and post-harvest practices, organic certification, supply of high quality planting material and intermediation of commercial credit from banks. It assures continuous supply of raw material at the right time in right quantity and quality and eliminates nonessential intermediaries from their supply chain. It has eventually resulted in improved information flow among the supply chain segments while reducing the marketing risk faced by both the company and farmers.

Ma's Foods sets its own private standards to facilitate standardization of the products procured from different suppliers and differentiates the company's products from competitors. Furthermore, the company offers a lengthy adjustment period to bring the produce up to the required standards and pays premium prices to farmers who meet those standards. The company is also focusing on moving towards logistic improvements in the supply chain by introducing new operations that have not previously existed in the areas of grading, processing, packaging, labelling, trade marking, etc. These practices have made the company more competitive in the local and international markets enabling its products to satisfy the newly emerging trends in consumer preferences.

Ma's Foods has been a certified preferred supplier of several food processing companies and hoteliers including local food manufacturing companies (e.g. Maliban), local branches of multinational companies (e.g. Nestle and Unilever), supermarkets (e.g. Cargills and Keels) and leading national institutions (e.g. Sri Lankan Airlines) for about fifteen years. These constitute 80 per cent of their total output generating two-thirds of the total annual revenue. Adoption of organizational innovations comprises a shift from reliance on traditional wholesale markets and brokers towards the use of specialized wholesalers, namely satellite farmers. These satellite farmers specialize in supplying spices in bulk, with Ma's as their main clients.

Ma's Foods has taken several measures to follow locally and internationally established basic process standards, such as Good Manufacturing Practices (GMP), SQF 2000 and HACCP, all quality standards along the value chain to prevent the risk that products supplied to the restructured market fail to comply with legal and ethical norms and consumer demand. The company has invested in a fully equipped modern in-house laboratory, which enables the physical inspection, organic certification and chemical and microbiological analysis of its products in order to maintain the established standards. Tracking and traceability are assured with a well-documented and computerized procedure, facilitated by Good Receiving Notes (GRN), Stock Cards, Job Cards and Batch Numbers. Activities fulfilling Corporate Social Responsibility for the workers (free meal, lodging, training, etc.), local population (providing employment for young people and the handicapped) and the environment (a waste management system to dispose of both liquid and solid wastes) have in fact become an investment to the company. Such practices improve labour productivity, worker attitudes and the image of the company among their clients as well as society as a whole.

Consequences of the innovation are clearly evident in improvements in corporate income, trade volumes, assets, farm incomes, employment creation and non-monetary benefits, while also ensuring a greater degree of inclusion in the new supply chain for small farmers; there are currently over 300 suppliers, of which thirty nine farmers are organically certified, thirty farmers have already been selected for organic certification and two farmers act as satellite farmers. With their inclusion in the supply chain of the company, farmers received several benefits, i.e. a premium price for better quality products, a stable price regardless of the price fluctuations in the market, spread of income throughout the year, services received such as extension, credit facilities and marketing risk minimization. Of , premium prices and spread of income throughout the year act as the major causes for inclusion.

However there is also some evidence of exclusion, such as higher transport charges, delayed payments, using cheques as the mode of payment and the low production capacity of the company. Even though they have initiated an informal farmer organization, lack of coordination and poor structure has excluded a certain strata of farmers from the system. Quality unconsciousness and credit bound relationships with the village traders also have some form of correlation with the exclusion of farmers from the chain.

This model has been in existence as a sustainable system for about a decade, improving its capacity to greater inclusion of farmers. The company has not yet reached its potential capacity, while greater inclusion could be attained by creating a setting for the company or farmer organizations to cover transports costs and by introducing a more immediate mode of payment. Since a limited number of companies like Ma's, Lanka Organics and Bio Foods are operating in the area and there are a large number of potential small scale farmers in the region, there are ample opportunities for other companies to follow this type of innovation, not only for the same product but also for different product types in accordance with their specific characteristics. On a macro level, the government has to play a regulatory role in this regard for the long-term sustainability of the system. This includes improving private sector participation in the agribusiness sector through various incentive schemes (e.g. tax holidays), export promotion (e.g. trade agreements) and legislative governance.

2. Introduction

Sri Lanka is historically renowned for producing exceptionally good spices² and especially for the cultivation of cinnamon, pepper, cloves, cardamoms, nutmeg and mace (Herath, 2002). The spice sector is an important sub-sector of the Sri Lankan economy, contributing 0.75 per cent of total Gross Domestic Product. Over 80,000ha³ of land - equivalent to 6 per cent of land under perennial crops - is under spice cultivation. Over 200,000 small-scale growers are involved in spice cultivation where 70 per cent of production comes from smallholder farm units of less than 1ha. Spices have become the main cash earning enterprise of many farmers in the major spice growing areas over the last couple of decades (Sappideen, 1987). Spices have played a vital role as a source of foreign exchange earnings for the country in recent years, showing a four-fold increase between 1996 and 2005⁴. The value of spice exports was equivalent to 1.5 per cent of total export and 8 per cent of agricultural exports (it exceeds 50 per cent when tea, rubber and coconut are excluded) by earning LKR10,287.7 million in 2005 (Central Bank Annual Report, 2005).

Over the years, spice-based farming has succumbed to a variety of issues and challenges including productivity, market, technology and institutional related constraints, of which marketing related constraints have been the most significant and alarming issue of concern. The traditional supply chain of spices in Sri Lanka is characterized by decentralized purchasing, low quality product purchases and sales and the presence of a number of intermediaries with no essential function. This disorganized form of marketing has generated a mismatch between farm gate quality of spices and standard quality and very frequent price fluctuations. These constraints have led to low value added in the chain, poor incentives for farms, a decline in farmers' incomes and sluggish growth of the spice sector, thus creating unsustainability of the farming system (Lindara et al, 2004).

Modern retailing in restructured markets has had a substantial impact on small-scale spice producers. Rapid and continuous changes in domestic and export procurement systems, with the growing dominance of supermarkets⁵, high quality retail, bulk procurement by domestic manufacturing firms, increased quality consciousness in the global trading system, a proliferation of trade agreements with other countries,

² The International Spice Group defines spices as any of the flavoured or aromatic substances of vegetable origin obtained from tropical or other plants, commonly used as condiments or employed for other purposes on account of their fragrance, preservative or medicinal qualities (Herath, 2002).

³ In 2005, gross estimated extent was 88,827ha, since these are growing as mixed rather than pure stand.

⁴ Value of spice exports has increased from LKR2469.8 million in 1996 to LKR9986.5 million in 2005 (Sri Lanka Customs).

⁵ A supermarket chain that first opened in 1982 and has become a major player in the food retail sector in Sri Lanka.

increased migration of Sri Lankan citizens and increased female participation in the labour force have all created a new demand pattern shifting the focus towards continuous supply of high quality, value added products with improved processing, packaging and labelling. These changes have had a number of repercussions on small-scale spice producers who have been unable to keep up with emerging marketing trends.

This situation has triggered the need for a new innovative practice working with smallholders to improve their ability to face restructured market conditions by delivering knowledge, assisting in accessing capital and advising on food sanitation, GAP and enterprise planning. Several companies have introduced innovations elsewhere that fulfil these consumer demands while effectively integrating the farmers in the supply chain. Nevertheless, the capacity of small-scale farmers and rural SMEs to sustain their participation in the given supply chain and restructured market has still not been adequately studied, analysed or understood. Hence, this research attempts to study innovative practices taking Ma's Foods, which is basically a "business model" with limited "collective action strategies by farmers", as a case study.

Box 1: Profile of Ma's Foods

Ma's Tropical Food Processing (Pvt.) Limited, established in 1987, is a family-owned spice processing enterprise based in the Matale district. The business has expanded over time beyond the status of a manufacturing unit and built up a corporate image as a leading food processing company in Sri Lanka. It is one of the leading processor of spices and spice-based products including spices, seasonings, sauces, chutneys, pickles and ready-to-eat foods. Annual sales were around €1 million in 2005. Ma's Foods possesses an exclusive marketing programme to cater to their different markets. It basically operates on three markets covering a wide variety of consumer groups both locally and internationally, including national food manufacturing companies / restaurants (e.g. Nestle, Unilever & Sri Lankan Airlines), supermarket chains (e.g. Cargills & Keels) and the export market. Ma's Foods is an internationally certified company of SQF 2000 and HACCP quality standards and supplying and processing of organic spices. Regional Agribusiness and Perennial Initiative and Development (RAPID) is the backward linking arm incorporating small scale farmers into the supply chain, providing them with extension services and ensuring full traceability on to farm level. Furthermore, the company is equipped with an explicit policy of Corporate Social Responsibility.

Therefore, the main objectives of the case study are to identify good practices and derive policy lessons for public and private sector actors in supporting greater participation of small-scale farmers in dynamic markets. Specifically this will highlight potential of the innovation for being up-scale within the same context and for replication elsewhere. Further sustainability and specificity of the innovation, preconditions necessary and lessons that can be generalized from the case study are also looked into.

3. Literature review

3.1 World spice production and trade

India is the largest producer of spices, contributing to 86 per cent of total world production (Table 3.1). Many developing and developed countries do produce and export spices as well. India, the largest producer of spices in the world, exports spices valued at US\$500 million per year which is almost 10 per cent of total production and 90 per cent is consumed internally. The United States also produces 40 per cent of its annual spice needs.

Spices have an elastic supply in the world market since they can be grown in varying conditions and many of the major spices such as chillies, ginger and turmeric are short-term crops. However, the demand for spices is stable and price inelastic in the short term. In addition, high prices could lead to the use of alternatives, especially in the industrial sector (Dias, 1987).

Table 3.1: World spice production in 2003-2004

Country	Production (Mt)	Percentage of production
India	1,600,000	86
China	66,000	4
Bangladesh	48,000	3
Pakistan	45,300	2
Turkey	33,000	2
Nepal	15,500	1
Other countries	60,900	3
Total	1,868,700	100

Source: http://en.wikipedia.org/wiki/spice_trade

The origin of the world spice trade dates back to early civilization (Chandrasena, 2002). It is estimated that the world spice industry, including whole spices and their value added products totalled about US\$100 billion a year in 2004. Annual worldwide imports grew at an average rate of 8.5 per cent a year, indicating that consumption of spices continues to grow (spices and ethnic foods). Only a very small proportion of whole spices traded is consumed unprocessed globally. The imports and exports trade in whole spices in the world is around US\$5 billion per year, with an annual growth rate of over 5 per cent. This figure does not include internal consumption in the producing countries (Task Force Report on the Spices and Allied Products Industry). There is a growing trend towards organic spices in the world. The world consumption of organic spices has been growing since 1995 by around 30 per cent annually (Herath, 2002.2).

Major importers of spices are the United States of America, Mexico, Europe, Asia and Eastern Europe (Chandrasena, 2002). On both volume and value basis, the United States is the world's largest spice importer and consumer, with both imports and consumption on an upwards trend for the past ten years (<http://www.ers.usda.gov/publications/aib709>).

3.2 The spice sector in Sri Lanka

The spice sector plays an important role in the Sri Lankan economy historically as well as currently contributing to 0.75 per cent of the Gross Domestic Product of the country (Herath, 2002.3; Central Bank, 2005). The main spice crops cultivated in Sri Lanka include cinnamon, pepper, cloves, cardamoms, nutmeg and mace (<http://www.srilankaspices.org/>). Sri Lanka was known historically for producing exceptionally good spices. Sri Lankan soil and climate are well suited to producing good quality spices. Many exporters and other stakeholders believe that Sri Lankan spices are intrinsically superior to those from other origins (Herath, 2002.1). In the past the spice industry only played a minor role in the country's economy in terms of employment and income, except for cinnamon, which was traded as far back as the 14th century A.D. Over the last couple of decades spices have become the main cash earning enterprise of many farmers in the major spice growing areas (Sappideen, 1987). The production of spices has expanded from 27,000mt in 1996 to 37,000mt in 2005 (Table 3.2 and Figure 3.1). Sri Lanka is the largest producer of cinnamon in the world and contributes to over 80 per cent of the total global production of cinnamon. In the case of pepper, around 3 per cent of the world demand for pepper is supplied by Sri Lanka (see webpage <http://www.srilankaspices.org/report.pdf>).

Table 3.2: Estimated production of spices (mt)

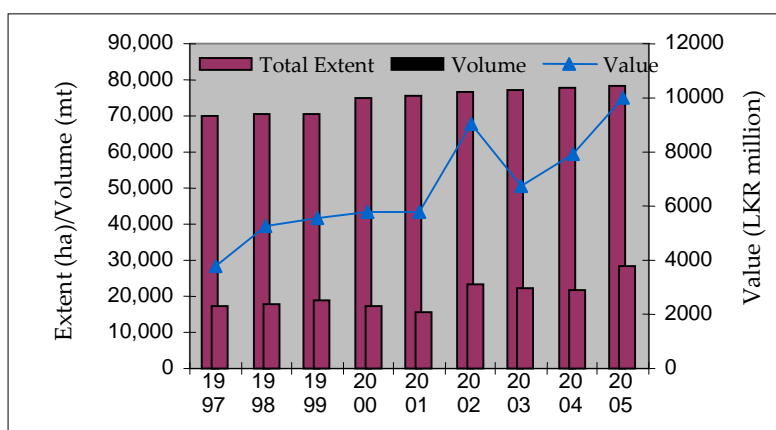
Year	Cinnamon	Pepper	Cardamom	Clove	Nutmeg	Total
1996	12,651	8,536	64	1,900	1,744	27,895
1997	13,484	9,831	87	2,400	989	26,791
1998	13,484	9,831	87	2,200	989	26,591
1999	13,466	9,284	74	3,500	1,221	27,545
2000	13,490	10,670	62	1,600	1,100	26,922
2001	13,600	7,650	60	2,500	1,100	24,910
2002	13,600	12,600	60	4,100	1,600	31,960
2003	14,015	12,,660	64	2,360	1,740	30,839
2004	14,875	12,020	74	3,575	1,515	32,059
2005	15,890	15,300	80	4,860	1,860	37,990

Source: Export Agricultural Statistics of Sri Lanka, Department of Export Agriculture, 2003, 2006.

Spices as a group appear to be geographically concentrated around Wet and Intermediate Zones. Over 50,000ha of wet zone land are under spices, accounting for

about 6 per cent of the land under all perennials crops (Herath, 2002.1). According to the Department of Export Agriculture, around 70,000ha of land were under spices in 2005 (Figure 3.1). More specifically, cinnamon is found around the Low Country Wet Zone concentrated in the districts of Colombo, Kalutara, Ratnapura, Galle, Matara and Hambantota. Cardamoms found in the Up Country Wet Zone and Mid and Up Country Intermediate Zones in the districts of Kandy, Matale, Nuwara Eliya, Kegalle and Rathnapura. Pepper, cloves and nutmeg are found in the Mid Country Wet Zone in Kandy, Matale and Kegalle (see Appendix).

Figure 3.1: Total extent, cultivated volume and value (ha, mt and LKR million)



Source: Central Bank Annual Reports, 2005 and Export Agricultural Statistics of Sri Lanka, Department of Export Agriculture, 2003, 2006.

Spices have played a vital role as a source of foreign exchange earnings for the country, contributing to 1.5 per cent of the total export earnings in 2005 (Table 3.3). Cinnamon is the major export earning spice adding more than LKR5000 million per year (Central Bank, 2005).

Table 3.3: Contribution of spices to the value of exports in Sri Lanka

Year	Contribution to total agricultural exports (%)	Contribution to total exports (%)
1996	4.66	1.1
1997	6.05	1.4
1998	7.49	1.7
1999	8.35	1.7
2000	7.55	1.4
2001	7.0	1.4
2002	10.1	2.0
2003	7.27	1.4
2004	7.01	1.3
2005	8.27	1.5

Source: Central Bank Annual Report, 2005.

Spices are grown mainly in highly diversified mixed cropping units together with subsistence crops and other cash crops. Cinnamon and cardamoms are found mainly as pure stands and others are cultivated in mixed gardens up to 2ha in extent (Sappideen, 1987). Smallholders play an important role in the spice value chain. Spices grown in Sri Lanka have traditionally been a smallholder's crop (Sappideen, 1987). Around 70 per cent of the spice production comes from smallholder units that are less than 1ha of land. There are approximately 400,000 smallholder farm units involved in cultivating spices and thus the sector has a small farm orientation. Around 50,000 of them depend on spices as their main family income (<http://www.srilankaspices.org/>).

According to the Department of Export Agriculture, the majority of spice cultivation owners are subsistence level farmers who are not willing to invest in productivity improvement programmes. Many of them are part time farmers with other sources of income. Only a small group of farmers have commercial orientation and are willing to improve productivity (Lindara et. al., 2004). Spice growers operating about two acres obtain about 30 per cent of their family income from spices. Cultivation and processing are labour intensive with female labour taking a prominent place. Sri Lanka and other countries have shown that labour cost is over 50 per cent of the total cost of production (Herath, 2002.3). Under smallholder conditions of production in many spice-based cultivations, costs of establishment, use of inputs and maintenance are minimal if not negligible (Lindara et.al., 2004; Sappideen, 1987). Thus, the total cost of production is lower compared to the farm gate price (Table 3.4). One of the main characteristics of the spice crops in Sri Lanka is the absence of any clearly defined varieties (Sappideen, 1987). In the absence of recognized varieties farmers generally raise their own seedlings by selecting the most vigorous and high yielding mother trees.

Table 3.4: Cost of production and cost of processing with farm-gate prices

Product	Cost of production (US\$/kg)	Cost of processing at farm-gate (US\$/kg)	Total cost of production (US\$/kg)	Farm-gate price (US\$/kg)
Pepper	0.76	0.19	0.95	2.50
Cinnamon	2.00	0.19	2.19	3.13
Cardamom	1.85	0.38	2.23	7.88

Source: Economic Research Unit, Department of Export Agriculture, 2000 (Herath, 2002.1)

3.3 Issues and challenges in the spice sector

There are a number of interrelated issues and challenges in relation to the cultivation practices, technology and marketing prominent in the spices sector. Small-scale cultivation, high cost of labour, improper quality, lack of research and technology,

disorganized market and impact from world trade agreements have been the most important issues of concern.

(1) Productivity-based issues: Since, spice cultivation is traditionally of a small scale, subsistent and poorly managed nature, various problems relating to non-commercial agriculture arise. The subsistence nature of growers' activities has shifted them away from having quality consciousness and exploiting marketing advantages (Lindara et al, 2004). Furthermore, they lack the credit worthiness demanded by commercial banks and have had limited support from government and other institutional intervention policies. Characteristics such as poor management, inadequate knowledge to implement improved practice recommendations, the use of mixed cropping and a lack of financial resources have all caused a serious threat to the productivity and sustainability of the sector (Herath, 2002.3). Minimal use of inputs and a lack of constant replacement of soil nutrients together with leaching due to heavy rain have all contributed to the low fertility. Plant density is below the recommended level and farmers have paid little notice to replanting and gap filling. Adoption of productivity improvement programmes such as land and soil conservation, shade management and agronomic practices have been hindered by the prevailing high labour cost (Lindara et al, 2004). These have had a considerable negative impact on the regularity of supply of spices in the country.

(2) Lack of quality consciousness: The inferior quality of farm gate spice products has been a serious issue in the present context of high quality consciousness. A large proportion of the spices leaving the farm gate are of a quality far below the expected level at the high end of the supply chain. High moisture retention, contamination by micro organisms such as moulds and the presence of exogenous matter such as aflatoxin are common problems affecting the quality of spices. They are mainly attributed to poor weather conditions, low cost processing technology, poor storage facilities, early harvesting habits and the small-scale nature of production. Poor quality leads to a direct loss of potential exports and foreign exchange earnings (Herath, 2002.1). Many producers do not have proper processing facilities and are unaware of the quality parameters. Many growers process spices as primary products using traditional methods. Even if farmers produce a better quality product, there are no attractive and differentiated farm gate prices for those better quality products. The potential for expanding this sector is high if government and other related institutions would pay more attention to these issues (Lindara et al, 2004). Since farm gate quality does not match any accredited standard quality, a considerable amount of cleaning and processing is carried out throughout the marketing channel, thus increasing marketing costs.

(3) World trade issues: The market potential for Sri Lankan spice exports mainly depends on the tariff structure and sanitary and phytosanitary requirements dictated by world trade. The most intractable issue arising from the global market is

quality, since quality standards such as ISO 9000 certification and HACCP have become essential parameters in the food industry. On top of that, international trade agreements such as AoA, TBT, SPS, and ILFTA exhibit both facilitative as well as inhibitive effects on Sri Lankan spice sector (Herath, 2002.2s). Some of the specific SPS-related problems faced by Sri Lankan exporters and producers are that they do not have adequate and timely information about the standards and health and sanitary regulations applicable to these products in the target markets. The agreement requires the country to establish national enquiry points (NEP) from which information could be obtained on: (a) technical regulations and voluntary standards adopted or proposed to be adopted; (b) conformity assessment procedures adopted or proposed to be adopted; (d) sanitary and phytosanitary regulations adopted or proposed to be adopted; (e) control and inspection procedures, production and quarantine treatment, pesticide tolerance treatment and food additives approval procedures; and (f) risk assessment procedures. Sri Lanka does not at present have an adequate number of such points. Sri Lanka Standard Institution (SLSI) functions as a focal point for the information, but the online linkages of SLSI and international standard setting organizations are very poor. There is no government-managed system in Sri Lanka to provide compulsory quality certification for spices. The required facilities for quality testing are available at the SLSI and a few other laboratories of private organizations but the government does not subsidize the costs of the quality certification process. Introduction of Hazard Analysis and Critical Control Points (HACCP), which is required to test the critical points in production process for standards, is another issue in the spice sector. This is particularly important for value added products. At present this is another limitation and also establishment of such points are very costly (Herath, 2002.2).

The TBT agreement creates the basis for various constraints for the progress of organic products. The main obstacles are: production constraints, strict quality, certification and accreditation issues, national and regional standards and importing procedures, organic labelling, and stiff competition from other producers. The products can only be exported if the manufacturer or exporter can obtain from a recognized institution a certificate of positive assurance that the product conforms to the standards. Facilities for such processes are still not conveniently available in Sri Lanka and the cost of the process is also not competitively affordable. The technical competence of the available conformity assessment body of Sri Lanka in the eyes of potential importers of value added products is also questionable (Herath, 2002.2).

4) Problem of marketing: One important constraint in the spice sector is the poor market link between farmers and exporters. Middlemen take advantage of this situation by buying the farmers' products at lower prices and selling them at higher prices creating a large gap among the price received by the farmers, auction price and the international price (Table 3.5). Traditional perception of the role of the

middlemen is considered to be negative since they are seen as unnecessary agents in the supply chain who increase supply costs and capture part of the income accruing to farmers. Thus, the involvement of large numbers of inessential intermediaries who are mainly sales-oriented rather than market-oriented, have ultimately resulted in high wastage, low farm prices and high consumer prices. These create a low value added in the chain, poor incentives for farms and sluggish growth of the sector.

Table 3.5: Average prices of spices (LKR /kg)

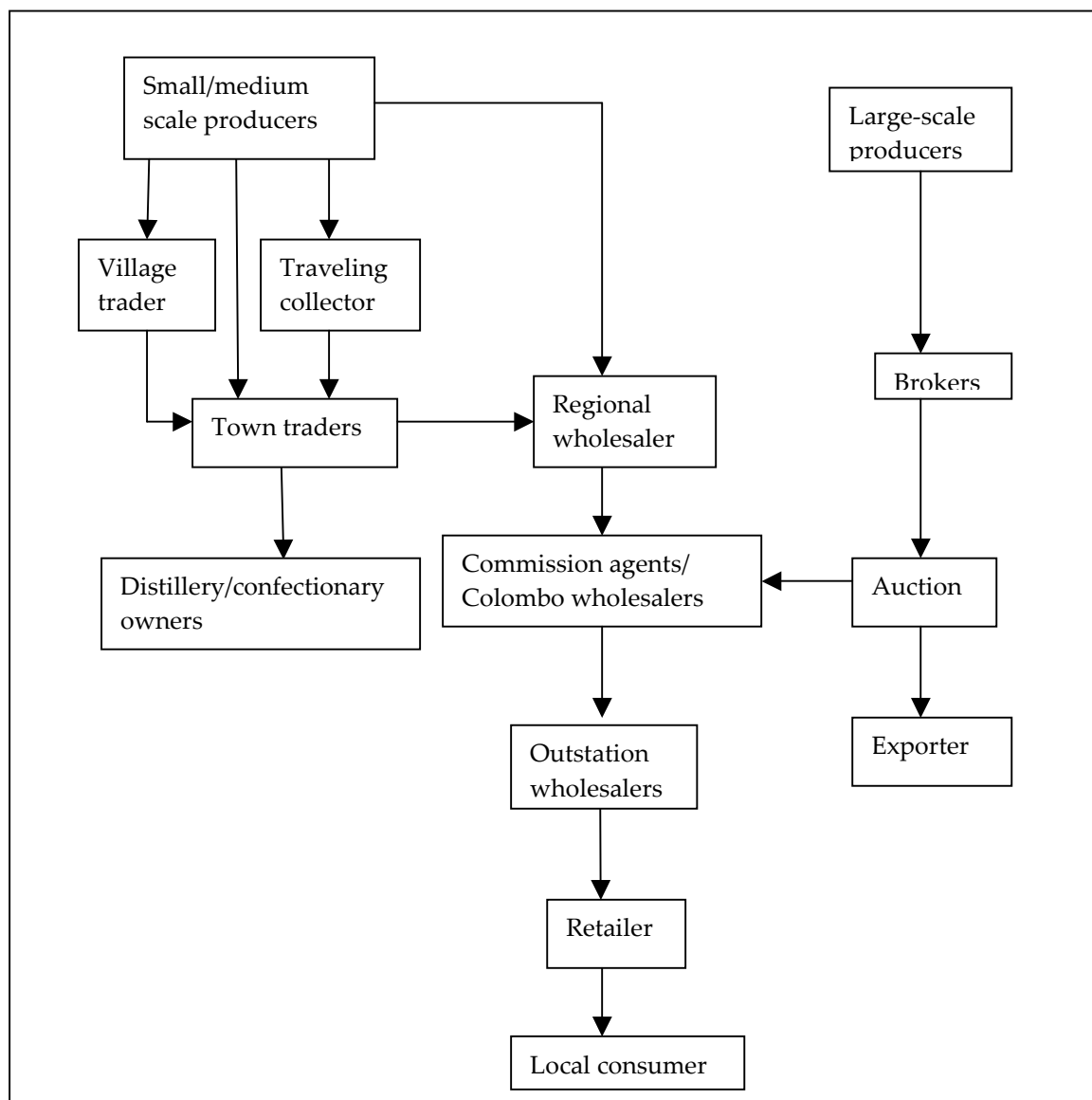
Crop	Location	Year					
		2000	2001	2002	2003	2004	2005
Pepper	FG ¹	281.82	188.50	144.24	122.97	138.49	116.89
	AU ²	307.22	200.50	167.43	138.26	149.86	129.30
	WM ³	331.68	n/a	168.30	163.52	160.52	158.31
Cloves	FG	307.65	658.62	599.34	267.08	390.94	347.94
	AU	344.21	785.50	675.13	295.02	435.91	372.02
	WM	342.18	472.50	463.40	176.52	299.11	317.95
Cinnamon	FG	290.82	303.76	350.49	345.31	361.50	395.48
	AU	344.72	361.60	365.08	351.58	356.07	380.98
	WM	639.36	n/a	n/a	n/a	n/a	n/a
Nutmeg	FG	266.39	197.76	215.55	238.09	224.61	244.88
	AU	264.80	218.10	237.80	297.06	238.49	254.20
	WM	612.62	624.70	642.98	636.58	662.72	515.58
Mace	FG	542.29	437.44	558.93	575.66	600.33	688.75
	AU	593.93	436.10	592.42	617.46	630.69	734.84
	WM	762.55	708.30	675.78	699.05	611.88	863.16
Cardamom	FG	1216.97	1447.73	1252.29	875.89	682.44	744.15
	AU	1258.46	1530.10	1414.13	1017.34	813.45	828.52
	WM	1317.90	1352.20	1318.38	796.47	791.82	652.02

Source: Export Agricultural Statistics of Sri Lanka, 2003 ¹Farm-gate price ²Auction price ³World market prices

3.4 The traditional supply chain of spices

The marketing structure of minor export crops in Sri Lanka is characterized by its traditional nature at the domestic level and rather high degree of sophistication at exporter level. The traditional supply chain of spices in Sri Lanka is characterized by decentralized purchasing, low quality product purchases and sales and the presence of a large number of intermediaries with no essential function. Those intermediaries constitute travelling collectors, village traders, wholesale buyers, commission agents and auction brokers (Figure 3.2).

Figure 3.2: Marketing Channels of Spices



Source: HARTI Agricultural Commodity Review, 2000

The travelling collector is the first and the most important link in the traditional marketing channel purchasing spice products from village farmers and selling them to traders, especially outside the village. Thus, he plays a significant role in the remote villages where transport and other facilities are limited. The travelling collector generally operates on a small scale, collecting small quantities of produce. He makes direct cash payments to the producer and disposes of the collected produce the same day to the next link in the marketing channel. The village trader is another important first link, operating a small shop in the village. His services are available at all times, offering the producer an opportunity to sell small quantities of produce at any time (Sappideen, 1987). He pays the producers in cash at the time of selling rather than delaying payment. Producers mainly choose to sell to either a travelling collector or village trader both for ease and because there is no transport

cost involved. Since the activities of the village merchant are not solely confined to the spice trade, the producer has the opportunity to combine his sales with the purchase of other commodities. Due to the credit-bound relationship between the village merchant and producers, the latter are compelled to sell their products to the village merchant. One significant difference between the travelling collector and village merchant is that the former goes to the producer in search of produce but the latter purchases only what is brought to the shop. However, unlike the travelling collector, the village merchant does not sell daily. He prefers to accumulate his stocks until a favourable price appears in the market depending on his liquidity. Generally, the price received by the farmers from the village merchant is lower than the price received from the travelling collector. Both the village merchant and the travelling collector sell their produce to a wholesale buyer in their nearest town (Sappideen, 1987).

Wholesale trading in the spice marketing structure operates at two levels: the small town wholesale buyers are located in the main area of production and the big town wholesale buyers are found in the main towns. The primary function of the wholesale trade is to bulk the produce received from the producers and dispatch it to trade in Colombo. Wholesalers sell small quantities of produce to retailers and sometimes they also make retail sales to consumers directly. The volumes of these kinds of sales are very small. In some locations, there are brokers/commission agents who link up the different steps of the marketing channel. Commission agents and auction brokers operate in Colombo and deal with a wide variety of products. Auction brokers conduct the auction sales for the different products. Commission agents, unlike the auction brokers, do not handle any product as such, but merely mediate between buyers and sellers. The commission agent and auction broker charge their clients a small fee for their services comprising a commission, handling charges and other sundry expenses. The exporter is the final link in the domestic marketing structure. Exporters generally obtain their requirements either through commission agents or auction brokers. Direct purchases from big wholesalers occur only rarely, where such transactions have been conducted over a period of time and firm personal contacts and confidence established. Most exporters buy on firm orders from foreign clients, preferably with contracts (Sappideen, 1987).

3.5 Drivers for the evolution of modern supply chains

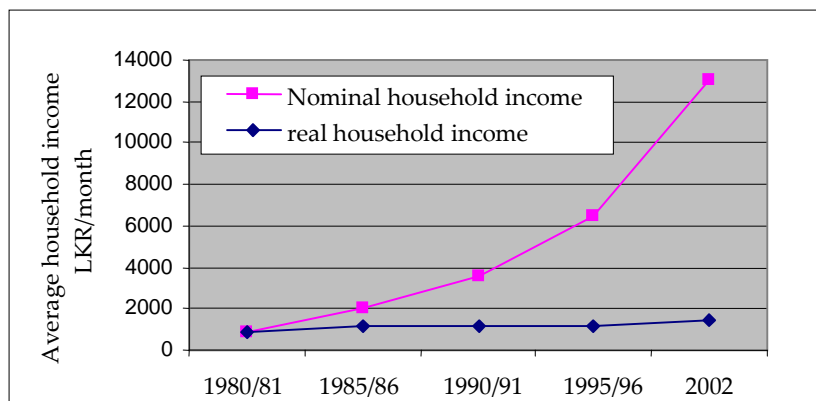
The emergence of supermarkets, urbanization, income increase, high quality retail export markets, high quality bulk procurement, trade agreements with other countries, increased migration of Sri Lankan citizens and increased female participation in the labour force have created a new demand pattern, shifting the focus towards continuous supply of high quality, value added products with improved processing, packaging and labelling.

Supermarkets, traditionally viewed as the “rich man’s place to shop”, are no longer niche markets for rich consumers in main cities. Supermarkets were able to succeed in the food markets of the poor due to their ability to offer competitive prices and better and consistent quality as opposed to the traditional retail markets (Reardon, 2003). As in other developing countries, the food retail markets in Sri Lanka have gradually evolved from fragmented local markets to centralized wholesale markets and eventually to the emergence of supermarkets in the food retail sector. Sri Lanka is currently experiencing increasing growth of supermarkets throughout the country. Supermarkets that previously limited themselves to serving the consumers of the main city (i.e. Colombo) are now gradually spreading to urban and sub urban areas penetrating into the food markets of the residents. The supermarket industry in Sri Lanka consists of supermarket firms/companies with a range of numbers of supermarket outlets, situated in different localities, with varying ownership structures and ranging from firms that have persisted in the markets for a long period of time and those that have recently emerged. There is only one large supermarket chain, namely; “Cargill’s Food City” began in 1982, which has a comparatively large number of outlets (i.e. 77 supermarket outlets). Apart from this supermarket chain, several supermarkets exist with about two to eight outlets (e.g. Keels Super, Sathosa, King’s Supermarkets, Family Super, Laugh Sunup and Arpico) and there are many single outlet supermarkets (e.g. Dhanasiri and Royal Mall) emerging all over the country (Weerahewa and Kodithuwakku, 2005). Quality has become a crucial advantage in supermarkets compared to traditional markets.

With the liberalisation of the Sri Lankan economy in 1977, the open economic system gave rise to two clear social strata, namely: the ‘New Urban Middle Class’ and a ‘New Working Class’. Status and individual identity were no longer defined via occupation and heritage but was increasingly defined in terms of lifestyle, including the pattern of consumption (Liyanage, 2005). In accordance with these changes, the status determinants of the Traditional Middle Class (TMC) also shifted from occupation and heritage to the consumption pattern. Compatible with the changing needs of the social segments, the markets shifted from ‘traditional markets’ to a new ‘Up-market’ in which supermarkets were prime retail outlets.

There is an increasing trend in the monthly household income in the country; from 1980/81 to 2002, income has increased by 1,380 per cent at current prices and 62 per cent at constant prices (Figure 3.3). Growth in household income will consequently increase the purchasing power of the people, giving them the ability to pay for additional services such as convenience and quality of products. This has contributed towards the development of new supply chains over recent years.

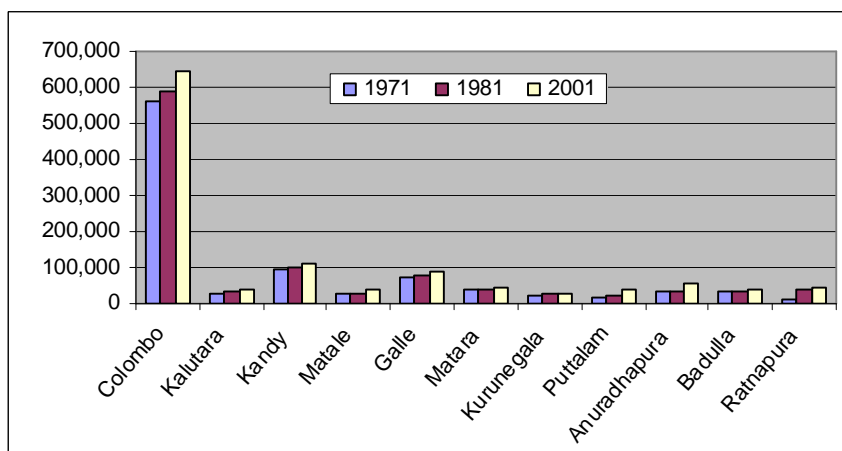
Figure 3.3: Nominal income (at current price) and real income (at 1980/81 constant price by survey periods



Source: HIES-2002, Department of Census and Statistics

Urbanization and the consequent changes in lifestyle have been one of the major drivers for the evolution of modern supply chains in Sri Lanka. Rapid urbanization followed by the increase in the urban population has broadened the users of new supply chains. Figure 3.4 shows the increasing population trend in selected major cities in Sri Lanka.

Figure 3.4: Population increase in selected major cities of Sri Lanka



Source: Department of Census and Statistics in Sri Lanka.

Women contribute considerably to household income through farm and non-farm activities as well as by taking employment overseas, most often in the services sector. The number of women in the workforce as well as the female participation rate in the labour force has gradually increased in Sri Lanka over the past years (Table 3.6). The female participation rate was around 20 per cent up until the early 1970s, but now fluctuates at around 32 per cent. The rapid increase in labour force participation in the mid 80s is mainly due to the influx of women into the labour market due to the more open economic framework and structural reforms that created new job opportunities for women. Women entering the work force with a consequent higher

opportunity cost of time is a prominent factor that promoted the evolution of new consumer patterns.

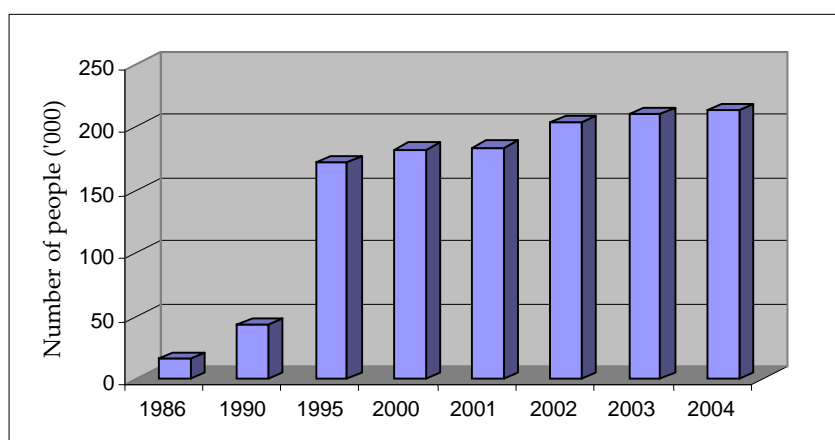
Table 3.6: Female labour force participation rate and number of women in the labour force in Sri Lanka.

Year	Female labour force participation rate (%)	Total number of women in the labour force (thousands)
1973	20.2	1,293
1982	19.4	1,439
1993	33.1	2,043
1996	31.6	1,680
1999	34.1	1,975
2003	31.4	2,179
2004	31.5	2,344

Source: Department of Census and Statistics in Sri Lanka.

Departure for foreign employment has increased by 17 per cent from 182,188 in 2000 to 213,453 in 2004 (Figure 3.5). This has specifically increased the demand for high quality domestic products creating niche markets in these countries.

Figure 3.5: Increased migration of Sri Lankan citizens



Source: Department of Census and Statistics in Sri Lanka

Demand side trends show that world trade demands a much boarder variety of products, special packaging designs and higher quality standards as a result of international trade agreements such as SPS, TBT, AoA and ILFTA. The agreement on the application of Sanitary and Phytosanitary (SPS) measures specifies the principles and rules that member countries (including Sri Lanka) must use to regulate imported products. The agreement defines SPS measures as those taken to protect human, animal or plant life or health from (a) risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms; (b) risks arising from additives, contaminants, toxins or disease-

causing organisms in food, beverages or feedstuffs; (c) diseases carried by animals, plants or products thereof (Herath, 2002.1). The agreement on TBT contains international rules applicable to product standards relating to trading organic spices and value added spice products. The aim of the AoA is to establish a fair and equitable market-oriented agriculture trading system by minimizing the use of border measures to control imports and the use of export subsidies and other domestic subsidies that governments grant to support the prices of agriculture products and assure a reasonable income to farmers. The essence of this agreement is to reduce and discipline tariff and non-tariff barriers to trade. The spices are included in the reduction structure in many developed and developing countries. These reductions indicate that the developing countries including Sri Lanka will have increased market access to the developed markets (Herath, 2002.2). ILFTA in general is a blessing as it provides India as a preferential trading partner. The direct impact arises from the tariff cuts under the agreement. Tariff reduction will provide short-term benefits, such as better prices for the commodities concerned, as well as long-term benefits such as increased investments, technology transfer and resulting human capital spill-over effects. Since the Indian market is less particular about quality and SPS standards, there is a short-term advantage in sending higher volumes of “substandard” quality spices to India. The agreement says that the products that are not wholly produced or obtained within the participating country should have the local content of at least 35 per cent of the FOB value. Under this clause, we can initiate joint ventures to add value to spices and even the organic spice mixtures.

4. Methodology

The case study approach enables the researcher to obtain a holistic view of the research aspects. It has a considerable ability to generate answers to questions such as “Who?”, “What?”, “Where?”, “Why?” and “How?” and to make comparisons between different scenarios (such as before and after scenarios) (Robson, 1993; Yin, 1994). This strategy permits both general and specific conclusions as well as providing a rich understanding of the process being enacted within the given context (Gummesson, 1991; Yin, 1994). Most importantly, a wide range of information gathering techniques are used in case studies, consisting of both qualitative and quantitative methods (Gummesson, 1991; Morris and Wood, 1991; Yin, 1994).

Thus, the research study primarily employed a comprehensive case study that explored all the aspects of the innovative practices of integrating small scale farmers into dynamic food markets linked to Ma’s Foods with a view to addressing the research questions. The case study was conducted using a combination of research activities and instruments with the intention of covering all the different players in the supply chain from farmers to supermarkets and fulfilling the preferred research objectives. These include personal interviews, group discussions (PRA), farm records and archive records.

A survey was carried out using a well designed, pre-tested and repeatedly revised semi-structured survey questionnaire covering all the key points (see questionnaire in annex). Sample selection was done to include relevant characteristics that allow the research question to be addressed precisely. Both the supplying and non-supplying farmers were included in the sample. The case study undertook two comparative analyses, namely ‘before vs. after’ and ‘suppliers vs. non-suppliers’ to find out whether the innovation led to significant welfare gains for small farmers in particular and the supply chain as a whole. As such, it first examined the situation prior to the innovation and the current situation with particular emphasis on the process followed by Ma’s Foods in terms of key factors such as productivity, income and cost. The second comparative analysis was a direct comparison between suppliers and non-suppliers in the area.

Semi-structured interviews and group discussions were conducted according to prepared guidelines mainly with relevant representatives of the company and other local government and non-governmental organizations to facilitate the survey (Table 4.1). Secondary information was collected from different sources including literature, financial records of the company, farm records and archive records with the help of library search and internet search.

Table 4.1: Categories of individuals and institutions covered in the study

Backward Linkage	Ma's Foods company	Forward Linkage	External
Small scale farmers ¹	Managing Director	Nestle ²	National Agribusiness Council
Non-supplying farmers	Supply Chain Manager	Unilever ²	Govijana Sewa
Satellite farmers ³	Factory Manager	Cargills ⁴	
Village collectors	Production Manager	Keels ⁴	
	RAPID Centre Manager		
	Extension Officer		
	Employees		

¹Small scale farmers with supply relationships with the company including organic farmers.

² Local manufacturing companies.

³ Collectors dealing directly with collection and transport of the product in bulk form.

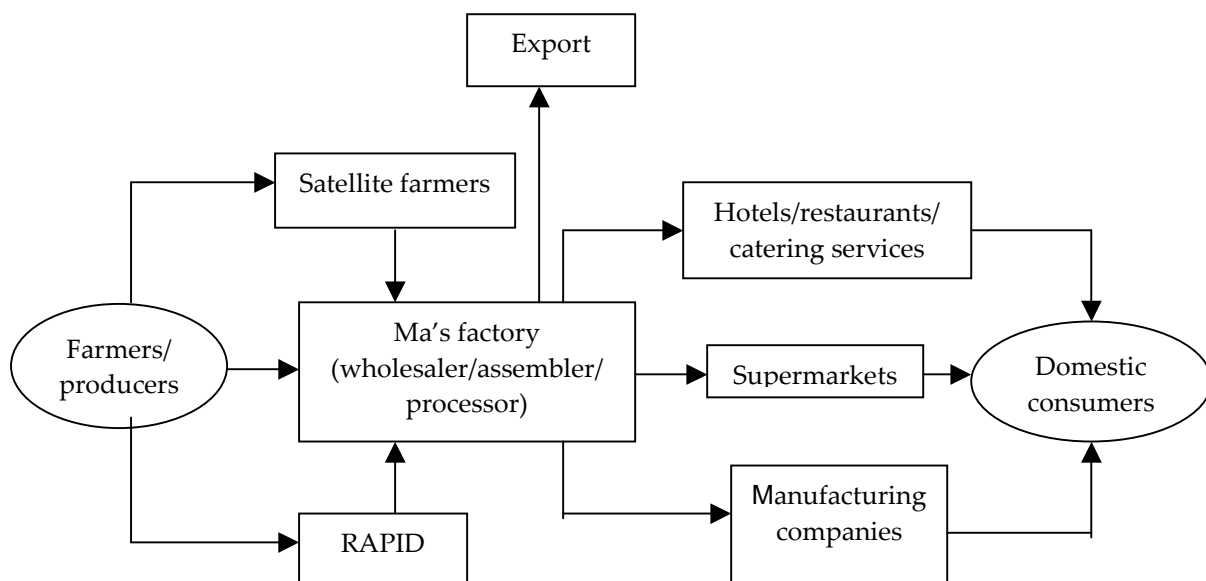
⁴ Supermarket chains.

5. Results and discussion

5.1 Changes made in the supply chain

Centralized procurement: The company has shifted its procurement system from a decentralized system to a centralized one. The centralized procurement is centred on the Regional Agribusiness and Perennial Crop Initiatives and Development (pvt) Ltd. (RAPID). As the number of smallholder farmers supplying organic material to the company has become larger and scattered in a larger area, the centralization process increases the efficiency of procurement through reducing the coordination and number of officers required for procurement. This assures a continuous supply of raw materials and eliminates nonessential intermediaries such as village traders, town traders and collectors from their supply chain (Figure 5.1). This eventually results in reduced transaction procurement costs and improved information flow between the supply chain segments. Reduction of intermediaries has ensured that profits are shared between farmers and the company. It has reduced the marketing risk faced by both the company and farmers. Farmers have to transport their produce to the RAPID centre, but transportation is sometimes provided for certain products. This extra movement of the produce can lead to increased transaction costs but it confirms the timely supply. The RAPID centre is in charge of logistic improvements in the procurement system. They have implemented programmes specifying the post-harvest and production practices that guarantee a steady supply of products and improve the efficiency of the procurement procedure.

Figure 5.1: Supply chain of Ma's Tropical Food Company



Institutional innovation of backward integration: the RAPID centre is responsible for the backward integration of the company's activities in the supply chain and for delivering the social responsibilities to the region. It offers an integrated set of services to farmers in the region. These services encompass technical assistance in production and post-harvest practices, training for improved farm management, organic certification in spice production, supply of high quality planting material, intermediation of commercial credit from banks and training on efficient record keeping. Transaction costs of these services are borne by the RAPID centre. The centre practices a system of efficient record keeping ensuring quality and traceability at farm level. Currently, RAPID has two trained extension officers to disseminate knowledge and technical know-how. They visit farmers once a month on average, extended to twice a month during the harvesting season. During their visits they inspect fields and provide feedback to the farmers about the field conditions and advice on improving land productivity. The centre owns two model farms used for practical training activities.

Own private standards: The company sets its own private standards when procuring products from their suppliers. This facilitates the standardization of the products procured from different suppliers. These private standards are used as a tool to differentiate the company's products from others and to discover niche markets. While the company is concerned about the quality of its produce it also focuses on developing a regular and permanent supplier base. Since small scale farmers lack the capacity to cope with rapid changes in the marketing system directly, the company is flexible with the quality requirements initially and offers a considerable adjustment period to bring the produce up to standard. To maintain consistence with their private standards, the farmers who meet those standards are paid premium prices.

Logistic improvements: The company focuses on moving towards logistic improvements in the supply chain. They have introduced new operations to their supply chain that did not exist previously, such as grading, processing, packaging, labelling and trade marking. For example, they have transformed their processing and packaging procedures from manual operations to mechanised systems. Canning of processed food was only introduced about two years ago. Those practices have made the company more competitive in the local and international markets, enabling its products to satisfy the newly emerging trends in consumer preference. Such processing and value adding operations facilitated the introduction of entirely new product lines, especially precooked food, such as curry mixes, curry pastes, herbs and seasonings. The company sells products under the brand names of "Dad's Garden" (sauces and herbs and seasonings) and "Happy Home" (chutneys and pickles) in addition to Ma's own brand produce.

Preferred supplier: The company has the capacity to adhere to the standards set by its clients and has introduced new operations such as metal detection based on their clients' requisites. Thus, Ma's Foods has been a certified preferred supplier of several food processing companies and hoteliers for about fifteen years. They are the sole agent or the main supplier of a range of spice products to different market segments, including local food manufacturing companies (e.g. Maliban), local branches of multinational companies (e.g. Nestle and Unilever), supermarkets (e.g. Cargills and Keels) and leading national institutions (e.g. Sri Lankan Airlines). Excluding supermarkets, these companies constitute 30 per cent of Ma's Foods' total output, generating one-third of the annual total revenue. Ma's Foods supplies spice products under its own brand name to supermarkets in Sri Lanka and this covers 50 per cent of their total output, generating one third of the revenue.

Specialized wholesalers: The company is gradually moving towards increased purchasing from specialized wholesalers who can meet company standards. These specialized wholesalers enforce private standards on behalf of the company reducing the transaction and search cost. "Satellite farmers" who provide spices in bulk quantities are prominent amongst these wholesalers. These farmers specialize in collecting spices from small farmers in the surrounding area and reprocessing the collected bulk of produce in accordance with company standards. Apart from satellite farmers, companies like Fobes and Walkers act as specialized wholesalers for the company.

Quality inspection and assurance: Ma's Foods have improved their value chain management in order to prevent the risk that the products supplied to the restructured market might not comply with legal and ethical norms and consumer demand. The company has taken several measures to follow locally and internationally established basic process standards along the value chain, such as Good Manufacturing Practices (GMP), SQF 2000 and HACCP quality standards, in order to sustain its market share. The company itself has been certified for supplying organic products. It has guaranteed premium quality, food safety and superior taste by acquiring the SQF 2000⁶ in 2003, which is a HACCP quality code system. The company is focusing on obtaining BRS (British Retail Consortium) standards this year in order to be more competitive in the market.

At each stage of factory operation there are measures for monitoring the aforementioned standards. To facilitate this process, the monitoring company has invested in a fully equipped modern in-house laboratory. It is equipped to perform physical inspection (taste, flavour, appearance, moisture, mould and infestation) as well as microbiological analysis (yeast, mould, coliform, total bacterial count and

⁶ The company has been SQF 2000 certified by SGS Lanka since 2003. SGS Lanka audits the company once a year.

aflatoxin). Physical inspection and microbiological tests are carried out for both incoming raw material and final products. Chemical tests (presence of heavy metals and pesticides) and additional microbiological tests are conducted through outsourcing based on the client claims. At each stage of production the administration is concerned with product quality as well as employee hygiene. Therefore, they have introduced hand wash areas, uniforms, hairnets, slippers and changing rooms in every place of factory operation and provided training on use of such hygienic measures to the employees.

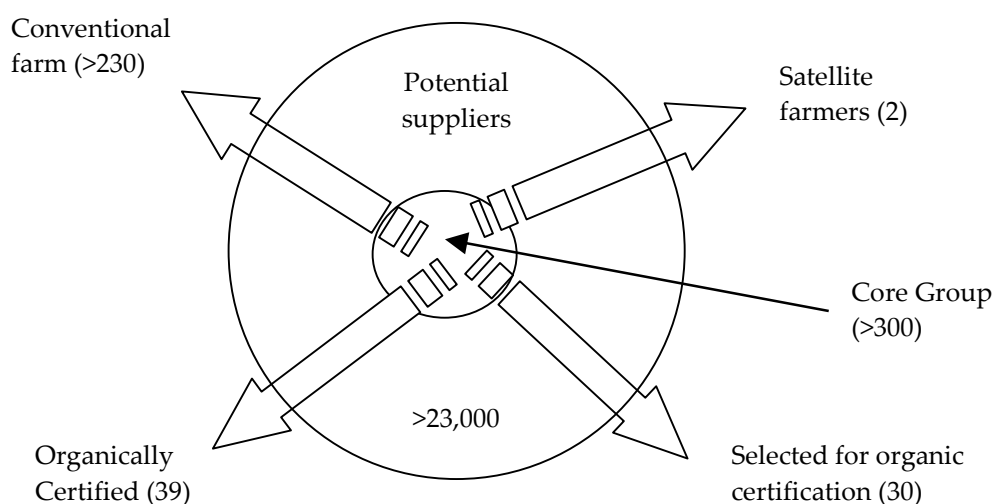
Tracking and traceability procedure: The raw materials used in production are fully traceable throughout the whole production process. Tracking and traceability is assured through a well-documented and computerized procedure facilitated by Good Receiving Notes (GRN), Stock Cards, Job Cards and Batch Numbers. A GRN is issued for each batch of raw material that contains information on the supplier, quantity supplied and the quality of the material. After testing for quality, produce complying with quality standards are released for food preparation with a stock card. A job card is issued for each item produced in the factory with the batch number. Each and every ingredient used for the production of a particular item is listed in the job card. All these tools are interlinked so that any fault in manufacturing can be identified and corrected with out any difficulty. Production practices have been advancing with time to incorporate modern technology to ensure the quality of the final product. There are clear procedures for customer complaint handling facilitated by Non Conformity Identification (NCI).

Corporate social responsibility policy: The company has worked hard to provide a healthy and safe workplace for its employees and other stakeholders since its inception. Such practice is encouraged by an explicit policy of corporate social responsibility adopted by the company. Under this policy workers are provided with all the basic facilities such as meals, lodging and laundry facilities free of charge. In addition to these services, workers are offered training on diverse issues that enable them to lead a better life. The company has provided employment for the majority of the young adults in the neighbouring region and for a few handicapped people as well, mainly as a means of delivering social responsibility to the society. Ma's Foods has contributed to post-tsunami recovery programmes and provides regular scholarships and financial assistance to students from surrounding communities. It has taken steps to minimize negative environmental impacts in all its operations. It is certified by the Central Environmental Authority (CEA) of Sri Lanka for encompassing a very good waste management system to dispose of both liquid and solid wastes. Thus, corporate social responsibility has become an investment through which the company improves the productivity of workers, attitudes of workers towards the company and the image of the company among their clients as well as society as a whole.

5.2 Evidence of inclusion

This innovation has mutually benefited all the parties involved in the supply chain. It has resulted in improved corporate income, higher volumes of trade, turnover and farm income, added employment creation, non-monetary benefits and a spread of income throughout the year ensuring greater degree of inclusion of small farmers into the new supply chain. The work of the company as a whole is backed up by its strong backward linkages with the smallholding sector. The majority of suppliers to the company are small scale farmers operating 1-2ha of land, basically home gardens. Of 23,000 potential suppliers in the neighbouring region, there is a current supplier base of over 300 farmers. Of these, 39 farmers certified for supplying organic produce belong to the core group of regular suppliers. Another group of 30 farmers have been already selected to certify as organic suppliers in the near future (Figure 5.2). They will start supplying as regular suppliers to the company from this season onwards.

Figure 5.2: Farmer structure of Ma's Foods

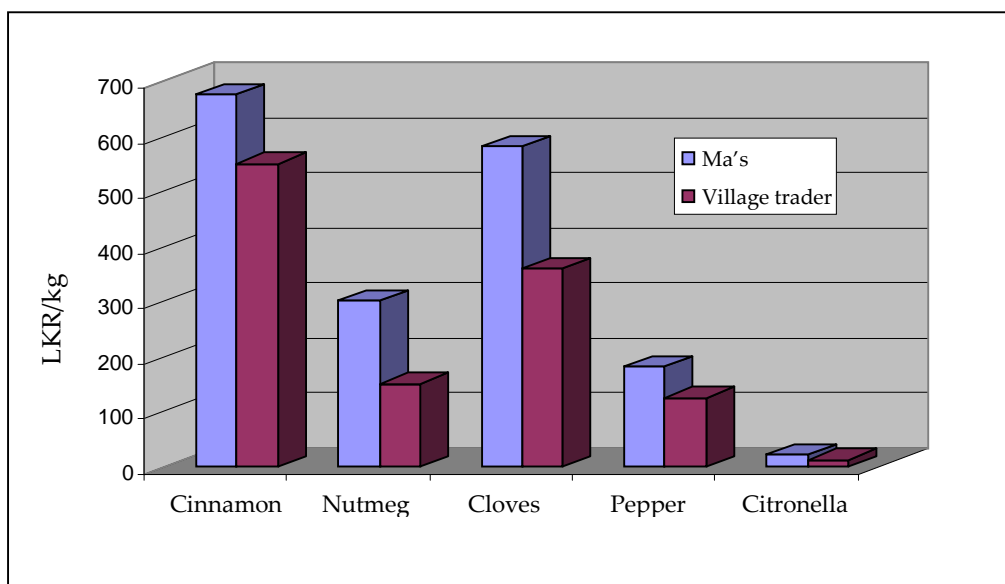


All the farmers are poor subsistence-level farmers with insufficient productive assets to raise production to a commercial level. Land is usually the only asset they own. Most of them hold between one and three acres of land, with only a few farmers owning more than three acres. Other than that, they do not own any other assets such as equipment or machinery. Only one farmer, who acts as a village trader as well as a collector, owns a cinnamon-processing machine. A few farmers also cultivate rented land. Mixed cropping is the main type of cropping pattern except for cinnamon, cardamom and lemon grass. Nutmeg, pepper and cloves are cultivated on the same land as other food and timber crops. Cultivating cinnamon stands with pepper is also common. Some farmers are solely dependent on the income received from spice cultivation whereas others farmers also have alternative sources of income. Either the farmer or another family member has a permanent source of

income. Some of the spice farmers are also involved in paddy cultivation. Almost none of the farmers possess technological knowledge on improving productivity of their lands or a solid understanding of the costs incurred, benefits received and profitability. They did not have any assurance for the market and good prices. In the traditional market there was no price differential for quality products.

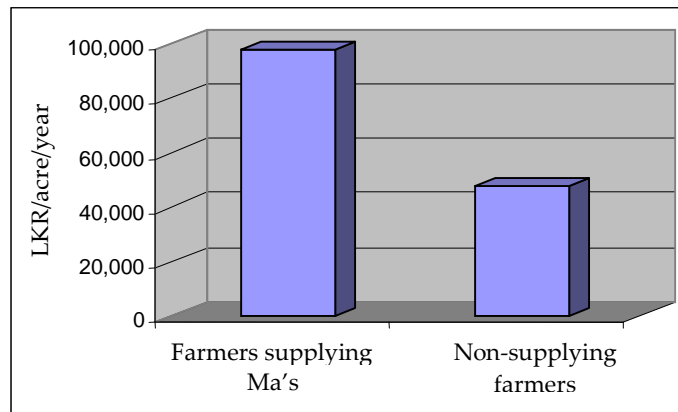
With the inclusion of supply chain of the company, farmers received several benefits. Primarily, farmers were able to gain a premium price for better quality products that fulfil the company standards (Figure 5.3). They were able to acquire a stable price regardless of price fluctuations in the market, depending on the quality of the produce. Ensuring a market for their quality products minimized marketing risks. The company has been responsible for certifying farmers cultivating organic products as organic producers. Therefore, it is evident that premium prices and spread of income throughout the year are the major causes for inclusion.

Figure 5.3: Price comparison between Ma's and village trader



Farmers gain technical knowledge from the extension officers on improving their cultivation and post-harvest practices, ultimately improving the productivity of their land. This has minimized the incidences of pre-mature harvesting, enabling year round harvesting with the spread of income received by the farmer throughout the year. A continuous supply of produce is guaranteed through this process. Due to the reduction of marketing margin for intermediaries both farmers and company are able to receive higher profits (Figure 5.4).

Figure 5.4: Average yearly income per acre comparison



After the involvement with the company some farmers (e.g. group of farmers cultivating cinnamon) have initiated a farmer organization with the support of the company. This facilitates farm activities such as sharing labour during harvesting periods, which eventually reduce the cost of production. Even though farmer organization is still in its initial stages, it has enhanced the farmers' bargaining powers for better quality products. Through the farmer organization, they have been able to increase the market price for their products by negotiating with the company. The company still acts as the backbone of the farmer organization and there should be improvements in the organization to include more farmers and make it stronger.

None of the farmers had the habit of maintaining regular records of their farming activities. The company has introduced a method of keeping records along with the cultivation. Farmers have to enter daily records on factors such as field operations conducted, advice received from the extension officers, cost incurred in each operation, yields, prices received and turnover. In addition, extension officers also maintain a record book for each farmer with their observations in the field and recommendations offered. In this way, farmers can gain an understanding of average costs, yields and profits as well as which activities that should be implemented to improve the productivity of the land and to produce according to company standards.

Even with such a high cost system of integrating small scale farmers to dynamic supply chains delivering corporate social responsibility, the business entity has been able to make greater achievements in terms of corporate income, profits, assets and employment generation. Total turnover and gross profit have increased by 65 per cent and 67 per cent respectively from 2000/2001 to 2004/2005 while total assets and fixed assets have more than doubled (126 per cent and 129 per cent) over the same period. The number of workers has increased by 40 per cent from 104 to 146 (Table 5.1).

Table 5.1: Changes in corporate income, assets and employments induced by the innovation

Year	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
Gross profit (LKR)	17,804,560	19,063,774	29,439,867	35,707,169	29,770,703
Turnover (LKR)	74,475,718	74,354,086	102,676,307	113,495,050	123,241,211
Total assets (LKR)	44,011,454	45,642,793	61,582,446	73,279,435	99,888,749
Fixed assets (LKR)	22,615,859	22,919,385	33,408,171	37,881,095	51,848,285
Employment	104	154	142	144	146

5.3 Evidence of exclusion

There is also some evidence of exclusion. This is attributed to both organizational weaknesses and lack of capacity of the farmers. Low production capacity of the company is one of the major reasons for exclusion of small scale farmers from the company's supply chain. Even though many farmers are willing to supply their produce to the company while complying with their standards, existing production capacity is unable to absorb produce from all surrounding farmers⁷. Higher transport charges are another cause of exclusion. The company does not offer transport facilities for the produce harvested for all farmers; certain farmers are provided with transport while other farmers have been deprived of this benefit. For example, because of high quality considerations, extension officers visit nutmeg fields during harvesting and transport the harvested produce with them, since the majority of the farmers live away from Dambulla where the factory is located and away from the town areas, so the infrastructure facilities are poor. Therefore, it is very difficult and costly for them to find methods of transport. For example, for each kilogram of cinnamon transported farmers have to pay around 4 per cent of the price they receive as transport charges; a heavy burden for these poor farmers.

Delayed payments by the company have also caused some farmers to leave this system. Farmers had to wait around one month to receive their payment for the procured products. The company has been able to reduce this lag to around one week. Still, this is a long time period for farmers since they have to settle their expenses such as wages for hired labour immediately after harvesting. Due to this fact some farmers are reluctant to sell their products to the company even if they receive good prices. They feel it more convenient to sell their produce to the village or town trader since they receive payment immediately. In addition, the company

⁷ Even though there are over 23,000 potential suppliers, only 300 farmers form the core supply group of the company as shown by Figure 5.4.

uses cheques as their mode of payment to the farmers, which are not readily liquid and generate further financial limitations.

Credit-bound relationships with the village traders are very high, especially among the farmers cultivating cinnamon due to the high labour costs involved in processing. Subsequently, they have to sell their produce at whatever price is offered by the village trader. Even though they have initiated an informal farmer organization, lack of coordination and poor structure has excluded a certain strata of farmers from the system.

6. Conclusion and policy implications

It is increasingly clear that rapid and continuous changes are occurring in the domestic and export procurement systems in terms of increased quality due to the development of high quality retail markets (supermarkets), increased high quality bulk procurement by domestic manufacturing firms and enhanced quality awareness in the agenda and reality of the world trading system. These modern and restructured markets have had a substantial impact on small scale spice producers who are unable to keep up with emerging marketing trends.

The innovative business model of Ma's Tropical Food Company has successfully combined business performance with corporate social responsibility, thereby bringing sustainable benefits to the rural poor in Matale District over the past eighteen years. The major aspects of this innovation, currently being studied under the Regoverning Markets Research Programme are two-fold, namely:

- At the lowest level, the company works closely with small-scale farmers (community-centred) while establishing partnerships with them. It is inspired by an explicit policy of corporate social responsibility.
- At the highest level, the company operates in a variety of dynamic agro-food markets. It supplies both supermarkets and processors, nationally and internationally. It produces a large variety of different products, both as bulk ingredients and as final consumer items.

This innovation has mutually benefited all the parties involved in the supply chain. This is clearly evident by improved corporate income, higher volumes of trade, turnover and assets, added employment creation at the company level, improved farmer incomes and price premiums, market risk reduction and improved cultivation and post-harvest practices for farmers. Other benefits that have ensured greater inclusion include: strengthening farmer organizations to enhance collective activities by farmers, company responsibility for transport and harvesting costs in some cases and educating farmers about the importance of maintaining quality standards.

Since this model has been in existence for about a decade, continually improving its capacity to augment inclusion of farmers, this can be regarded as a sustainable system that could be replicated elsewhere. The company has not reached its potential capacity, resulting in a certain level of exclusion. Greater inclusion can be attained by further financial support from the company regarding transport costs, by improving farmer organizations (which are currently not functioning properly due to institutional and administrative difficulties) and by using improved modes of payments (since current modes are not readily liquid. Since a limited number of companies like Ma's, Lanka Organics and Bio Foods are operating in the area and

there are a large number of potential small scale farmers in the region, there are ample opportunities for other companies to follow this type of innovation, both for the same product and different types (e.g. fruit and vegetables), taking their specific characteristics into account.

At a macro level, the government has to play a regulatory role in order to ensure the long term sustainability of the system. This includes improving private sector participation in the agribusiness sector through various incentive schemes (e.g. tax holidays), export promotion (e.g. trade agreements) and legislative governance.

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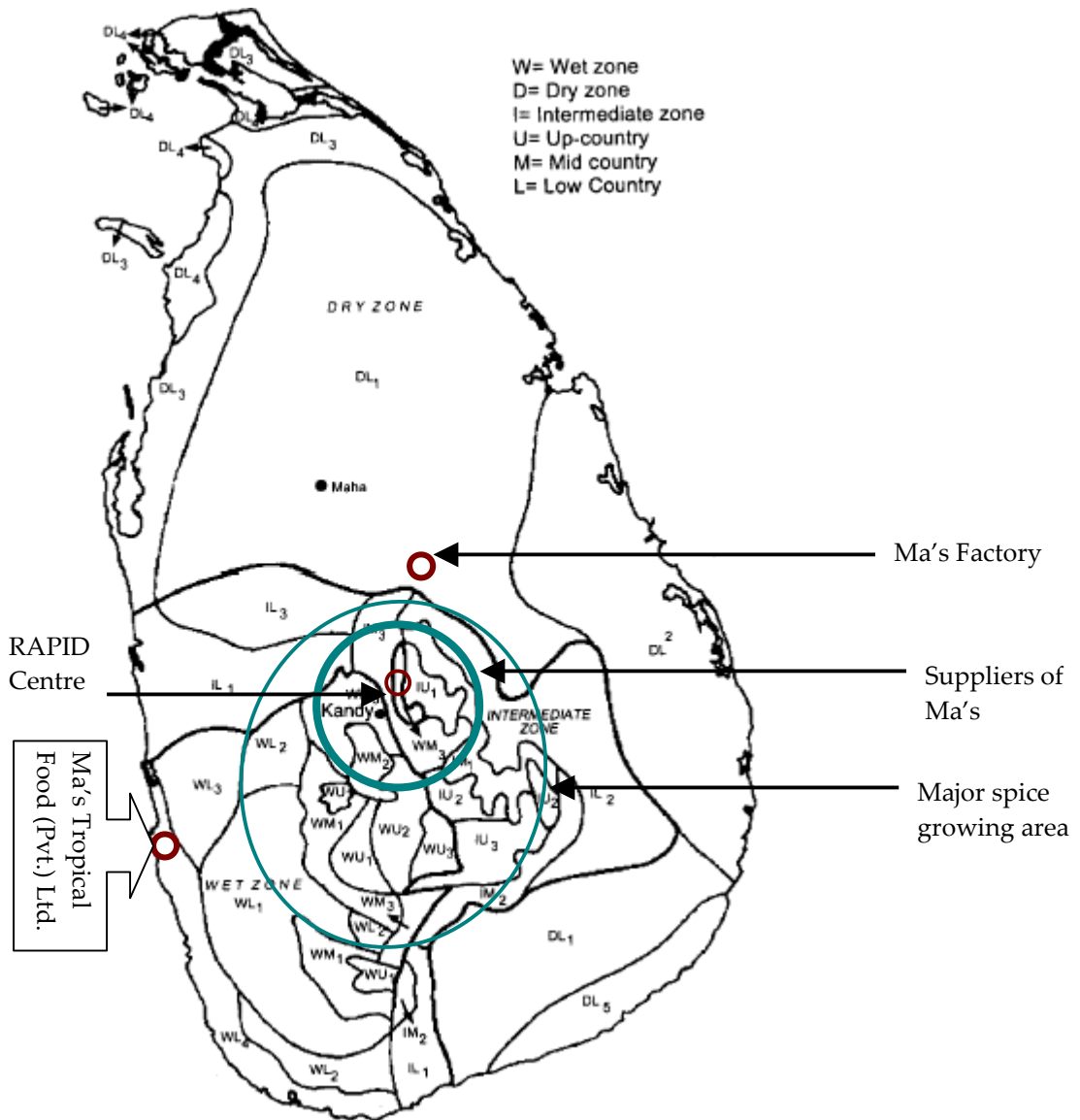
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Appendix A



Agro-ecological map of Sri Lanka showing important locations for Ma's Tropical Food (Pvt.) Ltd.

Regoverning Markets

Regoverning Markets is a multi-partner collaborative research programme analysing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle- and low-income countries. The aim of the programme is to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of the dynamic changes in local and regional markets. The programme is funded by the UK Department for International Development (DFID), the International Development Research Centre (IDRC), ICCO, Cordaid, the Canadian International Development Agency (CIDA), and the US Agency for International Development (USAID).

Innovative Practice

Innovative Practice is a series of case studies from the Regoverning Markets programme providing examples of specific innovation in connecting small-scale producers with dynamic markets at local or regional level. Based on significant fieldwork activities, the studies focus on four drivers of innovation: public policy principles, private business models, collective action strategies by small-scale farmers, and intervention strategies and methods of development agencies. The studies highlight policy lessons and suggest working methods to guide public and private actors.

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