



Study and Master Plan for the Ceylon Cinnamon Value Chain in Sri Lanka

Project title: *Enhancing the compliance and productive capacities and competitiveness of the cinnamon value chain in Sri Lanka*

March, 21th 2016

Contents

1.	Introduction	3
1.1	The cinnamon supply chain in Sri Lanka	3
1.2	Challenges within the supply chain	4
1.3	Recent developments and achievements of the project	7
2.	Market potentials and Business development	9
3.	Up-scaling skills development	14
4.	Market regulation	16
5.	Cluster development	18
5.1	Line factory	19
5.2	Line and Kalli hybrid factory	19
5.3	Bought-tree factory	20
5.4	Peeling centre	20
5.5	Associations	20
6.	Global branding and marketing	21
6.1	Data collection and online appearance	21
6.2	PCC brand	21
6.3	GI certification	22
6.4	Marketing activities	22
7.	Cross-cutting themes	24
7.1	Food safety	24
7.2	Society	24
7.3	Environment	26
8.	Master plan	26

Abbreviations

CCA	Ceylon Cinnamon Association	SAPPTA	Spices and Allied Products Producers and Traders Association
CinCa	Cinnamon Cultivators Association		
CTA	Cinnamon Training Academy		
DEA	Department of Export Agriculture	SLSI	Sri Lankan Standards Institution
EDB	Export Development Board		
GIZ	Gemeinschaft Internationaler Zusammenarbeit	ToT	Training of Trainers
GoSL	Government of Sri Lanka	TSC	The Spice Council
GMP	Good Manufacturing Practices	USD	US Dollar
H.E.	His Excellency	WTO	World Trade Organisation
ha	hectar		
HACCP	Hazard Analysis Critical Control Point		
Mn.	Milion		
NAITA	National Apprentice and Industrial Training Authority		
NDB	National Development Bank		
LKR/Rs.	Sri Lankan rupees		
PCC	Pure Ceylon Cinnamon		

1. Introduction

1.1 The cinnamon supply chain in Sri Lanka

Ceylon Cinnamon has a long history in Sri Lanka as being the prime spice of the country. Until today, the cultivation of cinnamon is still carried out mainly by small holders. In fact, the industry provides livelihood to approximately 350,000 families in the districts Galle, Matara, Hambantota, Ratnapura, Uva and Kalutara. What makes cinnamon production unique, its peeling technique, is traditionally carried forward by generations. On the other hand, the structure of Sri Lanka's cinnamon sector is highly complex covering a long supply chain which includes small holders, large producers, plantations, small collectors, large collectors, traders and dealers at village level pack houses, traders/shippers and dealers at town level, commission agents and exporters. Usually, the supply chain is characterized by decentralized purchasing. The "travelling" or "mobile" collector who purchases cinnamon from small holders and sells to larger collectors especially outside the village is the most important link in the traditional marketing channel. He makes direct cash payments to the producers and has a significant role in remote villages where transport and facilities are limited. The local trader/ dealer or "buyer" is another important link in the value chain. He operates from a small shop in the village and sells the cinnamon to the wholesale buyers. Small wholesale traders can be found close to the production locations and larger wholesale buyers are usually operating from the larger towns within districts. They bulk the cinnamon produce and dispatch it to traders in Colombo. Commission agents only mediate between buyers and sellers. The exporter is the final link in the domestic marketing structure. Most of them sell through brokers or commission agents located in the importing country. The importer on the other hand sells the cinnamon to grinders or processors who resell to food manufacturers, food service companies and manufacturers of lifestyle products. In Sri Lanka, the value added cinnamon product manufacturing is increasing in the vicinity of plantation areas especially the cinnamon oil extraction facilities. Few companies have embarked on cinnamon based products such as soaps, oils, hand wash, incense sticks, candles, lifestyle items, cinnamon tea etc. for direct consumer marketing.

Institutions affiliated with cinnamon offer services such as academic research, verification, certification and training. Finally, departments such as the DEA and EDB are relevant governmental actors in Sri Lanka supporting the sector. As mentioned above, the processing itself is conducted mostly by small holders as "kalli" (group) and contracted peelers who work for large holders in kallis within the estate. A recent pilot program on GMP certification of cinnamon processing centres has made an initial change in the traditional Kalli processing system by identifying demarcated areas for each processing activity (scraping, rubbing, peeling, quill making, bundling and storing). On the other hand, factories employ cinnamon processors through a more industrialized system called the "line system". As cinnamon has different grades based on its quality, the balers or exporters do this activity.

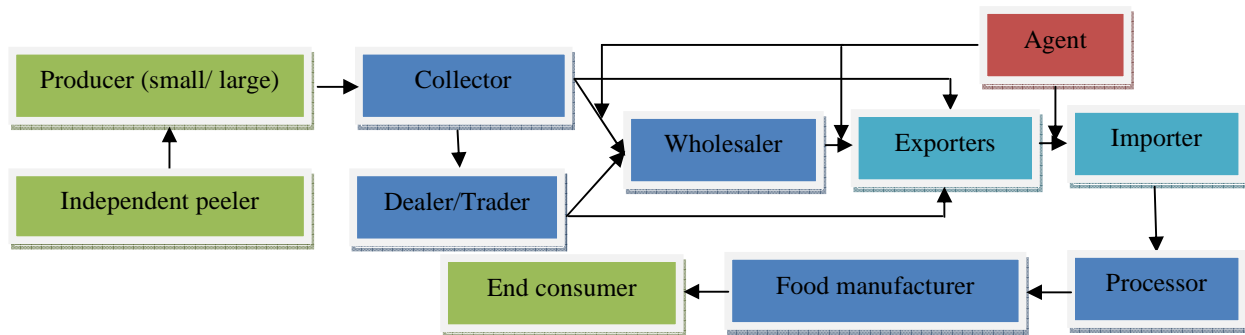


Figure 1: Cinnamon supply chain

1.2 Challenges within the supply chain

The cinnamon industry is still strong in Sri Lanka. Benefiting from historically high prices in 2014, the sector is trying to overcome several challenges. For a while, the industry faces severe competition from other countries such as China, Indonesia and Laos which produce “cassia”, a cheaper substitute of the genuine “Ceylon cinnamon”. Whereas the “true” cinnamon is only harvested from “*cinnamomum zeylanicum Blume*” in Sri Lanka as main producer followed by Seychelles and Madagascar; cassia derives from other *cinnamomum* species and differs largely in flavour, analytical profile, physical/chemical properties and visual appearance¹. The above mentioned countries producing cassia gain market share as their labour costs are cheaper than in Sri Lanka. They can offer one kg of cassia at approximately USD 2 compared to USD 6 for Ceylon cinnamon.

Other reasons for the loss in competitiveness are low productivity due to inadequate efficiency on crop management and processing practices and the lack of approximately 35,000 peelers resulting in high labour costs, non-recognition of skilled capabilities of the workforce, migrating for employment in non-agricultural industries, low volumes, poor quality and non-application of food safety standards. Moreover, the lack of knowledge and skills in processing cinnamon safely and hygienically, low marketing skills, absence of financial support, deteriorating grading practices causing low grade quills for international markets as well as the complex supply chain system are further challenges within the Ceylon cinnamon industry. The long supply chain with numerous actors decreases traceability, monitoring and controllability. Throughout the industry a climate of mistrust can be observed². One major concern of the industry is that the quality of the produce becomes lower steadily where superior grades were not available in 2015. During the last two decades, the industry has lost 40% of its high quality cinnamon³. As it is currently noted, the grades have further come down to category H. Given this situation exporters were not able to meet their commitments. Cinnamon prices were at a high in 2014/15 which also led some producers to lower the quality of their products, to profit from the high prices.

¹ TSC (2015), see http://www.srilankanspices.com/sl_spices_cinnamon.html

² For more details see “Assessment of the Kalli- and Line system of the Sri Lankan cinnamon sector”, Samarawickrema (2015) for the UNIDO-TSC-WTO

³ Mission report on baler survey in April 2011

Collectors as well as exporters mostly complained about wet content, inclusion of “quillings” and low grades. Selling cinnamon in quills and bundles creates the possibility to hide low quality. In addition, awareness and knowledge on cinnamon and its quality levels is insufficient for various actors along the supply chain. Where some farmers and collectors wish to produce and sell high quality cinnamon, others are not skilled to differentiate quality grades and sell/buy everything which is available. Many farmers have insufficient knowledge to sell their produce at fair prices and also lack awareness of other available buyers. They depend on the trader’s network, especially on collectors at village level who are operating sometimes in cartels. In most cases the farm gate price is determined by these collectors in coordination with shippers and balers. The collectors freely buy Ceylon cinnamon at the farm gate, irrespective of its quality or grading. Thereby, farmers tend to produce more volume without considering the quality or grades which leads to varied quality cinnamon supplied by these farmers. This might be evolved because collectors and exporters tend to pay the price for the lowest grade in the bundle and profit from the high quality quills within the same bundle once they un-bail, grade and package the cinnamon later in their warehouses. Some farmers are aware of these internal practices of the trader-collector network, others are not. They are remunerated based on weight and not based on produced grade, thus they focus on producing more cinnamon instead of higher grades. Despite this practice, there are strong indications that the quality of Ceylon cinnamon is deteriorating mainly due to market manipulation rather than farmer practices. In any case, producers are dependent on fast income through approaching all available buyers. By trying to sell to exporters directly thus avoiding interaction with collectors, they meet the challenge of only being paid once the cinnamon is sold abroad, which usually takes more than one month.

Ideally, around 30% of cinnamon should be of Alba quality, 60% of grades C4/C5 and the remaining 10% of grade H2. Not all cinnamon sticks can be used to peel high grades of cinnamon. It is important to mention that the small surplus in price for producing higher grade compared to lower one does not motivate producers. Usually a difference of LKR 600 is paid between Alba and H2 where to produce one kg Alba a peeler needs four times longer than to produce the same quantity of H2. Offering lower quality is not only more convenient but also more lucrative for producers at the moment. As mentioned before, the cinnamon peeling technique is based on ancient traditions and passed on within the family. Therefore the highest skilled peelers can be found in the kalli system where usually one senior peeler is teaching younger peelers over a period of several years. Given the lack of skilled peelers in the sector, the current contracted cinnamon processors receive between 1/3 up to 1/2 of the value of cinnamon they peel per day.

To mitigate the high production costs and increase the number of cinnamon peelers, “line” system has developed and received more attention during the last couple of years. Based on this system, men are contracted to cut the daily requirements of fresh cinnamon wood in the estate during the early morning hours and then deliver it to a factory before eight o’clock. After that, local women are peeling in teams and shifts from eight to five o’clock in the factory, which offers a clean and spacious environment. The biggest advantage of this system is that the employees receive a secure income with basic daily salaries around LKR 1,000 resulting in LKR 25,000 to LKR 45,000 per month. Additionally the workers are part of the government’s EPF

and ETF system. These benefits resulted in increasing demand of local women for a cinnamon peeling factory job. However, the line system faces challenges in loss of quality and volume due to training periods of new workers. Table 1 displays advantages and disadvantages of both systems⁴.

Strengths Kalli	Weaknesses Kalli
High volumes of produce Highly skilled workers Able to produce all grades Peelers feel independent and flexible High income received shortly after peeling Judges the stick when harvesting and is able to produce high quality Family peels together, children learn and everyone is looked after Value of sold cinnamon is shared equally	Long working hours Basic and unhygienic working environment Incompliance of food safety standards Harvesting easy sticks Difficult to monitor and control quality Peeling might be stopped or interrupted due to other activities High season not enough peelers are available Reliability (advances) Cinnamon grades are produced according to the Kalli's needs (volume, revenue, processing time), not to the exporter's/ customer's needs Low recognition within and outside the industry No social benefits and no regulated income No motivation of producing high grades as lower grades pay off more System of blame and cheating throughout the supply chain
Strengths Line	Weaknesses Line
Cinnamon is produced according to the factory owner's needs/ customers needs Regulated working hours, income and social benefits (EPF, ETF) Good and hygienic working environment Compliance with food safety standards Easy to monitor and control the quality Constant supply of cinnamon More free time possibility with the family Continuous processing without interruption Higher margins for the producer given lower labour costs Recognition and empowerment of the peeler Potential of including kalli peelers under certain circumstances Positive attitude towards the factory, number of female workers who are waiting to join	Lower volumes per month – better volumes per year Less skilled work force Wastage and production of lower grades due to unskilled workers Decreased efficiency if line workers are lazy/ low skilled Staff has fixed working hours, less flexible (peelers viewpoint) Monthly salaries and not immediate cash (peelers viewpoint) Harvesters and peelers are not the same person, peelers can face difficulties in peeling the supplied sticks based on harvesters low skills No motivation to produce high grades as lower grades pay off more Only peelers are rewarded with incentives, other processors receive less salary per day

Table 1: Advantages and disadvantages of Kalli- and Line-system

The significant lack of reliable and consistent data on the cinnamon sector, poses another challenge. Assumptions are so far made about the number of value chain members, their skill level, their production volumes and quality, the number and size of existing peeling sheds, etc. A comprehensive database is needed to facilitate realistic industry insights and support decision making. DEA is suggested to conduct such industry data collection through their field officers.

⁴ For more details see *“Assessment of the Kalli- and Line system of the Sri Lankan cinnamon sector”*, Samarawickrema (2015) for the UNIDO-TSC-WTO

1.3 Recent developments and achievements of the project

Several efforts have been successfully undertaken in order to uplift the cinnamon industry in Sri Lanka throughout the past years, aiming at developing standards and increasing competitiveness. These involved various stakeholders of the value chain, researchers, international organisations such as GIZ, WTO, STDF and UNIDO, national institutions such as The Spice Council, EDB, CCC and banks such as NDB. Approximately five years ago, with the help of GIZ funds, the U10 consortium was formed, comprising of ten cinnamon processing factories which received ISO 22000:2005 certification. Unfortunately, due to limited understanding of risk mitigation through compliance to standards, only three out of ten factories took efforts to maintain the certification. This also symbolizes one of the main challenges in the cinnamon value chain.

In 2011, The Spice Council initiated a project to develop skills and competency within the cinnamon supply chain. Focus was on establishing an institute, the Cinnamon Training Academy (CTA), for cinnamon processors in Galle District which would train cinnamon peelers and promote food safety standards, such as GMP or HACCP. TSC received financial support from the GoSL, UNIDO and STDF (WTO) to implement the project. The table below lists the achievements of the project (activities differ in degree of completion):

Out put	Description	Achievements
1.1	<i>“Capacity to deliver food hygiene and safety training strengthened along the cinnamon value chain (Institutions, producers, growers and workforce)”</i>	<ul style="list-style-type: none"> • Two training schemes (factory operation, field operation) have been developed and accredited by TVEC. This includes National Competency Standards, Training Curriculum, Trainer and Learner Guide, lessons plan, instruction and teaching aids as well as assessment resources • Female and male local trainers (ToT) and assessors have been recruited and trained • RPL certification program was advertised and first applications were received; a total of 70 assessments were concluded at the districts Galle and Ratnapura • Conducted studies, such as a Master Plan for the Ceylon cinnamon value chain as well as comparison of different production systems • The CTA has been established and is nearly completed; UNIDO supported the CTA to receive additional funds under the GoSL 2016 Annual Budget for the second phase of construction. A CTA coordinator was appointed, business and strategic plans developed and training activities promoted • EBT programs are planned and the first program was initiated in collaboration with NAITA at Matara district; further programs are lined up in consultation with plantations companies such as Elpitiya, Kahawatta, Watawala, Namunukula • NAITA has incorporated the training framework for cinnamon factory- and field operations under their annual apprentice training plan; they have identified locations for youth involvement into cinnamon processing to promote NVQ3 and 4 programs in coordination with CTA and the UNIDO-WTO-TSC project

		<ul style="list-style-type: none"> • Mobile peeling and harvesting service enterprises are in the process of being established through NAITA apprentice promotion linked with NAITA field officers and CTA • To ensure CTA sustainable operation, the project assisted it in multiple areas which were as follows: development of 5year strategic plan and business plan; conduction of marketing promotion in Sri Lanka; procurement of needed equipment for the facility; provision of training to the future staff of CTA and establishment of demonstration plantation • The project supported the consultative process of the upcoming EU-UNIDO-ITC project in Sri Lanka, which will also focus on spice, food and the cinnamon value chain
1.2	<i>“Compliance capacities of the cinnamon processors enhanced through certification according to national and international standards”</i>	<ul style="list-style-type: none"> • Six pre-selected centers were upgrade against Good Manufacturing Practices (GMP); they were granted GMP certificates and awarded at the event held on 26th January, 2016 at the SLSI auditorium • Awareness raising activities and promotional sessions for GMP/CTA value chain programs have started where a brochure on GMP for cinnamon producers was produced and is handed over during the events⁵ • Two programs focusing on awareness creation, GMP promotion and training opportunities targeting Galle and Matara districts will be completed in March 2016 • The project currently supports the development and national accreditation of a GMP standard on Ceylon cinnamon
2.1	<i>“The national PCC mark is supported in its design and pilot stage with the training qualifications and GMP certification as key elements of the mark”</i>	<ul style="list-style-type: none"> • In 2013 “Pure Ceylon Cinnamon” (PCC) was established as a global brand in the international market where the registration of the trademark was completed in the markets Europe and US • It was applied for registration with the World Intellectual Property Office (WIPO); Directions were issued to bring cinnamon exports under the export quality certification scheme of the SLSI • Successfully conducted a conformity assessment on the PCC mark, identifying food safety related matters for the PCC mark, including the support to develop a GMP standard • PCC scheme is integrated into the training framework, strengthening traceability and quality assurance along the value chain
2.2	<i>“The Pure Ceylon Cinnamon (PCC) mark is supported and upgraded as GI”</i>	<ul style="list-style-type: none"> • Obtaining GI for PCC is under progress in cooperation with EDB • Analysis of the conformity assessment scheme of the PCC mark and its structure

Table 2: Achievements of the TSC/UNIDO/STDF cinnamon project (2012-2016)

In 2014 the project “Cinnamon to the world” was introduced aiming at achieving more recognition for Sri Lankan cinnamon globally as international brand. NDB agreed to finance respective efforts focusing on empowerment and strengthening the support system. The project included activities to strengthen small home growers, empower manufactures of cinnamon related products and reinforce medium and large scale exporters. It also aimed at facilitating industry linkages and enabling knowledge sharing, easing market access and micro financing

⁵ <http://www.unido.org/news/press/reinvigorating-sri-lankas-ceylon-cinnamon-exports.html> (02/2016)

for home growers/mobile peelers and harvesters. Sri Lankan cinnamon was promoted locally and internationally at specific events⁶. Besides these efforts and achievements, further interventions are still needed to upgrade the Sri Lankan cinnamon industry thus reaping the desired benefits for the country and its people. The following chapters elaborate on possibilities to achieve these goals.

2. Market potentials and Business development

Besides being an essential spice in cooking and baking, cinnamon has been so far used as anti-repellent and environmentally friendly pesticide, in diabetes control, to curtail infections, as perfume ingredient, as pharmaceutical and as flavouring agent and essence. Cinnamon is the most dominant spice in Sri Lanka as the country is the largest exporter of true cinnamon worldwide (34%; USD 123Mn.), followed by Indonesia (22%; USD 81Mn.), China (17%; USD 60.7Mn.) and Vietnam (14%; USD 50.1Mn.). Sri Lanka exports its spices to ca. 70 countries globally, inter alia, to Mexico, the USA, Peru, India, Colombia, Ecuador, Spain, Guatemala, Chile, Bolivia, Japan and Germany. Amongst these countries, Mexico is the major cinnamon importer in terms of total average in annual export volume (48%), followed by the USA (13%), Peru (7.5%), Colombia (6%), Ecuador (4.3%) and Spain (2.8%)⁷. Throughout the past decade, cinnamon cultivated areas, production and exports have steadily increased. Among Sri Lanka's spices, only pepper achieves comparable volumes and values.

	2011	2012	2013	2014 (a)
Extend (ha)	29,163	30,432	30,090	29,512
Production (tons)	-15,937	16,087	15,866	16,230
Export volume (tons) (b)	13,747	14,762	14,148	13,949
Export value (Rs. Mn.) (b)	14,244	17,397	17,992	18,255

Table 3 Overview on cinnamon industry related economic data from 2011 – 2014⁸

Since cinnamon originated from Sri Lanka, the customs, traditions, culture and technology associated with cinnamon are well integrated to the heritage of the socio-economic status quo of the country. Multi-climate zones and different soil types found in Sri Lanka favour the production of high quality varieties of spices. It is estimated that there are over 30,000 cinnamon peelers and circa 70,000 small holder cinnamon producers owning between 0.5 and 1.5 acres of land. Only 5-10% of cinnamon producers are large plantations (8-20ha). The majority of producers are not engaged with cinnamon as fulltime income, they hire personnel to manage their crop holdings. Those holders however mostly lack commitment and knowledge to manage the cinnamon plantation properly. Cinnamon in Sri Lanka is considered to be a “non-traditional” export crop together with fruit crops or root crops (which mainly originate from small holder agro-forestry systems). “Traditional crops” are major plantation crops such as tea, rubber and

⁶ Central Bank of Sri Lanka (2013) “*External Sector Developments and Policies*”, Annual Report 2013, Colombo, Sri Lanka.

⁷ http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/lka/show/0906/2013/ (02/2016)

⁸ (a) Provisional; (b) from 2007 onwards categories are reclassified based on National Import Tariff Guide (2010); Sources: Department of Census and Statistics, Sri Lanka Customs, Central Bank of Sri Lanka; Central Bank of Sri Lanka (2014) “*Economic and Social Statistics of Sri Lanka 2015*”

coconut⁹. Currently rapid changes have taken place in the global spice trade in terms of rising demand for high quality spice products. Increased health consciousness, urbanization, growing demand for convenience food and fascination by ethnic cuisine have created new demand patterns shifting towards a continuous supply of high quality, value added spice products with improved processing, packaging and labelling. World trade in spices, their related products and health care products are worth approximately USD 200 billion per year, with an annual growth rate of more than 5%¹⁰. In addition, price for cinnamon rises steadily worldwide. Despite of the increasing annual turnover, export volumes of Ceylon cinnamon remained mostly the same during the past years. Sri Lanka was not able to maximize its market opportunities originated from increased market-value. Also production cost increased given the lack of skilled labour in the country and the challenges within the cinnamon supply chain mentioned before. So far the cinnamon value chain has been restricted in complying with quality standards of high end markets. These markets are however having the potential to generate considerable amount of export earning to Sri Lanka, usually at a rate of USD 12-15 per kg for high quality cinnamon (Alba and C5 Special). Removing the bottleneck would make a significant impact on the value chain¹¹.

Looking at export markets with premium prices for cinnamon, such as Greece (0% exports to Greece from Sri Lanka so far), Japan (0.2%), Turkey (0.2%), France (0.5%) and Australia (0.3%), Sri Lanka has not utilized its full market potential yet. The tariff regimes in those markets are favourable for Sri Lankan exports but the products have to comply with Sanitary and Phytosanitary (SPS) measures¹². A recent study by Thamiem and colleagues (2011) concludes that among non-traditional export crops, such as fruit crops, root crops and spice crops, cinnamon was fetching the highest RXA (Comparative Export Advantage), RTA (Relative Trade Advantage) and RCA (Revealed Comparative Advantage) values. The authors indicated that through the improvement of competitive value chains, small holder farmers will be able to reap the economic benefits from agroforestry systems, and make such systems economically viable.

Cinnamon is mainly used as a food product. Before the advent of modern food preservation technology, Europeans have used cinnamon with pepper to preserve products. Cinnamon is also used in bakery products and flavoured tea for its distinctive aroma and flavour. Growing concern on health hazards associated with synthetic flavouring agents used in the food industry led to an increasing preference for natural flavours worldwide¹³. A recent US study showed that Sri Lanka's cinnamon contained insignificant traces of coumarin, which is a harmful toxic chemical. In other cinnamon types produced in China, Vietnam or Indonesia substantial amounts of the chemical were recorded. Despite the strict regulations of US and EU on food

⁹ Thamiem, S. et al. (2011), "*Trade Competitiveness of Agroforestry Crop Sector in Sri Lanka*", Tropical Agricultural Research, Vol 22 (4), 338-347.

¹⁰ Ministry of Minor Export Crop Promotion (2014), "*Development Plan for the Spice and Allied Crop Sector in Sri Lanka, 2014-2015*", Colombo, Sri Lanka.

¹¹ UNIDO project report "*Enhancing the compliance and productive capacities and competitiveness of the cinnamon value chain in Sri Lanka*"

¹² Ministry of Minor Export Crop Promotion (2014), "*Development Plan for the Spice and Allied Crop Sector in Sri Lanka, 2014-2015*", Colombo, Sri Lanka.

¹³ Pure Ceylon Cinnamon <http://pureceyloncinnamon.srilankabusiness.com/about.html> (02/2016)

additives, tests show that levels of chemicals within processed foods are often much higher than legally granted¹⁴. This development increases the market potential for PCC in the US where cinnamon is widely used as flavouring agent for food and known as “miracle cure” against diabetes or weight loss. Another research study by the research institute “Markets and Markets” forecasts that the global spices and seasonings market will grow at a CAGR (Compound Annual Growth Rate) of 5.2% from 2015 onwards, reaching a projected value of USD 14.8 billion by 2020. The market is said to be driven by factors such as increased demand for snacks, convenience food, meat and poultry products due to changing consumer preferences. Furthermore, factors such as increasing disposable income and rapid urbanization are assumed to have also increased the demand for spices and seasonings. The demand for snacks and convenience food is expected to rise due to changing dietary patterns of consumers linked with a fast consumer lifestyle.

North America is overall the largest importer and consumer of spices and seasonings, thus accounting for the largest share in 2014 in the spices and seasonings market, followed by Europe and the Asia-Pacific¹⁵. Sri Lanka’s current contribution to the global spice trade is USD 150 million per year, consisting mainly unprocessed primary products. Besides cinnamon quills (63% of volume and 72% of exchange earning) other cinnamon-based products are featherings, chips, ground cinnamon, cinnamon powder, leaf oil and bark oil. Ceylon cinnamon is so far widely used as food ingredient (featherings, chips, powder, ground cinnamon), for pharmaceutical preparations, cosmetics and perfumes (mostly oils) and gift items (quills, oils, carvings). Food processors in Sri Lanka who produce ground spice and spice mixtures are still rare, despite the high market potential. The main constraints for value addition in the country are the obsolete available technology, lack of understanding of risk mitigation through quality awareness, limited interest in investment and insufficient knowledge on marketing and packaging. It is a priority to assist the industry to acquire appropriate technology from available countries.

Sri Lanka is already exporting cinnamon based oils. Cinnamon bark oil for example is a high-value and essential oil which has been only supplied by Sri Lanka for a long time. However, traded quantities are usually low, for instance through the years of 1983-1993 exports have never been more than 2.8 tons. Also in case of cinnamon leaf oil, Sri Lanka is the number one exporter worldwide. Other countries such as Madagascar and Seychelles have been suppliers of leaf oil for a short period whereas India produces only a small amount for domestic use. For cinnamon oil, the different source of raw material and the mode of distillation make a difference in quality. In this way, oil made out of pure Ceylon cinnamon is assumed to be superior to cassia oil¹⁶. A combination of oil and resin components leads to “cinnamon oleoresin” which can be used instead of bark products. The leading buyer of essential oil is France who focuses heavily on the development of cosmetics, followed by Germany, Italy, the Netherlands, UK and the USA. France is also well known for the awareness related to its consumption which in turn creates market potentials for Ceylon cinnamon.

¹⁴ <http://www.ft.lk/2013/05/23/us-research-shows-massive-potential-for-sri-lankan-cinnamon/> (02/2016)

¹⁵ <http://www.marketsandmarkets.com/PressReleases/spices.asp>

¹⁶ FAO (1995) “*Flavours and fragrances of plant origin*” Rome.

- **Cinnamon bark oil** possesses the delicate aroma of the spice and a sweet and pungent taste. Its major constituent is “cinnamaldehyde” but other, minor components impart the characteristic odor and flavor. It is employed mainly in the flavoring industry where it is used in meat and fast food seasonings, sauces and pickles, baked goods, confectionery, cola-type drinks, tobacco flavors and as fungicide, in dental and pharmaceutical preparations. Perfumery applications are less common than in flavors.
- **Cinnamon leaf oil** has a warm, spicy, but rather harsh odor, lacking the rich body of the bark oil. Its major constituent is “eugenol”. It is used as a flavoring agent for seasonings and savory snacks as well as in aromatherapy. As a cheap fragrance it is added to soaps and insecticides, for air fresheners and as personal hygiene products.

So far Sri Lanka is mainly exporting cinnamon quills in bulk (90%), and not focusing much on value addition (10%). However, value addition of raw spices is essential to increase competitiveness in international markets. Many other countries sell their products in bulk form but enjoy higher production capacity, higher productivity and can thus offer their cinnamon at lower prices. Adding value to cinnamon in Sri Lanka itself can be a viable option to increase income with sales to niche markets in Europe, Japan and the USA. Besides the above mentioned products, the following additional potential value additions can be listed. Some of these value additions are already produced at a very small scale.

- **Advanced food products:** Sri Lanka has potential to increase the variety of cinnamon based food products such as, grinded cinnamon, soft drinks and carbonated drinks, cinnamon tea, confectionary such as toffees or chewing gum, bakery products such as biscuits, buns and cakes. Honey, syrup and similar products have the potential to create additional revenue for the industry.
- **Organic Ceylon cinnamon:** Based on the global trend of raised food consciousness and health concerns, organic Ceylon cinnamon has the potential of substantial market shares especially in Western markets. So far Sri Lanka has initiated promoting organic spice production; however certification, better processing and the utilization of advanced technologies are yet carried out at a small scale. Although most of the Sri Lankan spices could be marked as organic, the respective certification is important to communicate reliability.
- **Advanced, natural medicinal products:** The medicinal aspects of Ceylon cinnamon can be highlighted to promote the product in the sector of alternative medicines. Cinnamon has properties to control blood sugar variations, fight cancer cells, facilitate weight loss and serve as an anti-bacterial agent. Referring to growing concerns about health hazards, there is an increased preference for natural ingredients worldwide. In addition, sanitary products such as disinfectants and insect repellants propose a healthy alternative to conventional products.
- **Cinnamon grinders:** Small, customized cinnamon grinders can be developed and sold within food and household stores, to enable hotels as well as consumers to enjoy freshly grinded cinnamon at home. Once grinded the cinnamon loses its flavor and taste fast.

The grinders have to be developed similar to salt and pepper grinders, facilitating the immediate consumption of the grinded cinnamon.

- **Eco-friendly wood products:** In 2011 the University of Moratuwa conducted a study on the potentials of substituting rainforest timber with cinnamon wood and found that there is indeed a potential. Describing conditions and recommendations on how to use the cinnamon, the researchers have elaborated on another path for the cinnamon sector to increase its revenue¹⁷.
- **Spice gift packs:** Small gift packs containing a variety of spices and packaged in attractively designed boxes can be sold to tourists and delegations visiting Sri Lanka.
- **Crafts:** The peeled cinnamon stick is usually straight in shape, solid and has a particular diameter. Sri Lanka offers plenty of talented craftsmen who can develop walking sticks, furniture, pen holders or picture frames out of this wood. The crafts can be sold at domestic and international markets as well as to tourists.
- **Cinnamon paper:** Similar to the “elephant dung” paper¹⁸ made in Sri Lanka, cinnamon wood paper can be produced for specific purposes such as gift cards, letters and envelopes, serviettes, Christmas paper, corporate gifts or notebooks. The paper can differentiate itself from other products by its unique cinnamon smell.
- **Peeling knife:** Small, handy versions of the peeling knife cinnamon processors use, can be developed and sold to tourists as souvenirs. Similar to the “Swiss knife” which is famous all around the world, the “Ceylon cinnamon knife” can become a wanted “must have” for tourists, just like wooden elephants, sarees or tea packs. The knife can be used for peeling or cutting of fruits while traveling or as letter opener.
- **Filling material:** The scraped cinnamon is currently used as covering material in the cinnamon fields. Traditionally cinnamon oil is used to cure headaches. The scraple remaining after the cinnamon peeling process could be utilized to fill pillows, mattresses and similar items which would emit a benevolent smell of cinnamon. They can be utilized within the Ayurveda and Spa industry in Sri Lanka and abroad.
- **Toothpicks/ Chopsticks:** The peeled cinnamon stick can be used to produce small wooden items such as toothpicks, chop sticks or other kitchen items. The cinnamon smell and taste in this case is an additional benefit of the product compared to the ordinary item.
- **Cleaner production:** Currently the cinnamon sticks once peeled are sold as firewood for LKR 2-5 to villages and as biomass to hotels. However, these sticks can be in turn used at the processing site as biomass, to generate electricity or hot water. In collaboration with the National Cleaner Production Center in Sri Lanka, potential product developments can be explored.

¹⁷ Dasanayake & Paranamanage (2011), “*Feasibility of using cinnamon as an alternative to rainforest timber: a study based on Sri Lanka*”, Department of Management of Technology, Colombo.

¹⁸ See <http://www.ecomaximus.com/max/>

- **Guided tours:** In Sri Lanka it is common for tour agents to offer national and international visitors guided tours at tea factories, tea estates as well as spice gardens. Similarly, tours at cinnamon factories, cinnamon estates and to visit cinnamon small holders can be included into touristic programs generating additional income to those being visited as well as the tourism industry. This opportunity is currently explored by a number of companies in Galle district who involve in tourism integrated cinnamon production systems, confirming the innovative possibilities this industry offers.

Value addition can be another solution for small cinnamon holders to generate income, especially during off-season. Factory owners can construct a separate building to produce the mentioned items employing more staff and thus creating additional jobs.

Finally, rather than focusing only on exports, the **domestic market** bears an increasing potential for the cinnamon industry. A report of the University of Peradeniya concludes that the domestic markets demand more given to rise, like increased consumption in hotels, supermarkets and shopping complexes¹⁹.

3. Up-scaling skills development

To facilitate business development within the cinnamon value chain, four challenges need to be addressed foremost: (1) the lack of consumer awareness about the benefits of Ceylon cinnamon, (2) the scarcity of skilled personnel (including certified mobile peelers), (3) the missing link between processors and training authorities, and (4) quality assurance of the product for international trade. Large scale training of existing and new practitioners as well as trainers is considered as a key priority.

The CTA therefore offers specific training programs to facilitate knowledge and best practices to the industry. Accredited syllabuses have been established to train practitioners on standards and high quality processing procedures. Given the limited capacity of the CTA being able to train approximately 5,000 peelers per year, cooperation with other institutions is crucial. Partially at the CTA training site in Kosgoda but also in the field, for instance in cooperation with DEA centres, training can be provided to job seekers as well as low skilled practitioners. Currently DEA trainings have been subject to individual teaching methods and quality levels. Recently the DEA cinnamon training centre started to include the accredited trainings developed for the CTA by the UNIDO-WTO-TSC project. Furthermore other institutions related to agriculture, such as the Sri Lanka Institute of Training and Development (SLITAD), the Department of Agriculture, NAITA or some of the universities, for example the universities of Sabaragamuwa, UVA, Ruhuna & Peradeniya, could serve as partners for CTA to upscale the trainings for the cinnamon industry. Strategic partnerships with governmental agencies such as the EDB, DEA, Ministry of Youth Affairs, Ministry of Industry and Commerce and other relevant ministries can bring added value, recognition, resources and expertise to the CTA. Finally, cooperating with

¹⁹ Dasanayaka, Jayanayake & Rajapakshe (2014), "*Processing potential of cinnamon*", Department of Food Science and Technology, University of Peradeniya, Sri Lanka, 2014.

plantation companies can lead to additional business for the academy by training the staff of these companies. The mobilisation of trainings will increase its reach across districts and establish sustainable income for the CTA. Most importantly, training for trainers (ToT) needs to be up-scaled for increased reach of the trainings. Transforming CTA in the future to joint headquarters (together with the DEA cinnamon training and research centre) for cinnamon related trainings, including certification function, will contribute to its sustainable operation as well. On the other hand, certified practitioners increase their job opportunities if they seek for employment or new income possibilities, in case they prefer working independently. Those who are already employed but need additional training can be trained at their company's premises itself. By creating a strong brand name, the CTA can become the leading institution in cinnamon related training in Sri Lanka.

Besides the training for cinnamon cultivation and peeling, further education can be offered within the CTA and/ or under CTA leadership. Referring to the additional business development opportunities related to value added products, training will be necessary for industry actors to produce these products at a high qualitative level. If it is crafts, toothpicks, chopsticks, advanced food products, wood products or home items made out of cinnamon, the respective training needs to be offered to those who are interested in expanding their business. The CTA can hereby lead as showcase for each of the value adding processes and hence integrate them into their trainings. Furthermore, guided tours can be offered to tourists at Kosgoda as additional income stream for CTA. At the CTA premises, excess cinnamon wood can be used as clean energy to reduce electricity costs. Finally, CTA can establish itself as quality assurance entity controlling cinnamon producing facilities and also introducing licences for cinnamon dealers. In this way the academy can help increasing and later maintaining a high-quality cinnamon production in Sri Lanka.²⁰ These different possibilities support CTA to become a "Centre of Excellence" in Sri Lanka. Not only the CTA, but also cinnamon factories and other clusters (see chapter five) can explore the described opportunities for business development. To be able to bear the initial cost of investment into machinery and trainings, public private partnerships, private investments or public funding can be means of support. To start and run a cinnamon factory, initial investment is high, discouraging the development of clustered activity. It takes about three to four months for factory line workers to be skilled enough to peel high grades and reduce wastage. Financial assistance at the beginning of the factory/cluster set up is important, also to convince others to start such systems. A respective financing scheme, which on the one hand strengthens the training capacity of relevant institutions including personal certification possibilities and on the other hand provides equal cost-sharing from bank loans, grants and own resources for processing centres has to be facilitated (to support GMP certification and NVQ training).

It is the renowned objective of the current Sri Lankan president, H.E. Maithripala Sirisena, to create one million jobs within the years of his presidency. During interviews with international TV stations and meetings with presidents and delegates of other countries he emphasises this

²⁰ CTA business plan "*Enhance the Compliance, Productive Capacities and Competitiveness of the Cinnamon Value Chain in Sri Lanka – Business Plan for Cinnamon Training Academy in Kosgoda*"

objective heavily²¹. In addition, the Asian Development Bank has recently approved a USD 100 million loan to assist the GoSL in support of the Technical and Vocational Education and Training in the country. This financial support can also provide CTA access to more capital to promote its trainings and activities. Supporting the CTA and cinnamon factories/ clusters in terms of financial means and/ or high level advocacy contributes to the president's goal and at the same time supports the cinnamon sector. Furthermore, by promoting employment in the cinnamon industry (especially the mobile cinnamon processing and harvesting enterprises) while offering attractive and well paid jobs, migration from Sri Lanka to other countries especially the Middle East is assumed to reduce too.

4. Market regulation

Although the spice crop sector has always played a key role in the economy of Sri Lanka, the performance of the overall sector has not been up to the expectations over the years. The sector has faced multiple challenges especially related to the imperfect market systems. As it was mentioned in chapter one, a shift towards more traceability, monitoring and controllability within the cinnamon value chain is key. Education, training and certification of various members of the value chain as described in chapter three will help to increase the quality of produced cinnamon and reduce unethical and / or illegal behaviours. In addition a change in market regulation is necessary to reach an improved, internationally successful and sustainable Ceylon cinnamon industry.

Within the past years the GoSL has put efforts to facilitate the improvement of the cinnamon industry. Various departments and public institutions are concerned with the development of the spice sector: the Ministry of Minor Export Crop Promotion, the Department of Export Agriculture, the Sri Lanka Export Development Board, the Ministry of Industry and Commerce, the Ministry of Agriculture, the Ministry of Economic Development, the Institute of Post-Harvest Technology, the Industrial Technology Institute and the Sri Lanka Standards Institution. Further private sector entities, like the Ceylon Chamber of Commerce, the National Chamber of Commerce of Sri Lanka, the Spices and Allied Products Producers and Traders Association (SAPPTA), the Sri Lanka Spice Cluster, The Spice Council (TSC) and the Cinnamon Cultivators Association (CinCa) were also involved in this process.

In 2013, new regulations were published which prohibited the export of crushed or ground cinnamon, organic cinnamon, cut cinnamon quills, cinnamon in retail packs of 1 kg and less, cinnamon featherings and cinnamon chips or cinnamon in any other form to be exported without the SLS81:2010 certification specified for Ceylon cinnamon²². After the elections and new ministerial system, these regulations were put on hold. However, there are strong suggestions by industry leaders to revive them and also to set up a control centre at the Colombo Port to control cinnamon shipments before embarkation. The GoSL has introduced a "Compulsory Pre-

²¹ For example see <https://www.youtube.com/watch?v=udGmG-eqJ6o>

²² Ministry of Minor Export Crop Promotion (2014), "Development Plan for the Spice and Allied Crop Sector in Sri Lanka, 2014-2015", Colombo, Sri Lanka.

inspection Scheme” (CPIS) for cinnamon exports through a Gazette notification. This shall assure that quality standards for Ceylon cinnamon are maintained and international buyers can trust cinnamon originating from Sri Lanka. The SL81:2010 certification (by SLSI) is specified for Ceylon cinnamon only.

In 2014, when EDB registered the Ceylon Cinnamon brand in the main markets such as the USA, EU, Colombia and Peru, it also registered at the World Intellectual Property Office (WIPO). At that point, it was also proposed to introduce a non-stop service centre at Sri Lanka Customs which provides banking facilities, quarantine and quality certificates via online platform. As part of this initiative an online payment system for export and import transactions was considered. Sri Lanka Export Credit Insurance Corporation (SLECIC) continues to provide insurance coverage for exporters against commercial and political risk, where insurance facilities showed an increase of 21% in 2014, in both traditional and non-traditional markets. Also, some measures were introduced in 2014 to promote investment in export-oriented industries, such as a tax allowance in respect of expenditure on research and development or a reduction on income tax applicable on manufacturers of export products. Although high levels of tax on exports of cinnamon and other products remained, Sri Lanka enjoys zero tariffs for spices except for black pepper²³. Despite these efforts, additional national policies and regulations have to be developed for the industry.

A central pricing system including fixed prices per grade has to be established and communicated throughout all levels of the value chain. This information can be transported via SMS service, newspaper or TV, and thus by media which also reach small holders in remote locations of the country. Such a system reduces possibilities of noncompliant behaviour and dependency of small holders on the trader cartel. Further, a weekly market system (auction) can be initiated to support small holders in offering their produce at a central market in proximity to their village at market-value. In this way, collectors and traders are obliged to pay the official market price. At the market producers face the critical judgement of the buyers and their competition, however they have the chance to receive a fair remuneration for their products. Collectors, traders and exporters can select the required quality at the market themselves. This will connect the different members of the value chain and decrease small holders’ dependency on mobile collectors. At the same time exporters can source the required cinnamon without being dependent on collectors who might adhere to low quality standards. Cinnamon can be offered in grades and not in bundles, helping buyers to control quills. CTA can assure product quality by providing a market supervisor controlling quality standards. Fines can be introduced to those who do not comply with standards. At the same time, small holders offering cinnamon of lower quality are likely to change their behaviour when facing competition of other producers who are successfully selling high quality produce. In addition all cinnamon sold at the market can be subject to mandatory labelling. Such a system can be developed in accordance with different industry clusters (see chapter five) where the market can take place at the premises of the cluster in respective time periods. Overall it will increase traceability and controllability within the value chain. Currently the absence of market response to superior quality leads to a

²³ Central Bank Sri Lanka (2015), “Annual report, external sector developments and policies, chapter 5”, Colombo Sri Lanka.

maximum volume of medium and low quality of cinnamon. Through increased marketing and advocacy as well as awareness raising (see chapter six) a significant price difference between the highest cinnamon grade and lower grades can be established. Currently weight pays more than grade which also leads to decreased amounts of Alba graded cinnamon. Most importantly, to guarantee high quality standards and good international reputation of the Ceylon cinnamon sector, policies have to be in place to demand a certain share of NVQ trained processors per producer/ factory. Even within a group of Kalli peelers, the majority would need to be certified to be allowed to peel and sell their produce. Such regulations will help to ensure that high quality cinnamon is produced at the very beginning minimizing the probability of contaminated and low quality shipments.

5. Cluster development

Based on ancient traditions, the majority of cinnamon producers work as independent peelers or in small kalli groups. To lead Ceylon cinnamon to international success, clustering cinnamon processing is assumed to contribute to more transparency, controllability and high quality cinnamon. Clustered activity would further facilitate GMP integration, labelling, market regulation and various business development opportunities outlined above. There is a need to establish at least 200 to 250 proper working facilities (GMP centres, similar to Sri Lanka's garment factories) where food safety and hygiene standards are also met. In addition, a dress code could be considered which obliges the workers to wear gloves, head cover as well as necessary safety equipment when needed.

Most importantly, an organisation codex with regulations has to be established which has to be agreed by all members. Where line factories already include clear management structures, other types of clusters face the challenge to develop sustainable collaboration arrangements. Questions related to the processing procedures, working hours or selling rights have to be solved along with possible social benefits, such as health care and pension. Different type of business models can be envisaged for the cluster, depending on the agreement of its members. Currently, two possible models can be envisaged: (1) managerial activities are being done by its members based on their agreement; (2) external assistance can be provided by local authorities or the CTA. To avoid conflict of interest it is suggested to establish a system where the management of the cluster is not necessarily involved in cinnamon processing, but takes over solely management tasks. Kallis can for example a) cut cinnamon and sell to the factory, b) process cinnamon in and for the factory, or c) solely use the factory space to process their own cinnamon sticks. Similarly, those small holders who grow cinnamon, who however do not have the time or motivation to engage in cinnamon processing themselves, can employ kallis or the factory management (making use of the factory's fixed term employees) to process their cinnamon. According arrangements have to be made to compensate the factory for offering space and labour. In such a way the small holder and kalli benefits by receiving high quality and certified cinnamon where the factory receives financial benefit. Finally, regulations on selling procedures are key for sustainable clusters assuring that a) high quality certified products are not mixed with conventional cinnamon produce along the value chain, and b) procedures are

properly defined and agreed among the players conforming with food safety and hygiene best practices. To fulfil the requirements sustainable clusters need to function successfully, training needs to be supplied to the members of such clusters. Not only on processing practices and standards, but also on management and business skills as well as soft skills in cooperative behaviour and team work. Awareness raising and education on the potentials of successful clusters and the linked advantages as described above are crucial. Furthermore, rules and regulations of collaboration need to assure that incentives are set in a way leaving everyone advantaged, thus minimizing self-serving behaviour harming the cooperative. Reliable and continuous management leadership is essential assuring sustainable development of the systems. Clusters can have different sizes and forms where members benefit from a set of advantages such as:

- the opportunity to produce high quality cinnamon based on certified standards
- business development opportunities which cannot be pursued individually
- the opportunity to produce value added products
- the opportunity to create a market space to meet buyers/ exporters
- increased learning effects
- shared knowledge, expertise and skills
- shared cost of investment
- increased revenue and reputation
- advantages offered to factory employees through the line system (see chapter one)

5.1 Line factory

The current line factories give a clean and spacious environment where it is easy to control workers and monitor the quality and volume of cinnamon production. With or without quality-price gap, line factories can reduce labour costs in the long term and increase their margins. An attractive incentive system can motivate peelers to produce high volume and high quality. A set of peelers can be trained where others are on “stand by” for the case that permanent staff is sick or moving to alternative jobs. Staff turnover can be reduced by keeping a good relationship with workers and factory management involves to a certain part of the workers village life and festivities. By continuous training, factory workers can reach a high standard of peeling, where the optimal distribution of tasks has to be found for each worker. New factories can be opened in town areas where the majority of job seekers are resident. Also, urban areas are more active in training activities and modes of transport are manifold.

5.2 Line and Kalli hybrid factory

Some cinnamon factories in Sri Lanka employ line workers in combination with kallis. As kalli-peelers are highly skilled they do not need training and can produce expeditiously any required grade from the beginning of their hiring. A balanced system which respects the skill level of peelers and offers employees fair wages is a key for such a cluster. Production takes place in a clean and hygienic environment where line and kalli cinnamon processors complement each other resulting in high quality Ceylon cinnamon products. Where line workers mostly start with

little processing skills and need about three months to peel efficiently and high grades, kalli peelers have to be respected and treated according to their experience. Therefore to convince kalli peelers to work for a factory the financial outcome has to be similar compared to what they earn when peeling outside the factory system. In return the factory receives large volumes of high quality cinnamon in a short period of time. A system including a certain number of leave days and equal remuneration of scrapers and peelers has to be established. Currently only the cinnamon peelers receive motivating incentives in the line system, scrapers and quill makers earn less. However the kalli shares their income equally amongst each other. Thus, also those cinnamon processors making quills or scraping the cinnamon receive the same remuneration end of the day.

5.3 Bought-tree factory

Bought-tree factories take raw material and compensate small holders and farmer accordingly. Cinnamon processing can be conducted in the factory by the same small holder/ farmer or by the factory employees. This cluster can be organised similar to line factories, or it can be established as a cooperative system where the farmers share the benefit made by the factory. This type of cluster will also facilitate cinnamon growers who do not cultivate cinnamon and leave their land unattended as many of them have different sources of income. Quality control of cinnamon harvesting has to be ensured by assessing the grower's land first. Nevertheless, this risk can only be mitigated by establishing a factory environment.

5.4 Peeling centre

For rural areas especially, peeling centres can offer cinnamon processors a clean and hygienic peeling environment increasing product quality and traceability. Particularly in locations where small producers have established estates and prefer to peel in kallis as well as close to their homes, such peeling centres are suitable clusters. To mitigate the depleting skilled workforce, mobile harvesting and peeling enterprises can be established. Their services can be one ideal solution for up-scaling cinnamon processing and plantation management in line with international food safety and hygiene standards.

5.5 Associations

Existing associations, such as CinCA, the Ceylon Cinnamon Association (CCA), SAPPTA or farmer associations can be utilized to establish one of the above mentioned clusters. CinCA was founded by the DEA in 2006 and initially comprised of 51 small scale cinnamon farmer societies in Galle district. At present, it has 5,000 members, mostly small scale cinnamon farmers who own less than one ha land used for cinnamon cultivations. SAPPTA was founded in 1984 to enable its members (producers, processors, dealers, brokers, exporters and others associated with the spice industry and other agricultural products) to jointly represent their interests on policy matters in front of the GoSL. To be successful, farmer associations have to be managed by someone who is trained by the DEA or CTA to run the centre and not involved into processing itself. Committed management staff is crucial to succeed in establishing effective clusters within existing farmer associations.

6. Global branding and marketing

Despite the global demand for cinnamon, accurate knowledge on the product and its different grades is still not sufficiently developed. Awareness raising activities are needed in Sri Lanka itself for members of the value chain as well as for manufacturers and consumers outside of Sri Lanka.

6.1 Data collection and online appearance

There is a need to build a unified online appearance of the Ceylon cinnamon value chain. Through this website, consumers and importers would have reliable insights to the industry. Research data and news sections would be up to date and displayed appealingly. Similar to tea, rubber or coconut, detailed data on cinnamon (production, total extent, cost of production, average price, replanting, value added as % of GDP, etc) has to be included along with annual reports, such as the National Output and Expenditure report of the Central Bank of Sri Lanka. One way to achieve such attractive online appearance is by linking members of the cinnamon value chain with the PCC brand.

6.2 PCC brand

It is the designated objective of the PCC brand to globally signal superior quality of uniquely manufactured Ceylon cinnamon by adhering to internationally recognized standards and demands. Such a brand intends to help the consumer to immediately differentiate between country of origin, quality and grade when recognizing the logo on cinnamon related products. After establishing consumer-awareness on the benefits of the PCC marked products, consumers will intend to purchase only them, even for higher prices, due to the better quality. The concept of the PCC scheme derived from the international success of the “Ceylon Tea” Lion logo. Comparing the cinnamon and the tea industry, it was acknowledged that the tea sector has a complex, bureaucratic, long standing infrastructure governed by the Tea Board and is fully supported by highly defined legislative requirements. The cinnamon industry however lacks these requirements and is characterised by a highly complex value chain involving a large number of companies and individuals (see chapter one). The PCC mark aims at representing a national logo signalling product integrity and compliance to consumers and international buyers. To be granted the PCC license by EDB, cinnamon processing plants need to be compliant with specific food safety and hygiene standards, like GMP. The developed training programs conducted by the CTA serve the objective to increase GMP certified cinnamon centres. A complementary initiative can be assisting companies in obtaining GMP certification which would promote industry-wide attraction towards the PCC scheme.

To successfully enhance the PCC brand, an appropriate institutional and legislative framework has to be created. The system needs to assure that only GMP/ISO/HACCP certified products are manufactured under the PCC brand. Companies have to therefore adjust their purchasing processes which often consist of bulk supplies with uncertified cinnamon. Therefore the controlling and monitoring of the entire value chain should be considered. Exporting cinnamon in bulk without monitored value chain bears the risk of dilution of the PCC brand. Also, the PCC

logo needs to be added onto the packaging of all value added products. Legal consequences need to adhere to everyone who misuses the logo. Further, PCC should be linked with all cinnamon related products originating from Sri Lanka, which includes quills as well. The PCC brand, its scheme and information on license holders have to be advertised transparently on the respective websites such as the EDB website. A detailed marketing strategy will have to be developed and implemented to assist the PCC brand to reach up to its potential and lead to the desired beneficial consequences for the Ceylon cinnamon industry²⁴. The selection of pilot countries which formulate international consuming trends, such as France, could create awareness content-wide and later globally. Implementing the ideas outlined in previous chapters will greatly facilitate successful development of the PCC brand.

6.3 GI certification

It is the objective of the key stakeholders of the industry as well as of the UNIDO project to apply for the Geographical Indication (GI) of Pure Ceylon Cinnamon to achieve international recognition of the brand. Geographical indication certification offers increased awareness and reputation globally, in particular among retailers. The specific qualities, characteristics and reputation of Ceylon cinnamon will be linked to Sri Lanka and thus help consumers and buyers to differentiate more transparently between pure cinnamon and cassia.

6.4 Marketing activities

In Sri Lanka, marketing activities can focus on sharing information on available alternatives of production systems, trainings and certification possibilities and on the grading of cinnamon (especially for small producers). Particularly awareness raising activities related to the benefits of GMP, ISO, HACCP, PCC schemes are very much needed. The CTA together with the DEA can facilitate these awareness raising activities (community events, one day information sessions). In addition, information material can be distributed across the districts by DEA extension officers to reach those who cannot join the events. Another way of raising awareness on the cinnamon industry and the unique skills of Sri Lankan cinnamon peelers would be to establish a yearly peeler competition. Worldwide such competitions where specific skills are showcased are becoming highly popular²⁵.

Internationally, consumers need to be made aware of Ceylon cinnamon quality, standards and financial value of different grades. Combined with the branding of "Pure Ceylon Cinnamon", quality and price information needs to be delivered to the consumer. Only increased price consciousness at consumer level will bring the desired revenue for high grades and the pay off for higher quality of Ceylon cinnamon. It is important that raw materials including bulk exports are PCC certified as well. Cinnamon quills are produced by applying specific skills and techniques and thus value is added to the basic product. Therefore it is crucial to include these products at farm gate level when granting the PCC logo.

²⁴ Kevin Swoffer (2015), "Review of the "Pure Ceylon Cinnamon" Scheme, KPS Resources for UNIDO, Sri Lanka.

²⁵ See for example <http://www.lumberjackworldchampionships.com/>

With the help of different marketing tools, Ceylon cinnamon and the PCC brand can experience increased consumer awareness and knowledge. By understanding the difference between Ceylon cinnamon and cassia, different cinnamon grades and the respective quality levels, consumers can make informed choices. Knowing the benefits of Alba cinnamon, they are expected to be willing to pay the respective price premium, which will in turn lead to the desired price difference between Alba and lower grades, which again will make it financially feasible for producers in Sri Lanka to spend time and effort on producing it. Successful marketing activities increasing the reputation of Ceylon cinnamon will in turn benefit the entire value chain. Especially small holders and Kalli peelers will be uplifted by international recognition of their profession. It will be important to create a unique appearance and image of the members of the Ceylon cinnamon value chain. Consumers will need to be able to immediately recognize from where the purchased cinnamon originates. Sri Lanka, its heritage, culture and people need to be in the forefront when developing advertising campaigns.

Focused research can be conducted to explore which products (for example in the cosmetic industry) are in need of high quality cinnamon to be manufactured successfully. The countries producing and selling such products can be targeted with specific advertising campaigns, trade fairs and invitations to visit Sri Lanka's cinnamon production sites. To create a tangible impression of Ceylon cinnamon, individual pictures and stories of producers can be used to market Sri Lankan cinnamon (packaging, website, company brochure). This strategy is followed by producers from the cacao or coffee industries and very much successful in Western markets. It delivers a personalized image in addition to the main product and informs consumers about the country of origin and its people. The Ceylon cinnamon sector can in addition partner with the tourism industry. Possibilities in this area are manifold:

- **Guided tours:** Cinnamon tours can be offered to factories, estates and processing centers. These tours have to be included into advertising of international tour agencies, guide books on Sri Lanka and similar. The tours can be offered to visitors ranging from ordinary tourists to business delegations. Currently there are a number of famous destinations each visitor desires to see in Sri Lanka: Kandy, Sigiriya, Pinnawala, a tea factory and spice gardens. Ceylon cinnamon has the potential to become such an attraction, even in combination with spice garden tours or one day excursions offered at beach destinations along the West/ South coast of Sri Lanka. Kosgoda, where the CTA is located, can be an immediate reach of the majority of travelers. As outlined above, at the CTA premises guided tours can be offered to show training sites as well as processing.
- **Point of sale:** Pictures of members of the cinnamon industry and cinnamon peeling processes can be included into the advertising strategy of Sri Lankan airlines, airports and other tourist destination/shop where Sri Lanka is advertised (such as post cards, tour agents in Sri Lanka, hotels). Currently, when asking tourists which spice originates from Sri Lanka, the majority mentions "Chilly". Only a small minority knows that cinnamon is most original and traditional in Sri Lanka. Also, grocery stores (Keells, Food city, Laughs, Arpico) selling spices can display promotional material throughout the

stores of their supermarket chain. Ceylon cinnamon value chain members, processors and end products can be displayed with cinnamon products. Similarly, such targeted advertising can be conducted at trade fairs, food fairs, conferences and food competitions.

- **TV:** Frequently documentations on Sri Lanka are screened by different TV stations globally. After the war ended in Sri Lanka, tourism agencies increasingly promoted Sri Lanka as holiday destination in Europe, Russia or China. Expensive as well as cheap tours are offered. The Ceylon cinnamon industry has the potential to be included in documentaries and reports on Sri Lanka. Each documentary includes information about tea and tea factories, elephants and wildlife, temples and Kandy dance, gems, beaches and hotels and the Colombo city development. Rarely there is information about other aspects. Collaboration with Sri Lanka's tourism departments/ institutions and TV stations can result in promotional material on the country including the Ceylon cinnamon industry. Other media including youtube can be used to promote cinnamon.

7. Cross-cutting themes

7.1 Food safety

Most European countries have imposed new rules and regulations with regard to import of food products. This includes the need for food quality certificates such as GAP, GMP and HACCP. To compete globally it is essential for the Sri Lankan cinnamon sector to increase the share of certified cinnamon producers. Even though big progresses were achieved in this area, compliant and non-compliant products can be mixed together by brokers due to the different qualities. Since price depends on weight, the mixture of different grades happens frequently and sometimes even illegitimate materials are added to the cinnamon quill. The described low transparency within the sector leads to contaminated cinnamon deliveries and unsatisfied customers. For sustainable business development and successful marketing of Ceylon cinnamon at international level, implementation and consideration of food safety standards are unavoidable. International markets demand product integrity and continuous compliance, where product safety, product quality, traceability and authenticity are also equally important in case of the cinnamon value chain. Each member of the value chain will need to comply with applicable food safety standards. Production processes and products themselves have to be controlled and certified. Thus it is recommended that the PCC scheme should include a combination of product analysis and site auditing.

7.2 Society

An improved and efficient Ceylon cinnamon value chain will benefit not only Sri Lanka's government and exporting companies but a diverse set of social groups. The growing demand of high quality cinnamon is also a key driver for better farming practices, which will improve the livelihoods of farmers, the socio-economic and environmental conditions under which spices are produced. National policies to support spice crop growers, a strong farmer organisation and a mechanism for benefit sharing from traders and exporters to the producers are needed in

addition to a change of the value chain system. In line with the Inclusive and Sustainable Industrial Development (ISID)²⁶ vision of the United Nations, the Ceylon cinnamon sector has the place for further improvements thus assuring mutual benefit for all groups. *“ISID therefore implies that no one is left behind and all parts of society benefit from industrial progress, which also provides the means for tackling critical social and humanitarian needs”*. Accordingly advanced economic competitiveness has to go hand in hand with creating shared prosperity and safeguarding the environment. In Sri Lanka, minimum wages are determined to sector-specific tripartite boards for over forty trades²⁷. Minimum wage may be determined on hourly, daily, weekly or monthly basis. They further vary in accordance with the occupation, sector, region and category of work. A wages board exists for the cinnamon industry regulating cinnamon related activities including line work, however does not cover independent peelers who are usually hired on contract basis. For a strengthened and sustainable Ceylon cinnamon industry, wage structures, employment systems (including certified sick leave, maternity leave, health care, pension funds) and incentive systems have to be in place. Services provided by the CTA offer national level training, accreditation and certification. Hereby national support schemes have to ensure that those who live from minimum income are supported financially to participate at the respective trainings. Sri Lanka also faces the challenge of high youth unemployment which is partially linked with migration to other countries providing higher income opportunities (Middle East, Japan, Australia, Korea). Those working abroad aim at supporting their families in Sri Lanka by sending the major part of their salaries to them back home. Despite providing financial support to the family, the monthly stream of income from abroad also creates adverse effects as it decrease other family members’ motivation to search after paid work for themselves. In addition, national social aid systems are exhausted by those who prefer living from social aid then involving in paid occupations. National support schemes can be established to offer training to youth and poor, instead of migrating or living from social aid.

Likewise, the development of cinnamon clusters would facilitate an increase in the number of jobs. Line factories offer job opportunities especially for youth and women. Fixed working hours, inclusion into the EPF/ETF scheme, safe working environment and fair remuneration with incentive schemes are some of the benefits for being employed in the line factories. Such factories are established in areas where sufficient manpower is available, for instance in cities and their peripheries. In remote and rural areas, other types of clusters (bought tree factories or peeling centres) can provide a safe and clean working environment thus offering the above-mentioned economic and social benefits for the workers.

Not only the cinnamon processors need to be looked after, also the traders, brokers and small buyers are dependent on their current income to support their families. A fair purchasing system needs to be established considering the aforementioned changes (market regulation, cluster development and business development) in order to assure that the current stakeholders keep their business/income, and to allow new-comers to join. Simultaneously, marketing, advocacy and demand creation for Ceylon cinnamon have to be developed which in turn will assure sustainable production and trade. By the means of value addition, more job possibilities could

²⁶ For more information see <https://isid.unido.org/about-isid.html>

²⁷ See also the Employers Federation of Ceylon, <http://www.employers.lk>

arise, however a balanced and supervised approach is necessary thus avoiding over-supply and price crash. Market studies need to reveal the demand for specific value added products. By understanding the needs of the national and international consumers, a system can be established where sufficient work and business is available for all value chain members in Sri Lanka without leaving anyone behind. Continuous training has to be facilitated to producers, brokers, traders and trainers. Besides food safety and organic produce, Ceylon cinnamon can diversify itself from the competition by looking into the benefits of acquiring a Fair-Trade certificate. Finally, an inclusive Ceylon cinnamon value chain, where members are trained, certified and registered will also contribute to the GoSL through the development of an improved taxation system.

7.3 Environment

The cinnamon industry so far does not impose major impact on the environment. It does not use large amounts of water or have any hazardous waste creation. Nevertheless, it needs to ascertain that once clusters engage in value addition, no such negative environmental impact is created. Cinnamon is grown in accordance with nature since centuries. Most of the cinnamon is peeled in small scale causing any negative environmental side effects. Depending on the needed machinery and factory requirements regarding the production of value added products, systems have to be set in place from the beginning safeguarding the natural environment. In fact clean energy and clean production centres can be set up together with the clusters, making optimal usage of cinnamon waste.

8. Master plan

The master plan of this study intends to outline a sequence of steps which can be considered to further enhance the Ceylon cinnamon value chain. The steps are based on the information described in the chapters above. Supporting the consultative process with the participation of all stakeholders, this master plan can be utilized as a guideline for the cinnamon value chain in Sri Lanka. First of all, food safety and hygiene standards have to be established in order to ensure safe products for local and international consumers. Secondly, market regulation in hand with cluster development will have to facilitate the requirements to develop production processes and increase the production of compliant products. In addition to the core products (cinnamon quills), value addition and diversification of products will lead to increased business opportunities and revenue for the industry. At the same time, skills development and training need to be up-scaled and fulfil the task to generate a sufficient number of highly skilled cinnamon processors, traders, brokers, etc as well as trainers in Sri Lanka. Simultaneously, marketing tools will have to promote Ceylon cinnamon nationally and globally and cooperate with respective industries and institutions to assure the existence of ample demand at the market for the respective products and services. All these steps will lead to reliable, high quality Ceylon cinnamon products adhering to food safety standards. In turn, a sustainable PCC value chain will lead to an internationally recognized brand and create increased demand and revenue for the industry. All these activities can be supported by the vision of inclusive and sustainable industrial development thus ensuring social and economic prosperity and safe environment.

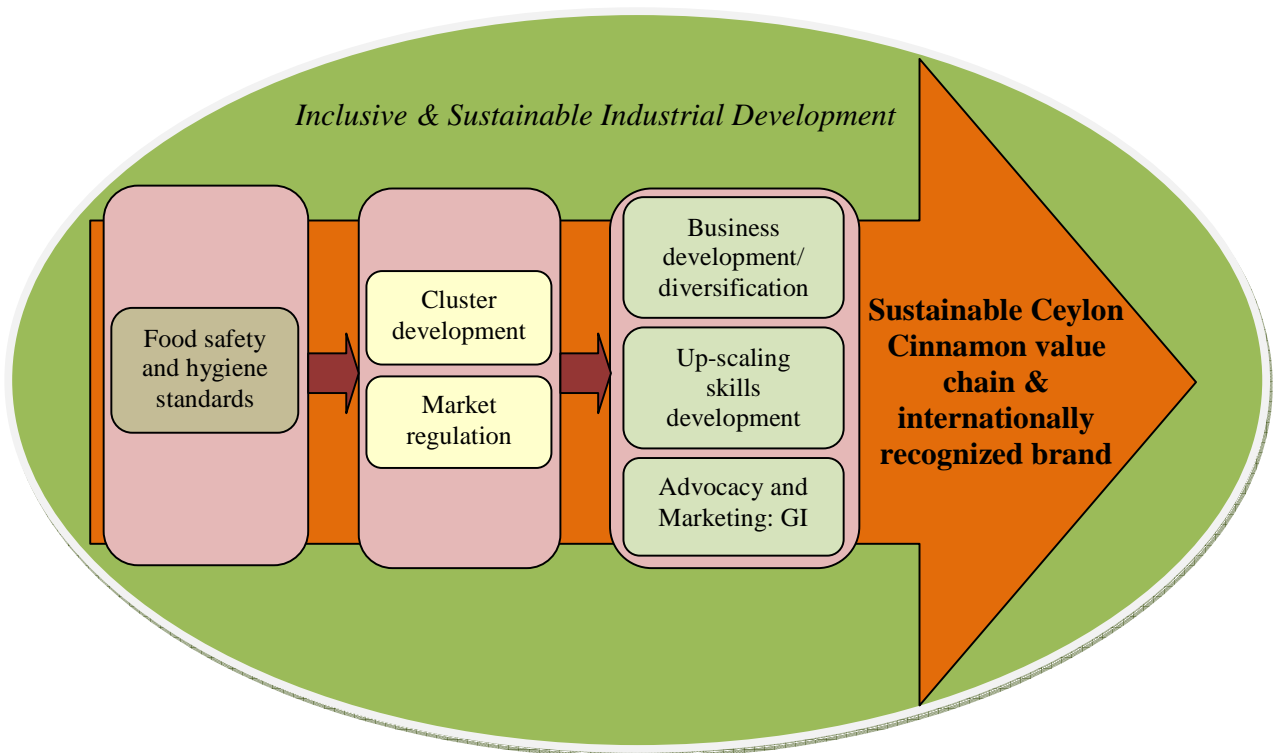


Figure 2: Master plan overview