# Assessment of the Kalli- and Line System in the Sri Lankan Cinnamon Sector

**Report**


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**April, 20th 2015**

## Executive Summary

Sri Lanka is the main exporter of genuine cinnamon. Having faced a number of issues with the traditional kalli system, factories including line systems but also hybrid factories including lines and kallis have emerged. This study assessed the advantages and disadvantages of the kalli and line system. It conducted a literature review and qualitative field research including focus group discussions and key informant interviews with various actors of the supply chain.

The study finds a highly complex supply chain with a large number of involved actors which influences the performance of a kalli or line system. Currently a situation of dependency, low awareness and hindering attitudes are characterizing the industry. Low and high quality can still be sold without problems and there is no incentive to produce highest grades such as Alba or C5 Special. Cinnamon processors do not face a stigma as before but are still not fully recognized for their service to the industry. Where many of the kalli members are interested in change and participating in a line factory, their main worry is the decreased income by working for someone else as employee. Although they face issues in being employed the whole year, to receive a significant amount of money soon after finishing processing is of high interest to them. They mostly produce C4 or C5 as this results in a maximum income. Those who do care about the quality of their produce are left frustrated with receiving the same amount of rupees from the collectors as others get for low quality. Line systems offer permanent employment with good income and social recognition. So far only two full line systems are operational with others trying to combine kalli and line system. Where factories suffer from the initial low skilled work force causing cinnamon wastage and low grades, they benefit after some time given the improved skill and more reliable workers. They can increase their margins and supply hygienic and good quality cinnamon. Still they need to face turnover of staff and challenges to produce high grades. Given a missing market response to high grades also the factories have more incentive to produce C4 or C5 in higher volumes which results in better income.

Overall, kalli and line system are in general capable of producing high volumes of high quality cinnamon. The optimal constellation would be a line system with experienced peelers (kalli members) who can be kept as staff for a long time through incentives. As first steps, to improve the situation, different types of systems are recommended to cater to the various needs and situations in the sector. Where on the one hand the kalli system has to be improved, different types of factories (line system, line system employing kalli groups, bought-tree factory, central processing centers) can be established. After assessing the field situation the appropriate locations for these factories can be determined. To improve the industry and to increase the success of all of these systems awareness raising activities need to take place, a quality price response needs to be established and industry members have to get access to alternatives. This study gives an overview on the Sri Lankan cinnamon industry and highlights barriers as well as possible solutions for improvement focusing on different cinnamon processing systems. No clear suggestion can be given to solely decide for one of the systems as all of them have their relevance and importance. Only a gradual change involving all actors of the supply chain and respecting each actor’s service to the industry will be able to lead to success. Chapter 5 of this report elaborates on detailed recommendations for improving the industry.

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# Abbreviations

| | |
|---|---|
| CTA | Cinnamon Training Academy |
| DEA | Department of Export Agriculture |
| EDB | Export Development Board |
| FGD | Focus Group Discussion |
| GIZ | Gemeinschaft Internationaler Zusammenarbeit |
| GMP | Good Manufacturing Practices |
| Ha | Hectare |
| KII | Key Informant Interview |
| LKR/Rs. | Sri Lankan rupees |
| TSC | The Spice Council |

# 1. Introduction

Cinnamon has a long history in Sri Lanka being the prime spice of the country. The cultivation of cinnamon is carried out mainly by small holders. The industry provides livelihood to approximately 350,000 families in the districts Galle, Matara, Hambantota, Ratnapura and Kalutara. Lately the cinnamon industry receives competition from other countries such as for example China, Indonesia, Laos which produce "cassia" cinnamon, which is a cheaper substitute of the genuine "Ceylon" cinnamon. The high cost of production, low volumes, poor quality and food safety standards and a lack of knowledge and skills in processing cinnamon safely and hygienically have lead to this loss in competitiveness. In addition the social stigma related to the "Salagama" cast of cinnamon peelers has led to a current assumed gap of 35,000 skilled workers in Sri Lanka[1].

The cinnamon peeling technique is based on ancient traditions and usually passed on within the family. The peelers organize their work in so-called "kalli" (gang, group) systems, whereby two or three peelers (most often with family links) conclude a contract for peeling a given amount of fresh wood in the workshop of the producer. Work starts at five in the morning when male kalli members cut fresh wood from the estates for peeling. During the cinnamon peeling process the kalli members sit on the floor and conduct the different tasks (rubbing, scraping, cutting) until late hours in the night. Besides the low hygiene standards maintained within the process the main challenge for the Sri Lankan Cinnamon industry is currently the above mentioned lack of skilled peelers. One reason for this lack is the low social status combined with the job in certain areas of Sri Lanka. Consequently, the remaining peelers have started to demand higher share of the proceeds above the traditional 1/3 that has been given to them in the past.[2]

Within the recent years another cinnamon peeling system, the "line" system has developed and received attention in the industry. Based on this system, men are contracted to cut the daily requirements of fresh cinnamon wood in the estate in the early morning hours and deliver it to a factory before eight. After that, local women are peeling in teams and shifts from eight to five in the factory, which gives a clean and spacious environment. Biggest advantage of this system is that the employed workers receive a secure income with basic daily salaries between Rs 350/400 resulting in Rs 20,000 to Rs 36,000 for expert peelers per month. Additionally the workers are part of the government's EPF and ETF system. These benefits resulted in increasing demand of local women to apply for a cinnamon peeling factory job. It seems that with this system the social stigma of cinnamon peeling is not existing as employed workers perceive the job similar to any other factory job, such as for example in the garment industry.

Having the traditionally kalli system on the one hand side and the line system on the other, this study focuses on a comparison of the benefits and challenges of both systems. The report starts with a literature review, then elaborates on the methodology, data collection and data analysis and concludes with recommendations.

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[1] The Spice Council Sri Lanka (http://www.srilankanspices.com/AH.html 21.11.2014)
[2] Tarnutzer, DRP Consult (2014)

# 2. Literature Review

## 2.1 Cinnamon industry in Sri Lanka

True cinnamon is native to Sri Lanka. Its history can be dated back to 2800 B.C. where it was found in Chinese writings, the bible and other ancient records. The spice is largely available in the form of quills which is unique to Sri Lanka. Besides being an essential spice in cooking and baking, cinnamon can be used as anti repellent, environmentally friendly pesticide, diabetes control, improving infections, perfume ingredient, pharmaceutical, flavoring agent and essence. Cinnamon seems to have originated in the central hills where seven wild species of cinnamon occur in Kandy, Matale, Belihull oya, Haputale, Horton plains and Sinharaja forest range. Currently, the cultivation is concentrated along the coastal belt from Negombo down to Matara, including in-land areas of Kalutara and Ratnapura. The best cinnamon is said to be grown in red yellow podzolic soils of the South-Western region, where the most suitable temperatures are between 25 and 32 degrees Celsius. Usually two harvests can be taken per year where stems should be peeled on the same day as the harvest. A specific harvesting and peeling technique is required to achieve high quality cinnamon. The produced quills are left for in-door-drying for about 4-7 days after peeling. Table 1 gives an overview on the quality standards of cinnamon grades[3].

| Grade | Diameter of quill (max. mm) | Min. no. of 42"long quills/ kg | % rough quills/kg | Min. length of quills/bail | Max. % of single quality quills/ bail | Min permissible overall extend of foxing | Max. % weight of cinnamon pieces in a bail |
|---|---|---|---|---|---|---|---|
| **Alba** | 6 | 45 | None | 200 | 1 | 0 | 1 |
| | | **Continental** (C ) | | | | | |
| **C5 Special** | 6 | 35 | 10 | 200 | 1 | 10 | 1 |
| **C5** | 10 | 31 | 10 | | | 10 | 1 |
| **C4** | 13 | 24 | 10 | | | 10 | 1 |
| **C3** | 16 | 22 | 15 | | | 15 | 1 |
| **C2** | 17 | 20 | 20 | | | 20 | 1 |
| **C1** | 19 | 18 | 25 | | | 25 | 1 |
| | | **Mexican** (M) | | | | | |
| **M Special** | 16 | 22 | 50 | 200 | 2 | 50 | 2 |
| **M5** | 16 | 22 | 60 | | | 60 | 2 |
| **M4** | 19 | 18 | 60 | | | 60 | 2 |
| | | **Hamburg** (H) | | | | | |
| **H1** | 23 | 11 | 25 | 150 | 3 | 25 | 3 |
| **H2** | 25 | 9 | 40 | | | 40 | 3 |
| **H3** | 38 | 7 | 60 | | | 65 | 3 |

**Table 1 Overview on cinnamon standard quality criteria**

[3] Department of Export Agriculture (2015), "*Cinnamon*" extended by data from "*National Competency Standards for cinnamon factory operations*" – A01S010, SLS 81:2010; NAITA

Cinnamon is the dominant spice in Sri Lanka which is the largest producer in the world (65-70%). Countries such as Seychelles, Madagascar, India or China contribute the balance amount. Sri Lanka exports its spices to about 70 countries globally with Mexico, Peru, Colombia, Bolivia, Chile, Guatemala, USA and Europe being the major buyers. Table 2 summarizes key economic data for the cinnamon sector over the past years[4]. It shows that all parameters increased steadily throughout the past decade. Amongst Sri Lanka's spices only pepper achieves comparable volumes and values. These statistics vary slightly from the latest TSC report based on Sri Lankan customs data (Table 3).

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 (a) |
|---|---|---|---|---|---|---|---|---|---|
| **Cultivated Area** (ha) | 26,102 | 25,615 | 25,756 | 27,857 | 28,086 | 28,864 | **29,163** | **30,432** | **30,079** |
| **Production** (tons) | 13,382 | 12,994 | 13,362 | 14,055 | 14,599 | 15,792 | **15,937** | **16,087** | **15,865** |
| **Exports** (tons) (b) | 12,365 | 12,334 | 13,400 | 12,459 | 12,234 | 13,682 | **13,747** | **14,762** | **14,148** |
| **Exports** (Rs. Mn.) (b) | 5,855 | 6,879 | 8,954 | 9,368 | 8,794 | 11,057 | **14,244** | **17,397** | **17,992** |
| **Export Price** (F.O.B; Rs./ kg) (b) | 473.51 | 557.70 | 668.18 | 751.91 | 718.80 | 808.12 | 1,036.18 | 1,178.48 | 1,271.68 |
| **Average retail price** (Quills/ kg) | 332.91 | 615.96 | 693.36 | 863.20 | 906.60 | 972.70 | 1,151.10 | 1,551.40 | 1,817.27 |
| **Average producer price** (Quills/ kg) | 334.42 | 357.46 | 530.73 | 614.20 | 581.41 | 666.73 | 824.66 | 954.16 | 1,006.07 |

**Table 2 Overview on cinnamon industry related economic data from 2005 – 2013**

| | 2011 | 2012 | 2013 |
|---|---|---|---|
| **Extend (ha)** | 30,523 | 31,049 | 31,551 |
| **Production (tons)** | 18,250 | 17,165 | 17,500 |
| **Export volume (tons)** | 13,485 | 14,435 | 13,866 |
| **Export value (Rs. Mn.)** | 13,394 | 16,655 | 17,189 |

**Table 3 Overview on cinnamon industry related economic data from 2005 – 2013**

Table 4 shows the cinnamon exports (volume in tons; values in USD '000) across quarters and months for 2013/2014. It depicts the different export volume according to peak cinnamon harvesting times in Sri Lanka (3rd and 4th Quarter of the year). Finally Table 5 outlines average producer prices across districts for February 24th, 2015[5]. 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. Since cinnamon originated from Sri Lanka, the customs, traditions, culture and technology associated with cinnamon are well

[4] (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 2014*"
[5] DEA (2015) "*Producers' prices (Farm Gate) of EAC*", Colombo, Sri Lanka.

integrated in the heritage of the socio-economy of the country. The majority of cinnamon producers are small holders owning between 0.5 and 1.5 acres of land. Table 6 shows the annual cost and returns (in LKR) for establishment and maintenance of 1 ha land[6] (information in the table derives from 2003 thus has to be understood as indicative only).

| Time frame[7] | Vol. 2013 | Val. 2013 | Time frame | Vol. 2014 | Val. 2014 |
|---|---|---|---|---|---|
| 1st Quarter | 2,610 | 25,254 | 1st Quarter | 2,844 | 27,599 |
| 2nd Quarter | 2,346 | 22,844 | 2nd Quarter | 2,139 | 20,979 |
| 3rd Quarter | 4,643 | 46,410 | 3rd Quarter | 4,552 | 46,499 |
| 4th Quarter | 4,550 | 44,090 | January | 827 | 7,767 |
| October | 1,641 | 16,183 | February | 986 | 10,168 |
| November | 1,588 | 15,181 | March | 1,031 | 9,665 |
| December | 1,321 | 12,726 | April | 422 | 3,973 |
| | | | May | 739 | 7,165 |
| | | | June | 978 | 9,841 |
| | | | July | 1,327 | 13,439 |
| | | | August | 1,521 | 15,711 |
| | | | September | 1,704 | 17,349 |
| | | | October | 1,596 | 16,511 |

**Table 4 Overview on cinnamon exports 2013/2014**

| | Alba | C-5Sp | C-5 | C-4 | M-5 | M-4 | H-1 | H-2 | H-Faq | Heen | Gorosu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ratnapura | 1,850 | 1,515 | 1,366 | 1,200 | 1,000 | 1,000 | 950 | 800 | - | - | - |
| Badulla | - | - | - | - | - | - | - | - | - | 1,029 | 633 |
| Kurunegala | - | - | - | - | - | - | - | - | - | 927 | 583 |
| Colombo | - | 1,500 | 1,400 | 1,300 | - | - | 1,050 | 950 | - | - | - |
| Gampaha | - | - | - | 1,175 | - | - | - | - | - | - | 950 |
| Kalutara | 1,835 | 1,520 | 1,400 | 1,220 | 1,100 | 1,000 | 960 | 850 | - | - | - |
| Galle | 1,850 | 1,575 | 1,350 | 1,300 | - | - | 1,170 | 1,155 | - | - | - |
| Matara | 2,033 | 1,550 | 1,408 | 1,333 | 1,300 | 1,243 | 1,185 | 1,150 | 1,007 | - | - |
| Hambantota | - | - | 1,373 | 1,350 | - | - | 1,200 | - | - | - | - |
| Monaragala | - | - | - | - | - | - | - | - | - | - | - |
| **Average** | **1,892** | **1,532** | **1,382** | **1,268** | **1,133** | **1,081** | **1,085** | **981** | **1,007** | **978** | **722** |

**Table 5 Overview on producer prices across districts February 2015**

| Year | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | Cont. |
|---|---|---|---|---|---|---|---|---|---|
| Labor cost | 36,049 | 10,370 | 17,284 | 30,617 | 41,481 | 46,420 | 51,358 | 56,296 | 56,296 |
| Material inputs | 10,150 | 7,370 | 9,250 | 9,250 | 9,250 | 9,250 | 9,250 | 9,250 | 9,250 |
| Total cost | 46,199 | 17,740 | 26,534 | 39,867 | 50,731 | 55,670 | 60,608 | 65,546 | 65,546 |
| Gross income/ha | | | 60,720 | 151,440 | 214,600 | 253,300 | 296,600 | 343,500 | 343,500 |
| Net return/ha | | | 34,186 | 111,537 | 163,869 | 197,630 | 235,992 | 277,954 | 277,954 |

**Table 6 Cost and returns for establishment and maintenance of 1 ha cinnamon land**

[6] DEA (2003) accessed through http://www.agri.ruh.ac.lk/cinnamon/Cin%20stat.htm

[7] Source: Central Bank of Sri Lanka (2014), "*Monthly Bulletin, November 2014*", Colombo, Sri Lanka.

## 2.2 “Kalli” system and “Line” system of cinnamon processing

The cinnamon peeling technique is based on ancient traditions. It is originally passed on within the (extended) family for generations living in cinnamon growing districts across the country. In this system the cinnamon peelers organize their work in a so-called “kalli” (group) including mostly between three and six people (family/ neighbors/ friends; male and female). Those who own cinnamon themselves process it with the help of the kalli. In addition they conclude contracts with other land owners to harvest the cinnamon and process it. The group leader is searching for the contract and will decide the price (1/3 or 1/2) and the area. Depending on the size of the land, often the kalli stays at the contractors land until all the agreed amount of cinnamon is processed. Work usually starts early morning when male kalli members cut fresh cinnamon sticks from the estate and bring it to the processing site, which sometimes includes a peeling center in the estate. During the day the group processes the cinnamon (rubbing, scraping, peeling, filling, quill-making) by sitting on the floor. As the cut cinnamon needs to be processed on the same day, they finish work mostly very late in the night, sometimes working for more than 15hours.

Within the recent years another cinnamon processing system, the “line” system has developed and received attention in the industry. Based on this system, male cinnamon processors are contracted to cut the daily requirements of fresh cinnamon wood in an estate in the early morning hours and deliver it to a factory where they prepare the cinnamon for peeling. After that, local women are processing the cinnamon in a line where a certain number of women take over a specific task (scraping/ peeling/ quill making). Usual factory working hours range from 8am to 5pm.

## 2.3 Challenges within the industry

Although the cinnamon industry keeps doing well in Sri Lanka overall (in 2014 prices were on a historical high), the sector is facing several challenges.

- **Cassia**

Throughout the past years the cinnamon industry receives competition from other countries such as China, Indonesia, Laos or Vietnam which produce “Cassia” cinnamon, which is a cheaper substitute of the genuine “Ceylon” cinnamon. Cinnamon spice can be obtained from different trees; however the “true” cinnamon is only harvested from “*cinnamomum zeylanicum*” where Sri Lanka is the main producer followed by Seychelles and Madagascar. Cassia derives from different *cinnamomum* species and differs in flavor, analytical profile, physical properties and visual appearance[8]. The above mentioned countries gain market share as their labor costs are cheaper than in Sri Lanka. They can offer one kg of cassia at approximately US$2 compared to US$6 for cinnamon. The high prices for Sri Lankan cinnamon gave a boost to the industry, bear however the risk of consumers switching to cassia if the quality and hygienic standards are not met by the Sri Lankan cinnamon.

[8] TSC (2015), derived from http://www.srilankanspices.com/sl_spices_cinnamon.html

**Figure 1: Differences between Ceylon cinnamon and Cassia**

- **Quality and quantity of produce**

Of major concern to the industry is that the quality of the produce becomes lower steadily where superior grades were not available in 2014. This led to exporters not being able to meet their commitments due to the lack of superior grade production. Cinnamon prices were at a high in 2014 which led some producers to lower their quality to profit from the high prices. As the majority of cinnamon in Sri Lanka is produced by small holders, quality control is difficult. Also the majority of small producers are not trained on hygiene standards and food safety. Where some producers can accomplish an amount of 1000kg/ha; the present national average productivity lies at 450kg/ha. This situation is also based on the lack of investment attitudes of growers given the high labor involvement in cinnamon peeling. These factors are ranked high in responsibility for the decreased competitiveness of Sri Lankan cinnamon. Voices for a more effective strategy and an institutionalized system to conform to market standards and demands are therefore increasing.

- **Skilled labor**

As mentioned, the cinnamon peeling technique is based on ancient traditions and usually 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. In addition to the long hours of hard work, peelers in some areas of Sri Lanka are still not fully recognized socially which leads younger generations to search for jobs in different sectors. Given the lack of approximately 35,000 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. On the other hand, the recently developed line system at factory level faces challenges in loss of quality and volume due to training periods of new workers. Training institutions (such as the DEA, the CTA and the line factories themselves) are currently trying to solve this problem by training new workers.

Other challenges of the industry identified before this research are: a lack of marketing skills, lack of financial support and not exporting cinnamon as value added product.

## 2.4 Latest developments

Within the last years, several efforts were taken to uplift the cinnamon industry in Sri Lanka and to build a globally recognized brand of "Pure Ceylon Cinnamon". Table 7 summarizes the latest developments in this regard.

| When | What | Who |
|---|---|---|
| **N/A** | The Spice Council signed a subsidy agreement with Promotion of Micro Small and Medium Enterprises (PMSME) – GIZ to set up the CTA. PMSME agreed to provide part of the funding for the project. The project was stopped where the reasons given for that by TSC are that GIZ declared that the land available would not be enough for the project. Discussions were held also on certifying SL producers for ISO, however TSC was said to have backed out of these discussions based on disagreements with GIZ. | TSC, GIZ |
| **N/A** | GIZ approached cinnamon large holder, Mr Wijith De Zoysa Jayatilake, to involve in the above mentioned project where finally 10 cinnamon processing factories were certified with the ISO 22000:2005 standard by SGS Lanka (Pvt) Ltd. Based on these 10 producers the *U10 company* was founded aiming at exporting high quality certified cinnamon. Former GIZ project manager Mr Ruwan Abeysinghe Gunawardena was employed by U10 as project coordinator. Each factory invested a certain financial amount into the newly founded company. However U10 management refused to pay what was said a fair price to the U10 producers, thus the certified factories refused to supply to the company. One of the 10 producers, Mr Lal de Silva (G.P. de Silva cinnamon exporting company) was said to have "bought in" Mr Ruwan to use the U10 name for their purposes. Only Mr De Silva is currently selling certified cinnamon from his own factory via U10, however his volumes are smaller than what is requested. The remaining amount is said to come from non certified sources. No action was taken regarding this situation so far. Currently, out of the 10 factories, only 3 are upholding the certification, others have gone back to original practices. The U10 website still mentions "*If you want the finest cinnamon in the world, you've come to the right place. U 10 produces cinnamon with the highest quality in the world…We are a group of nine producers and exporters. We are committed to the further development of the Sri Lankan cinnamon industry. Our aim is to ensure that Sri Lankan cinnamon continues to be produced, exported and recognized as the best cinnamon in the world. We are the only ISO 22000: 2005 and HAACP certified consortium of cinnamon producers in the world. Through an unwavering commitment to quality, we at U10 define what premium cinnamon really is*"[9]. | GIZ,<br>Mr Wijith,<br>U10 |
| **2011-2015** | **CTA:** The Spice Council initiated a project to develop skills and competency and to establish a Cinnamon Training Academy (CTA) for cinnamon processors in Galle District to train cinnamon peelers on food safety | TSC, UNIDO, STDF, WTO |

[9] U10 website (2015) http://www.u10ccc.lk/index.htm

| | | |
|---|---|---|
| | standards of GMP and HACCP. They received support from UNIDO and STDF (WTO) to implement the project which is currently ongoing with the CTA being built and standards and training contents being finalized and accredited. | |
| **2013** | "Pure Ceylon Cinnamon" was established as a global brand in the international market and 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. Under the Ceylon Chamber of Commerce, a number of seminars, trade shows, meetings and business forums were organized by business councils in certain countries to promote external trade.[10] | EDB, CCC |
| **2014** | **"Cinnamon to the world",** aimed at achieving more recognition for Sri Lankan cinnamon globally as international brand. NDB agreed on financing efforts as well as work on empowerment and strengthening the support system; focusing on the small home growers, empowering manufactures of cinnamon related products and reinforcing medium and large scale exporters, facilitate industry linkages and enable knowledge sharing, easing market access; micro financing for home growers; promoting cinnamon to strategic events locally and internationally | NDB, TSC, CCC, SAPPTA, Galle Chamber of Commerce, EDB |
| **2014** | Research undertaken by Prof. Baddegamage looked at the introduction of an ICT system for the cinnamon industry. Within a research including 76 farmers, 98 peelers, 54 processors and collectors, 43 exporters, one international certification authority, 22 buyers the author finds a low use of ICT so far. Main reasons for this situation are: the low ICT literacy level, low ability of accessing internet and low knowledge of English language. As other countries are using ICT to increase competitiveness, this research suggests including such skills and technology in the Sri Lankan cinnamon sector too. | Prof. Baddegamage |
| **2015** | **Technology Transfer discussions** between Sri Lanka and Japan | NCE, Toyohashi University of Technology |

**Table 7 Developments in the cinnamon industry**

[10] Central Bank of Sri Lanka (2013) "*External Sector Developments and Policies*", Annual Report 2013, Colombo, Sri Lanka.

# 3. Research objectives, Methodology and Data collection

## 3.1 Research Objectives and Research Questions

Based on the above outlined situation of the Sri Lankan cinnamon sector the study at hand focused on a comparison of the two cinnamon processing systems: kalli and line system by including the following research objectives and questions:

| | Research Objective | **Research Questions** |
|---|---|---|
| **1** | **To give a statistical overview on the currently used systems: kalli and line system** | How many producers, peelers, exporters are currently in Sri Lanka?<br>What is their size?<br>How many are involved in GMP, ISO 22000, kalli system, line system? |
| **2** | **To study the past and current experiences made with the two systems** | Who started the line system and why?<br>Who followed the system and why?<br>Did anyone revert back to the old, kalli system? If yes, why?<br>Who applies the line system today and why? What are the strengths/weaknesses of both systems? |
| **3** | **To study the economical aspects and impacts of the two systems** | What are the economic factors of both systems?<br>What are the facilitators and barriers to change from kalli system to line system?<br>How can barriers and challenges be overcome? |
| **4** | **To study the social, environmental, gender, and sustainability related aspects and impacts of the two systems** | Which social advantages/ disadvantages are perceived by the workforce (female and male) regarding both systems?<br>What are the environmental challenges related to both systems?<br>Which benefits/ challenges/ barriers can result out of a system change from kalli to line (social, environmental)?<br>How can challenges and barriers be overcome?<br>Can the line system be used as a tool for women empowerment?<br>Can the line system be used as a tool for socially uplifting the cinnamon peeling community?<br>Can the line system be used to prevent women and young men to go abroad in search for a better paid job? |
| **5** | **To give recommendations based on the outcomes of the study** | |

**Table 8 Overview on Research Objectives and Research Questions**

## 3.2 Methodology and Data collection

The methodology used for this study included a literature review and qualitative research tools such as Focus Group Discussions (FGD), Key Informant Interviews (KII), two case studies and observations. In February and March 2015 discussions (via phone and in person) took place with TSC and UNIDO staff, EDB, DEA (head and district offices) and Mr Wijith De Zoysa Jayatilake to receive reports and (statistical) data on the study subject. Further in March, Mr Shanka Dharmapala, Mr Lal de Silva, Mr Ruwan Abeysinghe Gunawardena and Dr I.R.

Ferdinand were contacted to receive more insights on the GIZ PMSME project and its challenges as well as the U10 consortium[11]. Finally two more exporters were contacted for insights on exporting cinnamon from Sri Lanka. The field data collection took place in March 2015 in four districts: Kandy, Matara, Galle and Ratnapura where one full day was spent at each location. KIIs and FGDs were conducted with various members of the cinnamon supply chain, two case studies were developed and observation taken down after each discussion. Mr Farhad and Mrs Nilanthi from the UNIDO project team were translating from English to Sinhala and vice versa during the discussions whereas the consultant was leading the interviews/ FGDs based on the narratives developed. All interviews and FGDs were recorded and pictures were taken at the different sites. Table 9 gives an overview on the sample[12].

| | | **Producers (large)** | **Producers (small)** | **Workers/ Peelers** | **Collectors** | **Buyers** | **Exporters/ EDB** | **DEA** | **Experts** | Total Tools |
|---|---|---|---|---|---|---|---|---|---|---|
| **Kandy** | KII | 1 | | | | | | 3 | | **3** |
| | FGD | | 7 | 1 | | 1 | | | | **1** |
| **Galle** | KII | 1 | | | | | | | | **1** |
| | FGD | | *4** | *12** | 2 | | | | | **5** |
| **Ratnapura** | KII | 1 | | | | | | 1 | | **2** |
| | FGD | | *9** | *12** | | *1** | | | | **3** |
| **Matara** | KII | *3** | | 1 | | *1** | *1** | 3 | | **7** |
| | FGD | | | | | | | | | **0** |
| **Colombo** | KII | 1** | | | | | 3 | | 3 | **7** |
| Total Sample | | 7 | 20 | *26** | 2 | *3** | *4** | 7 | 3 | **57/29** |

**Some of the respondents held more than one role (for example, producer and exporter or small holder and peeler)*

***The KII was conducted in Colombo, the estate is located in Ratnapura district*

**Table 9 Sample overview**

This research is also subject to limitations: out of all cinnamon producing districts, the results of this study are based on four. Thus, further investigations might find other opinions and for sure more explanations and insights regarding the below listed results. Also, it was not possible to interview line factory workers alone, without the presence of the factory manager. Thus they were not free to discuss about challenges they face working for the line system.

[11] Unfortunately Mr Lal De Silva was not open to discuss on the GIZ and U10 matter; although contacted several times no KII was possible with him; Dr Ferdinand and Mr Ruwan Gunawardena could not be reached during the time of the assignment

[12] A list with names and designations of all contacts can be found in Annex A of this report

# 4. Research Findings and Analysis

This chapter first elaborates on the findings of the research study comparing the line and kalli system, but also looking at the cinnamon sector as a whole. Chapter 5 will then refer to these findings and propose recommendations and solutions.

## 4.1 The cinnamon supply chain

Sri Lanka's cinnamon sector is highly complex covering a long supply chain which is (in general) including small holders, large producers, small collectors, large collectors, traders and dealers at village level, traders and dealers at town level, commission agents and exporters. The supply chain is characterized by decentralized purchasing where the "travelling“ or "mobile" collector is the most important link in the traditional marketing channel that purchases the products from the small holders and sells to larger collectors especially outside the village. S/he has a significant role in remote villages were transport and facilities are limited. S/he makes direct cash payments to the producers. The local trader/ dealer or "buyer" is another important link operating mostly in a small shop in the village. Him but also the collectors sell their products to the wholesale buyers. There are small wholesale traders in the main area of production and big wholesale buyers in the main towns. They bulk the produce and dispatch to traders in Colombo. Commission agents only mediate between buyers and sellers. They charge their clients for their services. The exporter is the final link in the domestic marketing structure. Most Sri Lankan exporters sell through a broker or a commission agent in the importing country. The importer then sells to a grinder or processors who again sell the cinnamon to food manufacturers and food service companies. In addition there are companies involved in cinnamon processing (for example ayurveda and health care products), brokers and institutions offering other services such as academic research, verification, certification and training. Finally governmental bodies such as the DEA and EDB are relevant actors when looking at the cinnamon supply chain in Sri Lanka. As mentioned above, the processing itself is conducted mostly by small holders as kallis (small holders often help each other processing the cinnamon each of them owns), independent, contracted peelers who work mostly for large holders in kallis within the estate, in peeling centers or in factories; and finally employed peelers who work in a line system in factories. Grading is usually done by balers or exporters.

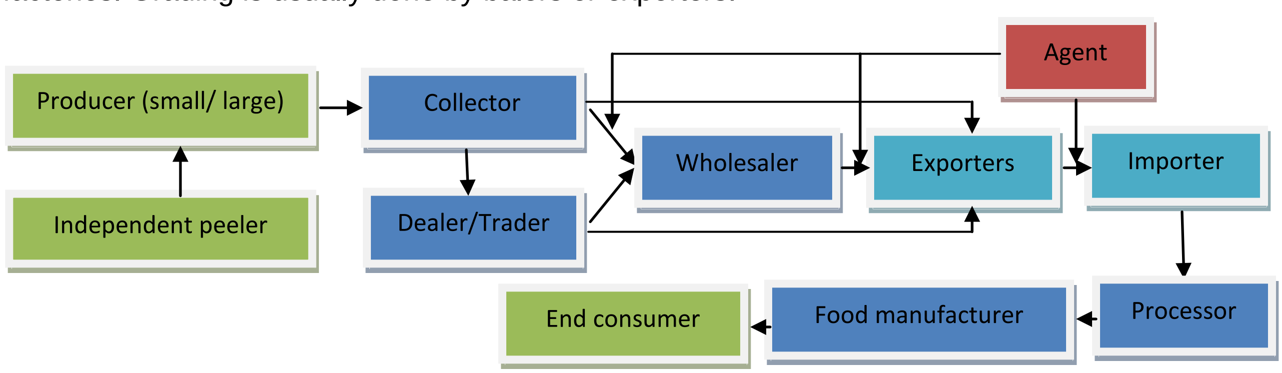


**Figure 2: Cinnamon supply chain**

At the time of the study there was no complete database available covering the core cinnamon production supply chain. Table 10 is thus **based on estimates** given by the DEA district offices, EDB and the interviews conducted within this study. It includes the number of producers, collectors/traders/dealers/buyers (numbers on collectors and dealers separately were not available) and exporters. In districts such as Nuwara Eliya, Matale, Kurunegala, Kegalle, Badulla and Monaragala small holders often sell their produce in other districts such as Kandy, Galle or Matara. Their connections to buyers or exporters in these districts are developed through independent peelers (from Galle or Matara) who are coming to peel in these areas. Similarly the majority of small holders from Colombo district are selling their produce in Kalutara district (a location called "Ingiriya"). The DEA is training farmers in cinnamon processing and distributes subsidies (that gives them certain statistics about cinnamon producers), however most of the time only half of the trained farmers continue processing where others do not own a sufficient amount of land to continue or search for different employment. Very rarely respondents were able to estimate the number of independent peelers in the district. Therefore "independent peelers" in Table 10 mostly includes those who were trained by the DEA and are currently active. Large producers by the DEA are mostly considered those who have at least 5 acres of cinnamon land (In Kalutara, those who have more than 50 acres; in Gampaha those with more than 1 acre of land).

| | **Extend** | **Producers** (small) | **Producers** (large) | **Collectors Buyers Dealers Traders** | **Exporters** | **Ind. peelers** |
|---|---|---|---|---|---|---|
| **Kandy** | 150ha | 400 | N/A | 10 | 1 | 20-30 |
| **Nuwara Eliya** | 20ha | 25 | N/A | N/A | N/A | N/A |
| **Matale** | 400ha | 500 | N/A | 10-15 | 1 (2*) | N/A |
| **Kurunagala** | 250ha | 350 | 25 | 5-10 | 1* | 50 |
| **Kegalle** | 450ha | 900 | 15 | 3-5 | N/A | 50 |
| **Badulla** | 365ha | 50 | 30 | 10-12 | 1* | N/A |
| **Monaragala** | 286ha | 1,200 | 2 | 3 collecting/ purchasing centers | N/A | N/A |
| **Colombo** | 109ha | 250 | 30 | 5-6 | 25 | N/A |
| **Rathnapura** | 1,600ha | 2,000 | 50 | 25 | N/A | 70-100 |
| **Galle** | 11,697ha | 50,000 | 10,000 | N/A | 11 | N/A |
| **Matara** | 8,000ha | 10-15,000 | 2000 | 60 | 3 (5-6*) | N/A |
| **Hambanthota** | 209ha | 2,000 | 100 | 12 | N/A | N/A |
| **Gampaha** | 450ha | 350 | 400 | 8 | N/A | N/A |
| **Kalutara** | 4,500ha | 10,000 | 5 | 11 | N/A | N/A |
| **Total** | 28,486ha | 78,025-83,025 | 16,257 | 162-177 | 53-57 (100*) | N/A |

*answers differ from EDB and DEA

**Table 10 Overview on cinnamon supply chain (as estimated, 2015)**

Interviewed respondents mentioned the prevalence of 17 main cinnamon exporters for Sri Lanka. EDB[13] lists 41 where their spice officer explains that these are only the top exporters where in total there are approximately 100 cinnamon exporters in Sri Lanka. Comparing estimates of cinnamon extend (28.486ha) and TSC data (see above) for 2013 which comes to 31,551ha shows a mismatch of data between TSC and DEA. The majority of producers are still not complying with GMP and DEA confirms that only a small amount is certified. However several more producers practice GMP, but go unnoticed based on their lack of certification. Reasons for this are mostly the costs involved in getting certified. It is estimated that for example for Galle district approximately 40-50 producers are maintaining GMP but only 8 are certified. Similarly only 3 factories are said to be currently ISO certified, where others received the certificate but do not update their certification as required by the standard. Reasons are again assumed to be the cost involved and not recognizing the benefit of certification (see also above U10). Another possibility introduced by an industry expert of estimating the number of producers is based on the assumption that one peeler has to have about 2 acres continuously to peel the whole year. On average it is 3 acres. Assuming 30.000ha of cinnamon extend and a conversion rate of 2,4711 (ha to acres) results in 74,133 acres which again results in 24,711 peelers. This number deviates highly from the values in Table 10.

Despite the above listed challenges in the cinnamon industry (cassia, labor, volume, quality) this study observed another issue which affects the industry heavily. Given a long supply chain with numerous actors, traceability, monitoring and controllability of the behavior of these actors is still a challenge. Where it is often mentioned that the "cottage industry" – the small holders – are the least controllable and those responsible for not producing high quality cinnamon, several other players also affect the supply chain similarly. Rather than working together to improve the cinnamon sector, a climate of mistrust and shifting blame throughout the whole chain can be observed. Table 11 is simplified, only focuses on the issues and does on purpose not include the positive actions of these actors as well as those who do not engage in these activities.

| Actor | Issue | Responsibility | Consequence |
|---|---|---|---|
| **Small holder/ Peeler** | - Receives the same amount for good and bad quality of cinnamon<br>- Is paid by weight only and not for quality<br>- Tries to increase the weight with low quality cinnamon, un-scraped cinnamon, "quillings"<br>- Tries to sell half dry cinnamon<br>- Includes the high quality cinnamon outside in the bundle and low quality inside<br>- Tries to get advances from estate owners without showing up for peeling<br>- Is not reliable | - Blames the collector and exporter for not giving a fair price<br>- Blames the collector and exporter for buying low quality from others | - Is not motivated to produce any high quality as per now the max amount of money can be achieved for medium quality<br>- Can sell anything that was produced<br>- Fully dependent on collector or exporter and any price they give |

[13] A list of exporters can be found in the Annex B of this report; EDB has agreed to submit the full list to the consultant but has not done so yet

| | | | |
|---|---|---|---|
| **Collector /Buyer** | - Tries to give the farmer the lowest amount of payment possible<br>- Tries to tell the farmer that the cinnamon is low quality<br>- Buys however all cinnamon available, even if it is half dry, including quillings, etc.<br>- Gives almost the same price for good and bad quality (100Rs difference)<br>- Opens the cinnamon again to dry, adds sulfur if necessary<br>- Will take out the good quality and sell for a higher price, although giving the farmer the money for the low quality in the bundle<br>- Is not reliable | - Blames the farmer for not producing better quality<br>- Blames the buyer/ larger collector for not giving the appropriate price<br>- Blames other collectors for buying low quality | - Is not motivated to reject the low quality as another collector/ buyer will buy it anyways<br>- Will sell anything to the next actor in the supply chain without any problems<br>- Dependent on the collector and exporter and the price they offer |
| **Exporter** | *Same as collector*<br>- Takes the cinnamon from the farmer but only pays once the cinnamon is sold, which usually takes more than one month<br>- If shipments return s/he will pay the farmers less the next time for the low quality to balance out his loss<br>- Will re-bundle the cinnamon from the shipment, add sulfur and send it again to another consumer<br>- Is not reliable | - Blames the farmer and collector for not offering higher quality<br>- Blames other exporters for buying low quality | - Is not motivated to reject the low quality as another exporter will buy it anyways<br>- Will sell anything to some consumer without much problems |
| **Consumer** | - Many do not have sufficient knowledge on cinnamon to understand the differences between good and bad quality<br>- Through market information consumers have an understanding that they are supplied low quality cinnamon<br>- Someone will buy the low quality anyways | - The knowledgeable consumer blames the exporter for not delivering high quality | - Low quality from Sri Lanka dilutes the export markets<br>- Consumers might shift to cheaper options such as cassia |

**Table 11 Overview on supply chain challenges**

In addition to the system outlined in Table 11, the awareness and knowledge on cinnamon and its quality is not sufficient for various actors. Where knowledgeable farmers and collectors wish to produce and sell high quality cinnamon, others are not skilled to differentiate quality grades and sell/buy everything. Some farmers themselves have no sufficient knowledge to be able to sell their produce at fair prices. Collectors and exporters tend to give them the price for the lowest grade in the bundle and profit from the high quality quills within the same bundle. On the one hand the farmer does not know, on the other hand s/he also has no choice other than selling it for the price s/he gets. This dependency is seen for all farmers, those who might seem very unaware and those who know what is going on. The majority of farmers are dependent on fast income. By trying to sell to exporters directly and avoiding the collectors, they meet the challenge of only being paid by exporters once the cinnamon is sold, which usually takes more than one month. It is not possible for them to sustain in this system and sell again to the collector. Although knowing that s/he cheats on them, s/he still pays cash and is thus more reliable than the exporter. In addition they lack awareness of the number of possible cinnamon exporters in Sri Lanka. During the study, the same 3-4 exporters were mentioned leaving aside a number of other possibilities for the farmers (the same dependency was seen for collectors who sell to exporters). Criticizing the quality, collectors as well as exporters mostly refer to wet content, inclusion of quillings and low grades. Farmers try to cheat on weight and quality, collectors and exporters on quality and grading. Quills and bundles make it easier to hide low quality. Finally, the small difference in price between degrees of quality of cinnamon is not at all motivating the producers to increase their quality. Even if the small producer does not include unwanted materials, the price received compared to the time and effort spent on producing Alba or C5/C4 does simply not make sense.

Table 5 shows that the average price for Alba lies around LKR 1,900; for Special around 1,500; for C5 around LKR 1,400 and for C4 around LKR 1,300. This shows a difference of LKR 600 between Alba and C4 where for one kg Alba a peeler needs 4 times longer than for producing C4. Also the wastage of cinnamon is higher. Producing lower quality is not only more convenient it also makes business sense. No actor was met who does not want a different system. However none of them is willing to start given the fact that others will still remain the same and that the one who changes first will lose out. Remembering that each actor in the supply chain can still sell any degree of quality and the majority of actors prefer to focus on short term profit than long term benefits for the industry, only rigorous changes will be able to improve this system.

## 4.2 Kalli and Line system

The size of cinnamon small holdings ranges usually between 0.5ha[14] up to 2ha of cinnamon where large holders include between up to 100ha or 300acres of cinnamon. The majority of processing is done in the kalli system. Currently there are only two full line systems operational (Batuhena in Matara and Hunuwella in Ratnapura). In total 7 producers are said to produce at factory level with Eastern Spice currently not being operational due to export issues[15] and the others including hybrid systems between kalli and line. Some factories have introduced the line system and are at the same time contracting kalli peelers who are paid daily wages and for dry weight. For example the Dassanayake Walauwa Plantation factory in Kosgoda includes line and kalli groups and aims at being a best practice example on how to integrate kalli workers into a

[14] Numbers are based on the UNIDO project report. Throughout the study ha and acres was used by respondents comparably, it is not fully clear which measurement unit is based on reality. DEA usually referred to 0.5-1 acres of land (see Table 10).

[15] The company has had a big offer for Alba which sustained its operations, however it has not been paid for a large shipment to the USA, reasons for this outstanding payment are not clear; some assume low quality of the produce others see the fault with the buyer

line system in the future. Also there is a “Bought-tree-factory” in Matara (Eastern Spice) where growers can give the freshly cut cinnamon in exchange for a certain amount of LKR and peel the cinnamon for a monthly salary by being employed by the factory, or trade the sticks without employment.

On the other hand the DEA has introduced the line system to small holders on a small scale and supported them with about 1500 peeling sheds where they also tried to train on improved processing methods. What exactly is considered a line system is not fully clear to several interviewed industry members. Some believe that a kalli processing the cinnamon dividing tasks where a certain amount of time is used for each step in appropriate order can be considered a “line system” too. For the purpose of this study the traditional kalli system (differentiating between small holders and independent peelers only) and the line system (including factory level peeling in designated lines) are subject to comparison.

| | **Batuhena** | **Hunuwella** | **Eastern Spice**[16] |
|---|---|---|---|
| **Extend** | 100ha | 350acres | 20acres |
| **Buys external** | No | No | Yes |
| **Off season** | No | No | No |
| **Workforce** | Harvesters male Processors female | Harvesters male Processors female | Harvesters male Processors female |
| **Dry weight per month season (kg)** | 1,500 | 2,500-3,000 | 1800-2000 |
| **Dry weight per month off season (kg)** | 900 | 1,800-2,000 | |
| **Daily wage** | LKR 400 (incl. 2kg) | LKR 450 (incl. 1.5kg) | LKR 400 (incl. 1.5-2kg) |
| **Extra kg** | LKR 175 | LKR 225 | LKR 200 |
| **More than 5kg per day** | incentive | incentive | N/A |
| **More than 100kg a month** | incentive | N/A | N/A |
| **Efficiency** | incentive | N/A | N/A |
| **Insurance (based on 400Rs)** | EPF/ ETF | EPF/ ETF | EPF/ ETF |
| **Average income a day** | LKR 800 | LKR 800 | LKR 500 |
| **Max income of a peeler** | 35,000 | 35,000 | 12,000 |
| **Harvesters** | LKR 700 (fix) | LKR 600 (fix) | 800 (fix) |
| **Nr of harvesters** | 4 | 15 | 5 |
| **Average nr of sticks needed per day** | 1400 | 170-200kg per person | 300kg per person |
| **Nr of processors** | 45 | 55-60 | 20 |
| **Total staff** | 80 | 75 | 25 (45-stand by) |

**Table 12 Overview on characteristics of two line system factories**

The line system was started because of a shortage of peelers, the low quality of the quills and the dirt and foreign materials present in the quills produced by kalli groups. The GIZ U10 project promoted the line system where 10 factories set up such systems to deliver high quality cinnamon. Currently only one of the former U10 members, Batuhena estate, is operational. The

[16] Factory is closed at the moment due to financial issues, not all values were available

remaining factories went back to a hybrid or kalli system based on difficulties with the U10 company management (see above). After U10 the Batuhena factory manager, Mr Munasinghe, helped to set up the Hunuwella factory as line system and trained the workers there. Table 12 is based on estimates of factory managers only and gives an overview on characteristics of the line systems in place. Although factories are different in volume and incentives average incomes of peelers were mentioned to be very similar. To receive in-depth insights into these factors, company data (balance sheets etc) will need to be compared.

Looking at the conditions to set up a line system it is assumed to be able to produce 100kg per day dry cinnamon in a large scale factory. For Sri Lanka an expert suggests to set up 600 of such centers and 15.000 small scale processing centers with about 30kg production per day. If 100ha available, 600kg/ha can be harvested. A total of 60,000kg cinnamon can be produced from this estate. To produce 100kg cinnamon per day (including 300 working days per year) 50ha would be necessary to facilitate for this factory. Similarly to produce 30kg/day 15ha would be necessary (based on good maintenance of the estate).

### 4.2.1 Economical aspects and impacts

- **Time and Cost**

In regards to time and cost of both systems the following table shows average amounts based on the information obtained. “per day” for kalli regards only days of peeling activity where the time spent includes harvesting. Furthermore sometimes the groups also involve in other work during the day and include breaks for cooking or picking up children from school. Harvesting and peeling is done by two separate groups for the line system. Many times kallis are not paid a fair price by collectors (see above) which indicates that they can earn higher than the mentioned amount (all income values in LKR). For these calculations an average price of 1000Rs/kg was assumed based on the information gathered within this study. So far the factory managers themselves decide on the remuneration of their line workers as well as on the type and number of incentives, thus the monthly salaries vary per factory. However the governmental approved rate for factory workers is LKR 400 per day. Incentives are usually given per day for producing more than 2kg cinnamon, per month for exceeding a certain amount and sometimes also for producing more cinnamon out of less raw material (efficiency). Lunch break in factories last approximately for 30 minutes. Kallis take usually breaks each 4 hours. One month in Table 14 is calculated with 6 working days per week (24 working days per month) for line system and 7 working days per week (28 working days per month) for Kalli system (including only peeling times). “Earning per hour” as described in Table 14 can only be taken as indicative as kalli members often engage in different activities (cooking, house activities, children, etc) besides peeling. All values for the above calculation are based on the information obtained from KIIs and FGDs.

| | Kalli | | Line | |
|---|---|---|---|---|
| | **Day** | **Month** | **Day** | **Month** |
| **KG of cinnamon in total (dry)** | 12-15 (assuming three kalli members) | 336-420 (assuming three kalli members) | 60-70 | 1,500 (peak season) 900 (off season) |
| **Number of workers (processing)** | 3-6 | | 45 | |
| **KG of cinnamon per person (dry)** | 3-5 | 84-140 | 3-4 (experienced peeler) | 50-80 |
| **Max KG of cinnamon per person (dry)** | 6 | 150 | 5 | 100 |
| **Max KG of cinnamon per person (dry) per year** | 1,200 (assuming 8 months of peeling) | | 1,200 (assuming 100kg across the whole year) | |
| **Minimum income per person** | 1,000 | 28,000 | 400 (min 1.5-2kg) | 9,600 |
| **Average income per person** | 3,000-5,000 (ownership) 1,000-1,500 (1/3) 1,500-2,500 (1/2) | 100-150,000 (ownership) 28,000-42,000 (1/3) 42,000-70,000 (1/2) | 800 | 20,000-30,000 (including bonuses) Best peelers 35,000 |
| **Average income per year per person** | 336,000 (assuming 8 months peeling, average income per day 1500) | | 240,000 - 420,000 | |
| **Average KG per year** | 2,016-4,032 (assuming **three people**, full 8 months of peeling) | | 15,600 (assuming full 12 months peeling; 45 workers) | |
| **Insurances** | N/A | | EPF, ETF; gratuity bonus after 5 years | |
| **Average time spent for harvesting and cleaning** | 4-5h (same group) | | 4-6h (separate group; gets ca LKR 700 fixed term) | |
| **Average time spent for peeling** | 10-12h (same group) | | 8-9h (separate group) | |
| **Average earning per hour** | 200-333 (owned) 67-100 (1/3) 100-167 (1/2) (assumed 15h day) | | 89-100 | |
| **Maximum time spent in total** | 17h (engage in other activities also during that time) | | 9h (only factory work) | |
| **Working days per week (if peeling)** | 7 | 28 | 6 | 24 |

**Table 13 Overview on characteristics of kalli groups (included into this study)**

Where 50% of cinnamon is produced in Galle, 40% in Matara and 10% in Ratnapura and other places; 90% come from Galle and Matara. In Kandy, Matara and Ratnapura growers give 50% of the peeled value to the kalli processors. In Galle it is still 1/3 of the value. Kalli members in general estimated their daily production between 3-5kg per person and (depending on the size of the kalli) up to about 25kg a day and 1000kg a month. In Ratnapura a group of 9 high skilled kalli peelers is able to produce up to 1500kg of good quality cinnamon per month applying good maintenance practices (compared to 45 workers in the line factories who produce the same amount). The same group of peelers works for 50% where the average income per day is LKR 1,700 per person. Where some mentioned to work about 10 hours, the majority works around 15hours where some were said to work up to 18 hours. They usually earn about 1500Rs per day. In high season kalli members work each day, they would only take a day off if its Poya or a close friends or relative needs their help. Many of the peelers possess cinnamon land on their own and process it with the kalli. Depending on the extent and size of kalli they need 5-30 days for their own land. Most of them peel twice a year and work outside to earn during the rest of the months. Some hybrid versions also exist in the kalli system where the head peelers pay the harvesters, scrapers and quill makers separately (Galle) about LKR 600 and make about LKR 1500 a day.

Factories which changed from Kalli to Line system can reach a labor cost reduction of up to 50% (based on the experiences of Batuhena estate factory). Batuhena estate originally paid 50% of the cinnamon value to the kalli peelers, where it now pays approximately 20%. A peeler who on average produces 4kg dry cinnamon/ day which brings about 1000Rs/kg gives 4,000Rs to the factory which only pays about 800Rs/day salary. However the kalli system, bringing in 6-7 experienced peelers can produce much higher volumes and quality than line workers with varying skills and a working day of 8h. Factories have different incentive systems. All of them pay 400Rs basic salary and a certain rupee amount for each extra kg dry cinnamon per day (from 175-225Rs). A large producer including a hybrid system employing kallis in the factory employs in total about 300 workers. 40% of the peeled value is given to the peelers in the peeling center which they share amongst each other. They are employed with contracts on a daily salary where some of the peelers reach an income of LKR 60.000-70.000 a month. In addition this company collects from collection centers. Labor cost is said to take over 40% of the total cost, followed by maintenance 25% and 35% is the profit for the estate owner. Workers from another hybrid factory in Kosgoda (employing 27 workers; 340kg dry weight per week) are said to be able to earn about LKR 45,000 a month with a family being employed to earn about LKR 70,000 a month.

If kalli or line system, the most expensive and time consuming task/ position of cinnamon processing is the peeling of the bark. Out of 8 hours peeling takes 4 hours.







Overall, kalli and line system are in general capable of producing high volumes of high quality cinnamon. The optimal constellation would be a line system with experienced peelers (kalli members) who can be kept as staff for a long time through incentives. Where the line system has the advantage of easy monitoring and traceability it suffers from inexperienced peelers and training phases of new peelers which results in waste of cinnamon and low grades. Efficiency, the time used to produce a certain amount of cinnamon is in general higher in the kalli system. A kalli peeler can produce about 3-5kg per day whereas only the top peelers for factories produce such amounts. Looking at the values above, producing 1500kg dry weight per month at high season, the factory with 45 processors makes 1.5-2kg per person per day; compared to 3-5kg of cinnamon per kalli member. Looking only at the peeling time (without harvesting) kalli members peel about 4 hours longer than factory workers which leads to an amount of 3kg per factory worker in the same time. In general three kalli peelers can produce more volume and higher qualities than three factory workers in the same amount of time given their superior skills and being used to work with each other since years. Also, they are motivated to increase their personal income dependent on their daily produce whereas the factory worker is not that dependent on the volume. Maximum salaries can only achieved for peelers in the factory, not for scrapers or other tasks. However the cost of labor decreases in the line system as outlined above where a fixed number of workers receives a certain salary per month (see also Table 2). Also, the two mentioned factories are operational 12 months a year which leaves the producer with more volume at the end of the year (assuming his turnover of staff was low). Of those having tried the line system, no one wanted to return back to the kalli system.

- **Peeling seasons**

How many months a year cinnamon is processed varies strongly across industry actors. Most producers do not peel a certain amount of time between August-March due to flowering season where it is much more difficult to remove the bark than in other months across the year. Good management practices in the estate reduce the off-season to a minimum. Some producers practice a continuous system of harvesting where they do not remove all the sticks from one bush at the same time. They keep certain areas of their estate and prepare it for off-season. The large factories and growers such as Batuhena, Hunuwella, Rathna, Dassanayake Walauwa Plantation and Pahalagama plantations peel the whole year and are able to achieve a suitable amount of cinnamon during that time. Small growers, who do have other crops spend this time on their lands, maintain the cinnamon estate and prepare it for the next season. Those who do not have enough land or other crops and are dependent on peeling outside sometimes only have about 5 months of work per year. Owning a small amount of land does not allow for continuous peeling but is also not enough for factory level processing. Such medium producers would need to join with others if establishing a line factory system. Given the difficult situation some of these estates are neglected and not peeled for years. As cinnamon cannot be stored, during off season factories have to apply good management practices to be able to peel every day or buy cinnamon sticks from other estates.

- **Quality of cinnamon**

Quality in general refers to different grades of quills (see Table 1). As mentioned above, there is a lack of high quality cinnamon in Sri Lanka. The main reason is assumed to be the non-existing or small difference between high and low quality produce. As it makes more business sense for farmers to produce grades such as C4 and C5, higher grades are rarely achieved. Also factories produce such grades without achieving high grades. Having to train new peelers and often people who have not been involved in cinnamon processing before at all, high grades are difficult to achieve. The factories need to achieve their targets and substitute for low performing peelers. By selling larger volumes of C4 and C5 they, same as the kalli peelers, receive a higher income than by producing Alba. Exporters complain about not being able to find the needed quality from the producers and see peelers as people who want to make the maximum amount of money in a minimum amount of time. They expect the producer to focus on quality out of ethical reasons. Some exporters state that nowadays out of 1000kg of cinnamon not even 50kg match the standard which is demanded by the company/brand and its reputation. Where earlier 10 tons of good standard cinnamon was available, this amount decreased now to 2 tons.

Some people have a good sense and feeling for quality, others do not, and buy everything that is available. If bad quality is refused, as mentioned above, another person is guaranteed to buy it. In addition, some industry members label lower grade cinnamon with higher grades. Some exporters do see the same challenges in the line system, where only low quality can be produced due to inexperienced staff. Furthermore many consumers do not know the difference between cinnamon grades. Exporters are worried that even by increasing the price for high quality, those consumers will not understand and might change to cheaper alternatives such as cassia. It is estimated that the buyer will at least have to pay approximately 5$ more for high quality Alba to enable the producer to receive a fair share. Consumers are assumed to not be willing to pay for this amount or be misled by another exporter who denotes C5 as Alba which they would not recognize the difference. Similarly some consumers ask for C5 Special powder but wonder about the cheap price. It is suspected that no one would grain C5 to powder but would use a lower grade and denominate it as C5. Once these misleading methods are discovered the entire cinnamon sector in Sri Lanka will have to live with the damage. In reality between grades there are also differences and high as well as lower quality. This depends on impurities, more or less black pieces and small pieces of cinnamon. What one company labels as Alba might not be the same for another company (despite the standards for quills). In general the line factories have high standards and are clean, spacious and monitored. Although it is challenging for a factory to produce high grades, the quality of the produce is high given small possibilities of contamination and the hygienic working environment. The peeling sheds were kalli groups are working are usually less clean and insects and sand/dust can contaminate the cinnamon if it is dried on the floor/ soil. However also in the kalli system differences in quality were observed. Where in Galle district it was mentioned and experienced that peelers use un-scraped cinnamon, false cinnamon and quillings for the quills, this was not a similar issue in other districts. Rather, in Ratnapura peelers seemed much more concerned about quality and producing clean cinnamon of high value. Some have been trained by the DEA and committed to keep the standards. They peel on separate carpets and build their own small peeling centers where they are careful about contaminations. Those factory owners who changed from kalli to line system believe that their quality is better now. Good peelers in factories can produce C4 and C5 where in some factories they can reach even Alba. In general kalli workers can produce the higher grades because they are highly skilled, however their working environment leads to more contaminations than in a factory where hygiene standards are high. Consistency is necessary where one management can oversee the practices and process.




There is a difference in opinions about if freshly cut cinnamon sticks shall be dipped into water or washed in fresh water tanks or not. Where head DEA officials disagree with the practice pointing to a higher risk of contamination (peeling wet sticks), others support it. The DEA training and research center in Matara teaches how to wash/dip the sticks. DEA D.G. Mr Rupasinghe suggests keeping the sticks straight on a lorry and not on the ground after harvesting, because if sticks are kept on the floor after cutting insects and soil can contaminate them (which is the reason others suggest to wash the sticks before peeling). Besides not keeping sticks on the soil after cutting using water is still the usual practice for the factory system. Small holders usually do not wet the sticks. In addition excess sticks are sometimes kept in the water over night to preserve the cinnamon till the next day (line). Others cover the harvested sticks with cinnamon leaves until the next day (kalli). Criticism is voiced about some processing centers for not changing the fresh water often enough and thus increasing the risk of contamination of the cinnamon. Furthermore some producers (the study could find out about one only) have freezers to cool the sticks for a few hours to preserve and make peeling easier. However this technique is not recommended by others as it is assumed to produce low quality and black cinnamon. It is recommended to use rubbing machines to facilitate peeling and increase the quality of the cinnamon.

Usually for a cinnamon collector or dealer it needs about a year to have some practice in grading and value. Experienced peelers can learn the value and grading in one day. Still collectors and dealers buy all cinnamon qualities which are available. They then sort it and dry it again, add sulfur and sell it to someone else. It is convenient to buy cinnamon in bulk as the price can be reduced for low grades and high grade bring more money.

- **Training of peelers**

DEA trains since years small holders and farmers in cinnamon processing. A 5-day program for growers is conducted in community halls, at the research center in Matara or in other buildings which are close to the village. Out of 10 participants approximately half will continue peeling and be able to produce up to C4 after some training. With some months of practice they can produce C5 or Alba. They are trained the entire steps of planting, maintaining, harvesting and processing by extension officers. At the center trainings are done for farmers, peelers, cultivators and split into a theoretical and practical part. Most of the participants peel their own small plantations. Although they do not have facilities as can be found in factories, the DEA recommends using other available structures such as a bench or a chair and keeping the product clean. Most of the participants intend to peel their own land and to gain maximum benefit of their cinnamon estate by peeling it themselves.

Peelers from the kalli system are trained by their parents or other relatives over a time period of many years. They watch and learn by joining their relatives. Training peelers for the line factories takes between 1 and 3 months. The majority of line workers (female) have not engaged in similar work before joining, they have to be trained from scratch. Attempts to train new employees by experienced kalli peelers for factory level were not very much welcomed by these peelers. As the new person creates wastage and decreases the final value of the products, they chased them off after some time. Kalli groups mentioned to accept newcomers and train them but only for a daily wage, not sharing the final value of the produce with the newcomer. Only after some time, when the trainee is able to produce higher quality they will share the final amount with him.

- **Labor shortage**

The above mentioned issues lead to small holders and peelers searching for different type of employment. In general this research confirms that demand to work in factories amongst female workers is high. Some factories mention having a waiting list of workers wanting to join. The benefits of staying in the village and working fixed times seems attractive for women in these areas. However, also line factories struggle to find a reliable work force. Female workers often leave once they get married or have children (this usually occurs after working there for 5 to 6 years). Some come back after their children have reached a certain age. In general certain people will always search for something better, which brings them more income or a higher status. Others are not very motivated and peel low or average amounts per day. Thus their monthly salaries are much lower than those of the high performing colleagues. They subsequently leave and search for other employment. Also if their family includes male peelers who go to other districts to peel then they might have to go with them and can't attend the factory each day. Nevertheless, so far the factory owners mentioned to not have had any issues about finding staff. They give different kind of incentives to keep the workers satisfied. These incentives range from daily, monthly and weight incentives to supplying families with loans, supporting children's education, introducing welfare programs, increase salaries, give rations and keep good relationships with the villagers.

If a line worker is absent due to sickness or other issues another worker takes her place. As all are trained in all steps of processing the line can function. However if the absent peeler is highly experienced, the quality of the daily produce might suffer due to the smaller skills of the substituting worker. Amongst the factory workers one can find degree holders and educated young people. However there is a high probability that they will leave after some time once they are offered a better job. Sometimes they might still return for high season to support the peeling and earn a good income. Still some factories train 10-15 new people each month. They keep a number of workers and have skilled workers once a permanent staff member decides to leave. When employing kalli peelers for the line system, the training period would reduce to one or two days focusing on the standards and structure of the line. Similar incentives are given by those large growers who still work with the kalli system but do not have problems of finding peelers. They have good relationships with the workers and support them at the job and outside in their private life. By creating a good relationship the workers bond and are not leaving anywhere else. They feel respected and recognized. They are usually very well connected amongst each other and loyal, they will stay together if the conditions are good. If the estate is big enough and good management practices are conducted, the kalli has employment for the whole year. Some growers rotate the peeling throughout the estate which takes one year for the peelers to come back to their first peeled batch of land. Like that also off season can be managed and workers are employed the whole year around. This owner shares 50/50 of the value with the peelers. They are highly loyal to him and are not causing any issues. He knows by giving them respect, recognition and a good share, they are not leaving. He has no incentive to change to the line system. He enjoys high reliability, sufficient supply of cinnamon in the quality he desires and has reduced his challenges significantly.

### 4.2.2 Social aspects and impacts

- **Migration of Sri Lankan's to the Middle East**

Sri Lankans who migrate to the Middle East for occupations such as house maid, nanny, driver or construction worker are expected to earn between LKR 35.000 and 40.000 a month. Despite the fairly high income, spending in the host countries is also higher than in Sri Lanka (flights, phone calls, presents, transport, food) and the majority of those migrants cannot save much. Often they engage in prestige purchases which do not necessarily have any use in Sri Lanka (given for example shortage of electricity in certain areas of the country). In addition they are separated from their families for several years. Some of the peelers have already conducted foreign language courses, such as for example Korean, and are waiting to be selected for migration. If the chance comes they wish to go. The study however also found that the majority of those who went searching for a better job than cinnamon processing, returned after a short time having discovered the above mentioned short comings. Some young peelers had been to Iraq and Qatar but experienced unpleasant situations. One of them was promised to be working as carpenter. They only bought the ticket and the visa but returned after they found that they were supposed to work with concrete. Also they did not enjoy the restricted freedom experienced in these countries. Many times the advance up to LKR 100,000 which agents give before migration convinces those who are searching for better income. This result was observed for both systems, kalli and line. Where for kalli workers it was more the difficult working situation as well as the inconsistent income which led them to go abroad, for the factory workers it was more the search for something else; trying out different occupations. However for both also savings and time spent with the family were in general rated higher than migrating. Like everywhere in Sri Lanka there are some who plan to migrate, but overall this is not seen as serious issue for the cinnamon producing areas in Sri Lanka by anyone included into this study.

- **Stigma and Recognition**

Where previous reports highlighted the low recognition based on cast and the historical negative perception of a cinnamon peeler, this report aims at giving a more differentiated perspective: how peelers are seen by the public, and how peelers are seen by other industry members. Starting with the first, although in certain parts of the country (Galle and Matara) there is still some degree of a social stigma combined with being a "cinnamon bass", all respondents were convinced that this situation is changing and the stigma gets less and less "*It is not like those days, … the way we process is not very attractive for the young generation but there are no social barriers and no cast problem like in the old days.*" (DEA D.G. Mr Rupasinghe). In districts such as Kandy or Ratnapura there has never been a social stigma. Especially small cinnamon owners who are trained by the DEA[17] to peel their own cinnamon earn an extra income and see themselves as innovators rather than peelers only. They are acknowledged in their society having a higher living standard by processing their own cinnamon. Most of these small holders have a different main occupation and do this peeling on the side. A group of small holders and kalli peelers in Ratnapura (more than 100 families) highlights that through their superior income

[17] Since 1998 the DEA is training cinnamon processing with at least 1000participants per year

they can afford three wheelers, bikes, their kids education, development of their house or the acquisition of additional land. They are much better off than others in their village and more seen as small entrepreneurs. They are not at all interested in changing to work for the army, offices or factories. They seemed to be well educated and aware of their status. Compared to their social recognition, small holders down South still feel that people are “looking down on them”. Whenever they leave the village they describe their occupation as being involved in agriculture. From their point of view there is no appropriate name for their line of work. Where some believe that changing the name of “cinnamon bass” to “cinnamon processor” might help to uplift the peelers, others feel that this won’t change anything as they are still doing the same work using the same tools and the same practice; the name alone won’t change much. In most of the areas cinnamon is in everybody’s daily life. In Matara or Galle the majority of people are involved in the cinnamon sector - rich and poor. A small holder explained that one of his sons does not want to be a peeler; he is involved in cinnamon collection and selling.

Still, a number of young people, also those who have been trained peelers based on their family traditions, search for other jobs with better recognition and status. This trend however can be seen in any of the agricultural industries, if its tea, coconut or rice. Some young people do not wish to be involved in “dirty” jobs and seek for jobs in town (shop, office). They are searching for a job with better amenities and facilities.

Besides social recognition, this study aims to highlight the low recognition of the small holder or peeler within the cinnamon supply chain. Despite the above mentioned difficulties different actors in the supply chain face with each other, it was observed that the peeler (kalli) is often still seen as someone who “only wants to do a quick fix job, earning the maximum of money to spend it on useless things”. Where examples of this behavior for sure exist, the reasons for it are mostly poverty and education related. Furthermore the intentions of making the maximum of money out of the trade (and in certain cases this money might also be spent on products others might find useless) can be found also with other actors and levels of the supply chain. Within this study different examples of behavior were observed including those farmers who are motivated to produce high quality cinnamon, save their income or spend it on the children’s education or acquiring new land. Looking at the challenges within the industry, those members who have found a way of building a good relationship between owner and peeler have mentioned to not face any issues. This is valid for the kalli as well as the line system. The successful producers who were happy to contract kalli workers and would not want to change to the line system explained that they found a way of benefit sharing which satisfies both parties. Usually they give 40 or 50% of peeled value to the processor; they give loans, scholarships, attend weddings and other social events in the village and facilitate decent living for the workers in their estate. But above all of that, they understand that without the peeler, there is no cinnamon for them to sell. They recognize the peeler for the service s/he does for the industry and the country: “*Without him, I have no cinnamon. I need him, so why shall I not compensate him appropriately for the service s/he does? We share 50/50 and are both happy with it. They will never leave, I look after them well. I have no issues with workers and I am successful with my company*” (Mr Dharmadhasa, Pahalagama plantations). Another large holder explains “*During the off season, no one looks after the peeler. They send them home. However there* *would be the possibility to peel the whole year. The owner has a stock of cinnamon to sell, but the peeler has no work during this time and no choice than borrowing money*" (Mr Wijith De Zoysa Jayathilake, Dassanayake Walauwa Plantation). Finally a large producer from Matara, Mr Piyatissa Runage states "*I have 300 workers and no issues with staff. I look after them well and recognize them for what they do for me*". These examples show that those who are very successful in the trade acknowledge the importance of the peeler. Where some see the dependency on the peeler more as a threat to their business, others understand how to integrate the peelers needs to come to a win-win system for both.

Looking at the line factories, peelers there are seen as factory workers more than cinnamon peelers. They do not face issues of recognition on a social level, also are they very much recognized by the factory management. They wear uniforms and work in a spacious clean environment. Respondents explain that there are women they know who want to join but there are not enough opportunities for them and they would be happy to have more factories in that area. However even there young people sometimes do not like the reputation of the job in general. DEA reported of line factory workers who despite the benefits offered are not satisfied with the system and their job. Even some who live very close to the factory and enjoy the amenities of having secure income and living with the family. Partially the reason for this is assumed to be what was elaborated on above, that such jobs (similar to the tea industry) are perceived as "low" level where hard physical work is involved, compared to desk or office jobs. Some see the issue in the lack of awareness and the lack of value given from the public and from the government. The outside and the industry itself are not recognizing and valuing the "people who do the hands on work". They are considered as "dirty" and "uneducated" and somehow as "less value" than someone who works at office. Despite the fact that in an average office job, no one earns 2000Rs per day. Furthermore, some of the workers have completed A/L and O/L. In the two visited line factories, the workers are very proud of their achievements and where they work. Government and company officials visit the factory frequently and they receive recognition out of this. Most of the workers did not have any paid job before; some have a cinnamon background, others don't. For a Galle (hybrid) factory employing kalli workers it was reported that the workers know the difference in payment between office jobs and cinnamon processing. They have no issues with the reputation or getting married. The superior income is valued higher than that.

Nevertheless, cinnamon processors as well as owners agreed that processes to increase recognition for their service for the country have to be put in place. Many peelers know that they play a crucial part in the supply chain and feel the lack of acceptance and respect from the industry. Introducing the possibility of receiving a national accreditation through the UNIDO project and the CTA, all respondents (except for one buyer in Ratnapura) felt positive about this program and voiced their interest. As in every job, skills and experience levels have to be acknowledged and should make a difference in salary and recognition. A large holder from Kandy district immediately offered to support activities in finding people for training and certification. He heard about such possibilities for the first time through this study and was happy about it.

- **Income, lifestyle and health**

Small holders who have finished peeling their own land will either help other small holders to process their cinnamon or involve in activities for maintaining the cultivation. In addition, some of them own different types of spices (pepper, nutmeg, gloves, tea) and dedicate their time to these activities in times where there is no peeling. If these works are not enough to have continuous income they will search for outside employment either as contracted cinnamon peeler or for short term employment jobs. Those who do not own land are taking contracts for the maximum of time per year and live from their savings during off season. Although many do not have bank accounts they have other ways of saving. A saving system called “situ” was mentioned for Galle district. Also LOLC offers group loans. They however do not have insurance or epf/etf and showed interest in such advantages. Some processors borrow from private lenders at village level who ask for high interest rates (sometimes 15% a month). This often causes a difficult debt situation for the family where they have to use the newly earned peeling money to get out of debt. Banks do usually not give peelers individual loans as they are not registered and have no secure income. Also if they give, it often is perceived as taking too much of time from the peelers point of view. Factory workers are only registered in the two operational line systems where those contracted in hybrid factories are receiving daily wages or monthly wages only.

Some owners highlight the issue that peelers do often not appreciate the value of money and waste it fast. Where it was not possible to elaborate in depth on that issue during this study, the interviewed peelers reported reasonable expenses. Kalli workers as well as line workers listed the children’s education, buying facilities for the household, upgrading the structure of their house or jewelry and clothes. Those small holders who were interviewed in Ratnapura and seemed to be well educated mentioned to run bank accounts and save their money until they find land to buy. They won’t take loans from “credit sharks”. In their village, older and retired peelers give their land to peel for 50/50 and live from that income.

Factory line workers with permanent contracts enjoy a secure income throughout the year. They are also able to receive loans from the banks. Their husbands are often also working as peelers. In the kalli system the majority of peelers are men who would earn the income for the family. It is said that often they will not spend it on the benefit of the families compared to the female factory workers who would spend it mostly on the children and house and family benefit. So far incidents of husbands taking away the money from the female workers were not known of. The life of the factory workers changed mostly in financial terms which led to higher recognition for them in their social environment. Where some do believe that women in Sri Lanka are already empowered and there is no such need, others see the advantages of the line system in that regard. The financial status alone allows them to independently purchase and use their own money for what they might feel important. They are not dependent on the husband or other family members to provide for them. That several women still chose to leave after getting married and stay at home was said to be a cultural factor and has nothing to do with the cinnamon industry as such. Workers themselves said to feel very happy about their job and about what they could achieve for themselves.

All processors highlighted that they wish to spend a maximum of time with their families. Some saw that time spending in peeling at home with their families (Ratnapura), others in the possibility to join the factory and peel less hours. In the kalli system the family stays together the majority of the day; they practice and learn together. It is in that way also easy for the women to look after their children. In the line system other people have to look after the children when both parents (especially mothers) work, often it is the grandparents. Most of the women did not have any jobs before the factory. Although there is the risk of child neglect or child abuse by those looking after the children in the meantime (which is known from other places in Sri Lanka) so far there are no incidents known of issues in this regard.

No social issues were observed based on the fact that women are working with the line factories. One factory manager however mentioned that after the factory first started, men were gathering around the place to observe what is happening inside the factory. This was though based on curiosity than creating a threat to the women. Peeling is physically exhausting. Therefore peelers mentioned to suffer from back pain as well as strains in legs and arms. In kalli as well as certain factories peelers work on the floor as they mention to prefer this to sitting on tables. In both systems workers experience these issues, however in the kalli system working hours are longer, thus peelers face increased pains.

- **Awareness and Mindset**

Many of the small holders and independent peelers (sometimes even large holders) have not yet heard about the line system or had a clear idea about it (slightly dependent on the district). Some have heard stories or have been to factories to observe how it works. In Kandy for example only one out of 9 small holders/ peelers has seen a line system. After receiving explanations, the majority of interviewed peelers were opened to get more information on the system and also, to try it out. The majority of interviewed peelers felt positive about the line factory and at least was interested in finding out more about it. They are aware of the challenges in the industry and are open for new concepts. Some showed increased motivation and offered to assist in finding trainees and participants. In some cases growers and peelers did not see the feasibility of having a line factory established in their areas, given a difficult terrain with many dispersed farmers. Others favored a common peeling center. DEA officials, from their experience, believe that it might be hard for small holders and peelers to adjust to the line factory level. However, if a peeling center is established with good management, they would participate and join with their activities. The management has to be undertaken by someone who is trained by the DEA or CTA. In addition all of them were open to receive training and the national level certification offered by CTA. DEA already conducts trainings on awareness and change of attitudes. They highlight the lack of awareness and thus teach how impurities and contaminations of cinnamon affect the market, how cleanliness and high standards are important and how everyone has to contribute to that. Although their 5-day training is offered for free, it takes too much of time for some to join. Research center officials also explain that there are no complains of those who join the industry new, but with those who are already peelers and find it hard to adapt to a new system.

That women might not be allowed to work for the factories by their men or families was mentioned to be a very low percentage. Except for those small holders in Ratnapura who enjoyed a good lifestyle in working together as kalli, all other interviewed peelers felt positive about their wives or sisters getting the possibility of working for a cinnamon line factory. They, if growers or peelers, husbands or fathers have not voiced any concern about women working in the factories. Rather, they favored the idea that the women in a family also have the possibility to contribute with some income.

Looking at the distance peelers are willing to travel to work in the factory a radius of 4-5km was mentioned without transport and approximately 10-15km including transport. Their major issue comparing their current system with the line factory system was however the (for them perceived; they would be able to make more only looking at the annual income; based on continued peeling) smaller financial earnings at the end of the month. As a high skilled peeler they can make 1000-2000 rupees a day compared to on average 800 rupees. Also they receive the money much faster than once at the end of the month. Peelers in Galle explained that some factories do not give incentives if a peeler is missing one day a month, despite the produced volume within this month. These restrictions leave them with a feeling of exploitation. Although in general willing to attend the factory each day, to know that they are able to still have a fair income if they stay away due to sickness or family emergencies is of high priority to them. Those who are skeptical about the line system have the feeling of being worse off after joining than now. Their opportunity cost is higher than for the female workers joining the factory. Most of them did not have any paid work before, for them it is an upgrading of their life. They mention to be better off than other women in their village. However also in the line system some women do not come continuously and eventually drop out. Also, kalli members are motivated differently to produce a high amount of volume per day as they see a direct benefit from that effort and they get their share after a short time. Line workers do have certain incentives but they are less in terms of short term income as well as received much later in time. Some line workers thus do not perform highly. Short term thinking is not only a factor experienced amongst peelers, it is a general mind-set which is observed in many different industries and levels of work in Sri Lanka. Similarly some buyers and owners do not have enough land to open a factory themselves. They could however join with others and run it together. Where some feel positive about that, others do not want to cooperate and rather continue with the kalli system. The lack of seeing a benefit in cooperation was observed also for other industry actors, hindering though the prospering of the industry. Some resistance to work with each other can be comprehended based on experiences of certain actors; however without a change in mind set and attitude of many of those involved, the industry will not be able to reach the desired status. As one large holder explains "*It is a partnership, not exploitation. One needs to respect the people who do services. Imagine no one would pick up your garbage, what do you do? We need all people who are involved, so why not respect each other? People always complain and are scared of losing money. I am making money, I am not losing anything*".

### 4.2.3 Environmental aspects and impacts

Very few environmental impacts were mentioned for kalli and line system. Everyone who has his/her own land will not abandon, can cultivate something else at least; cinnamon estates give produce, habitat for animals, no issues known on an environmental level.

- **Cinnamon harvesting:** Sometimes independent peelers (kalli) or those who harvest for the factory might not cut the sticks appropriately out of carelessness as the estate is not their own land. Once cut wrong, the whole cinnamon tree can die. Those peelers who are contracted for the same land each year will put extra care in harvesting to not lose the contract for the next year. Similarly easy to peel sticks are sometimes cut if those who peel and harvest are the same person. This leads to sub-optimal status of the cinnamon cultivation. However if peelers are known to an area they put extra care when harvesting as they do not want to ruin their name.

- **Weeding and fertilizer:** Generally fertilizers are used in the industry; however compared to other crops in Sri Lanka the use of fertilizers and chemicals is very low and does not pose a threat. Herbicides are only used if the farmer does not maintain the estate very well and keeps many vacancies.

# 5. Conclusions and Recommendations

The Sri Lankan cinnamon sector is a highly diverse and complex industry. This study tried to highlight some general aspects and challenges but focused especially on the advantages and disadvantages of the two cinnamon processing systems: kalli and line. This chapter refers back to the above explanations and lists several recommendations.

| Kalli system | |
|---|---|
| **Strengths** | **Weaknesses** |
| High volumes of produce<br>Highly skilled workers<br>Able to produce all grades<br>Peelers feel independent and flexible<br>High income received shortly after peeling<br>Judges the stick when harvesting and is able to produce high quality<br>Family peels together, children learn and everyone is looked after<br>Value of sold cinnamon is shared equally | Long working hours<br>Basic and unhygienic working environment<br>Lower food safety standards<br>Harvesting easy sticks<br>Difficult to monitor and control quality<br>Peeling might be stopped or interrupted due to other activities<br>High season not enough peelers are available<br>Reliability (advances)<br>Low recognition within the industry<br>Stigma towards the industry still existing but decreasing<br>No motivation of producing high grades<br>System of blame and cheating throughout the supply chain |

| Line system | |
|---|---|
| **Strengths** | **Weaknesses** |
| Regulated working hours and income<br>Good and hygienic working environment<br>High food safety standards<br>Easy to monitor and control the quality<br>Constant supply of cinnamon<br>More free time with the family<br>Continuous processing without interruption<br>Higher margins for the producer given lower labor costs<br>Recognition and empowerment of the peeler<br>Potential of including kalli peelers under certain circumstances<br>Positive attitude towards the factory, number of female workers who are waiting to join | Lower volumes per month – better volumes per year<br>Less skilled work force<br>Wastage and production of lower grades due to unskilled workers<br>Decreased efficiency if line workers are lazy/ low skilled<br>Staff has fixed working hours, less flexible (peelers viewpoint)<br>Monthly salaries and not immediate cash (peelers viewpoint)<br>Harvesters and peelers are not the same person, peelers can face difficulties in peeling the supplied sticks based on harvesters low skills<br>No motivation to produce high grades<br>Only peelers are rewarded with incentives, other processors receive less salary per day |

1. **Database:** There is a certain amount of information available on the cinnamon supply chain; however no central database is yet in existence. Data on cinnamon growers is stored with DEA district offices, however only for those farmers who apply for subsidies and are registered with the DEA. Basically there is no accurate number available for small producers, large producers, collectors, dealers and independent peelers. Exporters are listed with the EDB. Also, definitions of who is a large and who a small holder vary. A well established database including name and address of producers, collectors, dealers/buyers, independent peelers and factories (all types) can facilitate further research as well as activities set by the CTA or DEA. Information on size, production volume, grades, number of members (kalli/ factory) can be added to this database which can help to develop a cinnamon supply chain map for Sri Lanka. Also it can assist the monitoring of production at local and regional level and help forecasting supply. This map again can assist in allocating the ideal future locations for new factories. DEA extension officers can be of major help for this exercise as they know the field best. DEA hard copy farmer lists, EDB exporter data and TSC data can build the foundation for the database.

2. **CTA and DEA:** CTA can use DEA and the DEA research center as system to implement their trainings and certifications. It can use the already existing sub centers and system to introduce the training and certification across the country. So far DEA trainers are not certified up to standards, thus quality varies.

3. **Supply chain**: The length of the supply chain including various actors and their behavior towards each other was outlined above. Traceability, monitoring and controllability (which is higher in the line system) are difficult. To improve the situation of mistrust, blaming but not changing and facilitate a fair system the following recommendations were collected (some of them are long term and will involve action from highest political levels):

    a. To educate the peelers, small holders and collectors on grades (standard), according prices, and quality standards (hygiene, safety)

    b. To introduce a central pricing system where a fixed price per grade is announced for example weekly and communicated to everyone; fixed prices introduced by the government. Fixed prices according to grade standards will decrease the possibility of cheating. DEA is currently calling (local) collectors weekly to collect prices which they publish in the papers.

    c. To introduce a weekly market system (auction) to enable the producers to bring their cinnamon to a central market close to their village and sell it there for fair prices; rather than selling it to collectors. Collectors themselves will still receive their share of cinnamon but are obliged to pay the official market price. Producers in that way have the chance to receive a fair price but are also subject to criticism if their quality is not good enough. Buyers can visit the market and select the quality they need. A supervisor can be present at the market to make sure that quality standards are met. Fines can be introduced to those who still buy very low quality (including quillings, un-scraped cinnamon, etc). If buyers only buy good quality (grades based on official standards) to announced fair prices, those producers who can't sell will be pressured to increase their quality. It also gives possibilities to the producers to meet other collectors and exporters which decreases their dependency on their mobile collector. Similarly it increases the possibility for exporters to find good quality cinnamon without buying from collectors and dealers which might buy all kinds of quality. Finally such market increases the traceability of produce and makes it possible to fine those who cheat.

d. To sell cinnamon in grades and not in bundles. Buyers can control the quills and buy a certain amount of quills from the market or the producer. This reduces the possibilities for producers and other sellers to cheat by including lower qualities inside the bulk.

e. To label the cinnamon according to producers to increase traceability

f. To invite collectors and dealers to bid for the cinnamon: a large holder suggested and explained from his own experience the success of having different collectors bidding for his cinnamon. He informs himself at the chamber or other exporters in Colombo on the price for his cinnamon. After that he invites local collectors to bid for his produce. He sells to the highest bid. This possibility is based on certain knowledge of the producer on grades and prices.

g. To certify cinnamon products before they are exported. Such a draft for an act was already submitted to the government (former president) before elections last year. It was however dismissed during election times and not yet reconsidered. The current president can be approached to consider the draft and accept it.

h. To take action against those who damage the industry as was seen with U10.

i. To conduct awareness raising activities in Sri Lanka for members of the supply chain as well as outside Sri Lanka for the consumers. Focus should be given to share information (in Sri Lanka) on available alternatives of production systems, training and certification possibilities and on the grading of cinnamon (especially for small producers). The DEA can facilitate the awareness raising activities (community events, one day information sessions; the activities cannot take too many days, as small producers will not want to spend the time on their participation if it takes too long). In addition, if suitable, information material can be distributed across the districts by extension officers to reach those who cannot join the events. The government needs to be made aware of the need to support an improvement of the system, especially on the pricing and quality system. Consumers can be made aware of the standards and financial value of different grades by TSC or exporters themselves; however it has to be made sure that the communicating exporters comply with the set standards. A central body seems best for this type of communication. Combined with branding Pure Ceylon

Cinnamon, quality and price information needs to be delivered to the consumer. Those institutions already involved in branding Sri Lanka's cinnamon can include such activities. Before these activities can take place, the above mentioned research on developing a complete database of supply chain members has to be conducted to allow a complete overview on the target group.

j. To build a uniform appearance for the Sri Lankan cinnamon producers. So far the appearance online as well as in the field is not uniform enough for consumers and importers to understand and be able to search for the most reliable and high quality exporter. Data on DEA and other websites is old and not up to date. Someone who is interested in buying cinnamon in Sri Lanka and involves in online research ends up confused. Also s/he will end up contacting the same people from the industry hindering fair competition between exporters.

4. **Quality-price gap**: The absence of market response to superior quality leads to a maximum volume of medium and low quality of cinnamon. Even for those producers who do not include quillings or cheat, producing Alba does simply not make business sense. If the industry in Sri Lanka wishes to produce more Alba and C5Special a significant price difference has to be established, which makes it worth for the producer to go for these grades. It cannot be expected from the small holder to produce Alba based on a strong belief in quality while losing income at the same time. There has to be a compensation for the effort. For factories an exporter recommended to introduce a second line which is focusing solely on high quality but is receiving the same income as the other line workers who peel C4 or C5. Still incentive system is done per kg and not per grade. A factory peeler should be rewarded for producing higher quality and not only volume. If the industry focuses on production of high quality, volumes of cinnamon will decrease and price for cinnamon will increase. Being able to supply high quality (genuine) cinnamon from Sri Lanka is assumed to be still competitive compared to Cassia. It is only then not competitive if the quality is low.

5. **Financial assistance**: Many small holders do not invest into the system. Setting up a factory and a line system is costly and requires the factory to produce well to amortize the investment. However at the beginning the line workers are not skilled and produce low grades as well as more wastage. It takes about 3-4 months for them to be skilled enough to peel higher grades. Financial assistance at the beginning of the factory set up is important to convince others to start such systems. Otherwise the factory runs the risk of large financial losses. This assistance might come from the government or from private investors. It is estimated that to produce 100kg cinnamon per day, a minimum of 1800square feet and 6000 rupees per square foot are needed; besides equipments and land costs. If investors want to become exporters they can invest in a processing center or line factory.

6. **Kalli or Line**: Both systems have their advantages and disadvantages and for the time being it is recommended to improve the kalli system while gradually supporting others to set up more standardized systems/ factories. The cinnamon industry is highly diverse; a

clear cut suggestion to only go for line system cannot be given based on this research. and other versions in addition to supply for the different demands and interests; rather a combination of systems is suggested. GMP and improved standards can be introduced to any of the factory types.

a. **Line factories**: The current line factories give a clean and spacious environment where workers are easy to control and monitor and good quality and volumes of cinnamon can be produced. With or without quality-price gap, line factories can reduce labor costs in the long term and increase their margins. The incentive system within these factories has to be sufficiently attractive to motivate peelers to produce high volume but also high quality. It is recommended to train peelers and keep them stand by for the case that permanent staff is sick or leaving (Eastern Spice, Hunuwella). Staff turnover can be reduced by keeping a good relationship with the workers and involving to a certain part into their village life (attend festivities for example). If staff is not very efficient in the line, other line workers are disadvantaged and hindered in producing more. Workers have to be trained constantly to reach a certain standard in the factory. The optimal distribution of tasks has to be found for each worker. It is recommended to first start factories in town centers where a sufficient amount of potential workers are available; not in rural areas. Once the confidence of the growers is established to introduce it in rural areas too. This was the conclusion of a DEA survey looking at optimal locations for central processing centers (unfortunately there is no report available for this study). In rural areas people are still not aware and often do not prefer new systems. They don't want others to come there. In town areas there is a need and the interest is higher. Also urban areas are more active in training activities (DEA did not establish any centers after the survey, because of lack of money)
b. **Line and Kalli hybrid factory**: Some factories are already employing line workers as well as kalli peelers. As kalli peelers are highly skilled they do not need training and can produce efficiently, fast and all qualities. However the integration of kalli members into line systems is not very easy. One factory in Kosgoda, the Dassanayake Walauwa Plantation, is currently running a pilot on how to best integrate kalli groups in the factory. Core factors are so far that they have to earn the same as before and respected as peelers in the factory environment. New line workers can learn from them but will not be able to share the final compensation with them, they will have to be paid separately. Kallis are usually committed to each other and can produce high volume of good cinnamon in the factory under clean and hygienic circumstances. It is also recommended to pay experienced peelers more than those without experience. As in other jobs, if someone brings a certain level of experience into the workplace, s/he will be rewarded accordingly. There are suggestions of producers to pay experienced kalli peelers more than factory workers as their skill level and abilities differ. Peelers for example mentioned an amount of 1500Rs per day to join the factory; which is comparable to what they currently receive on an average day for

average quality. Where it was said that it is recommended to employ female workers for the line factories, it is not recommended to substitute the current peelers in a location fully with newly trained staff. Not only will the quality of the cinnamon produce suffer, it can create serious financial risk for the factory. Experienced kalli peelers can contribute their skills but have to be respected and treated accordingly. To convince kalli peelers to work for a factory the financial outcome has to be the same as what they earn now. This was their major concern. Also the system has to be adapted partially to their lifestyle. This can be done with daily wages or certain days which can be taken off per month in case of sickness or emergencies without reducing their bonus if they still reach the agreed amount of cinnamon (for all peelers, line or kalli). Finally a fair system has to be established where peelers and scrapers receive a similar amount of income. Currently only the peelers get good incentives in the line system. However the kalli divides equal shares for each person. Thus also those making quills or scraping the cinnamon receive the same income. They will not be willing to work for less than that.

c. **Bought-tree factories**: Wherever suitable establish bought-tree factories which take raw material and compensate the farmer accordingly. The only factory in Sri Lanka which conducted such activities gave 30 rupees per kg wet wood. The peeling in the factory can be done by the same small holder or not for a certain salary. This can be established as a cooperative system where the farmers share the benefit made by the factory. This will also help those growers who do not know what to do with their land currently (which are assumed to be many, they do not cultivate and leave their land as it is, many of them live in Colombo and have different source of income) or those who do not like to be peelers but still get some income from supplying the sticks to the factory. Quality control of the sticks has to be ensured by assessing the growers land first.

d. **Peeling centers**: Wherever factories cannot be established – especially in rural areas, peeling centers can offer peelers to process in controlled and hygienic conditions. Standards and traceability can be increased. Which locations fit best can be assessed once a central database/ map exists. Depending on the location, peeling centers are favored; especially where small producers do not want to join the line system given their established estates of different spices and their preference to peel together in kallis as well as close to their homes. With such centers they can process as they are used to, however under improved hygienic conditions and monitoring.

e. **Farmer associations**: Existing associations, such as farmer associations can be used to establish the line system. However the center has to be managed by a separate person who is trained by the DEA or CTA to run the center. Based on DEA experience the centers cannot run when handled by the farmers alone. One committed leadership person needs to run the center. The process also needs to be transparent and including all members of the processing center if established for small holders. Otherwise conspiracy issues might come up where some believe that the managing person might have significant profit out of running the center.

7. **Awareness raising**: Many of the small holders and independent peelers (sometimes even large holders) have not yet heard about the line system or had a clear idea about it. Thus the knowledge on alternatives to the kalli system is still very low. There are several successful examples in the industry, for both systems which can be communicated and shared with others. Best practices have to be spread to motivate and encourage others to start. Line workers in addition can exchange with others and report about their experiences. It was recommended by one worker to conduct a small event and explain to other women in the village what benefits the job holds. Especially at the beginning factories find it hard to get enough people to join. Such awareness raising activities can help to lay the foundation for future factory workers. Similarly awareness raising events can take place for producers and exporters to receive insights in best practices and possibilities to improve their businesses. Those supply chain members included into this study can be best practice examples and approached to share their positive experiences with the system they use. On the one hand events have to take place to share information to large producers and exporters; on the other hand events at village level can help sharing information about working in line factories and the possibilities for small producers/peelers to join peeling centers or other types of factories.

8. **Respect and recognition:** It was outlined above how important respect and recognition are in the kalli as well as the line system. Those who do not want to change to the line system but face issues with kalli workers are recommended to learn from others who have well managed the issues. The good relationship between owners and workers is crucial for success. Industry experts highlighted that if professional peelers should be convinced to work for a factory, only respect and a good relationship will make this happen. They have the expertise and are demanded and they know that. They are of value to this country and do the main job. With respect and involving in important issues of the workers lives such as weddings or welfare, the workers will be faithful to the company and appreciate the good relationship. One factory manager mentions "*You have to live with all the people; you have to contribute and keep a good relationship with them. There are certain borders, but a good relationship and respect are crucial to have a successful company*". A national level certification of the peelers skills (as CTA wishes to provide) can be one tool to uplift the peelers and their profession. In addition 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. Also cinnamon peelers have to be made aware of the service they do for the country and the industry. By knowing and maybe showing them examples of their cinnamon being sold in certain countries, their self esteem will increase. Where the cinnamon industry, similar to the tea and rubber industry, have been very influenced during colonial times, a new Sri Lankan style industry can evolve. A change in mindset and attitude is necessary to really impact

the industry and let it reach up to its potential. As everyone knows, without the peeler, no cinnamon; this has to be understood and recognized.

9. **Women empowerment and migration:** The line system has the potential to uplift women and empower them. Similarly it has the potential to attract peelers who plan or have been abroad but are disappointed of this possibility. By offering similar income and incentives as well as giving recognition to the peeler and his needs, both kalli and line system have the potential to keep people in the country.

10. **Continuous harvesting**: To increase the volume produced per year and reduce the days peelers have no work, good maintenance practices as well as continuous harvesting methods can be applied (for those with sufficient cinnamon extend). Best practice examples exist in the industry where others can inform themselves and learn. Small holders would need to cooperate with each other to form factories and make use of their land together (as seen in Ratnapura) or involve in value adding activities in off season.

11. **Value addition**: Currently the cinnamon sticks once peeled are sold for firewood for 2-5Rs. The scraped cinnamon is used in the field to cover the soil or disposed. Traditionally cinnamon is used to cure headaches. Also there are a number of talented craftsmen in Sri Lanka. Cinnamon stick as well as scraped cinnamon can be used to produce various other products such as chop sticks, incent sticks, handicrafts, pillow or walking sticks. In addition the waste material can be used for renewable energy solutions and benefit the factory or the small holder. A feasibility study has to be conducted to see which products are most suitable. All interviewed parties were highly interested in such value adding activities but lacked ideas and possibilities for its implementation. Value addition can be another solution for small holders to generate income during off season. Factory owners can establish a separate building to produce these items themselves. Another suggestion is to invite companies focusing on value addition to Sri Lanka to set up their business here. In that way quality control can be improved

12. **Training**: To train new peelers it is not recommended to include a new person to a kalli group of peelers, for any factory. A certified trainer has to train the new person who has to learn on the job and improve his/her skills. In that way new people can be trained and existing peelers can be respected which will result in good quality cinnamon for the factory. Scraping and quill making have to be trained first and peeling last. Newcomers can destroy the grade and the cinnamon. Good peelers can be integrated and newcomers can learn from them. So far factories produce high volumes of medium grade cinnamon. Experienced peelers can be employed to produce high quality cinnamon and teach others by letting them observe.

13. **Cooperation**: There are a number of individuals in the cinnamon industry who are highly experienced and have vast knowledge on how to improve the sector. A climate of cooperation has to be established to improve the sector and meet its challenges. So far mistrust and blaming are used to explain the challenges and short comings of the

industry. Through awareness and sharing best practices as well as connecting different levels of the supply chain better with each other mistrust can be reduced. Some growers for example do refuse to work with exporters based on bad experiences with one exporter. They have no access to other exporters and thus sell again to the collector. Similarly buyers are frustrated about the growers. Introducing systems of traceability, fixed prices depending on grade and a number of different processing systems will create a more vivid sector reducing the feeling of being “paralyzed” and dependent on one system.

14. **Maintenance**: It is recommended to manage the estate properly with methods of irrigation, fertilizers and intercropping. A fertilizer called Urea is used three weeks before peeling and makes peeling easier during off season.

## ANNEX – A: List of Respondents

| District | Respondent | Designation | Date; time | Tool |
|---|---|---|---|---|
| Kandy | Mr N.K.A Rupasinghe | DEA, Director General | 02.03.15; 11am | KII |
| | Mr Upul Ranaweera | DEA, Assistant Director | 02.03.15; 1:30pm | KII |
| | Mr Tennakoon | DEA, Extension Officer | 02.03.15; 2:30pm | KII |
| | Mr Sisira Kumara | Group of small holders/ peelers/ buyer | 02.03.15; 3pm | FGD |
| | Mr Akram | Large holder | 02.03.15; 5pm | KII |
| Matara | Mr Lakshman | DEA, Assistant Director | 11.03.15; 9am | KII |
| | Mr Nambukara | DEA, Extension Officer | 11.03.15; 9:30am | KII |
| | Mr I.K. Ranasinghe | DEA Research and Training center, Assistant Director | 11.03.15; 10:30am | KII |
| | Mr Piyatissa Runage | Rathna Ceylon Cinnamon, Managing Director | 11.03.15; 12pm | KII |
| | Mr A.A. Munasinghe | Batuhena estate, Estate Manager | 11.03.15; 2pm | KII |
| | Mrs P.G. Somalatha | Batuhena estate, Factory worker | 11.03.15; 3pm | KII |
| | Mr Sampath | Eastern Spice, Factory Manager | 11.03.15; 3:30pm | KII |
| Galle | Mr Wijith De Zoysa Jayathilaka | Dassanayake Walauwa Plantation, Estate owner | 12.03.15; 9am | KII |
| | Mr Alson & son & Mr Wijeratna | Small holder | 12.03.15; 10:30am | FGD |
| | Mr Siripala & Mr Nimal Jayawardena & kalli | Small holder | 12.03.15; 11:30 | FGD |
| | Mr W. Sumathipala & Mr Supun & kalli | Small holder | 12.03.15; 12pm | FGD |
| | N/A & kalli | Small holder | 12.03.15; 12:30pm | FGD |
| | Mr Nalaka Mendis | Collector | 12.03.15; 13:30 | FGD |
| | Mr P. Gunawansa | Collector | 12.03.15; 13:30 | FGD |
| Ratnapura | Mrs Ranjanie Indralatha | DEA, Assistant Director | 13.03.15; 10am | KII |
| | Mr A.K.D.T. Rukmal | Hunuella estate, Kahawatta Plantation PLC Factory Manager | 13.03.15; 11am | KII |
| | Mrs. S. Kumara | Factory worker | 13.03.15; 12pm | FGD |
| | Mr Sarath Nandakumara & kalli | Small holder | 13.03.15; 1pm | FGD |
| | Mr Karunaratna & kalli | Buyer, small holder, peeling center | 13.03.15; 4pm | FGD |

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|---|---|---|---|---|
| Colombo | Mr Ruwan Dharmadasa | Large holder, Pahalagama plantations | 18.03.15; 9pm | KII |
| | Mr Gream Burtus CEO | Intercom Pvt Ltd, Exporter | 25.03.2015; 4pm | KII |
| | Mr Shanka Dharmapala | Former National Expert Technical Analyst of UNIDO | 25.03.2015; 11am | KII |
| | Mr Lal De Silva | U10 consortium; member and exporter GP De Silva | 26.03.2015; 6pm | *KII* |
| | Mr Ruwan Abeysinghe Gunawardena | Former GIZ member, involved in U10 project | 27.03.2015; N/A | *KII* |
| | Mr I. R Ferdinand | Medical doctor and U10 member, former U10 chairman | 27.03.2015; 1pm | KII |
| | Mr Farhad M. Zahir | UNIDO project member | 02.15-03.15 | *X** |
| | Mrs Nilanthi Wijewickrama | UNIDO project member | 02.15-03.15 | |
| | Mrs Shanika Fernando | TSC, officer, Sri Lanka | 02.15-03.15 | |
| | Mrs Nilmini Wannasinghe | EDB; Spice officer | 02.15-03.15 | |
| | Mr Upul Ranaweera | DEA District office Kandy; Assistant Director | 03.15 | |
| | Ms Samanmali | DEA District office Nuwara Eliya; Assistant Director | 03.15 | |
| | Mr Dawalagama | DEA District office Matale; Head Quarter extension | 03.15 | |
| | Mr Shanka Lindara | DEA District office Kurunagala; Assistant Director | 03.15 | |
| | Mr Ranket Kumbura | DEA District office Kegalle; Assistant Director | 03.15 | |
| | Mrs Kulasekara | DEA District office Badulla; Assistant Director | 03.15 | |
| | Mr M. M. R. Pittawala | DEA District office Monaragala; Assistant Director | 03.15 | |
| | Mrs Shantha Seneviratna | DEA head office, Paradeniya (Colombo) | 03.15 | |
| | Mrs Ranjanie Indralatha | DEA District office Rathnapura; Assistant Director | 03.15 | |
| | Mrs Kaliani Palanasinghe | DEA District office Galle; Assistant Director | 03.15 | |
| | Mr Lakshman | DEA District office Matara; Assistant Director | 03.15 | |
| | Mr Piathilaka | DEA District office Thangalle; Assitant Director | 03.15 | |
| | Mr Wickremasinghe | DEA District office Gampaha; Assistant Director | 03.15 | |
| | Mr Aruna | DEA District office Kalutara; Assistant Director | 03.15 | |

**Respondents contacted to gather reports and statistics*

**Table 14 Details of Respondents**

## ANNEX – B: List of Exporters

**IMPEX CORPORATION PVT LTD**
*145, Bluemendel Rd, Colombo 13.,*
Tel :(94) 11-2436565
Email :impexram@sltnet.lk
Fax :(94) 11-2385225

**SAMAGI SPICE EXPORTS PVT LTD**
*No. 233/20, Pitigala Rd, Palawatta.,*
Tel :(94) 34-2284121
Email :samagicinnamon@gmail.com
Fax :(94) 34-2284793
Web :www.samagicinnamon.com

**G P DE SILVA AND SONS SPICE PVT LTD**
*No.171,, Galle Road,, Ratmalana.*
Tel :(94) 11-2738370/1
Email :gpsons@gpdscinnamonlk.com
Fax :(94) 11-2733371
Web :www.lankacinnoman.com

**RATHNA PRODUCERS CINNAMON EXPORTS**
*203/12,Akuressa Road, Kaburupitiya, Matara*
Tel :(94) 41-2292788
Email :info@rathnacinnamon.com
Fax :(94) 41-2292498
Web :www.rathnacinnamon.com

**S D S SPICES PVT LTD**
*7/2, Summer Place, Colombo 08,*
Tel :(94) 11-7432198
Email :shanthd@sltnet.lk
Fax :(94) 11-2665074
Web :www.sdsspices.com

**DIMATH CINNAMON PRODUCERS**
*Suhada Mw., Sadamulla, Batapola.*
Tel :(94) 77-7315249
Email :dimathcinnamon@sltnet.lk
Fax :(94) 91-2260893

**NIHAL SHANTHA AND SONS**
*No.3, Elpitiya Road, Kiripedda, Karandeniya.*
Tel :(94) 91-2291798
Email :nihalshan@hotmail.com
Fax :(94) 91-2291092

**C F T INTERNATIONAL PVT LTD**
*No 73, St. Mary's Road, Colombo 15.*
Tel :(94) 11-2527369
Email :cfti@sltnet.lk ; cftinternational@hotmail.com
Fax :(94) 11-2521157
Web :www.cftinternational.com

**CHATOOR AND COMPANY LTD A S**
*372 K.Cyril C. Perera Mawatha, Colombo 13,*
Tel :(94) 11-2431432
Email :aschatoor@yahoo.com
Fax :(94) 11-2447891

**CINNALANKA SPICE PVT LTD**
*Kerawara Junction, Karandeniya,*
Tel :(94) 91-2259952
Email :cinnalankaspice@gmail.com

**A BAUR AND COMPANY PVT LTD**
*No 05, Upper Chatham Street, Colombo 01,*
Tel :(94) 11-4728700
Email :baurs@baurs.com
Fax :(94) 11-2329135
Web :www.baurs.com

**INTERNATIONAL COMMODITY TRADERS PVT LTD**
*No. 148/1, Kynsey Road, Colombo 8.,*
Tel :(94) 11-2677064
Email :nanda@ictlk.com
Fax :(94) 11-2677063
Web :www.silvermillgroup.com

**LAK SPICE PRODUCTS PVT LTD**
*"Manel ", Vidyachandra Mawatha, Ahangama.*
Tel :(94) 91-5725628
Email :klakipha@yahoo.com

**TROPICAL ISLAND COMMODITIES PVT LTD**
*18-1-5, 1St Floor, State of Bank of India Building, Colombo 1.*
Tel :(94) 11-2338636
Email :info@ticspice.com
Fax :(94) 11-2448162

**INTERCOM PVT LTD**
*129/1A, High Level Road, Kirulapana, Colombo 06*
Tel :(94) 11-2514099
Email :intercom@sltnet.lk
Fax :(94) 11-2512788
Web :www.intercomexports.com

**K T J KUMARA AND BROTHERS PVT LTD**
*4B, D. W. Rupasingha Mawatha, Nugegoda.,*
Tel :(94) 11-2818919
Email :ktjkb@sltnet.lk
Fax :(94) 11-2822352

**L B SPICE TRADING PVT LTD**
*No.220 Old Moor Street, Colombo 12,*
Tel :(94) 11-2385917
Email :lbtradeco@eureka.lk
Fax :(94) 11-2385708
Web :www.lbspices.com

**NEW RATHNA PRODUCERS AND EXPORTERS PVT LTD**
*Akuressa Road, Kamburupitiya, Matara.*
Tel :(94) 41-2292498
Email :info@rathnacinnamon.com
Fax :(94) 41-2292299
Web :www.rathnacinnamon.com

**P D ROMANIS AND SONS**
*No.99, St. Sebestial Street, Colombo 12.*
Tel :(94) 11-2324453
Email :pdroms@sltnet.lk
Fax :(94) 11-2473048
Web :www.pdrexporters.com

**RANDIVA EXPORTS PVT LTD**
*Manamgoda, Batapola, Galle.*
Tel :(94) 91-5050864
Email :randima@randimaexporters.com
Fax :(94) 91-5050867
Web :www.randimaexporters.com

**CARLTON ESTATE CINNAMON EXPORTERS**
*214, Bandaragama rd, Kesbewa*

**NATURES AGRO PROD LANKA COMPANY**
*No 71/2 B, Jaya Mawatha, Maharagama Road, Piliyandala.,*
Tel :(94) 11-4374481
Email :naturesagrolanka@gmail.com
Fax :(94) 11-4375922
Web :www.naturesagro.com

**CANELA EXPORT PVT LTD**
*55/A-3 Sri Sarankara Rd., Dangedera, Galle*

**SAHEED BROTHERS**
*15,Glennie Street,, Colombo 2,,*
Tel :011-2303501
Email :saheed@sltnet.lk
Fax :011-2303504

**D AND G SPICE EXPORTS PVT LTD**
*`Wickremavilla`, Kalupe, Hikkaduwa*

**NOMANNIC KRAB PVT LTD**
*36 A, Nikape Rd, Dehiwala*
Tel :011-2722159

**MERCHANT LANKA PVT LTD**
*No. 35/24, Araliya Gardens,, Thewatte Road,Ragama,,*
Tel :011-4833972
Email :rohithat@sltnet.lk
Fax :011-2236929

**WATTAKGODA PRODUCERS**
*No.111, Deniyaya Road, Akuressa.*
Tel :(94) 41-2283284
Email :w_spices@yahoo.com

**ECO FOODS PVT LTD**
*No.3/20, Dorakumbura, Dunkolawaththa, Matale*
Tel :(94) 66-2225599
Email :biofoods@lk.com
Fax :(94) 66-2225577

**PREMAWARNADE EXPORT**
*Uduwila, Batapola.,*
Tel :(94) 91-2260129
Email :info@supremecinnamon.com
Fax :(94) 91-2260435
Web :www.supremecinnamon.com

**THE CEYLON SPICE COMPANY PVT LTD**
*36/1, Maha Vihara Rd, Ahangama*
Tel :091-7210796
Email :tastycsc@gmail.com

**LANKA ORGANICS PVT LTD**
*No.23,, Braybrooke Street, Colombo 2*
Tel :(94) 11-2300459
Email :spice@lankaorganics.com
Fax :(94) 11-2336325
Web :www.lankaorganics.com

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## ANNEX – C: Case Studies

**Matara – Batuhena estate – Line system**

The Batuhena factory was opened in 2007 and the estate consists of 100ha of cinnamon land which his sufficient to run the factory the entire year. Although January and December are off seasons, the line workers still peel the difficult trees. Before 2007, the estate was peeled by kallis but given the challenges in the system and the GIZ project U10, the owner decided to change to a new system and introduced the line factory. He employed only female workers from the beginning and faced challenges due to unskilled labor. With GIZ help the old building was renovated and 45 female peelers employed. After about three months the peelers were able to produce good quality cinnamon and achieve a maximum income of 35,000 rupees. In addition they receive epf and etf payments on the basic 400 rupees each month. Efficiency is encouraged by giving an incentive to use less material for more cinnamon. The peelers work 8 hours a day including a 30 minute lunch break. They have washing and eating facilities next to the factory. The male harvesters start working around 5 to 6 am and receive 700 rupees per day for delivering approximately 1400 sticks in total. They receive no incentive. The estate faced issues with unreliable kalli workers before. Since introducing the line system the factory was only closed for 4 times. Also labor cost reduced from 50% down to about 20%. Although the workers cannot produce high grades, the factory can make enough volume to sustain the business. In total 80 workers are employed out of which 45 are cinnamon processors and work in the factory. Some staff members leave and new peelers have to be trained. The workers produce the cinnamon by sitting on chairs or on the floor as they prefer to do so. They feel recognized and are happy about their work which helps them to upgrade their living standard.

**Ratnapura – Group of small holders - Kalli system**

Approximately 100 small holders are living in an area in Ratnapura district cultivating various spices such as cinnamon, tea, pepper and gloves. They work together in groups of two to peel their estates which are 4-5 acres maximum. They share the income 50/50 and are occupied with maintaining the estate as well as their other cultivations for the whole year. They do not peel from January till March. They peel in separate peeling rooms on carpets where some of them have started to build their own peeling centers on their land. They do not peel in January and they are very happy to peel and live with their families. They are not interested in the line system, but might consider a central peeling center where they peel together including quality and hygiene standards. They are highly skilled and can earn up to 150,000 rupees per month. They live in hilly terrain and face issues with their local collector who does not pay them the appropriate amount. Comparing their cinnamon with examples from Galle, it was of far superior quality and left the producers frustrated with the current non-transparent pricing and monitoring system. They work about 15 hours a day but spend some time for eating and tea breaks. They have been trained on how to keep the quality of their products high and they believe in it. They feel very much recognized in their profession and their social environment; however wish to improve the quality and pricing system in Sri Lanka.

# ANNEX – D: The UNIDO Project

## 1. UNIDO in Sri Lanka

UNIDO as being the UN agency promoting industrial development for poverty reduction, inclusive globalization and environmental sustainability has been in Sri Lanka for many years focusing on industries such as textiles, bamboo or cinnamon. Since 2012 UNIDO is supporting the three-year project *"Enhancing the Compliance and Productive Capacities and Competitiveness of the Cinnamon Value Chains in Sri Lanka"* in collaboration with the Spice Council of Sri Lanka and the Ministry of Industry and Commerce.

## 2. The Spice Council of Sri Lanka (TSC)

The Spice Council of Sri Lanka's focus lies on promoting and branding Sri Lankan spices globally as well as supporting local industry members and stakeholders. The organization aims at insuring the ability of all Sri Lankan spices and allied products industry segments to compete effectively and profitably in the local and international market. Therefore the TSC facilitates forums, trainings, promotes research and implements various projects together with other organizations and institutions. By implementing the project *"Enhancing the Compliance and Productive Capacities and Competitiveness of the Cinnamon Value Chains in Sri Lanka"* the TSC aims to support the Sri Lankan Cinnamon industry stakeholders to enhance the competitiveness of their value and reinforce them to face the stiff global competition as well as restrain the market deprivation. In addition the project aims to increase the share of the value added cinnamon from Sri Lanka to international markets.

The Sri Lanka Spice Cluster was formed in 2001 with the assistance of the U.S. Agency for International Development (USAID) funded program- The Competitiveness Initiative. The Cluster was formed in response to challenges, both global and local, facing the spice industry in Sri Lanka and was comprised of representatives from across the industry value chain. Participants included growers, traders, distillers and extractors, exporters, brokers, associations, industrial technology institutes, as well as government ministries and agencies, such as the Export Development Board (EDB) and the Department of Export Agriculture (DEA). On December 9, 2003 the Spice Cluster formalized itself by incorporating The Spice Council (TSC). TCS's membership now serves as a proxy for the industry.

## 3. The cinnamon: Enhancing the compliance and productive capacities and competitiveness of the cinnamon value chain in Sri Lanka

The project aims at establishing an institutional training delivery mechanism and a national framework for training operators involved in the cinnamon industry to produce cinnamon meeting the necessary buyer product specifications and food and hygienic standards.