Spice Sector of Sri Lanka

Issues, Challenges & Opportunities for Next Decade

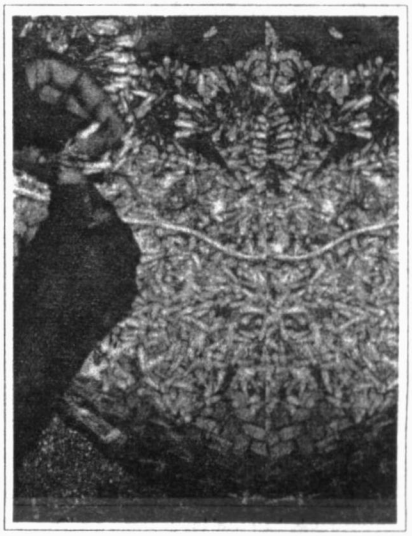
Anura Herath*

Abstract

Humanity is confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health, and illiteracy, and the continuing deterioration of the ecosystem. Combating these difficult situations needs correct identification of issues, challenges and opportunities of various sectors in developing countries. Agriculture is one important sector. This paper addresses these issues focusing on the spice sector of Sri Lanka.

The major issues concerning the production aspects of spices include high cost of production, small size of cultivation, improper quality of spices and the competition for land from other commercial crops. Number of interrelated factors contribute to these issues. The important factors are low yield, under-utilisation of land, senility of cultivations, and low rate of replanting, subsistence nature of cultivations, and market disincentives. Trade liberalisation under Uruguay round of GATT agreements poses several issues and challenges for the spice sector. The major one is the restrictions emanated from the sanitary and phytosanitary measures. As the current level of quality of many spices exported is below the expected level, it is imperative that the quality issue should be addressed effectively and measures should be taken to improve the quality. The agreement on TRIP will also impose a challenge to us. It is necessary that Sri Lanka should introduce high yielding varieties and also other cost minimising technologies. Technology sharing is definitely a promising way of expediting this process. The limitations imposed by TRIP should be taken into consideration in this aspect.

The most glaring opportunity available to the spice sector is the intrinsic quality of many spices brought about by the superior genetic base of the cultivations. In order to transfer this biological wealth into monetary values, the final products of spices must be of admiring quality, which is not the current situation. Along with the challenges arising from new trade agreements, they provide a number of opportunities too, namely (a) doors of more and more international markets will be opened, (b) a short term price increase could be expected, (c) more trading opportunities will be available for value added products, and (d) foreign direct investment could be expected in the spice sector due to more liberal marketing and increased transparency.



Clove earns good income today

In order to capture the full advantage of these opportunities, the paper recommends (a) adopting measures to reduce cost of productions and scientific post harvest measures, (b) to take measures in participating commodity futures (pepper in particular), (d) to place emphasis on policy, research, information communication, training, extension and testing directing towards improving quality standards, (e) to orient growers to produced "naturally clean" spices rather than "cleaned" spices, (f) to establish National Enquiry Points to obtain information on sanitary and phyto-sanitary measures and (g) to impose compulsory pre-shipment inspection process at least in the short run to ensure the quality of exports.

Introduction

Development of humanity across the nations is a new global challenge faced by us as well as all other developed and developing nations. No nation can face this challenge on its own. A global partnership for sustainable development is the need of the day. Agenda 21 focuses on this issue and emphasises the importance of globalisation process of development issues.

Globalisation process in general requires the realisation of achieving a more efficient and equitable world economy, keeping in view the increasing interdependence of nations and sustainable development as a priority item of the development efforts. The development process will not gather momentum if the global economy lacks dynamism and stability, and is beset with uncertainties. Neither will it gather momentum if the developing countries face barriers restricting access to markets and if commodity prices and their terms of trade remain depressed.

* Senior Agricultural Economist, Department of Export Agriculture

Agriculture related issues in the process of globalisation are crucial for many developing countries, as agriculture is the basis of sustainable economic development. Sri Lanka, like most of the other developing countries, has a few sub-sectors of the agriculture sector, namely plantation sector, food crop sector and the export agriculture crop (EAC) sector. EAC sector has close linkages with the world market and is thus widely open for globalisation process. This paper focuses on the spice sector of the export agriculture crop sector to assess its strengths and weaknesses to enter into the globalisation process. With this general background, the paper addresses the main issues, challenges and opportunities of the spice sector in facing the globalisation process. Specifically, the paper has the following objectives.

1. To provide a brief overview of the spice sector of Sri Lanka and its place in the world market;
2. To highlight the main issues influencing the sustainability and growth of the sector;
3. To present the new challenges faced by the sector as a results of close linkages with overseas buyers and consumers, and also because of the nature of resource use in the domestic agriculture sector;
4. To address the opportunities and potentials available with growers, traders and exporters to face the identified challenges and influence the development of the sector; and
5. To propose policy recommendations in facilitating various interventions to harness the potentials in developing the sector.

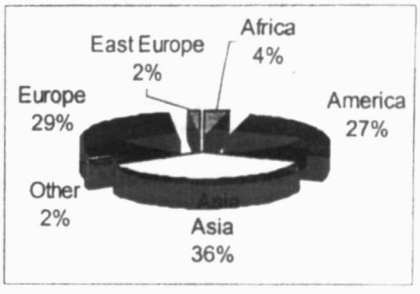
2. Spice Sector of Sri Lanka

The International Spice Group defines spices as any of the flavoured or aromatic substances of vegetable origin obtained from tropical or other plants, commonly used as condiments or employed for other purposes on account of their fragrance, preservative or medicinal qualities. Among several spices[1] Sri Lanka currently emphasises on cinnamon, pepper, clove, cardamom, nutmeg and betel. Spices are important commodities both in domestic and overseas market historically as well as currently. In addition to that spices are important in the economy of Sri Lanka due to the following reasons.

- It contributes about 0.5.% to the total GDP and 1.3.% to the total foreign exchange earnings by generating over Rs 5000 million
- Sri Lanka export spices to about 70 countries in total and about 20 of them are major importers thereby having a very stable overseas market
- Over 50,000 ha of wet zone land is under spices (Figure 1 for a comparison of land use by other crops).
- There are over 200,000 small-scale growers[2] involved in cultivating spices and thus the sector has a small farm orientation.
- Further, there are about 10,000 people involved in various activities connected with the process from cultivating to shipping of spices and thus generating employment.
- Cultivation and processing are labour intensive and in that women labour has a substantial role to play. Sri Lanka and other countries have shown that labour cost is over 50% of the total cost of production (62% in Indian pepper, 65% Indian clove, 51% Indian cardamom).
- Spice growers operating about two acres obtain about 30% of their family income from spices.

Recognising the importance of the sector, the Government of Sri Lanka has provided various types of incentives for cultivation and processing of spices since 1972 with the inception of the Department of Export Agriculture (Appendix 1 lists the current incentives provided by the government for the sector). Meanwhile, the prices of spices escalated excepting clove prices, the cultivated extent of spices expanded from 30,240 ha in 1980 to 53,640 ha in 2000, the total spice export grew from 10,301mt in 1980 to over 20,000 mt in 2000, and the foreign exchange earning from spices increased from Rs 512 million in 1980 to over Rs 4000 million in 2000. These statistics show the growth of the spice sector.

Figure 1: Comparatice Picture of Land Use in Spices, Other EAC and Plantation Crops



Source: Central Bank of Sri Lanka, 1996.

Despite the performance, the sector is facing new challenges attributing to the very nature of its interactions with international trade floors. In order to develop the sector on a sustainable basis, key stakeholders need to be aware of the main issues and challenges, and the ways of facing such challenges by optimising the opportunities available in the sector. The policy intervention is a key pre-requisite in this endeavour.

3. World spice trade

The origin of world spice trade dates back to early civilisation. In Sri Lanka too the agreement between the King Sri Wickrama Rajasinghe and the Dutch gave a special prominence to spices. Importance of the world spice trade has declined to some extent in the developed world with the expansion of other commodities and manufactured products. The total world import of spices (this include all the spices listed) is in the order of 500,000 MT valued at US $ 1.5 – 2.00 billion (UNCTAD/WTO – (ITC), 1996). According to the International Trade Centre, the average global imports of spices has been increasing from about 220,000 MT during 1970-75 to about 500,000 MT during 1993-95. Further more considering the value addition and the marketing margin at retails and domestic markets, the value of trade exceeds US $ 10 billion.

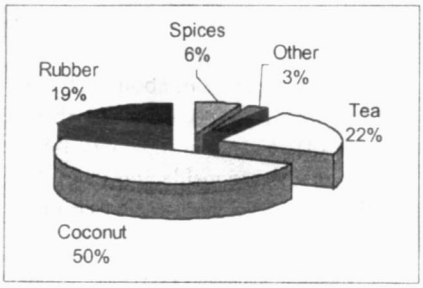
The growth rate in volume terms is estimated at 3-4% annually.

The major importers of spices include Mexico, United States of America, Europe, Asia, and East Europe. Figure 2 shows market proportion of spice imports to the world market in value terms in the major importers. Asia has the highest percentage in the imports indicating Asian regional co-operation is worthwhile for the improvement of the Sri Lankan spice sector.

Many developing and developed countries produced and export spices. Even US, being one of the largest importers, produces spices. India with about 2.2 million MT of production and 2 million MT of consumption is the largest producer and consumer of spices. Developing and least developed countries in the tropical region are the leaders of spice production and exports. They have a proportion of 68% of the world export of spices in 1992 (UNCTAD, 1994).

The global trend in the spice market is promising despite the fact that it has new challenges as discussed later. The promise stemmed mainly because of the growth of the food processing industry and the food service industry in the world. An analysis of the US markets showed that the per capita spice consumption has increased from 2.33 pounds during 1980-85 to 3.19 pounds during 1990-94. Not only the developed countries, but also the developing country markets in the Asia-Pacific region are witnessing a rapid growth in the food-processing sector. Food companies, particularly those in the snack food and ready-to-eat food business, catering to these markets need to introduce new flavours regularly. Spices are the most essential ingredients in this process. At the same time the demand for spices of this nature naturally requires high-standardised quality. This is the main challenge faced by many exporters.

Figure 2: Value of Spice Imports in the World Distributed by Importers (total is US $ 1.6 billion - 1992)



Source: UNCTAD Commodity Yearbook, 1994

The major importers of Sri Lankan spices are Mexico, USA, and India. Out of them Mexico took the lead in 1996 in importing spices worth Rs 960 million. In terms of total volume of spice imports developed countries are the leaders. Adoption of quality that is acceptable to them is therefore the main issue faced by our growers.

4. Issues and Challenges in the spice sector

There are a number of development issues concerning the spice sector. DEA addressed and documented many of these issues. The issues and challenges, though they are slightly different in nature, are taken together in this section for the convenience of the analysis and are categorised into four groups according to the nature of the issue.

4.1 Production Based Issues

The production-based issues emanate due to the nature, efficiency, scale, and the management level of the spice cultivation. The major issues with implication on policy are listed below.

1. The most alarming issue in the sector is the high cost of production of spices. This is due to many reasons namely:
   - The farmers' yield is notably lower than the potential yield of many EAC (see Appendix 2).
   - The planting density of many spice holdings is considerably lower than the recommended level (Appendix 3).
   - Many spice cultivations are old and have reached senile stages.
   - Lack of enthusiasm in replanting senile cultivations due to loss of profit.
   - Recommended improved practices are not adopted due to (a) inadequate knowledge; (b) many recommendations are for pure cropping but farmers have mostly mixed cropping; and (c) lack of financial resources.
   - A larger proportion of the production base consists of low yielding varieties.
   - The agriculture sector in general is facing a scarcity of labour, which results in disproportionate increase in the cost of labour.

2. The second important issue is the small size of the spice cultivation. Almost all the holdings are less than two hectares in size (see Appendix 4 for distribution of holding sizes of cardamom, cinnamon, pepper and clove). When farm size is too small to generate an adequate income, various problems relating to non-commercial or subsistence agriculture arise. Although the nature of crops is commercial, the type for farming is basically subsistence. This brings about several unfavourable situations for spice growers namely:
   - Broad based intervention policies such as low interest capital, subsidised inputs (eg fertiliser) etc. transfer financial benefits to commercial agriculture in general, and thus small scale spice growers have limited impact of these policies.
   - Subsistence farming lacks credit worthiness in the eyes of commercial banks of Sri Lanka. Thus the ready availability of credit in this sector is limited.
   - Since attitudes of the growers are more of subsistence in nature, improvement of quality and exploiting the market advantages are not their priorities. This finally affects the quality of spices.

3. The third issue is the improper quality of spice products. A larger proportion of spices leaves the farm-gate with a quality that is far below the expected level of the final overseas consumer. This is due to a number of reasons, namely:

- Many producers do not have proper processing facilities and are also not aware of the quality parameters.
- Small-scale producers sell small quantities of spices to finance daily domestic requirements. It is not economically viable for them to process these small quantities to expected qualities.
- For the same reason mentioned above, many growers harvest spices pre-maturely. Such raw products do not give the proper quality.
- There are no attractive and differentiated farm-gate prices for better quality products.
- Processing technology appropriate for small-scale producers are lacking.

4. Competition for land from other crops such as tea and semi-perennial crops like banana and pineapple is also a limitation for the expansion of the production base of the spices.

4.2 Issues relatig to value additon

Value addition is an important area in the development of the spice industry due to the potential of employment generation and increasing foreign exchange earning. However, the sector is facing the following issues and challenges in this area.

1. The main issue is the lack of regular supply of spices in the country. The amount is also small so that the advantage of economy of scale is lost for investors in value addition.
2. New technology for value addition is seriously lacking in the country. India, for instance, is several steps ahead of Sri Lanka in this respect. Technology can be imported and that process will be relatively cheaper than generating locally although they are covered under TRIP.
3. Cost of energy is the other important issue. Value addition needs mechanisation. With the high cost of raw spices, high cost of energy is a limitation for establishing value-adding processes.

4.3 Institutional Based Issues

The institutional issues originates due to various deficiencies existing in institutions concerning the spice sector. The main government institution mandated to promote the sector is the Department of Export Agriculture (DEA). The Sri Lanka Export Development Board (SLEDB), Sri Lanka Standard Institution, Spice and Allied Product Marketing Board, SAPPTA, CISIR and IDB etc. are the other institutions with a stake in the sector. Issues relating to these institutions are listed below.

1. Spice sector occupies a small proportion of land (Figure 1) in the country and the total production takes a small proportion of the agricultural production. Their contribution is insignificant from the point of view of food security. Hence the emphasis made by the government and other financial institutions are not at their best possible level.
2. There is inadequate appropriate research input into the spice sector arising due to many factors namely:
   - Up-to-date grower-extension-research links, which reflects the grower-demanded issues in the research agenda, have been made use of to a marginal extent.
   - Research policy and the nature of many research projects, excepting the research on post harvest technology, have very little market orientation.
   - Research efforts have spread very thinly on too many commodities without appre-ciating marketing potential and current challenges.
   - A limited number of research projects are carried out in farmers' field due to (a) lack of funds, (b) lack of interest of researchers, (c) reluctance in effectively interacting with farmers and learning from them, and (d) various logistical problems.
   - Research is inadequate on technology generation in the value addition aspect of spices.
3. In addition to the research carried out in the DEA, other institutions such as Coconut Research Institute, Tea Research Institute and the Universities carry out research on spices. Since there is no co-ordination among these institutions, findings of these researches have limited use for the growers.
4. There is no formal mechanism to transmit research findings directly to traders.

4.4 Domestic Trade Issues

There are various issues and limitations concerning the domestic trade of spices. The bases of many of these limitations are the low quality of the product and unorganised nature of marketing and production of spices. The issues related to these aspects are discussed in the following section.

1. Many spice producers and even exporters are not fully aware of the quality requirement of the final consumer. It is expected that the information on quality trickle down to the producers through the trade channel. On the contrary, exporters have not taken much interest in understanding the quality and overseas importers have also not effectively conveyed the quality norms fully to their suppliers. As a result Sri Lanka has experienced rejections of spice consignments and further negotiations on price adjustments on several occasions.
2. Since farm-gate quality of spices does not match with any standard quality, there is a considerable amount of "cleaning" and processing carried out through out the trade channel. These increase the cost of marketing and also affect the final quality of produces.
3. The private sector does almost all of the marketing of spices. The contribution of the Spice and Allied Product Marketing Board in marketing is negligible. Thus there is no coherent marketing strategy, and even though there is one, it is very difficult to implement it within the current market structure. There are no market-driven production plans

and no consistency in exports volumes.

4. Very frequent price fluctuations in the spice markets are a manifestation of the volatility in both export and domestic markets. This is a situation by which many countries suffer.
5. The overall price structure of the spice sector is a deterrent for investors to establish value-added product. The farm-gate prices of many spices and the retail prices are very close to the world market price on average terms (see Appendix 5). Although this is a favourable situation for growers, relatively high prices of raw spices discourage investment in value addition.

4.5 World Trade Issues

The issues and challenges arising due to the factors related to world trade of spices are many. It is very important to face them to develop the industry. The list below highlights them breifly.

1. The most intractable general issue arising from the world trading is the quality. ISO 9000 certification and Hazard Analysis at Critical Control Points (HACCP) are becoming essential tools in the management of food processing industries. Governments and Association of Industries in most developed countries have approved industry standards, which require strict management controls for procurement of raw material and other inputs. Spice is one important item. These requirements are all focusing on stringent quality standards for exporters.

2. HACCP strategy could in turn have major implications on the following aspects of spice production, which are not merely technology issues. These aspects relate to management, type and efficiency of labour use, farm practices.
   - Type of and proper manner in application of agro-chemicals (pesticides, weedicides and chemical fertiliser) for spices. The aim is to minimise the trace element in the final product.
   - Proper harvesting, processing, storage and packing.
   - Proper screening of material to remove extraneous matter and hygiene of processing units and factory workers (this is prescribed by ISO 9000 standards).

3. The next major issue is the impacts of GATT Uruguay round agreements on spice trade. This is a complex issue with many variables. There are four basic rules namely (a) protecting the domestic industry by tariff only, (b) tariffs should be reduced and bound against further increase, (c) trade according to the most-favoured national clause, and (d) national treatment[3] on which the agreements are based. The spice trade will be completely under control of all four principles. They provide both advantages and disadvantages to the Sri Lankan spice sector in terms of maintaining the industry. The crucial challenge is to try and minimise the disadvantages as soon as possible. The following section briefly lists the impacts of three agreements on spice trade.

The Agreement on Agriculture

The aim of the agreement is to establish a "fare and equitable market-oriented agriculture trading system". In doing that GATT expects to minimise (a) use of border measures to control imports, and (b) use of export subsidies and other subsidies that government grants to support the prices of spices (agriculture products) and assure a reasonable income to farmers. The following specific areas are relevant to the spice trade, which are covered and disciplined under this agreement.

- *Domestic Support Provision*: This falls into two categories: those that are non-trade distorting and thus not disciplined (Green Policies[4]); and those that are trade distorting and thus subject to gradual reduction (Amber Policies). Under the provision the trade distorting subsidies will be subject to 20% reduction. Sri Lanka, being a developing country, is exempted from any obligation to reduce its subsidies if the total non-product specific domestic subsidy is below 10% of the value of total agricultural production (base period for calculation is 1986-87). The implications of this provision are the folowing.
  - There are financial assistance schemes such as cultivation grants imple-mented by the government (through DEA) to finance farm inputs such as fertiliser and planting material. However, the total value of these assistance progra-mmes is well within the permissible level of internal support provision. There-fore the present scheme of assistance in the EAC sector will have no room what-soever for disciplining under the GATT provision.
  - Other assistance schemes such as research, extension etc. are green box policies.
- *Export Subsidy Provision*: According to the provision all practices considered to be direct export subsidies will be disciplined. Developing coun-tries are required to cut export subsidies by 24% in budgetary terms and 14% in tonnage terms. The policies that are considered to be export subsidies include (a) direct subsidies, (b) disposal of government stock below market prices, (c) producer - financed export subsidies, (d) marketing subsidies and (e) subsidies for commodities contingent on there incor-poration in exported process product. There are no assistance programmes in the spice sector falling into this category.

  In the event that the producer - financed export subsidies are disciplined in other producing countries there will be a decline in the prices in the long run. The inefficient producers, many of the Sri Lankan spice producers fall

into this category, may not be able to face these lower prices. Therefore it is imperative that the production base of EAC has to be improved from the less efficient productivity stage to a more efficient one. The institutional support and a fresh approach to the challenge are urgently required.

The Agreement on Sanitary and Phytosanitary Measures

Sanitary and phytosanitary measures (SPS) refer to a procedure or requirements taken by governments to protect human, animal or plant life or health from the risks arising form the spread of pest or diseases or from additives or contaminants found in food and beverages. This is enforced to maintain the food safety.[5] These measures are likely to become the biggest non tariff barrier to export growth and market access. The final act, however, establishers a multinational mechanism to ensure that health related measures are not used as disguise barriers to trade. The implications of this agreement are the most formidable challenge to be faced by the sector.

Almost all the EAC products (coming from plantations / cultivation), which are exported at present have inorganic compounds such as remnants of inorganic fertilizer, pesticide, etc. Inorganic substances are used in the processing of almost all the EAC products exported as semi-processed commodities (i.e. dried, fermented or distilled). Unless there is a transfer from inorganic farming to organic farming, it is almost impossible to eradicate chemical substances in the final product. Similarly, unless very advanced techniques of processing and storing are used, the EAC commodities will contain minute amounts of chemical substances. When these commodities are exported, even a micro trace of inorganic substances could be considered as harmful. In this regrad the provision can be rather restrictive.

At present most spices face the problem of maintaining International standards. In the event of the standards under SPS being stricter, it will be very difficult for Sri Lankan exporters to meet the SPS requirements. Since the agreement does not provide a period within which a country can progressively increase the restrictions, the developing countries like Sri Lanka will face a problem of improving quality standards within a very limited period. This may result in loosing some of the international markets for spices, which will in turn effect local prices and supply conditions.

Agreement on Trade Related Intellectual Property Rights (TRIP)

This provision, very briefly, allows countries to patent new inventions including life forms such as new plant varieties, new breeds etc. The rationale of this provision is to make sure of an adequate financial return to the investment, which is being made in plant genetic research by biotechnology companies and public institutes. This is an extension to existing Intellectual Property Rights (IPR) measures.

The extension of IPR to biological products raises new economic and farming system problems. Two forms of IPR are relevant to plant genetic resources: patents and plant breeders' rights. A patent protects a product or process, which is the result of an inventive step and which is new, useful and non obvious. The relevant products in the spice sector are new selection of pepper varieties called "Swarna Lanka" and selection of low elevation cardamoms. Patents usually permit the holder to forbid commercial use, sale or manufacture of the protected product or process by others for a period of 17 - 20 years.

Plant breeders rights allow a protected variety to be used without permission from the holder and without a payment of royalty for the purpose of breeding other varieties. Under the new patent law of GATT this right is not exclusively preserved. This will have a negative impact on the development of new high breed varieties, because a variety, which is required as a parent, could be obtained only after a payment of royalty to the holder. Particularly, a public institute such as the DEA will have difficulties in securing funds for royalty payments. The immediate result will be a limited access to a common pool of genetic resource, which is an essential condition for plant breeding.

According to the provision, in a patenting application, protection can be claimed even for individual genetic characteristics. A situation could arise where, if a protected gene finds its way into another variety, the patent holder could exercise their claim over the resulting variety. This rather restrictive provision limits both the flow of acceptable varieties to farmers and contribution to bio-diversity. A possible implication of this condition is that about 45,000 Sri Lankan growers of "Panniyur" and "Kuching" varieties of pepper would have to pay a royalty to Indian pepper breeders! This calls for a provision to maintain the farmers' privilege of permitting farmers to plant either with saved seeds in successive season or with vegetative propagation methods such as propagation through plant cuttings, tissue culture etc. (both are relevant to the spice sector).

4. With the intervention of GATT, Sri Lanka will not be able to administer measures like minimum export prices, voluntary export restraints etc, to stabilise the prices. Hence volatility and price fluctuation will continue to be the ground situation in the future.

5. As mentioned earlier, Sri Lanka needs improved varieties in terms of yield although our spices have

high intrinsic quality. The accessibility to varieties and germ plasm from other countries to meet this need will be difficult, because in view of the provisions of the Agreement on TRIPS, most countries would amend their Trade mark Acts, Patents Act and would also introduce a "Sui generis" system of protection of Plant varieties.

6. Cleaning of spices by the importing countries will be another important issue. Cleaning of contaminant is traditionally done by irradiation. However, this will be permitted only with strict conditions. Being a highly emotive consumer issue, and given that the increasing share of spice use in food industry, guidelines are expected to be strict and monitoring stricter. Food companies may decide, as a matter of business strategy, not to use irradiation at all, even if legally permitted. This will be a challenge for Sri Lanka as a considerable amount of spice exported has microbial contamination. Even though other spice producing countries generate new methods of sterilisation, importation of them will be expensive under Patent laws.

5. Opportunities and potential in the spice sector

The opportunities and potentials available for the sector are very marginal. The following sections briefly address the opportunities and potentials.

5.1 Opportunities Relating to Production Base and Local Trading

1. The most attractive potential available for Sri Lankan spice sector is the intrinsic quality of the production base. Very specific genetic make-up of almost all the spices cultivated in Sri Lanka contribute to this factor. This has been experimentally proved in the case of pepper, cinnamon and cardamom. The production base is therefore suitable for improving quality, supplying as raw materials for quality value added products.
2. The bottom layers of the marketing channel of the spice sector represent a near perfect competi-tion condition although this situation gradually transforms into a oligopolistic situation in the higher levels of the channel. Having a near perfect competition has advantages for producers in terms of getting a competitive price.
3. The spice cultivation is a tradition in Sri Lanka and hence familiarity with crops and awareness of most of the management practices, albeit the modernity of the technology, is not a limitation. Thus the production base can be expanded with little effort.
4. Although the cost of production (COP) is high, net foreign exchange earning from spices is substantial because spice production and processing uses very little or no imported items.
5. Another important opportunity of the sector is that the Government is now emphasising on diversifi-cation of plantations (tea, rubber and coconut) with spices and also establishing plantation level spices cultivations. There are grant and loan schemes available for these activities. This attempt, to some extent, will ease the problems relating to small-scale nature of spice production.
6. The DEA programmes have so far given a marginal emphasis on the development of the local trading sector relating to spices. Through the new assistance schemes, there are various assistance programmes available for spice traders to improve their technology, and other trading requirements.

5.2 Opportunities Relating to world Trading

These are arising mainly as a result of trade liberalisation under Uruguay round of GATT and are briefly listed below.

1. With the removal of arbitrary import regulations, more and more international markets will open up for spices. Sri Lanka can benefit out of this trend.
2. At present there are export subsidies for clove and pepper in Indonesia, which is the largest producer of these two commodities in the world. The gradual removal of these subsidies would increase the world prices of clove and pepper at the initial period. This is a positive gain for Sri Lanka since we are a net exporter. However, this will be an advantage in the short run.
3. With tariffs being brought down consistently over a period of time and bound at certain levels, more opportunities will emerge for adding value particularly in the areas of grinding, packaging, spice blends and oil and oleoresins. Appropriate processing and sustainable quality are the key requirements to capture this opportunity.
4. With the option of shifting production base to countries and regions, which is a result of regional co-operation, global companies may decide to invest in production and processing in the spice sector to take the advantage of (a) raw material, (b) cheap labour and (c) competitive freight facilities. For instance global spice companies have made investments in spice growing countries such as India, Indonesia, China etc. Sri Lanka needs to have economic policies, which will stimulate such investments.
5. Global spice trade is now operating with increased trans-parency and under much more certainty than before the Uruguay round regulations. This is conducive for investment in the spice sector. This opportunity will have to be properly made use of by our spice sector.

6. Recommendations for exploiting opportunities

The following are some of the recommendations to minimise the negative aspects of issues arising from

globalisation of the spice sector of Sri Lanka and also to make use of the opportunities available for the sector:

1. Growers should be made aware of the importance of reducing and controlling cost of production of spices to be competitive in the world market.
2. Sri Lanka needs to adopt more scientific post harvest technology practices and processing technology to be able to take advantage of the market access opportunities.
3. Sri Lanka should be in the direction of adopting options such as commodity futures for selected spices. Pepper is a promising commodity. International Pepper Community (IPC), of which Sri Lanka is a full member, has already mooted a proposal to set up an International Pepper Futures Exchange (IPFE). FAO has reported that futures and option markets, which were traditionally adopted by the developed countries, have shown a significant growth in developing countries.[6]
4. Emphasis should be placed on the possibility of exchanging genetic material and plant varieties since introduction of such items from other countries to Sri Lanka will be difficult under TRIPS protection that would exercise by other countries. Sri Lanka should also introduce a "Sui generis" system of protection of spice genetic material. This requires high level expertise and may be beyond the resources and technical know-how available to us. Thus necessary steps should be taken to carry out collaborative work with other spice producing countries such as India and world organisations such as WTO, and FAO.
5. Sanitary and phytosanitary measures may become the biggest non-tariff barrier to spice exports. Along with the increased awareness of these aspects, programmes should be developed to improve the capability to detect and eliminate conta-minants, to process spices to acceptable standards, and proper packaging etc. The minimum or no usage of agro-chemicals in spices is an important aspect to maintain sanitary and phytosanitary standards. Research should focus on such methods. A well formulated strategy including policy, research, infor-mation communication, training, extension, and testing facilities is a urgent need to face this challenge.
6. Article 9 – Technical Assistance under SPS measures states that "Members agree to facilitate the provision of technical assistance to other Members, especially developing country Members, either bilaterally or through the appropriate international organisations. Such assistance may be in the areas of processing technologies, research, infrastructure including the in the establishment of national regulatory bodies, and may take the form of advice, credit, donations, and grants". The government should take necessary steps to make use of these provisions and expedite the process.
7. Sri Lanak has to evolve appropriate technologies to reduce contamination at the harvest and post harvest stages to maintain competitiveness. Our advantage would be in producing, "naturally clean" spices rather than "cleaned" spices. This would require major efforts in post harvest technology, training and warehousing.
8. The government should take, at policy level, the adequate steps to enforce the provisions of the Agreement on TRIPS so that private sector and even the state sector can invest on research and development in the spice sector without the fear of the results being copied unfairly by other countries.
9. It is important for Sri Lankan exporters, traders at all level and growers to know the details of the SPS regulations, mandatory standards and in certain cases voluntary standards in target export markets. The government should establish National Enquiry Points facilitating the flow of timely and reliable information on SPS.
10. Although GATT agreements initiate liberal trade, they same time provide special safeguards, granting domestic and export subsidies, countervailing duties, and anti dumping measures to control unfair trade. These provisions will be thoroughly understood and implemented if need arises. A proper trade monitoring system should be adopted to pick up related issues for exploration.
11. It is apparent that improvement of quality of export destined spices is an urgent requirement. As a short-term measure, until the market forces establish the proper quality standards, it is proposed that the SLSI should be given the authority and also the required facilities to carry out pre-shipment quality testing of every consignment of EAC destined for export. The standard practices of quality testing can be adopted by the SLIS and issue a certificate to the effect that a particular consignment is of a particular quality. The quality certification is especially important for bulk exports. The certification should be done prior to export and carried out by the officials of the SLSI as required by the custom authorities.

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APPENDIX

Appendix 1: Current Incentive Schemes for the Spice Sector

1. Cultivation Grant Scheme

Crop	Type	1997		1998	
		Total Subsidy (Rs./Ac.)	No. of Instalments	Total Subsidy (Rs./Ac.)	No. of Instalments
Cocoa	NP	—		25,000	4
Cocoa	RP	26,750	4	36,750	4
Cinnamon	NP	—		35,000	4
Cinnamon	RP	40,000	4	55,000	4
Cardamom	NP	25,000	4	33,300	4
Cardamom	RP		4	35,000	4
Cardamom	UR			35,000	4
Pepper	NP	30,000	4	45,000	4
Coffee	NP	25,000	4	33,700	4
Citronella	RP	10,000	2	15,700	2

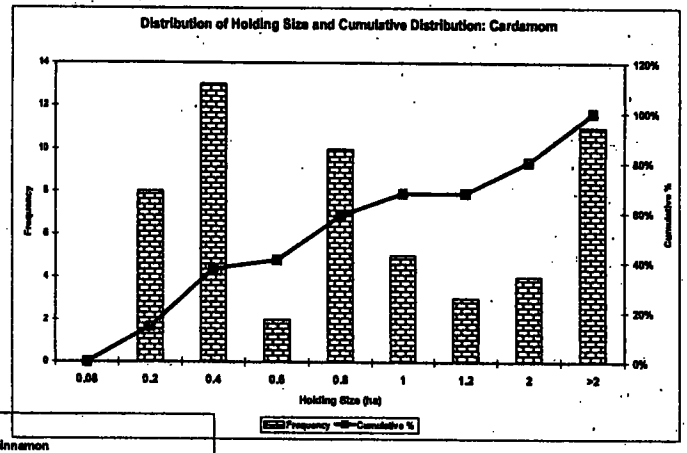
Appendix 2: Research Yield, Farmers' Yield and Achievable Yield with Improvements

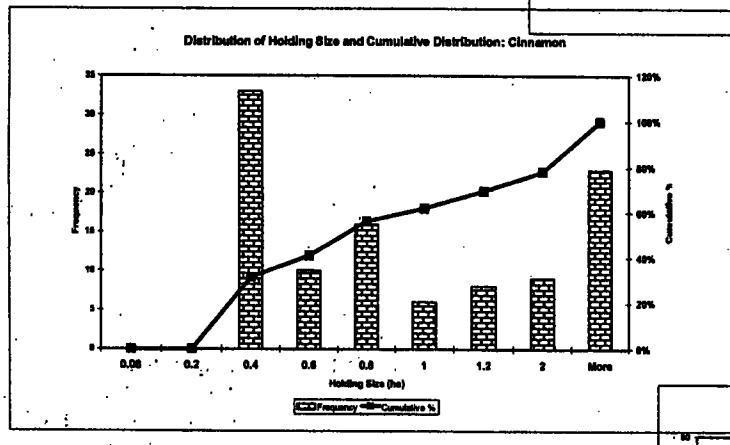
Crop	Potential Yield under Research Conditions (Kg/ha/Year)	National Average Yield: Earners' Yield (Kg/ha/Year)	Targetted Yield with Improvement (Kg/ha/Year)
Pepper	2000	350	1000
Cinnamon (Quills)	1200	600	1000
Cardamom	200	70	100
Nutmeg	1000	475	800
Clove	450	300	400
Betel (1000 vines/ 2-weeks)	40000	20000	30000

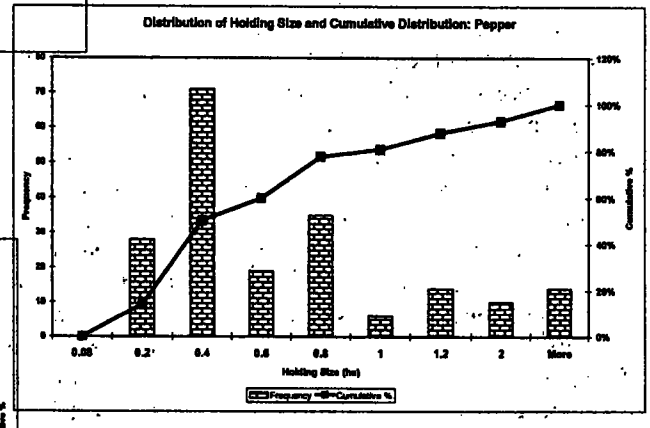
Appendix 3: Planting Density of Farmers' Field and Recommended Planting Density of Spice Crops

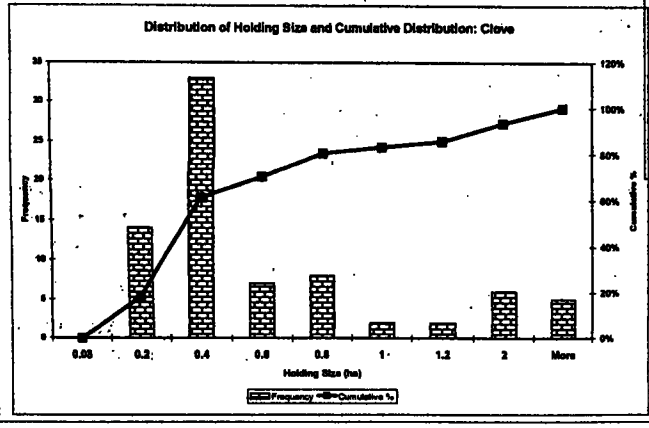
Crop	Farmer' Field Density	Recommended Density
Coffee	735	3,000
Clove	167	250
Nutmeg	104	250
Cocoa	857	1,100
Pepper	1,032	1,700
Cinnamon	5,677	14,000
Cardamom	1,284	2,000
Citronella	23,923	28,000

Appendix 4: Distribution of Spice Holdings According to the Size of the Cultivation









APPENDIX

Appendix 5: A Comparison of World Prices, Average Exporters' Prices and Farm-Gate Prices of Spices in Sri Lanka

COMMODITY	1991-94 Average (Rs/kg)				1995-97 Average (Rs/kg)			
	World Price (WP)	F.O.B. Price	Farm-Gate Price (FG)	WP FG	World Price (WP)	F.O.B. Price	Farm-Gate Price (FG)	WP FG
CINNAMON Bark	65.22				83.79			
CINNAMON Quills		183.70	170.28			214.84	193.75	
CLOVE	51.93	78.35	64.53	-12.60	62.62	68.98	52.44	10.18
PEPPER (Black)	67.55	66.07	50.45	17.10	163.65	168.35	136.03	27.62
Pepper (White)	96.45				248.11			
CARDAMOM	510.32	371.48	347.42	162.90	582.72	610.29	373.25	209.47
NUTMEG	135.42	51.13	24.63	110.79	136.06	70.82	50.24	85.82
MACE	191.19	103.47	75.46	115.73	289.52	244.49	240.59	48.93

Appendix 6: Cleanliness Specification for Spices Adopted by American Spice Trade Association

Cleanliness Specifications	Whole insects dead	Excreta mammalian	Excreta other	Mold	Insect infested	Extraneous matter
Name of Spice, seed or herb	By count	By mg./lb	By mg./lb	%by wgt.	%by wgt.	%by wgt.
Cardamom	4	3	1.0	1.00	1.00	0.50
Cinnamon	2	1	2.0	1.00	1.00	0.50
Cloves	4	5	8.0	1.00	1.00	1.00
Mace	4	3	1.0	2.00	1.00	0.50
Nutmeg (broken)	4	5	1.0	SF(4)	SF(4)	0.50
Nutmeg (whole)	4	0	0.0	SF(5)	SF(5)	0.00
Black pepper	2	1	5.0	SF(6)	SF(6)	1.00
White pepper	2	1	1.0	SF(7)	SF(7)	0.50
	Aflatoxin	DDT etc.	Radiation		Solvent residues	
For all	4 ppb	1- 0.5 ppm	10-6%		1 ppm	

Footnotes

1 *According to this definition, the spices include, inter alia, pepper, cinnamon and cassia, clove, cardamom, nutmeg, pimento, vanilla, turmeric, spice seed (aniseed, badian, caraway, coriander, cumin, dill, fennel, fenugreek, and juniper), saffron, laurel leaves, and spice herbs. This paper however focuses on a selected number of spices which are the major commodities in the Sri Lankan spice trade namely pepper, cinnamon and cassia, clove, cardamom, nutmeg and mace. Sri Lankan spice sector is a component of the Export Agriculture Crop (EAC) sector which includes in addition to the spices cocoa, coffee and citronella. The content of this paper, however, broadly covers the common issues of the whole EAC sector giving special emphasis on spices.*

2 *Whole EAC sector has over 400,000 growers.*

3 *The entire structure of GATT's open and liberal multilateria trading system is built on these four basic rules.*

The 1st rule, while recognising that it is important for member countries to follow liberal trade plicies, permite them to protect domestic production from foreign competition, provided that such protection is extended only through tariff and is kept at low levels. Importantly, it prohibits countries from using quantitative restrictions, except in specified cases.

The 2nd rule provides for the reduction and elimination of tariff and other barriers to trade through multilateral negotiations. The tariffs so reduced are listed and they are known as bound rates. Countries are under obligation not to increase tariffs above the bound rates shown in their schedules.

The 3rd rule requires countries to conduct their trade without discriminating among countries from which goods are imported or to which goods are exported. This rule is embodied in the most-favoured-nation (MFN) principle. An important exception to this rule is permitted in the case of regional preferential arrangements.

The 4th rule requires countries not to impose on an imported product, after it has entered their domestic market on paying custom duties at the border, internal taxes such as sales or value-added tax at rates higher than those levied on a similar domestic product (UNCTAD/WTO, 1995, Business Guide to the Uruguay Round).

4 *Green box subsidies are those which have no or at most minimal trade distorting effects on products and do not provide price support to producers. Examples are state expenditure on research, extension, inspection and grading of products, marketing and promotion services, income support, insurance, structural adjustment expenditure and payment under environmental programme.*

5 *The food safety standards enforced by major importing countries consists of five categories namely (a) macro cleanliness, (b) microbial load, (c) mycotoxins particularly aflatoxin, (d) trace metal contamination, and (e) pesticide residues. The cleanliness specifications for spices enforced by American Spice Trade Association are presented in Appendix 10. According to United State Food and Drug Administration the pesticide residue tolerances in ppm for pepper is as follows: Aldrin: 0.05 ppm earlier and 0 now, BHC: 0.05 & 0 now; DDT, TDE, DDE: 0.1 & 0 now, Chlordane: 0.1 & 0 now; Dieldrin: 0.05 & 0 now; Heptachlor: 0.1 & 0 now.*

6 *FAO has observed that "the considerable redistribution of price risks internationally and naturally following liberalisation raises questions on the economic and social consequences of exposing agricultural producers to world price volatility, in addition to the often more substantial risks than run from natural factors which affect the year-to-year quantity produced. Exposing farmers and small traders to the full brunt of the world market price volatility is not only detrimental to them, but to the economy as a whole. The alternative to state intervention to protect farmers and small traders from price volatility lies in the use of so called market based risk management instrument (FAO Commodity Review and Outlook, 1994-95).*

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