

Project summary

- 1 Project Title** “Sustaining developmental programmes to establish stability in the pepper supply, quality and price and raising incomes of Poor Rural Communities”.
- 2 Duration** One year
- 3 Location** Major Pepper Consuming Countries (USA, EU, UAE, Russia, China etc) and Producing Countries (Indonesia, Malaysia, Sri Lanka, India, Cambodia, Thailand, Madagascar PNG, Nigeria etc) will be benefitted under the study. The study will be coordinated by the International Pepper Community, based in Jakarta, Indonesia.

- 4 Nature of the project:** Consumption pattern of pepper and pepper products, demand and production level will be assessed to have a clear understanding on the demand and supply of pepper. Primary data through questionnaire, Tele conference and depth interview with major food, industrial, retail, institutional & wholesale customers and market study in USA, Germany, the Netherlands, UAE, China, India and Russia, who accounts for over 70% of the global pepper imports will be undertaken.

The study is aimed at establishing demand and supply profiles (quality, quantity and timeliness), document periods of surpluses and deficits and formulates systems for matching demand levels with supply. This study will also provide vital statistics and information on available land of pepper production, productivity levels of the farmers already involved in pepper production, pest and disease profiles, types of farmer groups/associations, nature of value addition activities and level of on-farm losses due to harvesting immature berries.

Accordingly the optimum area to be retained / maintained under pepper cultivation to sustain the supply of pepper and to meet the growing demand will be specified. Other actions on food safety & quality related issues of the pepper importing countries will also be addressed for taking corrective/pro active measures and avoid quality complaints.

The capacity of the pepper farmers will be upgraded to improve their knowledge and skills in adopting GAP and scheduling of production in line with the export market demand.

For better price realization the farmers require to access to timely price & market information. The study therefore aims to suggest ways to access information concerning the terminal pepper market and accessing daily market prices as offered by the various local buyers/ government agencies in different producing countries.

Given the importance for quality and food safety by the consuming countries, the study will look at the use of agrochemicals, insecticides being used in the field and required skill up gradation in primary processing and strategic storage facilities.

In order to ensure consistency in the production of high quality pepper, the project will develop industry-based quality criteria acceptable to all the key players in the supply chain as a basis for ensuring compliance with the export market expectations. Capacity building activities will subsequently be undertaken to facilitate compliance besides an associated aspect of quality concerns health and safety assurance of the product. Quality assurance protocols as well as policy frameworks should likewise be developed to guide compliance.

- 5. Objective and Scope:** The strategic goal of the project is to sustain the supply of pepper and control extreme fluctuations in supply and price. Remunerative price will improve the livelihoods of the rural based smallholder farmers in all the pepper producing countries including Cambodia, Madagascar, Nigeria, Thailand and PNG. This goal will be achieved by the proposed project by build the capacity of the smallholder farmers in traditional and non-traditional pepper growing areas of Cambodia, Madagascar, Nigeria, Thailand and PNG to sustainably increase supply and export volumes for selected high value products of pepper. By developing a diversified and sustainable export oriented production system for pepper the household incomes and income security for the agriculture dependent smallholders will increase. The resulting improved purchasing power will then be used in securing better health and education.

Project components

1. Capacity building of smallholder farmers for sustaining supply of optimum quantity of pepper and ensuring a remunerative price besides enhancing supply of high quality pepper.
2. Improve access to price and updated market information and other production services.
3. Monitoring supply and control on unhealthy speculation and market fluctuations in supply and price.
4. Enhancing the productivity, supply of high quality pepper without possible contamination/ adulteration.
5. Promotion of export oriented production and processing of selected high value pepper products.

- 6. Estimated cost of the study:** **USD 19,500**
Estimated Grant Requested: USD 17,500.

Budget line breakup for the total cost:

- a) Payment for priced publications/subscription to customs & related agencies and Market Research Institutions for Secondary Data. USD- 4500.
 - b) Collecting Primary Data through teleconference, feedback questionnaire, internet system up gradation, etc. USD - 5500.
 - c) Travel cost for visiting major pepper consuming and producing countries. USD- 5000.
 - d) DSA @\$150 per day for officials for out stations stay. USD- 3000.
 - e) Documentation and Reporting- USD 1000.
 - f) Contingency-USD500.
- 7. Project Executing Agency:** International Pepper Community, an intergovernmental organization of pepper producing countries, established under UN-ESCAP based in Jakarta, Indonesia.
- 8. Collaborating institutions** Ministry of Agriculture of Governments of Brazil, India, Indonesia, Malaysia, Sri Lanka and Vietnam and the Pepper& spice Trade Associations/Forums in the pepper producing countries. The American Spice Trade Association, European Spice Association and their members and other connected institutions in the major pepper consuming countries.
- Counterpart contribution of USD2000 will be met from the approved budget of the IPC for this study.**
- 9. Estimated starting date:** **January 2012**

**STUDY TO SUSTAINING DEVELOPMENTAL PROGRAMMES TO ESTABLISH
STABILITY IN THE PEPPER SUPPLY, QUALITY AND PRICE AND RAISING
INCOMES OF POOR RURAL COMMUNITIES.**

INTRODUCTION:

Pepper plays an important role in Global Spice Trade. Today, pepper is the most important spice traded in the whole world accounting for about 35% share in total export earnings (US\$ 1.00 billion).

Pepper is cultivated today in many countries, Brazil, India, Indonesia, Malaysia, Sri Lanka and Vietnam (who are the members of International Pepper Community) and China, Cambodia, Thailand, Ecuador and Madagascar produce significant quantities of pepper. Other countries where pepper is grown in small scale are Mexico, Brunei, Fiji, Malawi, Zimbabwe, Benin, Kenya, Cameroon, Laos, Ethiopia, Uganda and Zambia. Over 550,000 ha of land are under pepper. It is mostly cultivated in less than ½ ha land

World pepper production is registering a fluctuating trend. Annual Production was around 176,000 tons in 1991 and increased to 239,000 tons during 1996. The total production of pepper in 2003 had further increased to 371,300 tons. This unprecedented increase was mainly due to substantial expansion in area and production in Vietnam as well as increased output from Indonesia and China. Emergence of Vietnam as a producer made significant changes in the pepper market. The price of pepper was at all time low and reached to US\$ 1.44 per Kg in 2002. Due to this situation pepper farmers in most of producing countries have shifted to other crops and started abandoning the pepper gardens. Some of the farmers continued to be in the pepper industry, because they have invested their time and money on the garden.

Pest and disease issues, poor management practices adopted are also attributing to the imbalance in the demand and supply. In pepper industry even a slight (15,000 mts which is 5% of total production) change in the production gives enough scope for a big speculation on the demand and price. The farm gate price of pepper is influenced by availability, access to the updated market information and the supply chain system. Due to negligible domestic consumption of pepper in most of the pepper producing countries, the farmers are forced to sell their produce at the prevailing market price. Hence, the aspirations of the pepper farmers in the pepper producing countries depend on the stability of international pepper trade. In the absence of a realistic demand estimation, consumption and growth rate, speculative activities are very high. As result of this situation, increase in prices are higher due to short supply. Currently the pepper industry is facing this situation.

Since pepper is cultivated by large number of small, poor, rural farmers, particularly women, any development of the pepper industry will bring socio economic development of the commodity produces and contribute to the development of the society as a whole.

BACKGROUND:

The global supply of pepper is registering a fluctuating trend for more than 50 years. This highly fluctuating supply of pepper in the world market is resulting in extreme volatility in price. During the year 2002 the farm gate price was below US 1.40 per Kg, which was not covering the cost of labor for harvesting. Under these circumstances, the pepper farmers have

neglected the crop and also shifted to other crops. Since pepper plays an important role in food preparations particularly in meat and fish industries, there is a steady growth in pepper consumption. Due to the reported medicinal cosmetic and health values of pepper, the applications are also expanding.

Pepper is one of the most volatile commodities traded internationally. Monthly variation in pepper supply is around 5%. This wide fluctuation creates larger risks for farmers, traders, exporters and importers of pepper, as well as to some extent for the Governments, who want to protect their farmer's income. Farmers run large risks because they do not know what price they will realize for their produce in future. Traders / exporters often carry large inventories, the value of which can be significantly affected by price changes. Pepper producers, who are mainly depending for their cash earnings are particularly exposed to price fluctuations and any drop in pepper prices is finally passed on to them.

The price prevailed in November 1999 was US\$ 6.07 per Kg and declined to US\$ 1.44 in February 2002. Though there was a slight variation of about 50 cents per Kg till April 2005, this low price level was prevailing for a long time. The production of pepper has started declining since 2003 (371,274 Mts) and projected at 310,000 tons for 2011. However, the pepper export has increased from 172,901 Mts in 2000 to 250,000 Mts during 2010. As a result this imbalance in demand and supply, the pepper price has registered an increasing trend since 2009 and reached US\$ 7.80 per Kg in September 2011.

In the absence of the clear understanding on the demand and supply of pepper or the details on the consumption pattern, always the pepper industry is subject to such cyclical variation in production & price and always keeps the farmers at risk. The costs of inputs, labor, and quality planting material have increased drastically. If the price of pepper is not adequate to make a reasonable income the farmers neglect their crops. This leads to lower production and higher price for pepper. Traditional pepper producers are still suffering on account of lower production and productivity due to poor management, pest and diseases and old and senile pepper plants.

Higher prices prevailed in 2010 and continuing in 2011 brings new farmers into pepper cultivation, expansion of existing farms and improved farm maintenance and greater investments in inputs. This will result in increased production in the next 3 to 4 years; build up of stocks and consequently drastic fall in price. This cycle of **boom and bust** has been the bane of the pepper industry. Both the producers and consumers are limiting their investment for sustained production and quality improvement and making pepper, a risky commodity for the industries to rely on pepper as a raw material. Stocks of pepper in producing countries have a bearing on price. When dealers and farmers hold stock, they are under pressure to sell before a new crop comes to the market. As most of the pepper farmers are small holders, their capacity to hold stock for any length of time is limited, particularly, where there are no alternative sources of cash income.

When the production or the stock position in the producing countries increase, the price starts declining and reach a level, which is not possible to sustain the industry. This situation leads to neglecting pepper gardens by the farmers, which resulting in reduction in production. Due to reduction in supply and consistent increase in consumption and newer applications of pepper the price reached above US\$ 7.80 per Kg. This situation puts lot of hardship to the entire pepper industry and provides unnecessary room for speculators to exploit the situation at the cost of farmers.

Pepper farmers need to become aware of the constraints being faced by the industry, particularly with respect to their return and prospects for the future and market requirements. A long term view of pepper production and marketing should be taken rather than immediate response to prices and demand from specific buyers. Intermediaries in producing countries, dealers, processors and exporters should also consider investment in the industry with a view to have long term returns rather than as speculative return, dependent on prices movements.

Government Departments, Agencies and Producers' organizations, are required to work together towards ensuring stability and remunerative returns for stake holders in the pepper industry and share information, identify common position regarding quality & food safety standards and other trade related issues. Promoting pepper consumption in their domestic markets and undertaking joint research and development activities for adding value to the service and products are also required for ensuring sustainability.

PROPOSED ACTION:

The survey will be used to establish demand and supply profiles (quality, quantity and timeliness), document periods of surpluses and deficits and formulate systems for matching demand levels with supply. This study will also provide information on (1) available land for pepper production, (2) productivity levels for the farmers already involved in pepper production, (3) pest and disease profiles, (4) types of farmer groups/associations, (5) nature of value addition activities and (6) level of on-farm losses due to harvesting immature berries.

The trend and consumption pattern of pepper and pepper products will be assessed to have a clear understanding on the demand and supply of pepper. Primary data through teleconference, feedback through questionnaire and depth interview with major food industrial, retail & wholesale customers in USA, Germany, the Netherlands, UAE, China, India and Russia and also from members of the American Spice Trade Association, European Spice Association, and All Nippon Spice Association who are accounting over 70% of the pepper import, will be collected and compiled. For active participation, the pepper suppliers in the IPC member countries will also be asked to persuade their costumers to provide the required details. During the study, (a) the consumption pattern, (b) growth rate in consumption, (c) average rate of inventory, (d) emerging applications and various other uses will be studied to have a more realistic estimate on consumption of pepper and pepper products and projection for the next 5-10 years to arrive at an optimum level of requirement of pepper.

A desk research on the production, export, domestic consumption in the pepper producing countries, exportable surplus and carry over stock maintained by the IPC member countries for the last 20 years will be undertaken to assess the past trend. Priced publications and subscription to customs data on import and exports of major countries will be collected for a detailed analysis.

The findings of the study will be presented to the decision makers in the IPC member countries, who cover over 90% of the pepper production. The major responsible partners of the project will be respective departments of the Governments in Brazil, India, Indonesia, Malaysia, Sri Lanka and Vietnam. The IPC is responsible for coordinating all activities of the pepper industry to achieve a maximum accelerated economic development of the pepper industry. The status of the concerned country's productive area, productivity, pest & disease problems of the pepper plant etc will be discussed besides the consumption trend and its growth rate. Accordingly the optimum area to be retained / maintained under pepper cultivation to sustain the supply of pepper and meet the growing demand will be specified.

Other actions on food safety & quality related issues of the pepper importing countries will also be presented for taking corrective/pro active measures and avoid quality complaints.

Newer countries, which are potential to grow pepper will be advocated to introduce pepper to the required level for having optimum supply and maintain consistency in production, quality and price. Dissemination of the survey details will be more homogeneously through the period starting from the beginning. Regular and in-between discussions with the stake holders will be undertaken for possible correction, if any at every stage.

RELEVANCE OF THE STUDY:

Pepper industry is not aware of the real situation of the market. Pepper farmers, everywhere are facing unprecedented challenges in marketing due to steep fall in price, sudden increase in price and widespread incidence of diseases and pests over the last few years. A major constraint today is lack of reliable and updated information to the producing and consuming countries. Due to lack of clear understanding of the market requirements, speculators are making full use of this situation to their commercial advantages and making farmers to suffer. Traditional uses and non-traditional applications of pepper and pepper products, due to their medicinal and health values, the consumption of pepper is growing at a faster rate, while the production is declining. Due to this the industry is finding it difficult to take position on purchase as well as improving production & quality.

Since the current prices are ruling over US\$ 7.80 per Kg for black pepper and about US \$ 10.00 per Kg for white pepper in September 2011, the pepper farmers in selected countries are taking extra care in rejuvenating the plants and also started expanding the area under cultivation. Some producing countries like Indonesia are not sure what will happen in next year and hence no action is taken to improve production. Even though the current price level is good to the farmers, only those who have stock/ production are benefited. For others is only a market situation without any real benefit. Due to the remunerative prices prevailing in the market for the last 2 years, new countries viz Cambodia, Laos, Madagascar, Nigeria, PNG are showing interest in introducing and promoting pepper cultivation. Once these countries are active in pepper supply, the price may decline to un- remunerative level.

Pepper is a perennial crop and starts yielding from 3rd year of plantation, stays in the field for 25 – 30 years. In India and Indonesia, over 40 – 50 years plants are still yielding. If all the reported new countries venture in to cultivation of pepper and the existing producers are also starts replanting & rejuvenating pepper plants, the production is expected to grow beyond the growing rate of demand. This situation will result in lower price realization, which will again result in loss in earning of pepper farmers and pepper farmers cannot remain in cultivation. Movement of the small holding farmers to urban areas for jobs and social disturbances are also seen in pepper growing areas.

As the proposed study is expected to study the actual market situation in the consuming and producing countries, the entire pepper industry will be benefited and provides less scope for speculation. The consuming industries and emerging consumers like wellness industry are assured of the supply at a reasonably stable price. This expected stable situation may also promote consumption of pepper which is a natural food ingredient, having more medicinal and health values. The area expansion required if any, in non-traditional countries, to meet the growing demand for pepper and products can also be monitored with the clear understanding of the situation.

To improve the pepper industry and sustaining developmental programmes a number of important issues are required to be addressed:

- a. Lack of a realistic estimation of world demand for pepper and pepper products, which gives adequate room for market speculation and manipulation. At the end of the day the farmer gets the lower price for his produce.
- b. Quality of pepper and pepper products are required to be improved to make it safe, free from microbial & chemical contamination and adulteration and develop further to promote consumption.
- c. Potential contacts, customer needs are required to be established for different products of pepper. There is a growing demand for pepper powder, sauce and wellness products, which needs development of market links in various markets.

In order to spruce up price recovery mechanism, a complete analysis of the frequent volatility on the market variables such as price, export volume of pepper traded globally in different forms have to be analyzed. Other major constraints are pesticide residue and microbial contamination. Fluctuating domestic production and the different quality parameters adopted by various importing countries are also the constraint for pepper export.

Other areas of the study are:

1. Enhance / improve pepper production by keeping pace with demand.
2. Growth in alternate uses & markets for pepper & pepper products' demand.
3. Quality evaluation and improvement and enhancing the efficiency of the marketing system.

Towards this background and to keep the pepper farmers remain in pepper cultivation, to sustain the supply, assure quality of the pepper & pepper products are safe and control on the wide price fluctuation, which creates large risk to the pepper farmers and to understand the value chain for ensuring a better return to the pepper farmers, an intensive market survey in the traditional consuming markets for pepper like Europe and America and emerging markets like China, Africa and Middle East is needed.

Expected results of the study:

a. Control on Shifting & Abandon Pepper Cultivation.

Shifting to other crops and abandoning pepper cultivation due to wide price fluctuation can be controlled by providing realistic details on market demand for pepper & processed products, alternate uses & markets for pepper and basic infrastructure required for cleaning & warehousing at growing centers. Regular inter face with Government and industry.

b. Establish & Stability in Market.

Control on the market speculation by ensuring assured supply and bridging the gap between the supply and demand. Promoting pepper production by keeping pace with demand in selected pepper producing countries will be ensured.

c. Ensuring Remunerative Price.

Realistic estimation on world consumption and uses of pepper products by different industry forms, applications by different markets will provide details on the growing area and potential beside possible premium price for the products. Marketing chain will be reducing by integrating producers in the high levels of the chain. A regular dissemination channel through an efficient information system for price and market will be proposed.

d. Assuring Food safety and Quality.

The required quality, food safety standards and trade regulations of the importing countries will be educated to farmers to make pepper is safe, free from microbial & chemical contamination and adulteration. Analytical capabilities of laboratories and certification will be improved to ensure quality and food safety.

The findings of the study and dissemination of the demand potential will have a multiplier effect among the pepper producing countries. Pepper farmers will remain in cultivation and engaged in Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP).

Realistic estimation of the market demand and advice to the existing and emerging pepper producing countries on regulating the production will narrow the gap between the demand and supply. The farmers will be consistent in their cultivation activities for a sustained production.

The growth in processed pepper products will also promote processing, value addition, employment generation and improve quality and food safety standards at the growing centers. These changes will results in accelerated economic development of the pepper industry and society as a whole.
