STDF PROJECT PREPARATION GRANT (PPG) APPLICATION FORM SUBMITTED BY SPICES BOARD INDIA

The Standards and Trade Development Facility (STDF) provides Project Preparation Grants (PPGs), up to a maximum of US\$50,000, for the following purposes (or a combination thereof):

- application of SPS-related capacity evaluation and prioritization tools;
- preparation of feasibility studies that may precede project development to assess the potential impact and economic viability of proposals in terms of their expected costs and benefits; and/or
- Preparation of projects proposals that promote compliance with international SPS requirements, for funding by the STDF or other donors.

Applications that meet the STDF's eligibility criteria are considered by the STDF Working Group, which makes the final decision on funding requests. Complete details on eligibility criteria and other requirements are available in the *Guidance Note for Applicants* on the STDF website (www.standardsfacility.org). Please read the *Guidance Note* before completing this form. Completed applications should be sent by email (as Word documents) to STDFSecretariat@wto.org.

PPG Title	Capacity building and knowledge sharing to combat SPS issues in spices
Budget requested from STDF	US \$ 35,680
Full name and contact details of the requesting organization(s)	Dr A. Jayathilak, Chairman SPICES BOARD INDIA (Ministry of Commerce & Industry)
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I. BACKGROUND AND RATIONALE

1. What is the purpose of this PPG? Explain whether it is requested to: (i) apply an SPS-related capacity evaluation or prioritization tool; (ii) prepare a feasibility study (prior to project development) to assess the potential impact and economic viability of proposals in terms of their expected costs and benefits; and/or (iii) prepare a project proposal for consideration by the STDF or other donors?

The purpose of this PPG is to design a project proposal to combat SPS issues in the production, post harvest, processing and trading of Indian spices. Spices are dried or dehydrated commodities primarily used to impart flavour, colour and aroma to foods. These are also used as ingredients for preparation of various food products, neutraceuticals and medicinal formulations. India produces about 3 million metric tons of spices and exports annually nearly 0.8 million tons worldwide. India is also one of the largest domestic consumer of spices.

SPS Issues in spices have direct effect on consumer health worldwide and also have a large impact on the economy as a result of export rejections. The proposed project titled "Capacity building and knowledge sharing to combat SPS issues in spices" is targeted to focus specifically on six important spices: (i) chillies, (ii) pepper, (iii) coriander, (iv) cumin, (v) fennel and (vi) nutmeg including mace.

Safety of these spices is of great concern for importers as these spices are widely used in food and food products. This has necessitated exporting countries like India to focus attention on addressing the issues on sanitary and phyto-sanitary areas. India with its vast agriculture land distributed across the country where these spices are grown, in all probability has inherent challenges facing production, post-harvest, processing and marketing of these spices.

It is proposed to prepare a project proposal that seeks to enhance the food safety and addressees related SPS challenges in the select spices. The resulting project proposal will be submitted for consideration by the STDF.

2. Explain the key SPS problems and/or opportunities to be addressed. Clarify why these issues are important, with attention to market access and poverty reduction. Describe, if relevant, how these issues relate to SPS priorities in the Enhanced Integrated Framework's Diagnostic Trade Integration Studies (DTIS), the findings of SPS-related capacity evaluations, national poverty reduction strategies, sector development strategies or policies, etc. See Qn. 7. (b) – (d) of the Guidance Note.

Key SPS Issues

Major spice growing countries like India fall under tropical zones, and the modern methods of agriculture, processing and storage are rarely adopted in full measure. The key SPS problems faced in such scenario are the following:

- Microbial contamination: Contaminations by bacteria such as Salmonella (food safety indicator) and E.coli (hygiene indicator) pose major health issues to the consumer. These issues are also currently the most important cause for rejection of spices exported by India.
- 2. **Pesticide residues:** A major portion of spices produced in India come from small holdings, where the producers are unaware of good agricultural practices (GAP) with respect of application of pesticides. This results in undue amounts of pesticide

residues in the final produce, which constitute significant health risk and also becomes the second most important reason for rejections.

- 3. **Mycotoxin contamination:** Spices are commodities that develop their characteristic properties upon drying. Improper drying and storage conditions can develop mould in the products which can result in the formation of mycotoxins, typically aflatoxins and ochratoxins, which are proven carcinogens. They also constitute an important reason for export rejections of spices from India.
- 4. Cleanliness of spices: Lack of knowledge of good agricultural, good hygienic, postharvest and storage practices result issues like filth, excreta, extraneous matter, insect fragments etc which pose food safety issues.

Impact of SPS issue on International Spices Trade of India

India has been a major producer of spices and exporter too. The total exports of spices from the country are just less than ten percent of the total production. This underscores the point that India as country in itself is a major consumer of spices too. The Indian exports of spices and spices products command a market reach of nearly 50 percent both in terms of quality and quantity.

However this figure does not give any room for complacency to stay cool as good chunk of the consignment will have to undergo stringent quality checks both at the exit and entry points. In spite of many measures taken, Indian spice consignments still are facing rapid alerts and border rejections by the importing countries due to sanitary and photo-sanitary issues¹.

Indian spices exports mainly are to countries like the US, Europe, Japan, Middle East and East Asia. Spices Board, being the nodal organization of the Government of India is regularly monitoring the alerts from various countries and had been analyzing seriously. As per the statistics from UNIDO, the highest number of rejections of Indian spices has been reported from the EU region and the US.

The underlying reason for the rejections are mainly attributed to presence of Aflatoxin, Salmonella, Filth, Ochratoxin, Adulterants, Spoilage, Pesticide Residues and misbranding. This is known just because of the notification from the international agencies. Since spices are an important commodity which has its wider and increased application in the modern world, the quantities exported from a major producer like India should have gone up phenomenally. However it should be observed that a great push in exports quantitatively has not taken place and this could be attributed to the lack of confidence in the safety of the merchandise that goes out of the country. In fact many of the causative factors are not that grave and could be addressed and redressed provided there is a structured effort to establish a system and to run it on a sustainable mode.

There have been gaps in extension from the research tables and labs to lands. Yet another reason could be the absence of timely availability of technical advices to the farmers would have forced adoption of traditionally practiced systems. When systems fails, farmers are forced to resort to crisis management and in its course of action, may end up with wrong practices which may reflect on the quality of the products. Apart from the farmer segment, the factors that contribute to the deterioration in quality can take place from the post harvest

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¹ UNIDO Working Paper: What do border rejections tell us about trade standards compliance of developing countries? Analysis of EU and US data 2002-2008.

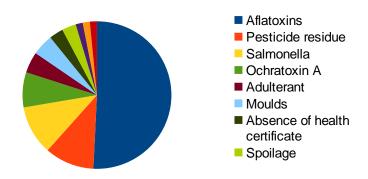
handling, processing, storage, marketing levels too where characters other than farmers are involved.

In fact in the management of SPS measures come in, many actors are involved starting from the farmer and farm laborer to the trader and transporter to the storage and exporter. Many hands operate and hence the management of the subject is more complex and hence needs to organize systematically for continuity.

As per the charts based on data of USFDA and RASFF of EU, it is clear that Aflatoxins and *Salmonella* are the two major villains for rejection of Indian spices in the respective regions. These are the major buyers are regards Indian spices are concerned.

In a report published by FDA, out of 20,000 food shipments examined, nearly seven percent were found positive for *Salmonella* and Indian shipments termed positive form nine percent in the lot. (www.agmrc.org).

Problems due to rejection of Indian spices by EU



		Rejections		
S.No.	Name of the Country/Agency reported the rejections		2014	2015
1	USA (USFDA)	413	299	329
2	Japan	7	5	4
3	Australia	9	2	3
4	European Union (RASFF)	40	29	40
5	Total	469	335	376

From the pie charts and the table above, it can be concluded that these rejections are pointing directly to the following important concerns:

- 1) Threat to the Global health stemming from the consumption of adulterated and unhygienic spices
- 2) Threat to the Indian spice trade worldwide and hence to Indian economy –as declining reputation of the Indian farmers may cause the importers to avoid future trades with them

3) Last but not the least is the very grave concern of environmental pollutiondeterioration of the soil and underground water due to the use of hazardous Agrochemicals by farmers and spice processors as well as due to the dumping of the spice consignments which would not find a fit for exports.

The Spices Board monitors the EU rapid alerts arising from the export of herbs and spices (coming under the purview of Spices Board) to European Union on a regular basis. The consolidated statements of rapid alerts pertaining to herbs and spices are prepared on quarterly basis and warning letters are issued to the exporters in order to avoid the occurrence in future. But this requires correction from the farm level.

The rapid alerts are mainly due to the presence of Aflatoxins, Pesticide Residues and Salmonella. Since maximum permissible limits for total aflatoxins in EU is 10.0 ppb and that of UAE is 30.0 ppb, the re-export from UAE can enhance the number of rapid alerts from India when country of origin is considered by the Importing countries.

Considering the wide applications of spices and their bulk global demand, it is imperative to improve and strengthen the safety of the selected spices for enhancing their wide acceptance worldwide. Otherwise, the Indian spice exports will face more huge losses in future due to rejections and also possible that importing countries could ban spices import from India due to these SPS issues.

Apart from it there are many other spice exporting countries such as Malaysia, Mexico, China, Egypt, Indonesia and Brazil who are also offering spices in international market and these countries are also facing similar issues.

Opportunities and expected impacts

Since spices are consumed by everyone, all the above issues are extremely important from the point of view of food safety and consumer health both in the domestic market and for exports. The only way to increase the quality of spice production in sufficient amounts to meet the domestic and export requirements of food safety, is through creating awareness among the farmers, farm labourers and traders regarding the adoption of good agricultural,good hygienic and processing practices along with traceability. The opportunities afforded, and the expected outcomes / impacts of the resulting project, with emphasis on market access and poverty reduction are described below:

Primary Impacts:

- 1. Capacity building with integrated approach and implementation plans
- 2. Development of replicable training modules in other spice-growing areas and countries
- 3. Production and availability of spices without health risks
- 4. Facilitating safe trade in spices
- 5. Gaining confidence of importing countries based on compliance with relevant international standards
- 6. Better price realisation for the small and marginal spice farmers in the country
- 7. Ensuring traceability to maximum extent possible as farmer to exporter transactions will be possible.

- 8. Increase in the financial power of the poor farmers and dependant farm labourers and reduction in poverty
- 9. A major chunk of the farm labourers engaged in spices cultivation are women in the villages. They take part in various operations like sowing, transplanting, weeding, harvesting, post harvesting and pre- processing sectors. Better quality produce, while fetching better prices, will entail better wages for women helping in improving their social and financial status.

Methodology:

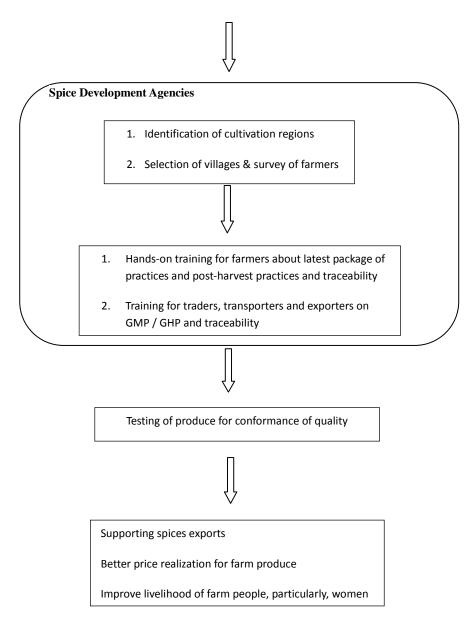
As different spices are grown in different parts of India, it is decided to focus on major spice growing areas of the country to study, understand the causative factors for SPS issues, demonstrate and showcase corrective actions, develop training modules and ways for easy adaptability. The following growing areas are proposed to be considered for the implementation of the project as these locations could yield the actual impact for they are all principal growing areas for the respective spices in the country.

- a.Cumin/Fennel in Mehsana district of Gujarat
- b. Cumin/Fennel in Jodhpur in Rajasthan
- c. Coriander in Guna district of Madhya Pradesh
- d. Pepper in Idukki district of Kerala
- e. Nutmeg and Mace in Ernakulam district of Kerala.
- f. Chilli in Guntur district of Andhra Pradesh.

FLOW CHART

Figure 1: Project Methodology to be followed under the resulting project





The broad outlines of the methodology expected to be followed is given in the flowchart in Figure 1.

3. Which government agencies, private sector, academic or other organizations support this PPG request? Letters of support from each of these organizations would be advantageous (Appendix 1). See Qn. 7. (e) of the Guidance Note.

The profile and capacities of stake holder organisations listed as stake holders in the project are:

Spices Board India, the organisation proposing this project is the Government of India organisation under the Ministry of Commerce and Industry is vested with the task of doing promotion of Indian spices, spices products and herbs across the world.

Food Safety and Standards Authority of India (FSSAI) under the Ministry of Health and Family Welfare, Government of India is the statutory organisation for national level standard setting and quality control of food.

National Horticultural Mission of Government of India was launched in 2005-06 as a Centrally Sponsored Scheme to promote holistic growth of the horticulture sector through an area based regionally differentiated strategies, to enhance horticulture production, to establish convergence and synergy among multiple on-going and planned programmes for horticulture development, to promote, develop and disseminate technologies, through a seamless blend of traditional wisdom and modern scientific knowledge.

Indian Institute of Spices Research (IISR) of the Indian Council of Agricultural Research, Kozhikode in Kerala is the premier Spices Research station for R & D for high yielding spice varieties, prescription of Good Agricultural Practices and post harvest management of spices like pepper, cardamom, tree spices, turmeric, ginger etc. Currently the Institute is running 11 mega Institute projects and four externally funded projects on different spices.

National Research Centre for Seed Spices, Ajmer is an apex centre of Indian Council of Agricultural Research (Government of India) working on improvement of seed spices and betterment of their stakeholders since its inception in 2000. The mandate of this institute is to carry out basic, applied and strategic research for the improvement of seed spices crops. Agronomic practices are being standardized for different crops.

Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India in December, 1986. With the mandate to deal in scores of agricultural products, this organisation is also into training of stake holders in the field of agriculture and exports.

Rajmata Vijayaraje Scindia Krishi Vishwavidyala, Gwalior was established by Government of Madhya Pradesh in 2008. The research activities are operated through five Zonal Agricultural Research Stations; four Regional Agricultural Research Stations and four special research stations having 22 All India Coordinated Research Projects.

Dr YSR Horticultural University, Andhra Pradesh was established by the Government of Andhra Pradesh on 26-06-2007 at Venkataramannagudem. Presently university is having two Horticultural Colleges, four Horticulture Polytechnics and 16 Research Stations throughout Andhra Pradesh. The major thrust areas of research in the University are Increasing Productivity, Sustaining productivity under biotic and abiotic stresses, Improving nutritive value and food safety, Environmental Protection, Increasing Profitability to farmers, Export Promotion, Minimization of post harvest losses and Processing and value addition.

Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Gujarat (SDAU) was established by the Government of Gujarat in 1969. Having jurisdiction of seven districts, SDAU is established for the better development of Agriculture and allied sectors in the North Gujarat Agro-climatic Zone. The University has eight colleges, 28 Research Stations and three Krishi Vigyan Kendras.

Kerala Agricultural University, established by the Government of Kerala in 1971, has three Agriculture colleges, six Regional Agricultural Research Stations, seven Krishi Vigyan Kendras, 15 Research Stations and 16 Research and Extension Units. The University is well poised to meet the challenges ahead that transforms agriculture sector into the engine of growth of economy by providing the human resources and skills and technology for the sustainable development of state's agriculture.

India Pepper and Spice Trade Association (IPSTA) is a future trading exchange in pepper and other spices in Kochi. The Exchange was established in 1957 for futures trading in pepper.

Indian Spice & Foodstuff Exporters Association, founded in 1991, was formed with the participation of exporters dealing in a variety of spices and other agricultural produces. This organisation has strong operational base in the export business and is connected to the farm lands for their purchases.

4. How does this PPG complement and/or build on past, ongoing and/or planned national programmes and/or donor-supported projects? See Qn. 7. (f) of the Guidance Note.

Spices Board of India has been involved in several SPS related activities in spices, including capacity building and interventions to improve the existing practices of production, processing and marketing of spices, in collaboration with various national and international bodies. These activities will complement the present project proposal with the already developed knowledge base and experience. Some of these activities are described below:

1. Collaborative Training Cell (CTC): Spices Board has taken initiative for the establishment of Collaborative Training Centre for Food Safety Supply Chain Management in spices/Botanical ingredients jointly with Cll/FACE (Confederation of Indian Industry – Food and Agriculture Centre of Excellence). JIFSAN (The Joint Institute for Food Safety and Applied Nutrition) University of Maryland, (USFDA) is the knowledge partner in this endeavour.

The CTC has conducted a series of workshop and training programs in different regions of India as a capacity building exercise among various stakeholders. To broad base this capacity building exercise, CTC has started training programme for officers of horticulture departments of State Governments under the Mission for Integrated Development of Horticulture (MIDH), the Government of India. State Horticulture / Agriculture Departments, Extension departments, State Horticulture Missions and the Indian Spices Industry are the most critical links in this endeavour and play a crucial role in successfully conducting the capacity building programmes.

The programme was implemented in three phases. In the first phase, experts from JIFSAN and USFDA travelled to India to offer food safety training focused on spices to 50 officials from both government and private organizations. In the second phase, selected officials of the program underwent a two week internship program at University of Maryland in Washington DC & University of Mississippi National Centre for National Products Research, on further aspects of food safety, and in the third phase, these officials, as trainers, organized a series of workshops/ training programmes throughout the country as an effort to disseminate knowledge and capacity building. The details of these programmes are summarized below:

Year	Number of programs	Participants
2013	3	State Agriculture Department officials
2014	6	Members from Spice industry
2015	7	State Agriculture Department officials
2016	4	State Agriculture Department officials (on GAP and GHP)

2. Codex related activities:

India, through the activities of Spices Board, has been an active participant in the development of Codex standards for spices and culinary herbs. The standards developed and the knowledge acquired during the course of this work will complement the proposed project. A summary of these activities are presented below:

	Activity	Details	Contribution of Spices Board
1	Codex Committee on Spices and Culinary Herbs (CCSCH)	The 36 th Session of Codex Alimentarius Commission held from 1-5 th July 2013 at FAO HQ in Rome approved the formation of an exclusive Codex Committee for Spices and Culinary Herbs (CCSCH). The first session of CCSCH was held from 11 th to 14 th Feb 2014 at Kochi and the second session was held from14 th - 18 th September 2015, at Goa.	Spices Board was instrumental in obtaining the CAC approval for CCSCH, and was involved in the activities starting from the proposal for the committee to its final approval. Spices Board also functioned as the secretariat for the first and second CCSCH sessions in Kochi (2014) and Goa (2015) and now going to organize the third session proposed in Feb 2017.
2	Standards Development Process under CCSCH	The following standards for spices and culinary herbs are currently being elaborated by CCSCH: 1. Black, white and green (BWG) pepper 2. Cumin 3. Thyme 4. Oregano A strategy is also being developed for grouping of spices and culinary herbs into specific categories, in order to ease the standards development process.	Spices Board is actively participating in the standards development activity. The working groups on the standards for BWG pepper and cumin, and the working group for development of grouping strategy for spices and culinary herbs, are chaired by officials of Spices Board.
3	Establishment of exclusive MRLs for mycotoxins in spices under Codex.	Codex Committee on Contaminants in Food (CCCF), in its 10 th session held from 4-8 th April 2016 in Rotterdam has taken up the elaboration of MRL for total aflatoxins in spices, and the matter has been referred to Joint Expert Committee on Food Additives (JECFA).	In the 10 th Session of CCCF, India had presented the discussion paper which leads to the initiation of work for fixing MRLs for total aflatoxins in spices, and Spices Board was actively involved in the preparation of this discussion paper.
4	Fixation of MRLs for pesticide residues in spices	The following major activities related to spices are being considered: 1. Elaboration of pesticide MRLs in curry leaves, by CCPR 2. Fixation of MRLs for certain pesticides in cardamom, cumin and black pepper, by CCPR 3. As per India's proposal for fixation of MRLs for dithiocarbamates in seeds	Spices Board is involved in the process of MRLs development by submission of new work proposals, participation in the CCPR sessions and providing monitoring data to the committee.

spices by CCPR, this was placed in the priority list for JMPR for 2014.	

3. Addressing SPS related issues in black pepper

The Indian black pepper consignments were subject to rejection by the US on grounds of sanitary and phyto sanitary issues during the 80s. The presence of *Salmonella*, filth and extraneous matters were the main reasons attributed to the block listing and pepper exports from India were thoroughly affected. Spices Board India undertook over 1000 training programmes in pepper growing areas incorporating the following components:

- Setting up of a task force on action comprising the officials of Spices Board, officials of the Department of Agriculture of State Governments, Export Inspection Agency, Agmark and Scientists from Agriculture Universities and Indian Institute of Spices Research, Calicut.
- 2. Production of literature and instructional videos in local languages for the understanding of farmers.
- 3. Training of master trainers among officials of the agriculture departments in states and farmers.
- 4. Training programmes on good post harvest practices with focus on the use of good surfaces for drying.
- 5. Demonstration of use of bamboo mats for drying pasted with fenugreek Paste in place of conventional cow dung smeared mats as a treatment for giving durability for the mats.
- 6. Washing and blanching of green pepper before drying
- 7. Issue of leaflets and posters and use of radio and cinema theatres to reach out the campaign.

This has resulted in developing new post harvest schemes for the farmers. As the output of this massive programme, the SPS issues in black pepper were brought under control to a large extent, and India was able to regain the position of being a major exporter of black pepper to USA.

4. Capacity building for addressing mycotoxins issues in spices

In addressing the issue of high levels of incidence in aflatoxins in nutmeg and mace in Kerala, Tamil Nadu states in India, capacity building programmes were conducted with the participation of scientists from Kerala Agriculture University, Indian Institute of Spices Research and officials from the Board with the participation of export trade associations. The following activities were embedded in the campaign:

- 1. Literature development for education and training
- 2. Audio Visuals development on aflatoxin causes and prevention methods
- 3. Interfaces were held with farmers
- 4. Formation of farmer groups for follow up of training
- 5. Interface of farmers/scientist/officials for information sharing and joint action
- **6.** Showcasing of ideal post harvest operations by progressive farmers for adoption

- **7.** Creating ideal schemes/situations for adoption of practices
- 8. Evaluation and testing for Sustainability of this program

5. Field publicity campaigns

Publicity Campaigns focussing on aflatoxins, *Salmonella*, filth and extraneous matter in Coriander, Cumin and fennel were conducted in the States of Rajasthan, Gujarat and Madhya Pradesh to educate the farmers. Similar campaigns were also organised in Andhra Pradesh on aflatoxin in Chillies. Chilli growing villages in Guntur, Prakasom districts of Andhra Pradesh and in Warrangal and Khammam Districts now in Telangana were organized for an intermittent period.

5. Have you discussed this PPG request – or funding for the project proposal which would result from it – with any potential donors (bilateral, multilateral, Enhanced Integrated Framework, etc.)? If so, provide details below and indicate potential sources of funding for the resulting project. See Qn. 7. (g) of the Guidance Note.

Spices Board as the national anchoring point for export promotion of spices had been working since 1990 with research and development bodies under the Government besides with private banners of exporters and traders in different parts of the country.

The Board had discussed the project proposal with the identified and listed organisations in this proposal (Question 3 above, and Appendix 1) and they all had promised support in every possible way. Technical support, backing with resource persons and facilities for training and trials are all possibilities with these organisations. Spices Board in its usual course has an auto built relationship with the departments of Horticulture and Agriculture both in terms of cost and resource sharing.

II. Implementation & Budget

6. Who will take the lead in implementing this PPG? If particular national experts and/or international consultants are proposed, attach a copy of their Curriculum Vitae and record of achievements (Appendix 2). If no names are provided, the STDF will provide a shortlist of consultants if the PPG request is approved.

We will be seeking the support and guidance of an international consultant to run the project effectively. It is proposed to have an international consultant who has the skill and knowledge to develop and elaborate a project report, and the selection of this consultant will be from the panel of international consultants

Spices Board, with a team of project managers under the guidance of this consultant, will work to implement and supervise the project in various locations.

The current proposal is for the Project Preparation Grant.

7. In the table below, briefly describe the main activities to be carried out under this PPG and specify who would be responsible. Provide an estimate of the budget required (e.g. for national/international expertise, travel and DSA of consultants, stakeholder meetings or workshops, general operating expenses, etc.).

organized by Spices Board India in association with the locations. The total num browling the potential spice growing areas for systematically analyzing the different SPS issues associated with spices under focus. 1. Curnin and fennel Mehsana district, Gujarat state 2. Corlander in Guna district, Madhya Pradesh state 3. Pepper in Iduki district, Kerala state 4. Nutmeg and mace, Idukki District, Kerala state 5. Chilli in Guntur, Andhra Pradesh state 6. Schilli in Guntur, Andhra Pradesh state 7. Corlander in Guna district, Gereal state 8. A total time of 18 days is envisaged, inclusive of two days at each venue and air reground travel between the states covered under the programme. Organization of project validation workshops to bring together stakeholders to validate and finalize the project proposal developed by the international consultant. The workshops will focus on the states covered under the project proposal developed by the international consultant. The workshops will focus on the states covered under the project proposal developed by the international consultant. The workshops will focus on the extent of the states covered under the project proposal developed by the international consultant. The workshops will focus on the advanced approaches for addressing SPS issues in Indian spices The workshops will be organized by Spices Board India in collaboration with the linternational expert at rate of US \$600 day (maximum 20 work days at the home of consultant under the difference of the spice with participation of the advanced approaches for addressing SPS issues in Indian spices International and domestic linear properties and the Research Institute by the international consultant and the restoration with the local properties and the spice with participation of the spice with properties and the restoration with the local properties and the restoration with the local properties	Activity	Scope	Estimated Budget (US\$)
validation workshops to bring together stakeholders to validate and finalize the project proposal developed by the international consultant. The workshops will focus on the advanced approaches for addressing SPS issues in Indian spices SPS issues in Indian spices organized by Spices Board India in collaboration with the International expert International expert International Consultant at the rate of US \$600 day (maximum 20 work days in India and 5 work days in India and 5 work days at the home of consultant. US \$2800 will meet the dallowances of international expert at rate of US \$140 per of towards his food a accommodation (maximatic taking into consideration days of visit covering list places) International and domestic Travel of the Consultant	workshops in following locations will be organized, involving the potential spice growing areas for systematically analyzing the different SPS issues associated with spices under focus: 1. Cumin and fennel Mehsana district, Gujarat state 2. Coriander in Guna district, Madhya Pradesh state 3. Pepper in Idukki district, Kerala state 4. Nutmeg and mace, Idukki District, Kerala state 5. Chilli in Guntur, Andhra Pradesh state A total time of 18 days is envisaged, inclusive of two days at each venue and air / ground travel between the states covered under the	organized by Spices Board India in association with the local Agricultural University and the Research Institute under ICAR taking care of the spice with participation of progressive farmers, traders, scientists, development officials of the agriculture/horticulture departments, exporters and the international expert The workshops will focus on the extent of the contamination problem; take stock of various factors and existing procedures along the	participants. US \$9080 for travel and accommodation of
International and domestic Travel of the Consultant economy class by air and local transport by road and	validation workshops to bring together stakeholders to validate and finalize the project proposal developed by the international consultant. The workshops will focus on the advanced approaches for addressing	organized by Spices Board India in collaboration with the	The budget will cover the International Consultant fee at the rate of US \$600 per day (maximum 20 working days in India and 5 working days at the home of the consultant. US \$2800 will meet the daily allowances of the international expert at the rate of US \$140 per day towards his food and accommodation (maximum taking into consideration 20 days of visit covering listing
TOTAL US \$ 35,680		ТОТАТ	economy class by air and local transport by road and rail)

Appendixes

Appendix 1: Letters of support from each of the organizations supporting this proposal.

Appendix 2: Curriculum Vitae and record of achievements for any consultants proposed to implement this PPG.- to be forwarded after selection of the international consultant from the panel of consultants

