

FIRST CONSORTIA ADVISORY COMMITTEE MEETING OF THE NAIP-ICAR PROJECT ON
" A VALUE CHAIN ON CASHEW FOR DOMESTIC AND EXPORT MARKETS

Date : 06th and 07th Jul 2009

Venue : Hotel Vaidya, Kollam

AGENDA OF THE MEETING

Date/Time/Day	Programme	
06 th Jul (Monday) 1000-1130 AM	Welcome	Dr Prabhakumari Co PI
	About NAIP and its role and importance in Indian scenario	Dr J.P. Mittal, National coordinator, NAIP Component II
	Observations of the NAIP Project in general & Cashew in particular	Dr. K.V.Peter, former Vice Chancellor, KAU & Chairman CAC
	Introduction on Project & Consortium Partners and CAC Members	Dr. VP Potty, PI
	Inauguration of NAIP Project Website	Shri. P. Bharathan Pillai, Chairman, CEPCI
	Felicitation	(1) Shri P. Bharathan Pillai, CL, NAIP project on Cashew (2) Shri Prakash Rao, Kalbavi Cashews Karnataka
	Vote of thanks	Dr Sabna Prabha, RA
1130-1145AM	Tea Break	
1145-0100PM	Interactive Business Session	CCPI with CAC Members
	About the roles and technical programmes assigned to Partners	Dr. K.A. Ratheesh Dr.D. Balasubramanian Dr.V. Palanimuthu
0100-0200PM	Lunch Break	
0200-0300 PM	About basic Survey	C. Partners
0300-0330 PM	Tea Break	
0350-0500 PM	Visit to a cashew processing unit and a fabrication unit, manufacturing machines for Cashew processing industry M/s Aneesh Industries	
07 th Jul (Tuesday) 1000-1100 AM	About environment and social auditing considering all aspects of human empowerment (Family size, male, female ratio, family income, source of income, measure of health and wellness, source of potable water, presence of latrines, personnel hygiene, personnel cleanliness etc, Level of education, reading habits and cultural exposition social concerns)	PI and Partners
1100 -1130 AM	Tea Break	
1130-1200 Noon	Time frame activity milestones	Partners
1200-1300 PM	Ratification and recommendation of CAC for additional facilities and fund for the consortia	Dr. VP Potty, PI

1300-1400 PM	Lunch Break	
1400-0400 PM	Remarks by members of the CAC	
	Remarks by the Chairman, CAC	
0400-0430 PM	Vote of Thanks	Shri. Pradeep Kumar GT

**Proceedings of the First meeting of CAC-NAIP-PSR-Com.2-Cashew held
6-7 July 2009 at CEPC, Kollam**

The CAC meeting at CEPC Kollam on 6-7 July, 2009.

Following Participants attended :-

No	Name of the Participant	Designation
1	Dr K.V.Peter	Former Vice chancellor, Kerala Agricultural University, Thrissur (Chairman, CAC)
2	Shri. K.Prakash Rao	Proprietor, Kalbhavi Cashews, Mangalore (Member, CAC)
3	Smt. Rajasree Prathap	Proprietress, Surya Exports, Kollam, (Member, CAC)
4	Shri P Bharathan Pillai	Chairman, CEPCI, Cochin.(Consortium Leader)
5	Dr D Balasubramanian	Sr.Scientist, DCR, Puthur. (Consortium Partner)
6	Dr V.Palalnimuthu	Research Engineer, UAS Banagalore (Consortium Partner)
7	Dr. KA Ratheesh	MD, KSCDC, Kollam (Consortium Partner)
8	Ms Priya Anthony	Research Assistant, KSCDC, Kollam (Consortium Partner)
9	Dr. C Prabha Kumary	Dy. Principal Scientist, CEPCI laboratory Kollam (Consortium member)
10	Smt. M Haseena	Sr. Scientist, CEPCI, (CCPI),Kollam
11	Smt C.B Mayarani	Sr Scientist, CEPCI
12	Dr S Sabna Prabha	Research Associate, NAIP Project
13	Shri. S Sisu Pramod	SRF, NAIP Project
14	Shri.GT Pradeep kumar	Research Assistant, CEPCI, Member NAIP Project team
15	Shri.Aravind Gopal	Research Assistant, CEPCI, Member NAIP Project team
16	Shri KR Jayaprakash	Office Assistant, NAIP Project

Dr.G.T.Gunjate, Member CAC expressed his inability to attend the meeting. Dr. J.P Mithal, National Coordinator also could not participate in the CAC meeting as he was pre occupied with NAIP HQ duties. On the first Day 06th July (Monday), 2009 as per the agenda the CAC meeting started with the welcome address by Dr C Prabhakumari, Co Principal investigator of the NAIP project. Followed by Dr. K.V.Peter, former Vice Chancellor, Kerala Agricultural University & Chairman, CAC has made his observations of the role of NAIP Project in general and cashew in particular in the India scenario. Dr K.V.Peter, in his talk on the role of NAIP in the Indian scenario. He explained in detail the following points:-

- 1) The finance management as well as technical auditing by the NAIP-ICAR on each sub project at specified period.
- 2) The rules and regulations to be followed very strictly while making purchase of equipments and other items.
- 3) The role of the project and its importance to the cashew industry. He is of the opinion that awarding the World Bank aided project to CEPC is recognition to this laboratory and it will continue to enjoy the privilege.

Dr. VP Potty, PI of the sub project on value chain of cashew for domestic and export markets and he gave details about the CAC members and consortium members. The Principal investigator introduced the project in detail mainly touching the existing scenario in cashew industry, the problems in the present system, research gaps identified, and proposed intervention by the NAIP project and finally deliverables and identifiable markers during post project period. Special emphasis was given to transfer of technology to sustain the innovations brought in to the present system.

Shri. P. Bharathan Pillai, Chairman, Cashew Export Promotion Council of India (CEPCI) and consortium Leader was invited for inauguration of the website created for the sub project. While inaugurating the national web site of NAIP Project viz, www.cepclab.org.

Hon. Chairman, Shri. P Bharathan Pillai lauded the achievements and services of CEPC Lab and mentioned that it has reached a new height and era. He congratulated CEPC Lab on undertaking responsibility of preparing the project and getting the prestigious project to CEPC Laboratory and consortia partners. He assured all possible help.

Shri. P Bharathan Pillai projected India as an Asian giant and the whole world is monitoring the rapid growth in the world economic order. Following points were emphasized:

- 1) Efforts to be made to increase domestic production of raw cashew to meet the internal demand for processing. Our domestic production is not sufficient to meet the processing capacity of our units in India.
- 2) He expressed his concern about the declining availability of work force.
- 3) Pointed out to meet the global requirement /standards on food and food products, our processing technology to be upgraded and hoped that the NAIP project will be a path opener in this direction.

Shri Prakash Rao, Kalbavi Cashews, Karnataka Member, CAC and Former President of Karnataka Cashew Manufactures Association (KCMA), expressed concern and opined

- 1) The improper storage system existing at present in our country, declining work force and problems related to purchasing raw cashew nuts.
- 2) He mentioned that to achieve the targets stipulated by vision 2020, a vigorous effort from all sides are required to avoid lack of enthusiasm by cultivation of cashew popularizing modern agro technique to enhance the yield of cashew nut /tree/year.
- 3) He stated that statistical analysis of the data from DCR and CEPCI on the objective 1 of the project will be helpful in deriving the characteristics of imported or domestic cashew nuts.
- 4) He also described the necessity of moisture meter as moisture is the main player in the cashew processing and determines the quality to great extent.
- 5) Importance of conditioning of the raw cashew nut for roasting whether drum or steam is an important step in the cashew processing.
- 6) He suggested creating awareness by organizing workshops and seminars involving farmers and processors. He suggested following:-
 - i) Copying Vietnam to some extent to achieve higher productivity /acre of raw cashew in our country.
 - ii) More interaction between scientists and cashew Industry (Industry-Institution interaction).
 - iii) The focus on Raw cashew production increase should be the key in this project to retain our global competence position.

In the afternoon Interactive Business Session CCPI with CAC Members initiated by Dr.K.A. Ratheesh, MD of KSCDC explaining his organizations role in developing value added products and his strategy in

marketing in non traditional areas. He explained the technical programme in detail. Smt. Priya from the same organization and associate of the project also explained few points on the marketing strategy in North India for value added products from cashew under development and for already developed ones. She has exhibited some novel value added products from cashew to the participants which included cashew soup, cashew vita etc.

Dr V.P.Potty dealt the role of each consortium partner in the sub project and technical programmes assigned to each partners. During the Interactive business session, Consortium Partners (CP) explained about the roles and technical programmes assigned to them in detail.

Dr D Balasubramanian gave valuable suggestions regarding:-

- 1) Energy consumption in cashew processing and suggested to have low energy consuming system so that processor will be benefited.
- 2) To compress the deoiled cashew shell cake for use in the borma to increase the energy production.

In the following session chaired by Dr K.V. Peter, a detailed discussion took place about baseline survey indicating its importance the methodology to be adopted regarding the action plan of data collection was also discussed. The committee resolved that:-

- 1) The Performa would collect data on impact of cashew industry on workers particularly women workers, their educational background, their income and other factors.
- 2) Dr KV. Peter further suggested to include /modify the proforma including environmental factors, socioeconomic criteria also.

Baseline survey already started and hope to complete in July, 2009.

After tea break field visit was programmed and visited a cashew processing unit of KSCDC. At 5.30 the first day's programme came to an end.

On second day the 7th July 2009 the team members of CAC has visited Industrial fabrication unit manufacturing the equipments for cashew processing industry. M/s Aneesh Industries, Kollam. Followed by the Principal Investigator and co-Investigators along with the Dr K.V.Peter, Chairman and committee members discussed about environment and social auditing considering all aspects of human empowerment (Family size, male, female ratio, family income, source of income, measure of health and wellness, source of potable water, presence of latrines, personnel hygiene, personnel cleanliness etc, Level of education, reading habits and cultural exposition social concerns etc. In the following session time frame and activity mile stones were discussed with the help of power point presentation.

Ms Priya, Research Associate from KSCDC presented the assigned technical programme to them. They are mainly concentrating on value addition and marketing. They exhibited a few of their recently developed value added products from cashew nut. She presented the work plan.

I) Main suggestions came from industrialist stating that cost economics should come through survey in domestic market.

Dr V Palanimuthu, Associate, UAS Bangalore presented the work plan assigned to them.

- 1) He explained to develop or adopt gadgets for grading, shelling, colour chart for grading and peeling.

Dr Potty presented month wise work programme of CEPC for 36 months indicating each experiments to be conducted to get data for each activity.

Similarly, Dr Balasubramanian, Dr Palanimuthu, Dr KA Ratheesh presented the work programme with time frame and activity mile stone for completing the assigned work.

The extract of the pre-meeting session, was held on 05th July (Sunday), was submitted to this session for Chairman's information. All Consortium Partners highlighted the activities and their roles in the project. With the permission of the Chairman, few other items which not included in the agenda was presented by the Principal Investigator for the consortium.

Ratification and recommendation of CAC for additional facilities and fund for the consortia.

The text is appended along with the changes required by the consortium members are listed below:-

(1) KSCDC,Kollam

- (i) Additional Financial support for engaging consultancy (Annexure - I)
- (ii) Additional fund required for purchase of equipment.

(2) Directorate of Cashew Research,Puthur

- (i)Change of equipments without altering the budget allotted –Permission requested. (Annexure-II).
- (ii) Proposal for deputing one scientist from DCR to either Vietnam or Brazil to understand the latest trend in cashew processing. Financial requirement to the tune of Rs 3.5 lakh in the head training (International for consortium Staff).

(3) UAS,Bangalore

Proposal for deputing one scientist from UAS, Bangalore to either Vietnam or Brazil to understand the latest trend in cashew processing. Financial requirement to the tune of Rs 3.5 lakh in the head of training (International for consortium Staff).

(4) CEPCL, Kollam

- (i) Addition of one more equipment - Universal Testing Machine -Rs15.00 Lakh
- ii) Reallocation of excess fund from fund allotted to the fund for other equipment. Eg. the fund allotted to purchase of Electrophoretic equipment is Rs.5 lakh but the cost comes to only Rs.2.20 lakh whereas, the fund provided for UV VIS NIR spectrophotometer is Rs.18 lakh only The cost of the equipment comes to Rs.23 lakh. If the excess amount is transferred to the latter equipment, both the equipments can be purchased. (With out changing the total fund allotted (Please see the table).

No	Name of equipment	Sanctioned Amount (Rs in lakhs)	Final offered price (including, Customs duty, sales Tax, VAT, Clearance and transportation, wherever it is applicable)	Remarks Amount available reallocation with out altering the total sanctioned budget
1	Research Microscope with all accessories	5.00	5,16,977.00	-16,977.00
2	High speed refrigerated Centrifuge	5.00	4,75,000.00	+ 25,000.00
3	Electrophoresis equipment with all accessories and power pack	5.00	2,00,763.00	+ 2,99,237.00
4	HTPLC	20.00	18,27,676.00	+ 1,72,324.00
5	UV-VIS-NIR Spectrophotometer	18.50	17,96,000.00	+ 54,000.00
6	Fiber tech Muffle furnace	8.50	8,50,000.00	-
7	Table top shaker	4.00	1,20,000.00	+2,80,000.00
8	Table top Fermentor	6.00	8,92,132.00	- 2,92,132.00
9	Water activity meter	3.50	1,45,000.00	+ 2.05,000.00
10	Basket Centrifuge	1.00	No quotations received	-
	Total	76.50	68,23,548.00	

(iii) Requesting permission to engage skilled worker whenever required. Outsourcing for skilled worker for short term (with out changing the total fund allotted)

(5) For all centers

(i) Enhancement of fund in the head operational expenditure for all the centers for project period.

	Consortium partners	Allotted	Additional requested
1	CEPCI,Kollam	25.00	35.00
2	DOC,Puthur (NRCC)	15.00	25.00
3	UAS, Bangalore.	10.00	20.00
4	KSCDC,Kollam	6.00	16.00
	Total	56.00	96.00

Annexure1

a) KSCDC,Kollam-

1) Requirement- Additional Financial support for engaging consultancy

Sub: Proposal for IN-SHOP Retail Marketing and Market Development for CDC Cashews in Indian Markets under the National Agriculture Innovation Project (NAIP)

The KSCDC thank NAIP-ICAR for the opportunity given to explore possibilities for KSCDC working with NAIP on multiple Retail Marketing solutions to create a revenue streams for KSCDC's products in India and specifically in Dehi-NCR, Punjab and other parts of North and generate interests in uptake of "Cashew" among the masses.

KSCDC the Largest cashew processing company is keen to undertake a series of market activities to ensure a successful and vibrant launch of CDC Cashews products in the markets of Delhi, Noida, Gurgaon followed by Punjab.

The Activities include:

1. Market Research to finalize Launch Products, flavors, sizes & expected market pricing.
2. Market Development to define Market Potential for each Launch Product, finalize Distribution, Traditional Retail and Non Tradition Retail
3. Creating Brand Awareness through a Retail cum Radio campaign to popularize "Cashew" as a Premium yet Affordable product for all.
4. Campaigns to build alignment with specific Target Audience through Innovative Programs at RETAIL such as Women (for Powder), Kids (For Soups, Small Sachets), Youth (All products), Working Professionals (All products)

Managing IN-SHOP Retail Marketing on an ongoing basis

Activities as listed in points 1, 2 and 3 should be initiated simultaneously to launch CDC Cashews in the market; while activities per points 4 and 5 shall ensure ongoing acceptance and build continuous demand for the product.

Activities as per points 1, 2 and 3 can be repeated regularly for shorter durations to enable ongoing fine-tuning of market penetration and growth strategy.

Activity 1: Market Research to finalize Products for Launch, their flavour, sizes and expected market pricing

Activity 1 - Description

KSCDC shall undertake a Pan Delhi & NCR IN-SHOP Retail Activation activity to collect Consumer Feedback

Consumer Feedback will be based on a "Sampling Activity"

Samples of 10gm "Cashew Bits" shall be given for each form filled up

Sampling Activity shall cover 5-10 Multiple Answer Queries covering various aspects of Cashew such that they lead to "Awareness" of CDC Cashews product range

The Feedback form shall also enable building "Recall" of KSCDC as an Organization and its Range of Products among potential Retailers and Consumers

Each feedback form shall have the basic details of the Consumer and Retailer to enable them to be one of the few Lucky Winners who may get a paid trip to "Kerala" to visit one of KSCDC factories and/or predefined "Cashew" Packs

Analysis shall recommend the Launch products based on City/Area requirements

Activity 1 - Deliverables

Duration –One month

@ Delhi, Noida and Gurgaon

KSCDC will analyze based on 10,000 forms filled up across 100 Retail Outlets

Experienced retail executives thoroughly trained by KSCDC will lead the sampling activity
Focus will be articulate the benefits of “Cashew” and creating enough “CURIOSITY” to build
“IMPULSE”

CDC Cashews AV shall run on KSCDC BEAM at each Outlet to build excitement

Activity 1 - Commercials

Fixed services fee:

Rs. 3000 per outlet; 100 Outlets	= 3000 × 100 = 3,00,000
Rs. 50 per Customer Data Form	= 10000 × 50 = 5,00,000
Data Analysis and Recommendations	= 2,00,000
Total (Rs.)	= 10,00,000

Taxes and Duties extra as applicable

Samples, Training material, AV and IN-SHOP BTL material have to be arranged.

IN-SHOP BTL material including Feedback Forms are to be developed & organized by KSCDC to address local market requirements

Activity 2: Market Development to define Market Potential for Launch Product; finalize Distribution, Traditional Retail and Non Tradition Retail

Activity 2 - Description

KSCDC will undertake a detailed field activity to understand potential of each of the Launch Products

Focus will be on Retailers to get their feedback on sales potential of each Launch Product

Potential to be defined for each Launch Product for each City/Area in a City e.g. Delhi can be covered as 4 to 5 different sub-areas while Gurgaon and Noida can be separate areas respectively

Identify and select Distributor(s). Make them Market Ready for CDC Cashews range of products as identified for launch

Get the Distributors to deploy their field teams to identify Traditional Retail points e.g. Department Stores

KSCDC has to provide a Significant Set of CDC Advantage and CDC Visibility Outlets to create a “Large Non Traditional Retail” presence

Each CDC Cashew Advantage Outlet to showcase CDC Cashews AV on BEAM – 32” LCD deployed IN-SHOP

Each CDC Advantage and CDC Visibility Outlet to have “CDC Cashews” Flange outside the Outlet to build Awareness and Create Brand recall

Activity 2 - Deliverables

Time Period = 2 months

@ Delhi, Noida and Gurgaon

Solicit and Select Distributor(s) for each City/Area based on commercial parameters agreed with KSCDC
Manage Distributor for 1 + 1 months “Cash and Carry” orders on KSCDC per a pre-defined “Turns” per month (say) weekly order per Distributor for a period of 8 weeks on a Cash and carry basis

Enable KSCDC current set of select CDC Advantage and CDC Visibility Outlets to be the Non Traditional Retail Points

Run KSCDC AV on 32” LCD Screens 40 times a day at each CDC outlet for a total of over 1,00,000 minutes a month

Run Product AV on 32” LCD Screens 40 times a day at each CDC Outlet for a total of over 1,00,000 minutes a month

Deploy BTL Material at each Outlet to increase visibility at all times

Activity 2 - Commercials

Fixed services fee per month:

Rs 10 per minute of AV	= 200000 × 10 = 20,00,000
Rs. 2000/element/month/outlet; 3 elements	= 2000×3×100 = 6,00,000
Distribution process Management	= 2,00,000
Retailer Solicitation Rs.3000	= 3000 × 100 = 3,00,000

Feedback Management & recommendations = 2,00,000

Total (Rs.) = 33,00,000

Taxes and Duties, as applicable

Samples, Training material, AV and IN-SHOP BTL material are to be made by KSCDC

Creation/repackaging of AV and IN-SHOP BTL material can be developed & organized by to address local market requirements

Activity 3: Creating Brand Awareness through a Retail cum Radio campaign to popularize "Cashew" as a Premium yet Affordable product for all

Activity 3 - Description

KSCDC shall execute a Brand Awareness campaign spread across Retail with Support from FM Radio Channel

The Main focus of the campaign will be to popularize

"Cashew" as a Premium yet Affordable product for all

Secondary Focus will be to highlight the various Forms in which "Cashew" can be consumed for overall "healthy Life"

The Positive rub-off will be on Brand "CDC Cashews"

Campaign shall include multiple Contests and IN-SHOP Retail Activations (ISRA) to build "Salience" with the Campaign Focus

Activity 3 - Deliverables "Premium yet Affordable)

Time Period = Two Month

@ Delhi, Noida and Gurgaon

Preferred Radio Station – to be finalized

KSCDC shall develop the whole campaign as per Main and Secondary focus

Ample opportunity shall be given through ISRA for positive rub-off on Brand "CDC Cashews"

Develop Radio and IN-SHOP messaging to bring about the Premium yet Affordable theme

Create "CINH – Curiosity, Impulse, Need and Habit" based activities to drive footfall towards Retail outlets

Activate multiple means of "feedback" to make improvements in the campaign on an ongoing basis

Activity 3 - Commercial

Charges are to be borne for the scope of work finalization vis-à-vis existing advertisement agency of KSCDC

Charges for activities, development of material and external agencies including radio shall be separate and a management fees shall be borne by KSCDC for over all integration and leading the concept

Marketing and IN-SHOP visibility material shall be provided by KSCDC

All material are to be developed & organized by KSCDC to address local market requirements

Activity 4 and 5: Multiple Campaigns to build alignment with specific Target Audience through Innovative Programs at RETAIL such as Women (for Powder), Kids (For Soups, Small Sachets), Youth (All products), Working Professionals (All products) AND Managing IN-SHOP Retail Marketing on an ongoing basis

Activity 3 - Description

It would be important to have a series of Campaigns to build alignment with different Target Groups for different Launch Products on an ongoing basis

Campaigns will also help in launching New Products and Variants of existing products per a predefined schedule

Focus will be to enhance the Reach of "CDC Cashews" to Customers from all categories

Strong emphasize will also be on increasing Sales per Month

The campaigns shall also act as Feedback activities to continuously improve on Product Mix and related attributes

Activity 3 - Deliverables "Margins and IN-SHOP Retail Activations – ISRA"

Time Period: 2 Years from activation of 1st Distributor

@ Delhi, Noida and Gurgaon

KSCDC shall provide a comprehensive report on defining various subsections

KSCDC shall manage Distributors and Retail Marketing Function

KSCDC shall create and regular campaigns from time-to-time to increase sales of different product categories

Activity 3 - Commercials

The fund kept aside for research activities shall accrue to KSCDC for undertaking campaigns and managing Distributors

A separate activity fee will be charged based on additional scope of work for specific non-ISRA campaigns from time-to-time

Charges for activities, development of material and external agencies including radio shall be separate and a management fees are to be all integration and leading the concept

Marketing and IN-SHOP visibility material shall be made by KSCDC

All material are to be developed & organized by KSCSC to address local market requirements

Out of this activity 1& 2 may be funded by NAIP and will be repeated in the next years in other states need grand. Balance amount will be funded by KSCDC directly

2) Additional fund required for purchase of equipment.

In the approved project there is no provision for purchase of equipment , but activities approved in the project were lab oriented work. Kindly consider the request and recommend the purchase of equipments.

A CL- KSCDC Kollam							
Sl. No	Item	No. Required	Indigenous/ Imported	Approximate Cost(in Lakhs)	Year-wise Procurement		Total
					2009-10	2010-11	
1	Weighing Machine (High sensitive)	2	Indigenous	1			1
2	Weighing Machine (Normal)	1	Indigenous	.20			.20
3	Blending Machine	1	Indigenous	1			1
4	Dryer		Indigenous	1.8			1.8
5	Planetary mixer	1	Indigenous	1.65			1.65
6	Ribbon Blender	1	Indigenous	1.3			1.3
7	Hammer Mill	1	Indigenous	1.05			1.05
8	Air Roaster	1	Indigenous	1.75			1.75
9	Dewatering unit	1	Indigenous	1			1
10	Sieve shaker	1	Indigenous	1.35			1.35
11	Packaging unit		Indigenous	2.70			2.70
					Total		14.8

ANNEXURE II

b) Directorate of Cashew, Puthur

Requirement

1) Change of equipments without altering the budget allotted –Permission requested.

It is requested that permission may please be given as this matter was discussed in the last Arm held at Hyderabad and agreed in principle.

Machinery / equipment listed under approved list of equipments for NRCC (Table 1), Puttur need to be changed as per the revised list given below for which the procurement plan is also included in the table 2. Items listed under Table 2 are **essential** to fulfill the project activities planned for this Research Directorate. Considering the importance of machinery / equipments (revised), approval may be sought for the purchase of mentioned items. Further to inform that there is no alteration in the total budget allocated under head “NRCC” i.e. Rs 35.5 lakhs

Table 1. Approved list of equipments for NRCC, Puttur						
Sl.No	Item	No. required	Indigenous / Imported	Approximate cost (Rs)	Year wise procurement	
					2009-10	2010-11
1	Autoclave	1	Indigenous	2.0	☉	-
2	Bending machine	1	Indigenous	2.0	☉	-
3	Workshop tools and gadgets	1	Indigenous	1.0	☉	-
4	Lab model multi channel data logger	1	Imported	7.0	-	☉
5	Multi purpose lathe machine	1	Indigenous	3.0	☉	-
6	Roasting machine	1	Indigenous	7.0	☉	-
7	Borma (Electrically operated)	1	Indigenous	8.0	☉	-
8	Electronic balance	1	Indigenous	2.0	☉	-
9	Water activity meter	1	Imported	3.5	☉	-
Total				35.5		

Table 2. Revised machinery / equipments for NRCC						
Sl.No	Item	No. required	Indigenous / Imported	Approximate cost (Rs)	Year wise procurement	
					2009-10	2010-11
1	Texture analyzer	1	Imported	13.0	☉	-
2	Hunter colour flex meter	1	Indigenous	3.5	☉	-
3	Workshop tools and gadgets	1	Indigenous	1.0	☉	-
4	Colour sorter	1	Imported	3.0	-	☉
5	Humidity chamber	1	Indigenous	2.0	☉	-
6	Roasting machine	1	Indigenous	2.5	☉	-
7	Borma (Electrically operated)	1	Indigenous	2.5	☉	-
8	Molded vacuum Packaging m/c	1	Indigenous	4.5	☉	-

9	Water activity meter	1	Imported	3.5	🌐	-
			Total	35.5		

Besides, this Research Centre has been upgraded and accordingly renamed as “Directorate of Cashew Research” with same communication address. Changes in the email ID are dircajkures@yahoo.com; dircajures@gmail.com; dircajures@rediffmail.co and web site: www.cashew.res.in . This is for your kind information and needful.




2) Requirement

Proposal for deputing one scientist from DOC to either Vietnam or Brazil to understand the latest trend in cashew processing.- Financial requirement to the tune of Rs.3.5/- lakh in the head training (International for consortium Staff.)

NC, NAIP on revision of procurement of machinery and budget for the FY 2009-10 for this directorate. Accordingly, requirement of machinery as discussed earlier during “Annual workshop” on NAIP (held at ANGRAU, Hyderabad between 22nd and 23rd May, 2009) is given below.

Sl. No	Item	No. required	Indigenous / Imported	Approximate cost (Rs)	Year wise procurement	
					2009-10	2010-11
1	Autoclave	1	Indigenous	2.0	🌐	-
2	Bending machine	1	Indigenous	2.0	🌐	-
3	Workshop tools and gadgets	1	Indigenous	1.0	🌐	-
4	Lab model multi channel data logger	1	Imported	7.0	-	🌐
5	Multi purpose lathe machine	1	Indigenous	3.0	🌐	-
6	Roasting machine	1	Indigenous	7.0	🌐	-
7	Borma (Electrically operated)	1	Indigenous	8.0	🌐	-
8	Electronic balance	1	Indigenous	2.0	🌐	-
9	Water activity meter	1	Imported	3.5	🌐	-
Total				35.5		

Sl.No	Item	No. required	Indigenous / Imported	Approximate cost (Rs)	Yearwise procurement	
					2009-10	2010-11
1	Texure analyser*	1	Imported	14.0	🌐	-
2	Hunter colour flex meter**	1	Indigenous	5.0	🌐	-
3	Humidity chamber***	1	Indigenous	2.5	🌐	-
4	Workshop tools and gadgets	1	Indigenous	1.0	🌐	-
5	Molded vacuum Packaging m/c	1	Indigenous	6.0	🌐	-

6	Roasting machine	1	Indigenous	6.0		-
7	Borma (Electrically operated)	1	Indigenous	5.0		-
8	Water activity meter	1	Imported	3.5		-
Total				43.0		

Autoclave, Bending machine, lab model multi channel data logger, and multi purpose lathe machine may kindly be deleted

Justification for replacement

Texture analyser* is required to analyse cutting strength of raw cashewnuts at different stages of its maturity while developing standards for raw cashewnuts; required to study the force needed to shell conditioned cashewnuts while developing cutting tool; required to study textural analysis of cashew kernel while developing quality standards.

Hunter colour flex meter** is essential to study maturity of raw cashewnuts based on surface colour while developing colour chart for raw cashewnuts and required to study the colour of cashew kernels while developing standards

Humidity chamber*** is required to study moisture sorption isotherm in order to study shelf life of raw cashewnuts and kernels.