

**MINUTES OF THE FIFTH CONSORTIUM ADVISORY COMMITTEE (CAC) MEETING OF THE
PROJECT "VALUE CHAIN ON CASHEW FOR DOMESTIC AND EXPORT MARKET" UNDER NAIP
COMPONENT 2 ON 6 FEBRUARY 2012 AT DCR, PUTTUR.**

Chairman : Dr KV Peter
Members : Dr RT Gunjate, Agricultural Expert.
: Smt Rajasree Pratap, Surya Exporters, Kollam
: Shri Prakash Rao, Kalbhavi Cashews, Mangalore
Consortium Leader : Dr VP Potty, Principal Scientist, CEPC Lab, Kollam
Consortium Partners:
Dr D Balasubramanian, CCPI, DCR, Puthur, Karnataka
Dr V Palanimuthu, CCPI, University of Agricultural science, Bangalore
Dr KA Ratheesh, CCPI, KSCDC, Kollam

CAC members Dr RT Gunjate, Agricultural Expert, Smt Rajasree Pratap, Surya Exporters, Kollam and Dr KA Ratheesh Consortium Partner (KSCDC, Kollam) did not attend the meeting. The Chairman of CAC, Consortium Leader and CAC member Shri Prakash Rao, Kalbhavi Cashews, Mangalore, chaired the meeting.

As per the programme schedule, the meeting started at 9.45 AM on 6th February 2012. Dr D Balasubramanian, CCPI, DCR, Puthur; welcomed the dignitaries and participants. The **CPI** - Dr VP Potty, Principal Scientist, CEPC Lab, Kollam ; **CCPI** - Dr.V Palanimuthu, UAS Bangalore, Karnataka and Miss Athulya RA as representative of KSCDC, Kollam also attended the meeting. All research scholars from 3 Consortia partners along with the Research scholars from the Consortium Leader were also present for the CAC meeting.

Dr KV Peter, Chairman, CAC made observations on NAIP-ICAR project on Cashew. He elaborated the need to focus on the theme of the project and on implementation of work. He emphasized the role of the project and its importance to the cashew industry. He emphasised on the need for Cashew to be projected as a healthy food with nutritional benefits as the Food Security Bill is about to be tabled in the Parliament. He congratulated everyone involved in this project on the progress been made and its contributions to Cashew industry.

Interactive business session started with a detailed power point presentation by Dr VP Potty, CPI on tasks completed and the activities proposed for May 2011-January 2012. That was followed by power point presentations by Dr. Balasubrahmaniam, CCPI, DCR Puttur followed by Dr V Palanimuthu CCPI, UAS, Bangalore and RA from KSCDC Kollam; respectively. Following technical points emerged.

1. Since some of the objectives of the project were yet to be completed, the CPI and the consortia partners proposed an extension of the project. The Chairman recommended this proposal for an extension for 1 and a half years. Originally the proposal was envisaged for five years (2007-2012). But our project got sanctioned only by 2009. We lost about 1 and 1/2 years. Five years work was supposed to be finished within 3.5 years.
2. Being a seasonal crop, the raw material for analysis is restricted, which hindered the work
3. Work on biosensor (for online detection of microbes) needs to be completed by CEPC during the extension period.
4. Studies regarding storage management, packaging including brick packaging of cashew kernel, calibration study of the fabricated moisture analyzer and pest regulation studies were found as potential objectives by CAC for CEPC during the extension period.
5. Completion of the remaining patenting of the technologies to be completed during the extension period.
6. Work related to protocol development (Texture profiling of RCN) for various cashew kernel grades on specification, storage management, shelf life, packaging and improvement of the machinery (grader) along with evaluation and adaptation of equipment for industry is to be carried out DCR, Puttur according to CAC.
7. UAS, Bangalore was asked to focus their work on Development of Machinery by CAC.
8. Empirical Formula development from the Cluster analysis studies and focusing the value addition more on cashew bits were recommended for KSCDC
9. CAC decided to conduct an Industry-Scientist meet to be held on 16th April 2012, at CEPC, Kollam.
10. Next CAC meeting may be held at UAS Bangalore to enable understanding of the energy auditing, working of the nut crackers etc. All the consortium partners should participate.
11. Dr R K Goyal National Coordinator may be requested to attend the meeting at Bangalore and the date may be fixed at his convenience.

Miss.Joyce, Research Associate, NAIP-ICAR Project, DCR, Puttur, thanked Hon. Guests and participants.

(Dr K V Peter)
Chairman
CAC

CEPCI, Kollam

Sl. No	Point	Recommendations
1	Extension of the project proposed for a period of 1 and a half year (June 2012-December 2013)	The CAC has firmly approved and strictly recommended the extension from June 2012-December 2013 as time is required for pilot studies of various technologies developed.
2	Additional SRF proposed for extension period of 1 and a half year (June 2012-December 2013)	The CAC has recommended this proposal as the pilot scale studies needs to be carried out and an additional SRF will be required to finish it in a time bound manner.

DCR, Puttur

Sl. No	Point	Recommendations
1	Training/Visiting other countries like Vietnam for the observing the automated cashew processing industry	CAC recommended this proposal.
2	Extension of the project proposed for a period of 1 and a half year (June 2012-December 2013)	CAC recommended the extension from June 2012-December 2013 as texture profiling of RCN is difficult to study within march as the harvesting of RCN takes only after March.

UAS Bangalore

Sl. No	Point	Recommendations
1	Pedal operated cashew nut cutter was developed. Modified hand cashew nut cutter is under progression	Next meeting may be held at UAS Bangalore to enable understanding working of the nut crackers etc. So all the consortium partners should be participated.
2	Extension of the project proposed for a period of 1 and a half year (June 2012-December 2013)	CAC recommended the extension from June 2012-December 2013 as Prototype Automatic Cashew Sheller requires further improvement. Modification and fabrication of the current prototype needs atleast six months and further evaluation by the industry, refinement, if any, may ultimately necessitate almost a year of work.

KSCDC

Sl.No	Point	Recommendations
1	Extension of the project proposed for a period of 1 and a half year (June 2012-December 2013)	CAC recommended the extension from June 2012-December 2013 as for the marketing of the new value added products developed by KSCDC needs more studies regarding market acceptability and market feed back etc.

Major Reasons for Extension of the Project:

1. Originally the proposal was envisaged for five years (2007-2012). But our project got sanctioned only 2009. We lost about 11/2 years. Five years work was supposed to be finished within 3.5 years.
2. Due to the absence of administrative system in different institute the procurement of equipment and other day to day work was hindered by the system and hence the delay in implementing many aspects.
3. Being a seasonal crop, the raw material for analysis is restricted, which hindered the work.

CEPCI

1. As per the suggestion of CAC for refinement of storage management protocols is necessary; which needs six months of additional period.
2. Studies relating to packaging including brick packaging for Cashew kernels.
3. Storage studies in gunny bags or any other packaging material to ward off moisture, insects and microbial damage to RCN.
4. Intensive work is required for developing & calibrating a moisture meter
5. Completion of Biosensor on line detection of microbes
6. Organic fumigation technology to be finalised.
7. Completion of studies on nano-cellulose.
8. Completion of patenting
9. Training for entrepreneurships

DCR, Puttur

1. Moisture sorption isotherm for cashew kernels needs to be studied for the development of the storage protocol.
2. Surface colour characteristics of cashew kernels and image analysis of thermal grading has to be investigated.
3. Texture profile analysis of different stages of harvest raw cashew nut is to be studied and the harvest season starts from March; which is difficult to study in the scheduled time period.
4. Protocol has to be developed for various cashew kernel grades on specifications, shelf life, storage management and packaging.

UAS Bangalore:

First prototype of Automatic Cashew Nut Sheller has been fabricated and its performance evaluation is underway. As per the inputs of CIC and CAC meeting held on Feb 6-7, 2012 and also from cashew industry, the Prototype Automatic Sheller requires further improvement. Modification and fabrication of the current prototype needs atleast six months and further evaluation by the industry, refinement, if any, may ultimately necessitate almost a year of work.

Research work on mechanical peeling, another tough assignment, is yet to be initiated due to different reasons mainly, because of pre-occupation of the project's scientific man power fully engaged in the development of Cashew Nut Shellers. Therefore, the work on mechanical peeling of cashew nut kernel through novel scientific pre-treatment and improved peeling machinery will be carried out during the extension period that is being sought.

The NAIP project though sanctioned on 19/02/2009, the financial release was only on 04/06/2009.

Down to line at UAS, Bangalore level, the fund was actually made available to the CCP's only on 18/06/2009. Hence, the project is effectively run only for about 2 years 9 months (July 2009 to March 2012) which is hardly sufficient to complete the envisaged activities. It may kindly be noted that the project was originally proposed to be carried out for 5 years which subsequently reduced to 4 years.

KSCDC

1. Sixteen Value (16) added products developed. Product marketability will be based on market acceptability and market feedback which requires time.
2. Quality standards of the value added products needs to be studied.
3. RCN import will available only by July.

Chairman,CAC

Dr K.V Peter,