

6. BIOFUEL CELL

Principal Investigator	: Mr. S. N. Sondur
Duration	: 2017-18
Budget	: Rs.30.00 lakhs
Funding	: Karnataka State Bioenergy Development Board, GoK

KSCST is coordinating the activities of 33 Biofuel Information and Demonstration centres in State through regular interactions, meetings and workshops. Biofuel Cell is also promoting R & D in biofuels through Student Project Program (SPP) of KSCST and faculties of Engineering Colleges. The Cell has also setup a laboratory for carrying out experiments on Biofuels. The action plan for the year 2017-18 has been approved by KSBDB for Rs. 30.00 lakhs.

Progress (April 2017 to November 2017)

Coordinators Meetings: The first review meeting of all the district coordinators for the year 2017-18 was held at IWST, Bengaluru on 13th April 2017. The meeting was held under the chairmanship of Prof. Basavaraj Ramnal, Executive chairman of KSBDB. Shri. V. Yashavanth IAS, Managing Director of KSBDB was also present. Coordinators from 30 districts centres and representatives of lead NGOs selected by KSBDB were also present on the occasion. All the coordinators made presentation of their progress for 2016-17 and also showed the plans for 2017-18. During the meeting it was inform to all the members that quarterly meetings will be held to review the progress of the district centres.



The first quarterly meeting of the district coordinators was held on July 2017 at IWST, Bengaluru and the 2nd quarterly meeting was held at SIT, Tumakuru on 26th September 2017 along with 11 lead NGOs selected by KSBDB.



Orientation Program: Biofuel cell has been conducting orientation program to encourage students and faculties who would like to take up projects related to Biofuels and Bioenergy. This year it is planned to conduct 15



orientation programs for college students and faculties. The orientation programs were conducted for Brindavana College of Engineering, Indian Academy Degree College, S. J. Polytechnic College and Nagarjuna College of Engineering and Technology. The program is conducted at the District Bioenergy Research, Information and Demonstration Centre located in the University of Agricultural Sciences, GKVK campus, Bengaluru. The orientation program includes a detailed presentation on Biofuel technologies and its application and demonstration of the production technology at the Biofuel centre. So far 150 students and 20 faculties from the above mentioned institutions were benefited.

Student Project Program (SPP- Biofuel Projects): SPP biofuel projects were sponsored by KSBDB for the 6th consecutive year. So far 250 projects were sponsored by KSBDB and during the year 2016-17. More than 80 projects were sponsored for the final year students of BE, MTech, MSc and MBA under the 40th series of SPP. The mid-term evaluation for the sponsored projects were held at R. V. College of Engineering, Bengaluru on 18th May 2017 where the projects were evaluated by the experts from different fields to select the best and innovative projects for the Final Seminar and Exhibition. During the mid-term evaluation 54 projects were selected for Final Seminar and Exhibition. The Final Seminar and Exhibition was held at NMAM Institute of Technology, NITTE, Karkala on 11th and 12th August 2017. During this event the 10 best biofuel projects were given awards.

Workshop and training program:

The Biofuel workshop for the district centres staff (Project Assistant and Laboratory Assistant) of 33 districts, on 27th September 2017 at SIT, Tumakuru. The training cum workshop included three technical lectures on chemistry of Biodiesel, application of SVO to diesel engine and grafting techniques. The trainees were taken to the demonstration centre for practical experiments on quality analysis parameters.



Hands on training program for BRIDC staff:

A two days “Hands on Training” program was organized with the support of Karnataka State Bioenergy Development Board (KSBDB) as part of the annual training program of biofuel cell. The training is conducted for the staff of district biofuel centres. There are totally 35 district centres in the state having two staff in each centre. The training is conducted in batches of 6



to 7 centres. Two batches of training program have been conducted in collaboration with College of Forestry, Sirsi (Uttar Kannada District) and SJMIT, Chitradurga respectively.

One day Technical Seminar on Biofuels

One day technical seminar on Biofuels program was organized by Karnataka State Council for Science & Technology (KSCST), Indian Institute of Science campus, Bengaluru, in collaboration with Bioenergy Research Information and Demonstration centre (BRIDC), Gulbarga University, Kalaburgi and KSCST Regional Centre, Kalaburgi, funded by Karnataka



State Bioenergy Development Board (KSBDB) on 15th November, 2017. The program included 4 technical lectures on biodiesel production technologies and quality analysis, research opportunities in biofuels and applications of by products discussed about overview of biofuels. More than 250 students and faculties were benefited from this seminar. The objective was to improve scope of capacity building in Hyderabad Karnataka Region.

Technical lecture on Biofuels: A technical lecture on biofuels was held at the invitation of CMR Institute of Technology, Bengaluru on 6th September 2017. The final year students of Mechanical Engineering were present during the lecture. More than 75 students and faculties benefited by the biofuel lecture. The title of the lecture was “Research opportunities in Biofuels” and lecture was delivered by Mr. S. N. Sondur, Principal Investigator, Biofuel cell, KSCST. A similar lecture was also conducted at Acharya Institute of Technology, Soladevanahalli, Bengaluru on 20th November 2017. 100 students and faculties were participated in this lecture.

Outreach Programs:

As part of the outreach program, Biofuel cell organises World Environment day and World Biofuel Day for creating awareness among students and teachers regarding the importance of Bioenergy and Biofuels. This year on WED program was conducted at Shishu Griha High School students were given the task of making seed ball. KSCST as sponsored Rs 5000.00 per BRIDC centres for celebrating World Biofuel Day.



Visits to District Centres: The Biofuel Cell team has visited 15 bioenergy districts centres for overseeing their activities as per the mandate of KSBDB. The centres

have been provided with technical suggestions for operation and maintenance. The information on physical and financial progress of each of the centres is also being compiled by the Biofuel Cell as per the format of KSBDB.

R & D Activities - Biofuel Cell coordination with University and Institutions

- The project proposal on “Utilization of crude glycerol obtained in biodiesel production as an alternate to glycogenic feed supplement for dairy cows” submitted to DST, GoI has been approved and funds have been sanctioned for the first year. The project duration is for three years with a total budget of Rs. 55.88 Lakhs. The project is in collaboration with NDRI, Bengaluru
- The work on Glycerol purification for the purpose of characterization and developing the standard protocol for various levels of purification is being carried out in Biofuel Cell laboratory