

Annual Report 2019-20



Central Pulp & Paper Research Institute

Annual Report

2019-20



Central Pulp & Paper Research Institute

An Autonomous Organisation Registered under Societies Act under the Administrative Control of
Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade,
Government of India

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From the Director's Desk

It is my pleasure to present the progress and achievements of CPPRI during **2019-2020** through this Annual Report.

To start with, I am pleased to inform that the **Paper Testing Laboratory** and **Environmental Management Division** of CPPRI have been assessed and accredited in accordance with the standard **ISO/IEC 17025:2017** for "General Requirements for the Competence of Testing and Calibration Laboratories" for its facilities in the field of paper testing, water and waste water analysis by **National Accreditation Board for Testing and Calibration Laboratories (NABL)**. NABL accreditation has validated CPPRI's quality testing services in areas of paper testing and water and waste water analysis.

Another notable achievement was development and adoption of **office automation software** by CPPRI. The software includes features like e-file management, administration and Human Resource Management System (HRMS), payroll and employee management, purchase and inventory management, on-line recruitment system etc. The system implementation is likely to facilitate efficient data management and storage, save time and resources, bring more transparency in day to day activities and improve work efficiency.

CPPRI has also initiated work on development of **two mobile apps** i.e. **e-services** and **e-stat** to cater the valued customers through digital platform. The e-services app will assist the users to access the technical and consultancy services, R&D activities and Training & Skill Development Programmes being offered by CPPRI. The e-stat app will facilitate increased accessibility of data on Indian paper sector. The basic data of the Indian paper sector will thus be available to the public at large. The e- stat app has option to submit and update the online data by mills using the app interface. This will facilitate the statistical cell of CPPRI to timely compile and update the industry data base.

To improve interaction with industry / other stake holders and conduct webinars in near future a **Video Conferencing System** was successfully set up at CPPRI.

I am pleased to report that the progress of research projects carried out under **Project Based Support** and **RSC-DCPPAI** Funded Projects has also been satisfactory. In July 2019, CPPRI organized a **Dissemination Workshop** to share the outcomes of recently completed RSC - DCPPAI funded projects with the paper industry and other stake holders .

This year CPPRI was awarded patent on **Method and Apparatus for Depithing of Baggasse** as well as filed four Patent Disclosure Notes (PDN) on **Alkaline Sulphite Mechanical Pulping (ASMP) Process for Production of Pulp and Ligno sulphonate from Moringa Oleifera, Bleached Chemi Thermo Mechanical Pulping (BCTMP) Process of Whole Jute for Production of Tissue Paper, New Bleached Chemi Thermo Mechanical Pulping (BCTMP) Process of Rice Straw for Production of Disposable Tablewares** and



An Innovative Process to Refine the Bamboo Pulp for Improvement of Paper Formation and Strength Properties.

This year also, CPPRI continued to successfully assist **Central Pollution Control Board (CPCB)** as third party in monitoring the environmental status of **Grossly Polluting Industries (GPI) in Pulp & Paper Sector in Ganga River Basin**. The GPI included 32 pulp and paper mills located in Uttarakhand and Uttar Pradesh.

To address the issue of air pollution due to stubble burning by farmers, CPPRI carried out extensive work on utilization of rice straw for production of **Bleached Chemi- Thermo Mechanical Pulp (BCTMP)** which could be utilized for preparation of tablewares and packaging grade of products. Similarly to support rural population with additional revenue, studies were carried out on potential of alternate fibrous raw materials like Moringa oleifera (drum stick), corn stalk and cow dung to produce various grades of pulp. The initial results have been encouraging and further work is under progress.

Interaction with **UNIDO (IC-ISID)** continued during this period during initiation of Phase - 2 activities of the project **Firm Level Demonstration of Technologies and Productivity Enhancement for the Pulp & Paper Industry**. CPPRI provided assistance to UNIDO (IC-ISID) in organisation of 4 sensitization workshops at Kolkata, Ludhiana, Vapi and Coimbatore to identify and select the pulp and paper mills for demo trials on feasibility of membrane filtration system.

CPPRI collaborated with **The Energy and Resources Institute (TERI)** under a DSIR study entitled **DSIR-A2K Project- Pulp and Paper Sector** in which inputs were provided for development of web content pertaining to the technology status, technology gaps, energy usage and potential for energy savings by employing Best Available Technologies (BAT) in pulp and paper sector for all its three segments viz. Wood, Agro and Waste paper segments.

Interaction of CPPRI continued with Industry Associations and Japan Paper Association (JPA) and a proposal for setting up a **Waste Paper Recycling Promotion Center** with a view to streamline waste paper collection in India was submitted to the **Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS)** under the **Japan Paper Association (JPA)** sponsored activity **Paper Recycling System Establishment for India**.

CPPRI also successfully organised RSC-DCPPAI Training Programmes on **Recent Development in Coating , Surface Sizing and Printability of Paper and Paper Board , Paper Based Food Grade Package Testing, Environmental Management in Pulp & Paper Industry and Efficient Operation and Process Control in Chemical Recovery**. The institute also organized two mill sponsored paid training programme on **Effluent Treatment & Management and Air Pollution and its Management in Pulp and Paper Industry**

A CPCB sponsored Training Programme on **Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance** was also successfully organised during the year.

CPPRI continued to provide technical assistance as member of Technical Monitoring Committee constituted by Department of Heavy Industries, Ministry of Heavy Industries, Govt. of India for reviewing the progress of **Revival and Mill Development Plan (RMDP) of NEPA Limited**.



Dedicated efforts made by the Institute in rendering technical, testing and consultancy services to various agencies have resulted in Internal Revenue Generation (IRG) of ₹ 321.72 Lakh during the year 2019-20.

CPPRI entered into an MoU with **Ambedkar Institute of Advanced Communication Technologies & Research, Delhi** to explore areas of collaborative research projects.

With an objective to maintain corruption free and transparent work culture, CPPRI has been strictly complying with the directives of **Right to Information Act, Central Vigilance Commission, Ministry of Culture, National Archives of India** etc. The **Hindi Cell** also continued its efforts for further increase in use of Hindi in official work.

Under **Swachh Bharat Mission** of Government of India, CPPRI continued its effort proactively through organization of awareness programme for school children which included invited lecture, poster competition, training on utilization of waste paper for paper making, awareness drive etc.

CPPRI as usual, observed with great fervor national and other important days during the year like **Independence Day, Republic Day, International Yoga Day, Hindi Diwas, Vigilance Awareness Week, Constitution Day, Sadbhavana Diwas** etc., through organization of meetings and functions for creating awareness among the staff and their families on the related issues.

CPPRI would like to place on record the guidance and encouragement extended by **Dr. Guruprasad Mohapatra, IAS, Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India and President, Council of Association (CoA) of CPPRI**. The institute would also like to place on record the guidance and professional leadership provided by **Shri Anil Agrawal, Joint Secretary, Department for Promotion of Industry and Internal Trade and Chairman, Research Advisory Committee (RAC) of CPPRI and Research Steering Committee of Development Council for Pulp, Paper & Allied Industries (RSC-DCPPAI)**.

The valuable guidance and support extended by the Hon'ble Chairman and Members of **Development Council for Pulp, Paper and Allied Industries (DCPPAI), Council of Association (CoA) of CPPRI, Research Advisory Committee (RAC) of CPPRI and Research Steering Committee of Development Council for Pulp, Paper and Allied Industries (RSC-DCPPAI)** is also sincerely acknowledged.

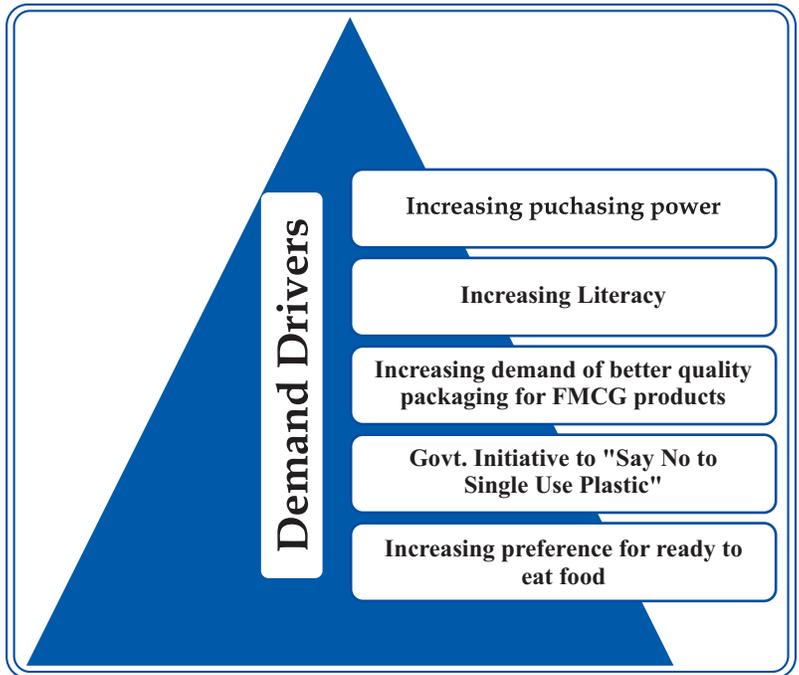
CPPRI also wishes to thank the mill associations, **Indian Paper Manufacturers Association (IPMA), Indian Newsprint Manufacturers Association (INMA), Indian Agro and Recycled Paper Mills Association (IARPMA) and Indian Recycled Paper Mills Association (IRPMA)**, other regional mill associations as well as all our valued clients from pulp, paper and allied industries, for their continued support in various activities and projects being executed by CPPRI.

The dedicated efforts and team work of CPPRI's scientific, technical and non technical staff in timely execution of various activities of CPPRI is also sincerely acknowledged.

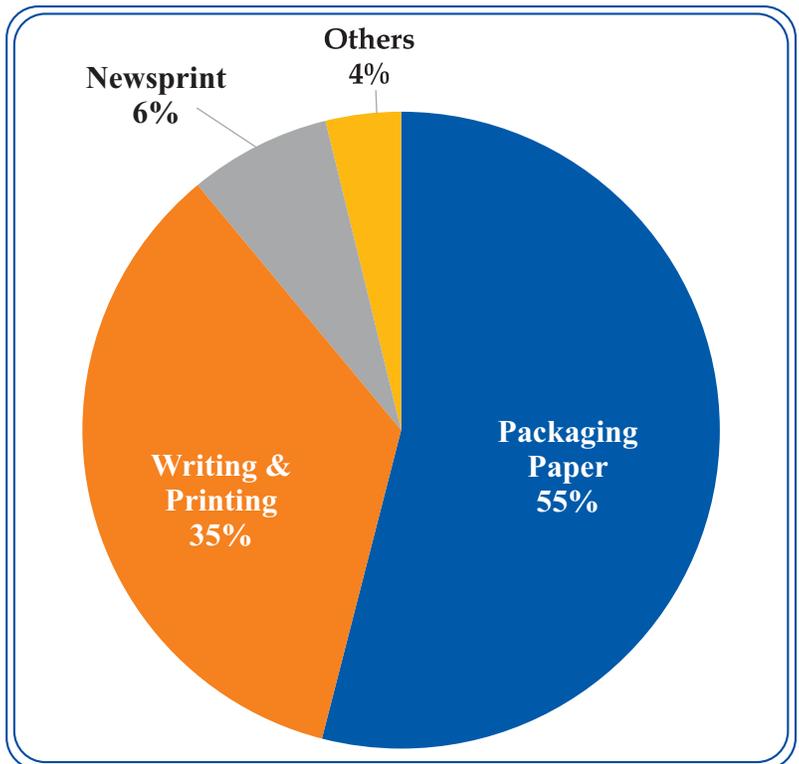
Dr. B.P. Thapliyal

A REVIEW OF INDIAN PAPER INDUSTRY (2019 - 2020)

The Indian paper industry is now a major contributor to the world paper trade with a production volume of **19.36 million tons (2018-19)**. Paper is considered as an important contributor in national manufacturing sector and therefore, 7% of weightage has been given to it while calculating the National Manufacturing Growth. Even with all its challenges, the sector has exhibited a CAGR of about 6%. This growth has been aided by FDI of 197.6 & 71.2 Million USD in 2017 and 2018, respectively. Further, with optimistic expectations of growth rate in double digits over the foreseeable future, the consumption and hence the production of paper is projected to double by the year 2030.



Writing & printing paper accounts for approximately 35% of the total paper produced in India. On account of being an eco-friendly and biodegradable product, paper is the natural choice for packaging, and therefore this accounts for 55% of the total paper production in the country. Packaging is also the fastest growing segment of the Indian industry. Newsprint accounts for about 6% of the paper produced in the country. Newsprint sector is reeling under pressure from reduction in import duty from 10% to 5% even when the actual user condition is in place. This, coupled with aggressive posture due to cheap imports is expected to decrease Newsprint Production in the times to come. Other varieties produced in the country include tissue paper/hygiene paper, insulation paper, filter paper, grease-proof paper, absorbent paper for laminates, etc.



Today there are more than 861 paper mills spread across the country. The total operating installed capacity in the sector is 21.90 million tonnes per annum and the production is 19.36 million tonnes per annum. **Table - 1** presents a snapshot of the key statistical data of Indian paper sector.

The Indian paper industry has registered a CAGR of about 6% on consumption and 5% on production (based on 8 years data points). Nationally, paper sector is one of the core entities in terms of providing employment in the Indian hinterland. Overall, 2.5 million persons are directly and indirectly getting their livelihood from this sector.

At the national level, this sector contributes ₹ 8000 Crores to the national exchequer with a turnover of ₹ 70000 Crores. The progress of the paper industry is inextricably linked to National Priority of a knowledge based economy. The sector is likely to emerge as a significant contributor to the Government's target of achieving an overall growth of 8% in manufacturing.

Table -1 : Indian Paper Industry - Key Statistics

Total Number of Mills	861		
Total Installed Capacity, million tons	27.15		
Operating Installed Capacity, million tons	21.90		
Production of Paper, Paperboard and Newsprint, million tons	19.36		
Capacity Utilization, %	~89		
Number of Operational units	500		
Number of Closed Mills	361		
Idle installed capacity, million tons	4.80		
Import (in million tons)	3.25		
Export (in million tons)	1.91		
Consumption (in million tons)	20.70		
Per capita Consumption (kg)	15.75		
Global Share, %	4.72		
Contribution from Different Segments (million tons)			
Segment wise Production	Wood-Based	Agro-Based	RCF-Based
Production in million tons	4.20	1.66	13.50

(Source: Statistical Cell, CPPRI. IMPEX data taken from DGFT data base)

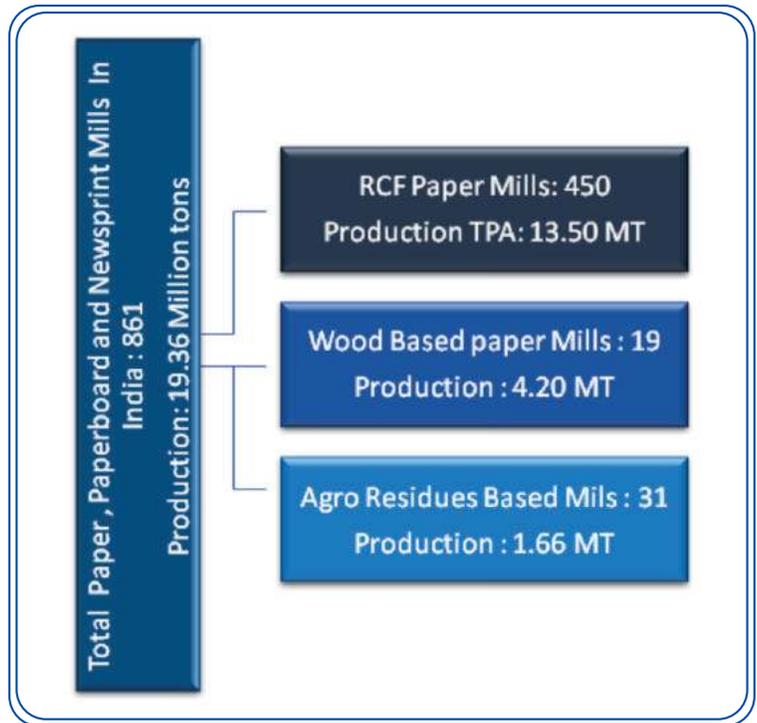
Unfortunately, the rising cost of raw material and its sustained availability is a big challenge facing the industry. However, the sales and production ratio have improved in the recent past in some cases. Yet, productivity issues



remain within small/medium units, which needs to be addressed.

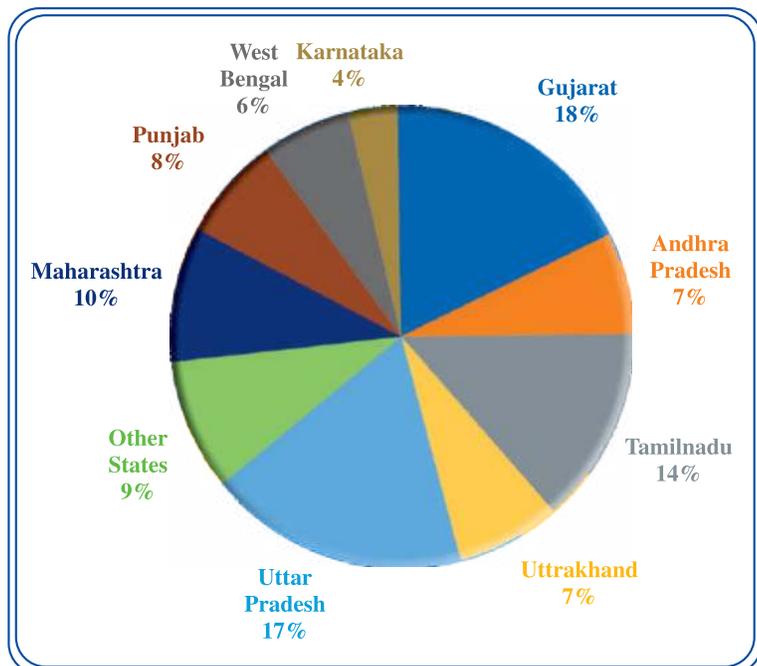
PRODUCTION STATISTICS

Paper Industry has exhibited a dynamic nature in raw material utilization over the last 15 years. This dynamicity has seen the wood share in the total production slump from 83% to 21%. The main gainer of this reduction as been the waste paper based segment which now accounts for 70% share in the total production. Agro sector continues to exhibit incremental linear growth pattern on year to year basis. Concern for the environmental safety is a challenge for the paper industry and a sizeable investment is under way to meet the emission norms



REGIONAL DISTRIBUTION OF INDIAN PAPER INDUSTRY

If the numbers alone are considered, then Gujarat has the maximum paper making units. However, most of these units are recycle fibre based. The state of UP has the second largest number of paper mills. These include one or two large mills but most of these are in the Muzaffarnagar and Meerut clusters. Most of the large mills are in Tamilnadu, Andhra Pradesh and Maharashtra. The major pulp and paper mills clusters are in and around Muzaffarnagar, Vapi, Kashipur, Coimbatore, and Ahmedabad.



RAW MATERIAL REQUIREMENT

One of the important question that needs to be addressed is the raw material requirement for production of paper in the country. As of now, this figure can at best be estimated based on the present segmental production levels. **Table- 2** gives out the distribution of variety wise production of paper from various raw materials.

Table - 2 : Distribution of Variety Wise Production of Paper from Various Raw Materials

Variety	Raw Material (% Contribution)	Production Distribution, Million tons (2018-19)	Variety wise Share of Production in the Total Production Share %
Writing Printing Grade	Wood Based (41.0)	2.78	35%
	Agro Based (9.0)	0.61	
	Recycled Fibre Based (50.0)	3.39	
	Sub Total - 1	6.78	
Packaging Grade	Wood Based (8.0)	0.85	55%
	Agro Based (12.00)	1.28	
	Recycled Fibre Based (80.0)	8.52	
	Sub Total - 2	10.65	
Newsprint Grade	Wood Based (0.0)	Nil	6%
	Agro Based (0.0)	Nil	
	Recycled Fibre Based (100.0)	1.16	
	Sub Total - 3	1.16	
Others		0.77	4%
Grand Total		19.36	100%

(Source : CPPRI Census Survey of Indian Paper Industry)

As indicated above, in terms of volume, the highest contribution to the domestic paper production comes from the packaging sector followed by writing and printing paper sector. Newsprint sector contribution is continually exhibiting a decrease, and now stands almost equal to contribution of other varieties (tissue, specialty paper, security paper etc.). Out of the total production of 19.36 million tons of paper, paper board and newsprint, writing & printing paper constitutes 35%, packaging paper 55% and newsprint around 6%. Other varieties of paper account for 4% of total production.

The writing and printing grade of paper comprises mainly of uncoated varieties viz. cream wove, maplitho, copier/cut size paper and is mainly produced from wood-based raw materials with a little share from Agro and Recycled fiber. The industrial paper, classified into kraft paper, whiteboard, machine glazed (MG) poster, duplex board and grey board, is mainly produced by the recycled fiber and agro based mills. However, some varieties such as Flexible Box Board (FBB) is made by large players such as ITC & JK Paper.



The total requirement of raw material for various segments in paper sector is indicated in **Table -3**

Table - 3 : Raw Material Requirement for Indian Pulp & Paper Industry

Raw Material type	Raw Material Requirement at mill gate (Oven Dried) (million tons/year)
Wood based	8.72
Agricultural residue based	7.25
RCF Based	18.71
Others (mixed raw materials)	1.50
Total Raw Material Requirement	36.18

(Source: CPPRI Statistical Cell)

Thus, about 36 million tons of raw material is required to produce 19.36 million tons of paper. It may be pointed out that this figure is the requirement at the mill gate (free of moisture). If the moisture and losses during raw material harvesting is taken into account and calculated at the natural moisture present in the substrate, this figure will be about 2.5 times of this value as an approximation.

TOTAL SUPPLY POSITION - MAIN VARIETIES

The figures for the total supply of main varieties of paper are given in the **Table - 4**. As can be seen, most of the supply is met from domestic production, with the sole exception of newsprint. There was an effort to take steps to reduce import of newsprint in the last fiscal when a 10% BCD was imposed across the board applicable to all entities who imported newsprint. The overseas players responded aggressively by still lowering the base price of newsprint. Further, in the present fiscal, the actual user condition was re-introduced but the BCD was slashed to 5%. This has created a difficult situation for the Newsprint sector in India. The imports of newsprint are expected to increase further along with decline in domestic production.

Table - 4 : Total Supply Position of Main Grades of Paper (2018-2019) Million tons

Paper Grade	Domestic Production	Import of Paper	Export	Actual Supply
Packaging Grade	10.65	0.42	0.68	10.39
Writing & Printing	6.78	1.08	0.83	7.03
Newsprint Paper	1.16	1.37	0.01	2.52
Others	0.77	0.01	0.04	0.74
Total	19.36	2.88	1.56	20.68

(Source: DoC Data bank for IMPEX data. Other data from CPPRI Statistical Cell)

CONCLUSIONS

The Indian paper sector has performed fairly well over the years even though it was faced with various internal and external factors. The sector, however, has unutilized capacity primarily due to acute fiber shortage in the country. Another reason for low capacity utilization has been the ever-increasing input costs particularly for energy inputs (both coal and non-coal).



The sector is very capital intensive - the Return on Investment (ROI) in this case is five to seven years. This fact has been reflected over the decades that almost all capacity addition have occurred largely through brownfield expansions. Further, most of these expansions have been in the waste paper based segment and due to de-bottlenecking measures taken by individual units, as low investment options.

Even in the above scenario, the Indian paper sector has taken notable steps to maintain smooth operations and remain competitive to the maximum extent possible in the post globalization era. The work carried out in raw material augmentation and its utilization by the sector is very commendable. Nearly all wood-based paper mills have robust plantations programs in place wherein they can source the major volumes of the required raw material. The agro based segment has mastered the art of paper making from what are known as short fiber and inferior raw material. India is one of the few countries that produce writing/printing paper from bagasse and other agro residues.

Time is now ripe for the Industry to look beyond the medium term and invest in R&D for long term sustainability. There is an urgent need to invest the CSR funds into R&D which not only helps the sector but also impacts the communities that are directly or indirectly involved with the paper sector.

There is a pressing need to ensure a sustained availability of quality lignocellulosic raw material for paper making in the country. In this reference the proposal for leasing of degraded forest lands for pulpwood plantations needs to be fast tracked by the Ministry of Environment, Forests and Climate Change (MoEF&CC). If the industry is sure of sustained availability of quality raw material in future, it can plan investments and expansions with a long-term vision accordingly.

Also, urgent interventions are needed for revising the ITC-HS codes for paper (Chapter 48) at the eight figure level in order to reflect the needs of the current trade of paper in India. This is needed to reduce the increasing imports of these items under the "Others" category. Also, certain varieties such as copier paper needs to be given a specific code under Chapter 48.

Energy is clearly the most important parameter that needs to be monitored after the raw material availability. The industry needs to shift to energy efficient technologies, but it needs funds for the same which are difficult to be available on commercial terms in view of the long ROI. Whereas, the Bureau of Energy Efficiency has made some efforts to help the industry move towards energy efficiency under PAT -2 and the National Motor Replacement Program (NMRP) through its subsidiary, Energy Efficiency Services Limited (EESL), direct funding may have to be planned for inducting energy efficient unit operations in the pulp and paper sector.

Currently, the paper sector is operating in the era of new opportunities by introduction of biorefinery approach and possible ban on Single Use Plastic. These new opportunities will open new avenues for utilization of all possible unique products from the constituents of ligno-cellulosic raw materials produced in a biorefinery. This would have the potential to change the face of the Industry. The sector may well look into the future where pulp and paper would actually be the by-product of the biorefinery operations, and the other value-added eco-friendly products will become the main stream products contributing substantially to the bottom line.



Stop Press

As this report goes to the press, the country is facing unprecedented circumstances due to the pandemic spread of COVID - 19. Beginning April 2020, the entire country was placed in a total lock down. The industry lost straight 2 months of production and is staring at a sudden dip in demand as well as an unprecedented disruption of inward and outward supply chains. The worst effected are the waste paper based mills, as both the national as well as international supply chain of waste paper have come to a virtual stand still.

The paper sector will have to formulate new strategies for production and labour control in the post Covid era. Even as the economy is opening up, the Q1 production of the sector is all but lost.

As per a CRISIL report (May 2020), a 10-15% YoY decline in demand of paper and paper boards can be expected. This is on expected lines as education sector as well as all offices have been shut down. A drop in FMCG, consumer durables and the apparel sector can have a cascading effect on demand of packaging papers.

Source : CPPRI Statistical Cell

Council of Association (CoA)

The Council of Association of Central Pulp & Paper Research Institute (CPPRI) is the supreme body consisting of 15 members having representation from **Ministry of Commerce and Industry, Department of Science & Technology (DST), Council of Scientific and Industrial Research (CSIR), Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Technology (IIT), Roorkee, Indian Paper Manufacturers Association (IPMA), Indian Newsprint Manufacturers Association (INMA), Indian Agro and Recycled Paper Mills Association (IARPMA), Indian Recycled Paper Mills Association (IRPMA), Indian Pulp and Paper Technical Association (IPPTA)** etc. The President of Council of Association of CPPRI is appointed by Government of India. At present, **Dr. Guruprasad Mohapatra, IAS, Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is President CoA. **Shri Anil Agrawal, IPS, Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is also closely associated with the affairs of the Council. The CoA was reconstituted on January 30, 2019.

Composition of the Council of Association	
President	Secretary to the Government of India, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry
Vice President	Joint Secretary to the Government of India, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry
Member Secretary	Director, Central Pulp & Paper Research Institute (CPPRI)
Members from Government	3
Member from Academic Institutions	2
Members from Scientific Institutions	1
Members from Paper Industry	6



MEMBERS OF COUNCIL OF ASSOCIATION OF CPPRI

1.	Dr. Guruprasad Mohapatra, IAS (August 8, 2019 onwards) PRESIDENT Shri Ramesh Abhishek, IAS (up to August 7, 2019) Secretary Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India
2.	Shri Anil Agrawal, IPS Joint Secretary Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India
3.	Smt. Sunita Yadav Director IF Wing -IPP Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India
4.	Shri Madhukar Mishra Chairman Development Council for Pulp, Paper and Allied Industries and Managing Director, Star Paper Mills Limited
5.	Shri Ravinder Gaur Scientist D Department of Science and Technology Ministry of Science and Technology, Government of India
6.	Dr. Rakesh Kumar Director CSIR- National Environmental Engineering Research Institute, Nagpur
7.	Dr. Dharam Dutt Professor IIT Roorkee (Saharanpur Campus)
8.	Shri S. D. Sharma, IFS Deputy Director General (Research) Indian Council of Forestry Research and Education, Dehradun
9.	Shri Rohit Pandit Secretary General Indian Paper Manufacturers Association (IPMA), New Delhi
10.	Shri R. Vijay Kumar Secretary General Indian Newsprint Manufacturers Association (INMA), New Delhi

11.	<p>Shri Pramod Agarwal President Indian Agro and Recycled Paper Mills Association (IARPMA) and CMD- Rama Paper Mills Limited</p>
12.	<p>Dr. R. C. Rastogi President, Indian Recycled Paper Mills Association (IRPMA) and CMD- Khatema Fibres Limited</p>
13.	<p>Shri Sanjay K. Singh President Indian Pulp and Paper Technical Association (IPPTA)</p>
14.	<p>Shri Devesh Khaitan Additional Director Wires & Fabriks (S.A.) Limited, Kolkata</p>
15.	<p>Dr. B. P. Thapliyal MEMBER SECRETARY Director Central Pulp & Paper Research Institute</p>



RESEARCH ADVISORY COMMITTEE (RAC)

The Research Advisory Committee (RAC) of Central Pulp & Paper Research Institute (CPPRI) comprises of prominent scientists and technologists and representatives from **Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, Government of India, Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Technology (IIT), Roorkee etc.** The RAC monitors the progress of various projects carried out by the institute under Project Based Support of DPIIT (Formerly Five-Year plan Projects). **Shri Anil Agrawal, IPS, Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is the Chairman of RAC at present.

Composition of the Research Advisory Committee	
Chairman	Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry
Member Secretary	Director, Central Pulp & Paper Research Institute
Member from Government	3
Member from Academic Institutions	1
Member from Scientific Institutions	3
Member from Paper Industry and other organizations	10
Consultants / Technologists	3

MEMBERS OF RESEARCH ADVISORY COMMITTEE OF CPPRI



1.	Shri Anil Agrawal, IPS Joint Secretary Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	CHAIRMAN
2.	Ms Sunita Yadav Director IF Wing Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	
3.	Dr. S.S. Gupta Senior Development Officer Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	
4.	Shri K. K. Sinha (Tenure completed on 15.9.2017) Industrial Advisor (TSW, LEI) Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	
5.	Shri S. K. Jain Chairman-cum-Managing Director Hindustan Paper Corporation Limited	
6.	Dr. Chaaya Sharma Faculty Incharge IIT - Roorkee (Saharanpur Campus)	
7.	Shri P. S. Patwari President Indian Newsprint Manufacturers Association (INMA) and Executive Director - Emami Paper Mills Limited	
8.	Dr. R. C. Rastogi President Indian Recycled Paper Mills Association (IRPMA) and CMD- Khatema Fibers Limited	
9.	Dr. N. V. Satyanarayana Chief Scientist and Head, Business Development Indian Institute of Chemical Technology	
10.	Dr. Nishi Kant Bhardwaj Director Avantha Centre for Industrial Research and Development	
11.	Shri Raghavendra Hebbar Head (Development) JK Papers Limited	
12.	Dr. Vikas Rana Head (C and P Division) Indian Council of Forestry Research & Education	



13.	Dr. Prashant Gargava Member Secretary Central Pollution Control Board	
14.	Shri N. K. Jain Director Valmet Technologies Co. Pvt. Limited	
15.	Shri Sanjay Kumar Singh Chief Operating Officer ITC Limited - Paperboards & Speciality Papers Division	
16.	Shri Pawan Agarwal Chairman Kumaun Garhwal Chamber of Commerce and Industry (KGCCI: Paper Unit Chapter) and JMD - Naini Group of Industries	
17.	Dr. H. D. Kulkarni Vice President (Plantations) ITC Ltd. - Paperboards & Speciality Papers Division	
18.	Shri Tushar Shah Director Daman Ganga Group	
19.	Shri Anil Kumar Executive Director and CEO Shreyans Industries Limited (Unit: Shreyans Papers)	
20.	Shri Pavan Khaitan Managing Director Kuantum Papers Limited	
21.	Shri Arun G. Bijur Vice Chairman SPB Projects and Consultancy Limited	
22.	Dr B. P. Thapliyal Director Central Pulp & Paper Research Institute	MEMBER SECRETARY

STAFF

As on April 1, 2019, CPPRI's core team includes **Scientists (15), Technical Staff (14) and Administrative & Finance Staff (8).**

CPPRI staff is dedicatedly engaged in providing quality services, support and assistance to Pulp, Paper & Allied Industries. The scientific staff is highly qualified and has vast experience in various areas of paper making such as Raw Material Preparation, Pulping and Bleaching, Stock Preparation and Paper Making, Paper Testing, Chemical Recovery, Energy Conservation, Environmental Management, Biotechnology, Product Development, Quality Control etc. The list of permanent staff along with qualifications is annexed with this report.

MAJOR ACHIEVEMENTS DURING 2019-20



The major achievements of CPPRI during 2019-20 are summarized as under:

NABL Accreditation for Paper Testing and Water & Waste Water Pollution Parameters

- The Paper Testing Laboratory and Environmental Management Division of CPPRI have been assessed and accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) in accordance with the standard ISO/IEC 17025:2017 for 'General Requirements for the Competence of Testing and Calibration Laboratories' in the area of chemical and mechanical testing for its facilities in the field of paper testing & water and waste water analysis .



Meeting of NABL Technical Audit

Development of Office Automation Software

- CPPRI has developed office automation software to efficiently execute its activities.
- The office automation software developed by CPPRI includes features like e-file management, administration Human Resource Management System (HRMS), payroll and employee management, purchase and inventory management, on-line recruitment system etc.
- The software would be operational from June 2020 and necessary corrective actions would be taken up after adopting it in actual practice.

Patents Awarded

- CPPRI was awarded patent on **Method and Apparatus for Depithing of Baggasse**

Patent Disclosure Note (PDN)

- Four Patent Disclosure Note (PDN) were filed in Feb 2020 based on the research and development activities carried out by the institute in different areas during 2019-2020.

Utilization of Cellulosic Biomass

- CPPRI carried out successful work on utilization of rice straw for production of BCTMP pulp for preparation of table ware and packaging grade of products as a green solution to the issue of stubble burning which causes severe air pollution.



Various products prepared from BCTMP pulp of agroresidues

- Studies were carried out on potential of alternate fibrous raw material like Moringa Olifera (drum stick), corn stalk and even cow dung to produce various grades of pulp to provide rural population additional source of income.

Environmental Management

- Assistance was provided to **Central Pollution Control Board (CPCB)** as third party in monitoring the environmental status of **Grossly Polluting Industries (GPI) in Ganga River Basin**. The GPI's included 32 pulp and paper mills located in Uttarakhand and Uttar Pradesh.

Biotechnological Applications

- A novel glucose fermenting, native bacteria for production of ethanol from lignocellulosic biomass like rice straw was isolated which was found to have comparatively better ethanol producing ability than the commercial yeast strain *Saccharomyces cerevisiae*.
- A process for production of high concentration ethanol from rice straw was developed using the novel in-house bacterial strain.

Training / Skill Development

CPPRI organized following workshops and training programmes during the year :

- RSC-DCPPAI Training Program on **Recent Developments in Coating, Surface Sizing and Printability of Paper and Paper Board** on May 2-3, 2019.

- RSC-DCPPAI Workshop on **Dissemination of the Information on the Issues Addressed under RSC-DCPPAI Supported R& D Projects**, May 10, 2019, Scope Complex, New Delhi.
- RSC-DCPPAI Training Programme on **Paper Based Food Grade Package Testing** on May 21, 2019.
- Mill Sponsored Training Programme on **Effluent Treatment and Management** on June 28-29, 2019.
- Mill Sponsored Training programme on **Air Pollution and its Management in Pulp and Paper Industry** on August 31, 2019.
- RSC-DCPPAI Training programme on **Environmental Management in Pulp and Paper Industry** on November 8-9, 2019.
- RSC-DCPPAI Training Programme on **Efficient Operation and Process Control in Chemical Recovery** on January 17-18, 2020.
- CPCB Sponsored Training Programme on **Water Quality Monitoring of Surface, Ground, Waste Water/ Effluent, Data Interpretation and Quality Assurance** on February 24-28, 2020.

Statistical Cell

- Statistical tools were employed for future projection of production and demand for main varieties of paper such as writing/printing and packaging segment, growth analysis of paper sector and analysis of growth trends in the waste paper segment of the Indian paper sector.
- A twenty-year data set was prepared for import and export of paper sector. Special focus was given on waste paper import and its scenario.
- A report on waste paper collection mechanism in India and estimated recovery rate of different grades of paper was made in association with paper associations (IPMA, IARPMA, INMA) and submitted to the **Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS)** under the **Japan Paper Association (JPA)** sponsored activity **Paper Recycling System Establishment for India**.
- A proposal made in consultation with paper mill associations for setting up of **Waste Paper Recycling Promotion Centre** was submitted to AOTS and JPA for consideration under the JPA Sponsored Activity **Paper Recycling System Establishment for India**.
- In order to strengthen the Indian economy Government of India has given directives that are covered under the provisions of **Public Procurement (Preference to Make in India) Order 2017**. In view to bring identified items of paper under the ambit of this order, data support was extended by the Statistical Cell of CPPRI to the parent Ministry and inputs were provided for calculation of Minimum Local Content for nine different varieties / grades of paper that are now covered in the order.



Technical and Consultancy Services

- Technical and consultancy services were rendered to various pulp and paper mills and allied industries, technology and chemical suppliers by way of evaluation of raw materials, pulp and paper samples, pulping additives, deinking chemicals, sizing chemicals, stickies control agents, evaluation of suitability of newer grades of imported waste paper, characterization and analysis of various fibrous and non-fibrous raw materials, environmental samples as well as providing assistance in trouble shooting, adequacy assessment, performance evaluation of various process operations, effluent treatment plant and pollution control equipments leading to internal revenue generation of around ₹ **321.72 Lakh**.

Mills Membership

- Generation of Revenue of ₹ **1,32,750/-** from Institute membership of the mills.

Contract Agreement / MoU Signed

- MoU signed with **Ambedkar Institute of Advanced Communication Technologies & Research, Delhi** to explore areas of collaborative R & D projects on 29.2.2020.

Research Papers Published

- 8 research papers were published in various journals during 2019-20.

Reports Prepared

- 77 Technical / Consultancy reports were prepared during 2019-20.

Infrastructure Development / Capacity Building

- Setting up of **Video Conferencing System** in the institute for organising on-line classes and webinar in the area of pulp and paper.
- Upgradation of infrastructure and facilities through purchase of Mini Boiler for pre steaming of chips before refining, Top loading calibrator, Time calibrator, Flow rate calibrator, Centrifuge, Modular and Compact rheometer, Bending stiffness tester, Gloss meter etc. were procured.

Receipts & Expenditure

Income & Expenditure :

During the year **2019- 20**, total receipts of the Institute were **₹ 2002.74 Lakh** and total expenditure was **₹ 1295.30 Lakh** (i.e. revenue expenditure **₹ 1249.90 Lakh** + capital expenditure **₹ 45.40 Lakh**).

Following are the broad heading of income & expenditure of the Institute during the year under review:

S.No.	INCOME	₹ in Lakh	S.No.	EXPENDITURE	₹ in Lakh
1	Balance as on 01.04.2019	975.40	A.	REVENUE EXPENDITURE	
2.a.	Grants from Ministry of Commerce & Industry, DPIIT, Govt. of India.	87.00	1	Salary & Allowances	742.39
b.	Base Level support through Development Council for Pulp, Paper & Allied Industries	579.95	2	Plant & Lab Maintenance	62.95
c.	Grants received from Development Council for Pulp, Paper & Allied Industries for Cess funded Projects/Core Secretariat	38.67	3	Electricity Charges	81.77
3	Testing fees	130.59	4	Repair Of Assets	117.77
4	Consultancy fee/ Membership fee	96.21	5	Miscellaneous	245.02
5	Training fees/M.Sc. Fees	13.18	B.	CAPITAL EXPENDITURE	45.40
6	Miscellaneous receipts	81.74	C.	BALANCE CPPRI	707.44
	TOTAL	2,002.74		TOTAL	2,002.74

Internal Revenue Generation

CPPRI in its endeavour to become self reliant continued to make concerted efforts to generate internal revenue through rendering of technical and consultancy services to pulp , paper and allied industries. The efforts have translated into generation of internal revenue worth **₹ 321.72 Lakh** during the financial year **2019 - 20**.



R&D ACTIVITIES

(A) Schemes Carried Out Under Project Based Support (PBS)

(a) Raw Material and Product Development

I. Bleaching Process Intensification through Short Bleaching Sequences using ECF/TCF Bleaching Technologies for Pulp Produced from Indigenous Raw Materials

The project was taken up in 2018 to explore short bleaching sequences for bleaching of indigenous raw material chemical pulp to achieve desired brightness along with added advantage of reduction in bleaching chemicals demand, bleach plant effluent load and overall bleaching cost. The project is under progress and as per the deliverables following activities have been completed during 2019- 20 :

- Intensification of pretreatment / bleaching stages of agro residue pulp were carried out so as to achieve target brightness in only two stage i.e. O,P and O,P & Z instead of four stage i.e. ODEpD through acceleration in reaction temperature, addition of additives in oxidation stage for production of low kappa number pulp. The added advantage of these short bleaching sequence is that the low bleach effluent load of O,P and Z based bleaching sequence may facilitate closure of bleach plant circuit as well as the process can be easily adopted by the mills using semi chemical or chemi thermo mechanical pulping process where high brightness is not required.
- The studies have also indicated that if intensification process is incorporated in ODL pretreatment of bagasse, wheat straw and mixed agro mill pulp by addition of peroxide, a brightness level in range of 65-72% ISO can be achieved. With only one stage Ozone bleaching brightness level of 81-83% ISO can also be achieved.
- Thus a short sequence TCF bleaching with only two stage OP-Z can provide an attractive alternative to conventional chlorine based bleaching sequence to achieve pulp brightness +80% ISO which can be helpful in producing chlorine free food packaging board box or paper bags. For low brightness target up to 65-75% ISO only one single stage OP i.e. pressurized peroxide is enough.

In all , the laboratory scale trials and findings of the project support the intensification of bleaching process and shortening of bleaching sequences. The agro residue raw material pulp with short TCF bleaching sequence open the door for producing value added chlorine free food packaging board box or paper bags. The bleaching process intensification is a cleaner technology as it leads to reduction in the effluent volume. Intensification of particular stage starting with Acid pretreatment to OP and final Z/D/P stage have shown in general an efficiency enhancement of that stage by 60-70% .



Studies on Bleaching Process Intensification under Progress

(b) Energy Conservation and Environmental Management

I. Implementation of Enzyme Application in Pulp and Paper Industry

The project was taken up for development, implementation and promotion of bio-technological and enzymatic application for bioethanol production, energy conservation and pollution reduction.

One part of the project focused on the comparative study on bioremediation of paper mill effluents using procured bacterial strains - *Pseudomonas putida* as well as in-house isolated bacterial strain consortia. The overall findings of the bioremediation studies indicate that in-house isolated bacterial strain consortia gave a higher reduction in colour and COD i.e. 61% and 57% respectively as compared to 40-45% reduction obtained with procured bacterial strains i.e. *Pseudomonas putida*. However, in case of in-house bacterial consortia maximum reduction efficiencies were obtained after 72 hours of treatment as compared to 24 hours treatment required for procured bacteria consortia *Pseudomonas putida*.

The other studies focused on bio-ethanol production from lignocellulosic biomass under which studies on two stage chemical pre- treatment of rice straw were carried out with an objective to improve the recovery of xylose sugar and enhance the efficiency of subsequent saccharification process. Under optimized conditions of acid followed by alkali pretreatment, xylose recovery increased to 42.5 g/L compared to 28 gpl obtained for single stage acid treatment.

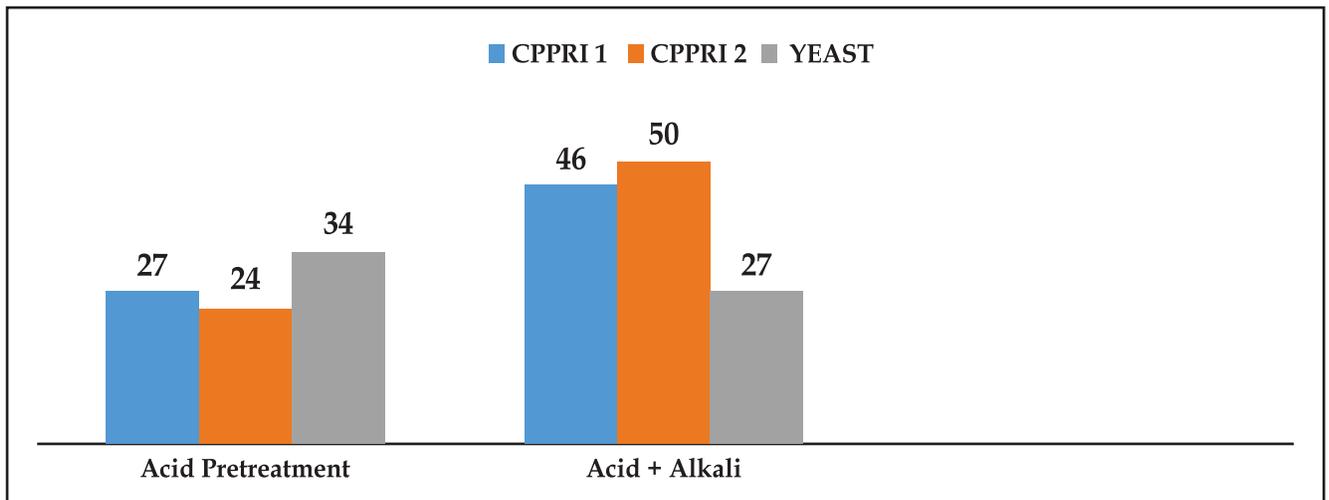
Saccharification studies were also conducted to study the influence of enzyme source on the recovery of fermentable sugars from pre-treated rice straw. Cellulose enzymes from two different microbial strains, one sourced from *Trichoderma Reesei* and the other from *Aspergillusniger* were studied. Saccharification studies indicated that cellulase enzyme from *T. Reesei* performed better and resulted in 55.5 g/L of TRS at 5% enzyme dosage and 2 % PEG at 10% biomass loading.



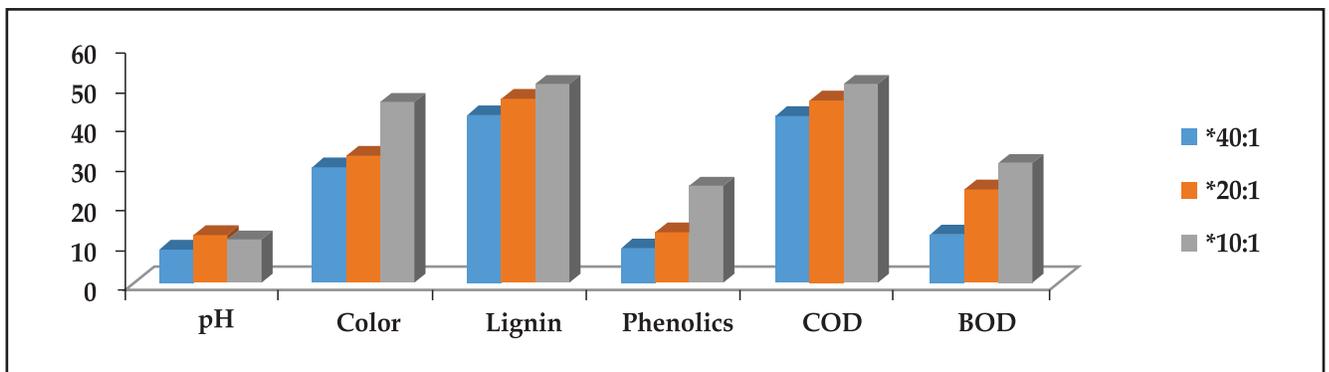
Fermentation Studies using yeast and two in-house isolated fermentative strains for production of ethanol were also completed. Ethanol concentrations of 50 g/L was achieved using in-house fermentative strain compared to 27 g/L obtained from commercial yeast strain from rice straw after 8 hours of fermentation. Fermentation was carried out with 10 % v/v mid log phase culture inoculum, at reaction temperature of 35 °C .

Characterization and identification of the two in- house fermentative strains were also carried out by submitting the strains at MTCC, Chandigarh. The novelty of the CPPRI fermentative strains was established.

In all, utilization of fermentative microbes that result in higher bioethanol concentration and other value added products from lignocellulosic biomass can provide an alternate feed stock for bio refineries and also improve the economics of the process .



Effect of Biomass Pretreatment on Ethanol Concentration (g/l) : CPPRI Fermentative Strain Vs Commercial Yeast



Effect of Inoculums density on Reduction % of pH, color, lignin, phenolics , COD and BOD with respect to primary over flow after 24 hr using a Consortia of Pseudomonas

II. Water Conservation through Application of Kidney Technologies in Indian Pulp and Paper Industry

With an objective to reduce fresh water consumption in pulp and paper mills by increased reuse and recycling of back water / treated effluent, after evaluation of chemical treatment and membrane filtration, studies were extended to ozone treatment. Ozone treatment study was carried out in lab scale reactor fabricated by CPPRI using ozone produced through ozone generator. The effluent treated for the study included Primary Clarifier Overflow (Wood W& P, Agro W& P, RCF W&P mills) and Secondary Clarifier Overflow (Wood W& P, Agro W& P, RCF W&P mills). The dosage and duration of treatment was selected as per the COD load of the mill effluent .

In all the experimental trials, the ozonation has been found to be effective in enhancing the biodegradability of paper and pulp mill waste water. It appears that the partial oxidation of the pulp mill wastewater by ozone transforms the large organic molecules into the smaller ones and enhance the biodegradability of the wastewater

The studies indicate ozone treatment can be used as an advance tertiary treatment for reducing the color and pollution load of secondary clarifier overflow for reuse and recycle of treated effluent to increase water conservation. As regards to primary clarifier overflow, ozone treatment can be used as a pretreatment step for improving the performance of ETP. The major advantage of ozone treatment is minimal reaction time and no sludge formation during treatment.



Lab scale Ozone Reactor



(c) Infrastructure Development and Capacity Building Activities

I. Strengthening of CPPRI Library to Provide Quality Services to Indian Paper Industry

The project has been initiated to strengthen the CPPRI library infrastructure and collection so that quality services can be delivered to Indian Paper Industry by adoption of modern tools and techniques. During 2019-20, CPPRI Library procured 17 books and standards related to Paper Science etc and renewed subscription of Journals and Magazines (33 Nos.). Further services were created for providing article alerts to CPPRI scientists on relevant publications on frontier research being carried out in the pulp and paper sector CPPRI Library has successfully implemented e-granthalaya software for all its activities and this year started SMS service for library users to provide information on their each transaction of library documents.

The library also published English and Hindi Version of Annual Report 2018-2019 and CPPRI Information Brochure for Paperex 2019.

Through procurement of e-granthalaya software, over 37 e-books related to pulp and paper (available on science direct platform) were made accessible to users, With setting up of ACS Omega and Google Scholar alert users the library is able to provide quality services to CPPRI scientists as well as paper industry.

(B) RSC-DCPPAI Funded Projects

I. Demonstration of Ozone Treatment Technology of Indigenous Raw Material Pulp at Pilot Plant Scale (CPPRI)

With an objective to fabricate pilot scale ozone reactor for ozone treatment of indigenous raw materials pulp (mainly agro based raw materials), the design of ozone reactor was finalized after many brainstorming sessions with various technical personnel. The tender document for procurement of ozone reactor was also prepared and published. The purchase related formalities have been completed and purchase order has been placed to the selected vendor for fabrication of the reactor. Meanwhile lab scale studies were continued on ozone treatment of agro residues pulp.



Lab scale Ozone bleaching studies

The studies with pilot scale ozone reactor will help to demonstrate the viability of ozone bleaching for agro based pulp and paper mills as well as its merits in terms of pulp quality and reduction in pollution load.

II. Screening of Parents for Clonal Forestry and Hybridization for Higher Productivity in Eucalyptus (Joint Project of CPPRI-FRI-SPM-IPMA)

The project has been initiated in 2018 to screen and select promising provenances, families and genotypes from already established trials and to register selected clones/ genotypes as well as release of promising ones for commercial cultivation.

Under the project, 21 number of promising genotypes from already established provenance trials using appropriate selection method was successfully completed. Further total 81 samples of eucalyptus of various species viz. top, middle and bottom were collected from FRI and Star Paper Mill Ltd., nursery for proximate chemical analysis, pulping and fiber morphology studies.



CPPRI, FRI and SPM officials at Eucalyptus Plantation Site



Growth of one month eucalyptus provenance of new plant from eucalyptus root

As indicated, under the project 21 number of promising genotypes from already established provenance trials using appropriate selection method has been successfully completed. The commercialization of these species will help the farmers in generating the revenue as well as the paper mills to get the quality fiber for paper making.

III. Research on Wood Quality and Physical Properties of Pulp Wood Fiber as the basis for Development on Eucalyptus and Subabul Plantation (Joint Project of CPPRI-PAPRI-IPMA)

The project aims at selection of right clones and harvesting age of identified species of eucalyptus and subabul and further characterization of wood and fiber quality of 25 promising eucalyptus and 2 subabul



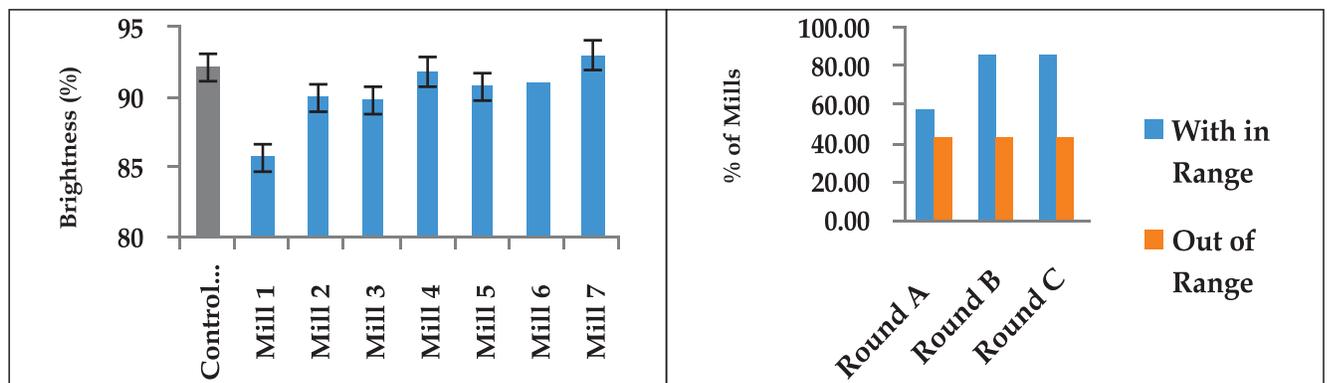
clones through detailed proximate analysis and chemical requirement in pulping process. After completion of 3 phases of the project, in the fourth phase of project, total 21 nos. of eucalyptus and subabul wood samples were received from Pulp and Paper Research Institute (PAPRI) Jaykaypur Dist. Rayagada, Odisha for determination of the physical and chemical properties like basic density, holocellulose, lignin content, ash content, (A-B) solubility, N/10 NaOH solubility and cold and hot water solubility in each samples. The results of analysis were submitted to PAPRI for their evaluation.

The outcome of the project will help to achieve significant increase in the yield of pulpwood plantation using the fast growing clones identified under this project. Ultimately, it will help not only the industry in meeting their raw material requirement but also make the tree cultivation more remunerative for the farmers.

IV. Capacity Building and Upgradation of Infrastructure for Inter Laboratory Comparison (ILC)/ Calibration of Paper Testing Facilities (CPPRI)

The project was initiated in 2018 with an objective for Inter Laboratory Comparison (ILC) of paper testing facilities for pulp and paper mills to avoid quality related problems and carry out a comparative calibration and inter laboratory comparison program for Indian Paper Industry for evaluating the reliability of equipments used at quality control laboratories of different mill's vis-a vis the CPPRI paper testing laboratory as well as upgrade CPPRI testing facilities in the field of paper testing to match international norms.

During 2019-20 the standard reference samples of paper with minimum variation were sent to different quality control laboratories of paper mills on regular basis. The results obtained from the mills were evaluated statistically and were compared with those obtained at CPPRI lab. The deviation in properties were thoroughly evaluated and reasons of deviation were studied. This deviation was attributed to the difference in testing procedures and test standard followed by mills, make and model of laboratory equipments, their calibration status, CRM's, testing environment, testing skill of operators etc.



CPPRI's Reference Sample for Brightness Measurement

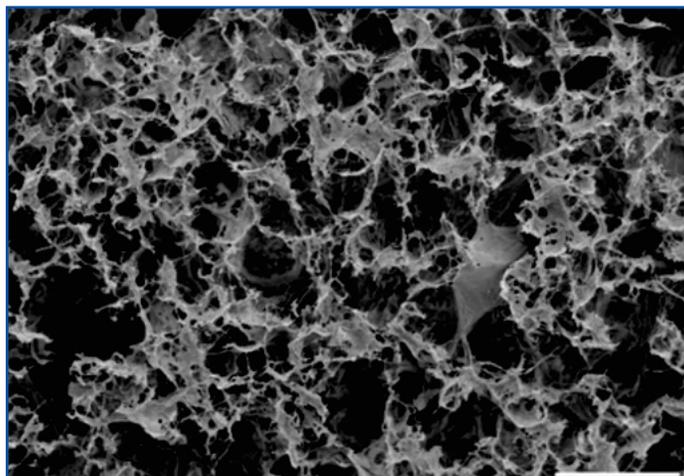
ILC of Brightness Measurement with Relative Performance of Mill Laboratories

The inter laboratory calibration service for paper testing instruments initiated by CPPRI by providing reference samples to quality control laboratories of paper mills has been appreciated by paper mills as it helps them in the evaluation of performance of their equipment. CPPRI has also provided guidelines and training to paper mills laboratory personnel in proper handling of equipments and in testing procedures in accordance with Indian/International standards

V. Study on Preparation of Cellulose Micro / Nano Fibrils and Their Potential in Papermaking (Joint Project of IPMA-ACIRD - CPPRI)

The project involves multi fold objectives viz infrastructure development for Micro / nano fibrillated cellulose (M/ NFC) preparation, lab scale production and characterization of cellulose Micro / nano fibrils using microfluidizer and evaluation of their potential for various applications in papermaking such as increased filler content, improvement in strength, refining energy reduction, improved paper quality etc.

With the procurement and successful installation / commissioning of Micro fluidizer at CPPRI laboratory experiments were conducted for the preparation of Micro / nano fibrillated cellulose from indigenous raw material like wheat straw and eucalyptus. These materials were pre- treated both mechanically and chemically and effect of these treatments on production of M / NFC through microfluidizer was analyzed. While chemical pre- treatment (hydrolysis by sulphuric acid) yielded micro crystalline cellulose, mechanical pre- treatment followed by conventional pulping and bleaching yields production of M/ NFC. The M / NFC so prepared was characterized using different techniques like XRD, SEM and TEM. M / NFC so prepared were evaluated for impact on increasing filler content in paper. During this study loading of filler upto 50% could be achieved. However, problem was encountered in context of water drainage the solution to which is under study with different retention programmes. Also the study of production of low grammage paper with substantial strength properties is in progress.



EM photograph of M/ NFC of Eucalyptus Cellulose

With the procurement of microfluidizer and expertise gained in the preparation of micro/nanofibrillated cellulose in laboratory from indigenous pulps, CPPRI is looking forward to the application of M/NFC in various applications especially in the development of speciality grade paper.

VI. Creation of Facilities for Testing of Food Packaging Paper and Board and Development of Protocol for Microbial Property (CPPRI)

The objective of the project is creation of dedicated testing facility for food packaging paper and board as per prevailing norms and development of protocol for determining microbial purity of paper and board intended for food packaging application. During 2019-2020, study on extent of microbial contamination in paper and board samples intended for food packaging applications were carried out and six samples (molded paper plates, cake boxes/ bases, brown sheets and disposable paper cups) were analyzed for Total Bacterial and Fungal counts using identified test procedures. The results indicated bacterial count in the range of 2.04×10^6 CFU/ gm to 2.9×10^7 CFU / gm. Filamentous fungi were detected in four paper samples in the range of 2×10^3 to 1.5×10^5 CFU/gm . Yeast was also detected in two paper samples in concentration range of 2.08×10^5 and 1.9×10^6 CFU/gm. Dominating micro organisms from analyzed paper and board samples were also isolated using Streak Plate Method. The pure culture of dominating microorganisms was preserved. The cultures will be sent to MTCC, Chandigarh for identification. The procurement process for two instruments Atomic Absorption Spectrometer and Gas Chromatograph for determination of FSSAI specified chemical contaminants in paper/ board samples is under progress.



Bacteria isolated from food packaging papers



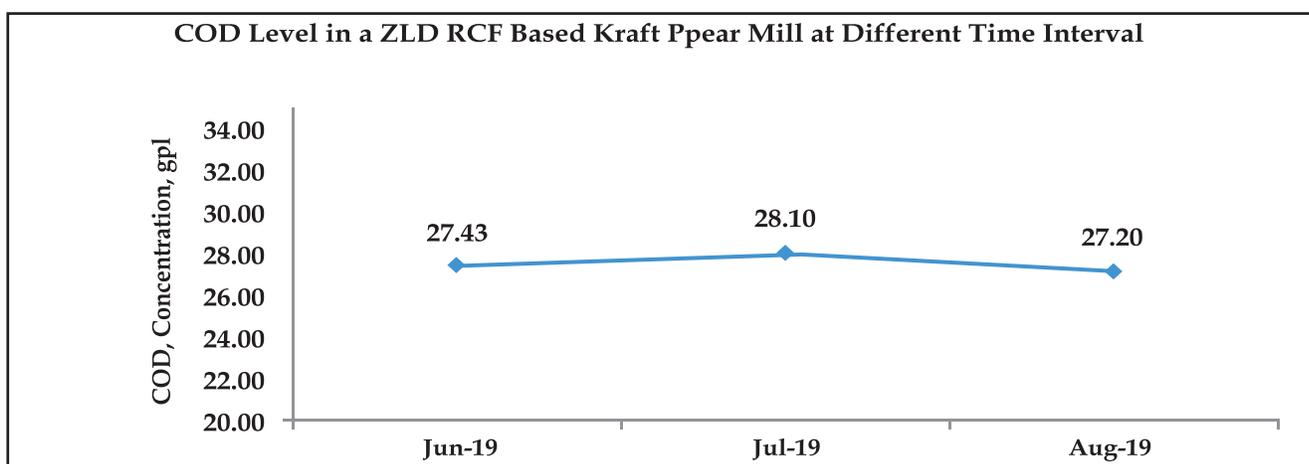
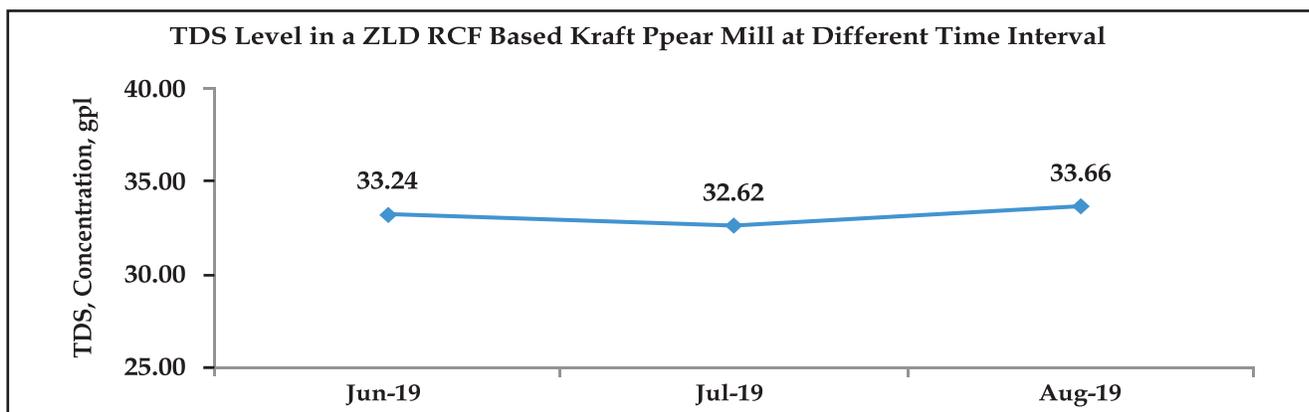
Mould isolated from food packaging papers

In all, dedicated testing facilities at CPPRI for testing and monitoring of food packaging papers w.r.t chemical and microbial contamination will help the paper industry to conform to relevant standards and regulations and hence meet the demands of a safe and hygienic packaging product.

VII. Development of Protocol for Evaluating the Feasibility of Zero Liquid Discharge in RCF based Pulp & Paper Mills (CPPRI)

The project aims to develop methodology for facilitating validation of ZLD status of RCF based paper mills. During 2019- 20, the studies were continued with periodical visits to two RCF based kraft paper mills. Samples of back water were collected from various process operations during each visit and analysed for build up of pollution load like Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) etc. More over the fines content (- 200 fraction) retention of the pulp collected and the cationic demand of the system is extremely high (4000- 5500 meq/ l). Raw material samples collected from the mills were subjected to pulping simulating mill conditions and the back water generated was analysed for pollutional parameters like Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) etc. Material Balance of process operations and water balance to assess the makeup water required was also carried out.

The project outcomes will provide a road map to RCF based pulp and paper mills to minimize waste water discharge / achieve zero liquid discharge along with strategies to reduce the impact on process operation / product quality due to build up of pollution load.





VIII. Census Survey of the Indian Paper Industry (CPPRI)

The data base generation and updation was continued in 2019-2020. In order to capture holistic information about the mills and to enhance the fields of collected data, a questionnaire designed in consultation with the paper mill associations was sent to 334 pulp and paper mills. Around 50 responses have been received till date and the rest are being followed up. The data collected is being used to update paper grade / variety wise data base for operational pulp and paper mills. This exercise is under progress. Further, an exercise was initiated to update time series import of major varieties of paper (Coated, Uncoated, Packaging and Newsprint) at four figure level for increasing the confidence level of forecasting tools. Paper grade / variety wise information has been updated for the pulp and paper clusters of Kashipur, Muzaffarnagar, Meerut, Vapi, Morbi, Surat, Valsad, Bharuch, Kolkata, Ludhiana, Patiala, Amritsar, Hyderabad, Coimbatore, Chennai, and Shivakashi.

In order to increase the accessibility of data on Indian paper sector work was initiated on developing an "e-Stat App" which is ready for launch. The basic data of the Indian paper sector will thus be available to the public at large.

IX. Continuing Education (Training Programme) for Technical Personnel in Pulp and Paper Industry(CPPRI)

The project involves organization of training programme to update the knowledge of technical personnel of Indian Paper Industry which will enable them to utilize the resources, equipment & unit processes to the optimum level.

Following training programmes were organized during the year 2019-2020:

- RSC-DCPPAI Training Programme on **Recent Developments in Coating, Surface Sizing and Printability of Paper and Paper board** on May 2-3, 2019. Around 28 participants from various pulp and paper mills, academic, R & D institutes etc., attended the training programme.
- RSC-DCPPAI Training Programme on **Paper Based Food Grade Package Testing** on May 21, 2019 at Central Pulp and Paper Research Institute, Saharanpur. Around 18 participants from various pulp and paper mills, academic, R & D institutes etc., attended the training programme.
- RSC-DCPPAI Training Programme on Environmental **Management in Pulp and Paper Industry** was organised on November 8-9, 2019 at Centre for Rural Development Technology (CRDT), IIT, New Delhi. Around 25 participants from various pulp and paper mills, academic, R & D institutes etc., attended the training programme.
- RSC-DCPPAI Training Programme on **Efficient Operation and Process Control in Chemical**



Recovery on January 17-18, 2020 at Muzaffarnagar. Around 38 participants from various pulp and paper mills, academic, R&D institutes etc., attended the training programme.

Organization of training programmes under the project has helped in information dissemination on latest developments in various area of paper making as well as skill development of the various mill personnel. The feedback received from mill participants has been encouraging.

X A Synergistic and Economical Approach for Treatment of Pulp & Paper Mill Effluent System Using Microbes and Fly ash Nano Particle to Achieve Minimum / Zero Waste Discharge

The project has been initiated in 2018 with an objective for development of a novel eco-friendly technology at bench scale for removal of colour from paper mill effluent using bacteria along with fly ash nanoparticle with zero / minimum waste discharge. During the reported period characterization of effluent samples collected from paper mills was completed. Further screening and identification of native bacteria from the effluent collected has been completed at Amity Institute of Biotechnology, Amity University, NOIDA. Further studies are under progress.

In all the project aims at providing a cost effective solution for effluent treatment using microbes and flyash nano particle for facilitating increased reuse / recycle of treated effluent and consequently minimizing waste water discharge.

(C) Sponsored Projects

I Whole Jute Utilization for Pulp and Paper Project (sponsored by Jute Corporation of India, Ministry of Textiles, GOI, Kolkata)

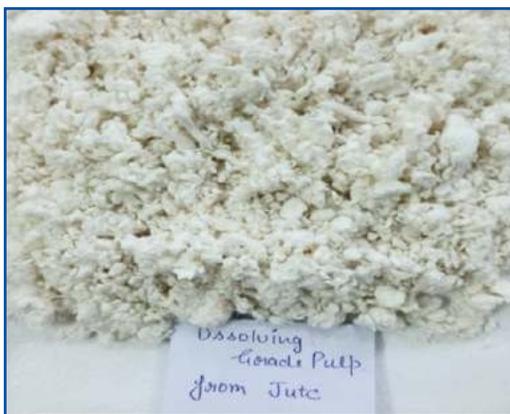
The project aims at promotion of utilization of whole jute for paper making. In this context, proximate chemical analysis of whole jute was carried out to evaluate its suitability for paper making followed by optimization of pulping conditions and production of unbleached kraft whole jute pulp with kappa number 18-20. Unbleached whole jute pulp was then blended with bamboo and eucalyptus pulp in different ratio like 20:80 and 40:60 ratio and characterized for kappa number, brightness and pulp viscosity. The unbleached pulp (both kraft whole jute pulp as well as blended pulp) were subjected to ECF bleaching studies to achieve a target brightness $\pm 80\%$ ISO. CTMP studies of whole jute for production of various grades of products as well as studies on production of High alpha cellulose dissolving pulp from whole jute were also carried out.



Procurement of Whole Jute for trials at CPPRI from JCI Kolkatta

II. Production of High Alpha Cellulose Dissolving (Rayon) Grade Pulp from Whole Jute and Bamboo (sponsored by National Jute Board of India, GOI)

Government of India has implemented advisory on utilization and value addition to whole jute and bamboo crop and its product in order to support the growers of these crops. In this perspective, studies were undertaken on optimization process variables to produce dissolving grade pulp of desired properties from both whole jute and bamboo. This was followed by bulk production of pulp which was sent to National Jute Board, New Delhi.



High alpha Dissolving Pulp of Bamboo



High alpha Dissolving Pulp of Jute

III. Development of Friction Grade Paper of Clutch Plate for Two Wheelers (sponsored by RICO Auto Industries Ltd., Gurugram, Haryana)

There has been an increasing use of specialty grade papers in various applications in different industries

like automobile industry. The project was awarded to CPPRI for the development of indigenous friction paper for clutch plates used in two wheelers which is generally procured from abroad. After several lab trials, CPPRI successfully developed the friction paper. Different trials of paper for automobile application are under progress at RICO Auto Industries Ltd.

IV. Technical Know-how on Repulpability and Paper Making Potential of Packaging Material used by Fast Moving Consumer Goods Companies (FMCG) and Packaging Industries

Under "**Extended Producer's Responsibility (EPR)**" of MoEF Solid Waste Management Rule-2016 responsibility is fixed to the manufacturer of plastic, tins, glass, corrugated boxes, etc. for the environmentally sound management of the product until the end of its life. Looking into this CPPRI also extended its activity to address the issue of repulpability / recyclability and papermaking potential of Pre-consumer and Post consumer FMCG consumer goods / waste paper. During the year 2019-20 technological know-how has been provided to the following Fast Moving Consumer Goods (FMCG) Companies and Paper Mills on repulpability/recyclability and papermaking potential of packaging material in use-

- Hindustan Unilever Limited Research Centre, Mumbai, Maharashtra
- Hindustan Unilever Limited Research Centre, Bengaluru, Karnataka
- Unilever Industries Limited Research Centre, Mumbai, Maharashtra
- ITC Limited Paperboard & Specialty Paper, Secunderabad, Telengana
- ITC Limited Packaging & Printing Business, Chennai
- ITC Limited, ITC Life Sciences & Technology Centre, Bengaluru, Karnataka
- Vacmet India Ltd., Mathura, Uttar Pradesh
- Mitsui Chemicals India Pvt. Ltd., New Delhi
- Delux Recycling India Pvt. Ltd, Mumbai, Maharashtra
- West Coast Paper Mills Ltd., Dandeli, Karnataka

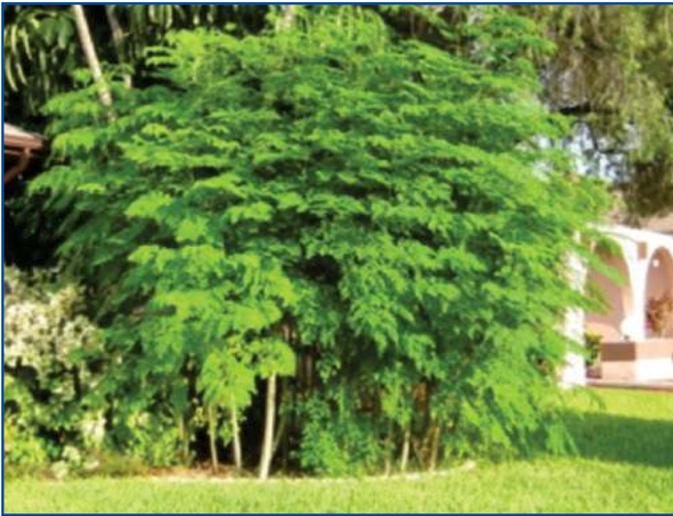


Various Packaging Grade of Papers used for evaluating repulpability and paper making potential

(D) RURAL UPLIFTMENT PROJECT

I Evaluation of Moringa Oleifera (Drum Sticks), Corn Stalk and Cow Dung for Production of Various Grades of pulps

This work was initiated on the advice of Small and Medium Scale Enterprises (MSME), Udyog Bhavan, New Delhi to support the rural economy by way of supporting farmers to cultivate Moringa Oleifera (Drum Sticks) Plants and Corn Stalk Crops in degraded land and utilization of the waste materials for production of various grade pulp products.



Moringa Oleifera Tree & Logs

To fulfil the above objective the studies were carried out in five phases:

Phase 1

- Evaluation of soda and kraft pulping and bleaching of moringa oliefera for making chemical grade pulp

Phase 2

- Production of CTMP pulps from moringa oliefera for making moulded and packaging grade products

Phase 3

- Alkaline sulphite mechanical pulping (ASMP) of moringa oliefera for making pulp and lignosulphate as by products

Phase 4

- Production of mechanical pulps from corn stalk for making various types of products (packaging paper and tablewares)

Phase 5

- Blending studies of cow dung and corn stalk for making packaging grade products.



Unbleached & bleached kraft pulp from moringa oliefera



CTMP pulp from moringa oliefera

(E) International Projects

I **Pulping Optimization and Bulk Pulp Production of Rice Straw and Biogas Residue Sponsored By ECOR Global Research & Development Center, The Netherlands**

A job work has been awarded to CPPRI to produce 10 kg each rice straw and biogas residue of rice straw chemical and CTMP pulp. Initially both Chemical Pulp and CTMP pulp were produced from Rice Straw and Biogas Residue on lab scale. After optimization of the process variables, the pulping is being carried out on large scale. So far CTMP pulping of biogas residue of rice straw and rice straw as such has been completed and pulp has been shipped to sponsorer.



Team ECOR Global Research & Development Center, The Netherlands at CPPRI

PROJECTS SPONSORED BY PULP, PAPER AND ALLIED INDUSTRIES



Raw Material Preparation, Evaluation, Pulping and Bleaching

- Production of BCTMP Pulp from Four Samples viz. (FDC-1, CAJ-1, CO-1, SUB-1) - ITC -LSTC, Peenya Industrial area, Bengaluru, Karnataka.
- Production of BCTMP Bleached Pulp from Hardwood (Eucalyptus) Chips - ITC Ltd - PSPD Bhadrachalam, Andhra Pradesh.
- CTMP Pulp from Agro Plant Wastes like Maize Sheath, Cotton Plant Waste - Kothari Distributors, Hyderabad, Telangana.
- Production of Whole Jute Pulp from Whole Jute -ABB, IND, Ltd, Pune, Maharashtra.
- Casurina Dust Samples (80 Nos) for Brightness Determination - ITC Life Science & Technology Centre, Peenya, Bengaluru, Karnataka.
- CTMP Mechanical Pulping of Rice Straw - Visaka Industries Limited, Telengana
- Pre- Feasibility Report of Project on Production of 20 - 40 tpd Bagasse Semi Chemical and CTMP/BCTMP Plant - J. P. Mukherji & Associates Pvt. Ltd, Pune, Maharashtra.
- Complete Proximate Analysis of 16 Pristine Bamboo Samples-Advanced Materials and Processes Research Institute (AMPRI), Bhopal, Madhya Pradesh.
- Evaluation of Pulping and Bleaching of Rice Straw and Mixed Mill Pulp - Century Pulp & Paper , Lalkuan,Uttarakhand.

Pulp / Chemical Evaluation, Waste Paper Recycling and Papermaking

Evaluation of Pulp for Various Fibre, Physical and Strength Properties

- Adhya Enterprises, Dehradun, Uttarakhand
- Brown Overseas Private Limited, Mumbai, Maharashtra
- DevPriya Industries Pvt. Ltd, Merrut, Uttar Pradesh
- Everest Industries Limited ,Bhagwanpur , Uttarakhand
- Everest Industries Limited, Coimbatore, Tamilnadu
- Ekman Pulp & Paper Pvt. Ltd., Mumbai, Maharashtra
- Arihant Fibres, Jind, Haryana
- Visaka Industries Limited, R.C. Puram Mandal, Patancheru, Telengana
- V.L.S. Fibre, Sriramnagar, Chennai, Tamil Nadu
- Bio-lutions Ecotech India Pvt. Ltd. Karnataka
- Tradecom International Pvt. Ltd., New Delhi
- Besure Technology (India) Pvt. Ltd, Gautam Buddh Nagar, Uttar Pradesh
- NR Agarwal Industries Ltd., Vapi, Gujarat



Evaluation of De-tackifier

- Elix Technologies Pvt. Ltd., Pune, Maharashtra
- Sangal Papers Ltd., Mawana, Uttar Pradesh

Testing of Fillers

- Aravali Minrocks Pvt. Ltd., Udaipur, Rajasthan

Technical Know- How on Repulpability and Paper Making Potential of Packaging Material used by Fast Moving Consumer Goods Companies (FMCG) and Packaging Industries

- Hindustan Unilever Limited Research Centre, Mumbai, Maharashtra
- Hindustan Unilever Limited Research Centre, Bangalore, Karnataka
- Unilever Industries Limited Research Centre, Mumbai, Maharashtra
- ITC Limited Paperboard & Specialty Paper, Secunderabad, Telengana
- ITC Limited Packaging & Printing Business, Chennai
- ITC Limited, ITC Life Sciences & Technology Centre, Bengaluru, Karnataka
- Vacmet India Ltd., Mathura, Uttar Pradesh
- Mitsui Chemicals India Pvt. Ltd., New Delhi
- Delux Recycling India Pvt. Ltd, Mumbai, Maharashtra
- West Coast Paper Mills Ltd., Dandeli, Karnataka

Environmental Management ETP Adequacy (Paper Units)

- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh
- Shreyans Industries Ltd., Unit- Shree Rishabh Paper, Punjab
- Aroma Kraft & Tissues Pvt. Ltd., Roorkee, Uttarakhand
- Orient Board and Paper Mills Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Yash Papers Limited, Faizabad, Uttar Pradesh
- MBD Printographics (Pvt.) Limited, Una, Himachal Pradesh
- Bajaj Kagaj Limited, Unnao, Uttar Pradesh
- Sainsons Paper Industries Pvt. Limited, Pehowa, Haryana
- Vishal Paper Industries Pvt. Limited, Patiala, Punjab
- Garg Duplex & Paper Mills Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Vishwanath Paper & Boards Limited, Kashipur, Uttarakhand

- International Papers APPM Limited, Rajahmundry, Andhra Pradesh
- Maruti Papers Limited, Shamli, Uttar Pradesh
- K M Papers, Rudrapur, U.S. Nagar, Uttarakhand
- Bank Note Paper Mill India Private Limited, Mysuru, Karnataka

ETP Adequacy (Textile Units)

- Rama Tex Process House Pvt. Limited, Meerut, Uttar Pradesh
- Loothra Handloom, Meerut, Uttar Pradesh

ETP Adequacy (Dairy Unit)

- Kailash Dairy Limited, Meerut, Uttar Pradesh

Performance Evaluation of Existing ETP

- Kuantum Papers, Punjab
- T. K. Papers, Kathua, Jammu & Kashmir
- Kailash Dairy Limited, Meerut, Uttar Pradesh
- MBD Printographics (Pvt.) Limited, Una, Himachal Pradesh
- International Papers APPM Limited, Rajahmundry, Andhra Pradesh

Zero Liquid Discharge (ZLD) Feasibility Report

- Genus Paper Mills Limited, Moradabad, Uttar Pradesh
- Sardhana Papers (P) Ltd., Meerut, Uttar Pradesh
- Krishnanchal Pulp & Paper Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Pudumjee Paper Products Limited, Pune, Maharashtra
- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Shuklambara Papers Pvt. Limited, Bazpur, U.S. Nagar, Uttarakhand

Adequacy and Performance Evaluation of Air Pollution Control Equipment

- MBD Printographics (Pvt.) Limited, Una, Himachal Pradesh

Inspection and Monitoring Reports of Glossy Polluting Industries (GPI)

- 32 Pulp and Paper Mills of Uttarakhand and Uttar Pradesh



TECHNICAL AND CONSULTANCY SERVICES

Technical services were rendered to the following mills and organizations by analyzing various samples of fibrous and non fibrous raw materials, pulp, paper, black liquor, lime, lime sludge, rice husk, green liquor, white liquor, effluents, ground water, solid waste etc.

- A.P. Paper Mills Limited, Mohali, Punjab
- Aadharshree Paper Mills Private Limited, Roorkee, Uttarakhand
- Aadhya Enterprises, Dehradun, Uttarakhand
- ABB India Limited, Gujarat, Vadodara, Gujarat
- Abdulhadi Yakubu, Department of Microbiology, Phagwara, Punjab
- ABP Private Limited, Kolkata, West Bengal
- Advanced Materials and Processes Research Institute, Bhopal, Madhya Pradesh
- Agarwal Duplex Board Mills Limited, Muzaffarnagar, Uttar Pradesh
- Aggarwal Zarda Factory Private Limited, Saharanpur, Uttar Pradesh
- Allora Paper Products, Agra, Uttar Pradesh
- Amar Ujala Publication Limited, Gautam Buddh Nagar, Uttar Pradesh
- Anupam Processors, Meerut, Uttar Pradesh
- Aravali Minrocks Private Limited, Udaipur, Rajasthan
- Arihant Fibres, Jind, Haryana
- Arihant Paper Board Mills, Jind, Haryana
- Aroma Kraft & Tissues Private Limited, Roorkee, Uttarakhand
- Arvind Kumar Sharma, Roorkee, Uttarakhand
- Avery Dennison India Private Limited, Gurugram, Haryana
- Bajaj Hindustan Sugar Limited, Bijnor, Uttar Pradesh
- Bajaj Hindustan Sugar Limited, Meerut, Uttar Pradesh
- Bajaj Hindustan Sugar Limited, Muzaffarnagar, Uttar Pradesh
- Bajaj Hindustan Sugar Limited, Saharanpur, Uttar Pradesh
- Bajaj Kagaj Limited, Unnao, Uttar Pradesh
- Bank Note Paper Mill India Private Limited, Mysuru, Karnataka
- Bennett Coleman & Co. Limited, New Delhi
- Besure Technology (India) Private Limited, Gautam Buddh Nagar, Uttar Pradesh
- Bhagwati Kripa Paper Mills Private Limited, Jaipur, Rajasthan
- Bihar Education Project, Saran, Patna, Bihar
- Bihar Lok Prashasan Avam Gramin Vikas Sansthan, Patna, Bihar
- Bihar Shiksha Pariyojna, Patna, Bihar
- Bihar Skill Development Mission, Patna, Bihar
- Bihar State Text Book Publishing Corporation Limited, Patna, Bihar
- Bihar Vidhyalya Pariksha Samiti, Patna, Bihar
- Bindals Papers Mills Limited, Muzaffarnagar, Uttar Pradesh
- Bindiya Enterprises, Kheda, Gujarat
- Bio-Lutions Eco Tech India Private Limited, Bengaluru, Karnataka
- Board of Secondary Education, Cuttack, Odisha
- Board of School Education Haryana, Bhiwani, Haryana

- Brown Overseas Private Limited, Mumbai, Maharashtra
- Buckman Laboratories (India) Private Limited, Thane, Mumbai, Maharashtra
- Burda Druck India Private Limited, Greater Noida, Uttar Pradesh
- Central Board of Secondary Education, Delhi
- Central Pollution Control Board, Delhi
- Centre for Environmental, Chennai, Tamil Nadu
- Century Pulp & Paper, Lalkua, Uttarakhand
- Century Rayon, Thane, Mumbai, Maharashtra
- Chaudhary Charan Singh University, Meerut, Uttar Pradesh
- Chaudhary Devi Lal University, Sirsa, Haryana
- Commissioner of Customs ICD (Import), New Delhi
- Commissioner of Customs Inland Container, Greater Noida, Uttar Pradesh
- Dee Kay Printers, New Delhi
- Delhi Bureau of Text Books, New Delhi
- Deluxe Recycling India Private Limited, Mumbai, Haryana
- Devpriya Industries Private Limited, Meerut, Uttar Pradesh
- Devpriya Papers Private Limited, Meerut, Uttar Pradesh
- Devrishi Papers Private Limited, Udham Singh Nagar, Uttarakhand
- Directorate of Family Welfare, Delhi
- Directorate of Revenue Intelligence, New Delhi
- DSG Papers Private Limited, Patiala, Punjab
- Dynamic Text Books Private Limited, Bijoli, Uttar Pradesh
- ECOR R & D, Netherland
- Ekman Pulp & Paper Private Limited, Mumbai, Maharashtra
- Elix Technologies Private Limited, Pune, Maharashtra
- Emami Paper Mills Limited, Kolkata, West Bengal
- Employment News (Publications Division), New Delhi
- Everest Industries Limited, Bhagwanpur, Uttarakhand
- Everest Industries Limited, Coimbatore, Tamil Nadu
- Everest Industries Limited, Nasik, Maharashtra
- Forest Research Institute, Dehradun, Uttarakhand
- Fuma Labs Private Limited, Pune, Maharashtra
- Garg Duplex & Paper Mills Private Limited, Muzaffarnagar, Uttar Pradesh
- Genus Paper & Boards Limited, Moradabad, Uttar Pradesh
- Good Luck Publishers Limited, Saharanpur, Uttar Pradesh
- Gospel Press, Lucknow, Uttar Pradesh
- Grasim Industries Limited, Kumarpatanam, Karnataka
- Gujarat Council of Elementary Education Sarva Shiksha Abhiyan, Gandhi Nagar, Gujarat
- Haryana School Shiksha Pariyojna Parishad, Panchkula, Haryana
- Himachal Pradesh Board of School Education, Dharamshala, Himachal Pradesh
- Hindustan Unilever Limited, Bengaluru, Karnataka
- Hindustan Unilever Limited, Mumbai, Maharashtra



- HT Media Limited, Greater Noida, Uttar Pradesh
- K. Gujral Punjab Technical University, Kapurthala, Punjab
- Indira Gandhi National Open University, New Delhi
- INOL Industry LLP, Surat, Gujarat
- Institute of Microbial Technology (IMTECH), Chandigarh
- International Paper APPM Limited, Rajamundry, Andhra Pradesh
- ISCON Craft Paper Mill Private Limited, Vadodara, Gujarat
- ITC Limited- PSPD, New Delhi
- ITC Limited, Bangaluru, Karnataka
- ITC Limited, Chennai, Tamil Nadu
- ITC Limited -PSPD, Bhadradi Kothagudem, Telangana
- J. K. Paper Limited, Tapi, Gujarat
- J. K. Paper Limited, Rayagada, Odisha
- J. P. Mukherjee and Associates Private Limited, Pune, Maharashtra
- Jagran Prakashan Limited, Noida, Uttar Pradesh
- Jai Narayan Vyas University, Jodhpur, Rajasthan
- K. M. Papers, Udham Singh Nagar, Uttarakhand
- K. R. Pulp & Paper Limited, Shahjahanpur, Uttar Pradesh
- K.B. Computer Forms, Dehradun, Uttarakhand
- K.C. Printing & Allied Works, Mathura, Uttar Pradesh
- Kailash Dairy Limited, Meerut, Uttar Pradesh
- Karyalaya Bihar Sanskrit Shiksha Board, Patna, Bihar
- Karyalaya Zila Shiksha Padadhikari, Madhepura, Bihar
- Karyalaya Zila Shiksha Padadhikari, Bhojpur, Bihar
- Karnataka Text Book Society, Bengaluru, Karnataka
- Karyalaya Collector Evam Zila Nirvachan, Rajgarh, Chhattisgarh
- Karayalya Collector Evam Zila Nirvachan, Sihor, Madhya Pradesh
- Khanna Paper Mills Limited, Amritsar, Punjab
- K. R. Pulp and Paper Limited, New Delhi
- Krishnanchal Pulp & Papers Private Limited, Muzaffarnagar, Uttar Pradesh
- Kuantam Paper Limited, Hoshiarpur, Punjab
- Ladhar Paper Mills, Jalandhar, Punjab
- Laxmi Enterprises, Muzaffarpur, Bihar
- Lucknow Paper Distributors, Lucknow, Uttar Pradesh
- M.L. Paper Converter, Lucknow, Uttar Pradesh
- Maa Shakumbhari Plastic Udyog
- Madhya Pradesh Bhoj (Mukt) Vishvavidhyalya, Bhopal, Madhya Pradesh
- Madhya Pradesh Shram Kalyan Mandal, Bhopal, Madhya Pradesh
- Madhyamic Shiksha Uttarakhand, Dehradun, Uttarakhand
- Madhyamik Shiksha Board Rajasthan, Ajmer, Rajasthan
- Madhyamik Shiksha Mandal Madhya Pradesh, Bhopal, Madhya Pradesh
- Makhanlal Chaturvedi National University of Journalism & Communication, Bhopal, Madhya Pradesh

- Manak Chand Rajendra Kumar, Jaipur, Rajasthan
- Mangal Papers Private Limited, Ahmadabad, Gujarat
- Manish Traders, Jabalpur, Madhya Pradesh
- Maruti Papers Limited, Shamli, Uttar Pradesh
- MBD Printographics Private Limited, Una, Himachal Pradesh
- Mitsui Chemicals India Private Limited, New Delhi
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh
- Naini Papers Limited, Kashipur, Uttarakhand
- Naini Tissues Limited, Kashipur, Uttarakhand
- National Council of Education Research and Training, New Delhi
- National Health Mission Haryana, Panchkula, Haryana
- National Insurance Company Limited, Saharanpur, Uttar Pradesh
- Nicer Paper Mills, Kathua, Jammu & Kashmir
- Nikita Papers Limited, Shamli, Uttar Pradesh
- Nilar Pulp & Paper Co. Limited, Yangon, Myanmar
- North Bihar Power Distribution Company Limited, Patna, Bihar
- NPT Papers Private Limited, New Delhi
- NR Agarwal Industries Limited, Vapi, Gujarat
- Office of the Deputy Commissioner Customs, Moradabad, Uttar Pradesh
- Office of the Principal Commissioner of Customs, New Delhi
- Orient Board and Paper Mills Private Limited, Muzaffarnagar, Uttar Pradesh
- Orient Paper Mills, Shahdol, Madhya Pradesh
- Oswal Books, Agra, Uttar Pradesh
- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Paswara Papers Limited, Meerut, Uttar Pradesh
- Pitambra Books Private Limited, Jhansi, Uttar Pradesh
- Police Adhikshak, Sitapur, Uttar Pradesh
- Praj Industries Limited, Pune, Maharashtra
- Prarambhik Shiksha Evam Sarva Shiksha Abhiyan, Bhagalpur, Bihar
- Pratibha Printers & Stationary, Hajipur, Bihar
- Printing & Stationery Department Haryana, Panchkula, Haryana
- Prolific Papers Private Limited, Kashipur, Uttarakhand
- PT Riau Prima Energi Pangkalan Kerinci, Indonesia
- Pudumjee Paper Products Limited, Pune, Maharashtra
- Pulp and Paper Research Institute, Jaykeypur, Rayagada, Odisha
- Punjab National Bank, Printing and Stationery Department, Noida, Uttar Pradesh
- Punjab National Bank, Zonal Stationary Centre, Lucknow, Uttar Pradesh
- Punjab State Lotteries Punjab, Chandigarh
- Quarterfold Printabilities, Navi Mumbai, Maharashtra
- Rachit Prints Private Limited, Meerut, Uttar Pradesh
- Radex Stationery India Private Limited, Dehradun, Uttarakhand
- Rajasthan Knowledge Corporation Limited, Jaipur, Rajasthan



- Rajasthan Rajya Pathya Pustak Mandal, Jaipur, Rajasthan
- Rajeev Prakashan, Allahabad, Uttar Pradesh
- Rajya Kendriya Mudranalya, Jaipur, Rajasthan
- Rama Tex Process House Private Limited, Meerut, Uttar Pradesh
- Ramraja Printers & Publishers, Jhansi, Uttar Pradesh
- Rani Durgawati Vishvavidhyalya, Jabalpur, Madhya Pradesh
- Rayana Paper Board Industries Limited, Sant Kabir Nagar, Uttar Pradesh
- RICO Auto Industries Limited, Gurugram, Haryana
- Rohit Shah, Ahmadabad, Gujarat
- Ruchi Security Printers Private Limited, Bhopal, Madhya Pradesh
- Ruchira Papers Limited, Sirmour, Himachal Pradesh
- Sainsons Paper Industries Private Limited, Pehowa, Kurukshetra
- Samekit Bal Vikas Sewaye Nideshalya (ICDS), Patna, Bihar
- Sanchit Dhamija, Saharanpur, Uttar Pradesh
- Sangal Papers Limited, Sardhana, Meerut, Uttar Pradesh
- Sanjib Sen, Nagpur, Maharashtra
- Sanyog Shrivastava, Vidisha, Madhya Pradesh
- Sardhana Papers Private Limited, Sardhana, Meerut, Uttar Pradesh
- Satia Industries Limited, Muktsar, Punjab
- Saurashtra University, Rajkot, Gujarat
- Security Paper Mill, Hoshangabad, Madhya Pradesh
- Security Printers of India Private Limited, Kanpur, Uttar Pradesh
- Security Printing Press, Hyderabad, Andhra Pradesh
- Shabri Cotton Private Limited, Kannur, Kerala
- Shiva Veener (India) Private Limited, Lucknow, Uttar Pradesh
- Shree Ajit Pulp and Paper Limited, Valsad, Gujarat
- Shree KelaJee Books Private Limited, Agra, Uttar Pradesh
- Shreyans Industries Limited, Ahmedgarh, Punjab
- Shreyansh Stationery Private Limited, Agra, Uttar Pradesh
- Shriram Institute of Industrial Research, New Delhi
- Shuklambara Papers Private Limited, Bajpur, Uttarakhand
- Siddheshwari Industries Private Limited, Muzaffarnagar, Uttar Pradesh
- Silverton Papers Limited, Muzaffarnagar, Uttar Pradesh
- South Bihar Power Distribution Company Limited, Patna, Bihar
- Southern Railway Printing Press, Chennai, Tamil Nadu
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh
- State Health Society, Patna, Bihar
- Suchna Avam Jan Sampark Vibhag, Patna, Bihar
- Suchna Evam Jansampark Vibhag, Lucknow, Uttar Pradesh
- Sun Papers & Labels, Mumbai, Maharashtra
- Super Bricks Field, Saharanpur, Uttar Pradesh

- T. K. Paper Mills, Kathua, Jammu & Kashmir
- Tamil Nadu Newsprint and Papers Limited, Kagithapuram, Tamil Nadu
- The Art Gallery, Patna, Bihar
- The Energy and Resources Institute (TERI), New Delhi
- The Institute of Chartered Accountants of India, Noida, Uttar Pradesh
- The Sandesh Limited, Ahmadabad, Gujarat
- The Tribune Trust, Chandigarh
- Tirupati Balaji Fibres Limited, Muzaffarnagar, Uttar Pradesh
- Tradecom International Private Limited, New Delhi
- Trident Limited, Ludhiana, Punjab
- Tuteja Trade Link, Indore, Madhya Pradesh
- Udaipur Mineral Development Syndicate Private Limited, Jaipur, Rajasthan
- Unilever Industries Private Limited, Mumbai, Maharashtra
- United Mud-Chem Private Limited, Mumbai, Maharashtra
- Up Zila Nirvachan Adhikari, Bhind, Madhya Pradesh
- Uttar Pradesh Rajya Beej Pramanikaran Sansthan, Lucknow, Uttar Pradesh
- Vacmet India Limited, Mathura, Uttar Pradesh
- Valmet Chennai Private Limited, Chennai, Tamil Nadu
- Veer Bahadur Singh Purvanchal Vishvavidhyalaya, Jaunpur, Uttar Pradesh
- Veer Narmad South Gujarat University, Surat, Gujarat
- Vipul Overseas Private Limited, New Delhi
- Visaka Industries Limited, Nalgonda District, Telangana
- Vishal Paper Industries Private Limited, Patiala, Punjab
- Vishvakarma Paper & Boards Ltd., Kashipur, Uttarakhand
- Vishwa Pariwar, Raipur, Chhatisgarh
- Vishwanath Paper & Boards Limited, Kashipur, Uttarakhand
- VLS Fibre, Chennai, Tamil Nadu
- West Coast Paper Mills Limited, Dandeli, Karnataka
- Yash Papers Limited, Faizabad, Uttar Pradesh



MEETINGS ATTENDED

Major Meetings attended by CPPRI Scientists during 2019-20 are summarized as under :

Meetings at Udyog Bhawan, New Delhi

- Dr. B. P. Thapliyal attended a meeting with Shri Anil Agrawal, JS, DPIIT on May 13, 2019 to discuss problems faced by the Paper Sector in Customs duty, GST, Newsprint and Waste Paper related issues.
- Dr. B. P. Thapliyal attended a meeting with Economic Advisor, DPIIT to discuss various issues related to Paper and Paper Products on May 29, 2019 and February 11, 2020.
- Dr. B. P. Thapliyal and Dr. Sanjay Tyagi attended several meetings at Department of Heavy Industries to review the progress of Revival and Mill Development Plan (RMDP) of NEPA Limited on May 30, 2019, June 30, 2019, July 26, 2019, August 22, 2019, October 16, 2019, and February 11, 2020.
- Dr. B. P. Thapliyal attended a consultation meeting of all stakeholders regarding Position Paper on "Structure of India's import basket and policy implications" on August 20, 2019.
- Dr. B. P. Thapliyal attended a meeting of Draft Quality Control (QCO) in respect to Plain Copier paper as per BIS Standard IS 14490 : 1997 Reaffirmed 2010 under the Chairmanship of Shri Anil Agrawal, JS, DPIIT, in November 2019.
- Dr. B. P. Thapliyal attended a joint meeting involving all the vendors related to Revival and Mill Development Plan (RMDP) of NEPA Limited, Management of NEPA Limited, Technical Committee Members etc. on December 24, 2019.
- Dr. B. P. Thapliyal attended a meeting of UNIDO chaired by Secretary, DPIIT at Udyog Bhawan on January 31, 2020.
- Dr. B. P. Thapliyal attended a meeting on public procurement at New Delhi on February 7, 2020.
- Dr. Arvind Sharma attended a meeting on identification of post suitable for Person with Disabilities (PWDS) Udyog Bhawan, New Delhi on July 17, 2019.
- Dr. Kawaljeet Singh and Shri Alok Kumar Goel attended a meeting of standing committee on GeM (SCoGeM) at Udyog Bhawan, New Delhi on February 02, 2020.

Meeting at Ministry of Environment, Forest and Climate Change, New Delhi

- Dr. B. P. Thapliyal attended an Expert Appraisal Committee meeting on April 30, 2019, July 26, 2019, September 24, 2019, November 24, 2019, January 16, 2020 and February 7, 2020.
- Dr. Kawaljeet Singh represented CPPRI in the Expert Appraisal Committee Meeting on February 24, 2020.
- Dr. A. K. Dixit attended an Expert Appraisal Committee meeting on September 23, 2019.

Meeting at UNIDO - IC-ISID, New Delhi

- Dr. B. P. Thapliyal attended 5th Steering Committee meeting of UNIDO International Centre for Inclusive and Sustainable Industrial Development (IC-ISID) on August 28, 2019.

Meeting at Manak Bhawan , New Delhi

- Dr. B. P. Thapliyal, Dr. Sanjay Tyagi and Shri Alok Kumar Goel attended CHD 15 meeting on August 23, 2019.

Meeting at The Energy and Resources Institute (TERI), New Delhi

- Dr. B. P. Thapliyal attended a consultative meeting of Joint Credit Mechanism (JCM) in June 2019

Meeting at Central Pollution Control Board, Delhi

- Dr. B. P. Thapliyal attended a meeting on exploring the feasibility of the use of rice straw in pulp & paper mills and in other agro based industry as green solution of stubble burning causing air pollution including initiatives/status of paddy straw based projects on December 18, 2019.
- Dr Nitin Endlay attended a meeting to discuss the outcomes of the Project on Monitoring of Grossly Polluting Industries on November 1, 2019.
- Dr M. K. Gupta attended a meeting to discuss the matter related to organisation of CPCB sponsored training programme on Monitoring of Surface Water, Ground Water, Wastewater/ Effluents, Data Interpretation, and Quality Assurance on March 11-12 and March, 16, 2020.

Meeting at Bureau of Energy Efficiency, Ministry of Power, New Delhi

- Dr. Sanjay Tyagi attended meeting at Bureau of Energy Efficiency, Ministry of Power, New Delhi on Monitoring and Verification of Energy audit reports under PAT scheme on October 18, 2019.

Meetings with Academic Institutes and R & D Organizations

- Dr B. P. Thapliyal attended a meeting at IIT Mumbai to discuss the possibilities of utilization of Its Sophisticated Analytical Instruments Facility (SAIF) for research work by CPPRI.
- Dr B. P. Thapliyal attended a meeting at Indian Institute of Packaging, Mumbai on February 2, 2020 to discuss the submission of a joint research proposal to Food Safety and Standards Authority of India(FSSAI).
- Dr B. P. Thapliyal attend the DSIR Committee meeting on evaluation of A2K project at Department of Science & Technology , New Delhi on December 13 , 2019, New Delhi.



Meeting with Industry Association

- A round table meeting was held with Secretary Generals of Paper Associations and CPPRI on June 13, 2019 at CPPRI Base Office, New Delhi to discuss the way forward regarding development of facilities and research programs at CPPRI. This meeting was attended by Dr. B. P. Thapliyal and Dr. K. Singh from CPPRI.

Central Information Commission, New Delhi

- Dr. M. K. Gupta and Smt. Sarita Sharma attended a meeting related to Third Party Audit on August 29, 2019.

Others

- Dr. B. P. Thapliyal attended a round table dialogue of Indian packaging Industry at The Netherlands Embassy on April 2, 2019.
- Dr. B. P. Thapliyal had a meeting with Shri J.P. Narain, Chief Executive, Century Pulp and Paper, Lalkuan to explore areas of mutual collaboration in October, 2019.
- Dr. B. P. Thapliyal attended 'Paperex' Technical Committee meeting at Chennai on November 4, 2019.
- Dr. B. P. Thapliyal attended a meeting with INMA Secretary General on February 6, 2020 at New Delhi in context with revision of Newsprint standard.
- Dr. B. P. Thapliyal attended a Meeting of Valmet officials at Gurugram to discuss areas of mutual cooperation and standardization of testing facility at CPPRI on February 10, 2020.
- Dr. B. P. Thapliyal attended a meeting with Japan Paper Association Officials for Establishment of Paper Recycling System in India at IPMA office, New Delhi in June 2019.
- Dr. Sanjay Tyagi visited NCCBM, Ballabgarh for attended a meeting on norms for development of certified reference materials for calibration/testing services at NCCBM Ballabgarh.

CELEBRATION OF NATIONAL DAYS AND OTHER IMPORTANT DAYS AT CPPRI



Independence Day

CPPRI celebrated the Independence Day on August 15, 2019 with usual fanfare and gaiety. After the guard of honour from CPPRI Security Staff, Dr. B. P. Thapliyal, Director, CPPRI hoisted the national flag followed by singing of national anthem. Director, CPPRI addressed the staff and their family members, reminisced the sacrifices of our freedom fighters, highlighted the activities and achievements of CPPRI and unveiled the future plans for growth of CPPRI. Meritorious children of CPPRI staff were awarded for their excellent performance in Class X and XII examination. CPPRI building was illuminated on this occasion.



Independence Day Celebrations at CPPRI

Republic Day

CPPRI celebrated the Republic Day on January 26, 2020 with usual fanfare and gaiety. After the guard of honour from CPPRI Security Staff, the Director Dr. B.P. Thapliyal, unfurled the national flag followed by singing of National Anthem. Director, CPPRI addressed the staff and their family members, reminisced the contribution of our national leaders in progress and development of our nation and highlighted the activities and achievements of CPPRI.

Dr B. P. Thapliyal, also administered the pledge to the staff on fundamental duties as per preamble of Indian Constitution on January 26, 2020.



Republic Day Celebration at CPPRI



Glimpses of pledge ceremony on fundamental duties as per preamble of Indian Constitution

Yoga Day

Fifth International Yoga day was observed at CPPRI on June 21, 2019 to promote the practice of yoga and meditation in daily life. Yoga exercises were performed by CPPRI staff and their family members under the guidance of Dr. Sanjay Tyagi, Scientist, CPPRI.



Glimpses of International Yoga Day at CPPRI

Rajbhasha Hindi Mah

Rajbhasha Hindi Mah was observed at CPPRI from September 1 - 30, 2019 to promote the use of Hindi in official day-to-day work. The efforts were also made to increasingly promote use of Hindi in Scientific and Technical work. To mark the occasion a meeting chaired by Dr. B.P. Thapliyal, Director was convened on September 16, 2017 which was attended by senior scientists and officials of Administration, Finance & Accounts Division. The progress made by the Institute in implementation and increasing use of Hindi was reviewed as well as strategies to further increase the use of Hindi in CPPRI were deliberated upon. To promote the use of Hindi, essay competition and poster competition were organized for the staff members of the CPPRI as well as for their wards and M.Sc. (Cellulose & Paper Technology) students in different categories. Prizes and certificates were distributed to all the participants.



Winners of Poster / Essay Competition held during Hindi Mah Celebrations

Vigilance Awareness Week

In pursuance of the directions of Central Vigilance Commission, the Vigilance Awareness Week 2019 was observed by the Institute from (October 28, 2019 to November 2, 2019) with the theme "Integrity-A way of life (ईमानदारी एक जीवन शैली)." The week commenced with the pledge administered by Dr. B. P. Thapliyal, Director in Hindi and English to all employees and students of M.Sc. (Cellulose and Paper Technology). The staff pledged to bring about integrity and transparency in all the spheres of their activities. The employees and students were encouraged to take e-pledge by visiting the CVC website.

The message of **Hon'ble Vice President of India, Shri M. Venkaiah Naidu** for this occasion was read out to the gathering by Dr K. Singh, CVO (Part Time) Director CPPRI in his address on the occasion, emphasized on the need for self driven moral values, good practices, self discipline, good working culture etc. He stressed on the concept of "eternal vigil" within and outside CPPRI. Banners depicting the observance of Vigilance Awareness Week-2019 and slogans promoting integrity, transparency and corruption free work culture were displayed at all prime locations in the office premises.



Glimpses of Vigilance Awareness Day

Constitution Day

As per directives of the Ministry of Social Justice and Empowerment, **Constitution Day** also known as **Samvidhan Divas**, was celebrated in CPPRI on November 26, 2019 to commemorate the **70th anniversary** of adoption of the **Constitution of India** and to spread awareness of Citizen Duties including Fundamental Duties enshrined in the Constitution of India. As per directives the preamble of the constitution was read by all CPPRI staff in a programme organized on Constitution Day. Similarly a

run was organized for CPPRI staff and M.SC (CPT) students to create awareness on Indian Constitution.

CPPRI also organized "**Run for Youth**" event on February 26, 2020 for creating awareness of basic tenets and spirit of Indian constitution. Participants were addressed by Dr. B. P. Thapliyal, Director, CPPRI and Dr. A. K. Dixit, Nodal Officer regarding this event. Participation certificates were distributed to winners.



Reading of Preamble by CPPRI Staff on Constitution Day



Glimpses of "Run for Youth" event for awareness of basic tenets and spirit of Indian constitution

Swachhta Pakhwada

As per Government directions Central Pulp and Paper Research Institute also observed **Swachhta Pakhwada** from September, 11 to October, 27, 2019. The activities undertaken on this occasion included **plantation of trees** in CPPRI campus, organisation of **poster and essay competition** on theme "**Single Use Plastic**" and organisation of training session of **Waste Paper Utilisation for Paper Making** for school children for creating awareness on efficient use of paper and utilisation of waste paper in preparing handmade paper. A lecture was also delivered by Dr. Shivaker Mishra, Nodal Officer, Swachh Bharat Abhiyan, CPPRI. Hoardings with slogans promoting "**Plastic Mukt Bharat**" were prepared by CPPRI and displayed in nearby areas around CPPRI Campus.



Glimpses of Swachhta Pakhwada Activities

WORKSHOP/TRAINING PROGRAMME ORGANISED



CPPRI organized following training programmes/workshops during the year 2019-2020:

- RSC-DCPPAI workshop on Dissemination of the Information on the Issues Addressed under RSC-DCPPAI Supported R& D Projects, May 10, 2019, Scope Complex , New Delhi. The inaugural session was graced by Shri Anil Agrawal, IPS, Joint Secretary, DPIIT, Ministry of Commerce and Industry and Shri A. S. Mehta, President IPMA. 13 presentations on recently completed RSC-DCPPAI projects were made by the respective principal investigators in two technical sessions. Around 54 participants from mills, R&D institution, allied industries, academic institutes, ministry attended the workshop.



Glimpses of RSC-DCPPAI Workshop

- RSC-DCPPAI Training Program on **Recent Development in Coating, Surface Sizing and Printability of Paper and Paper Board** on May 2-3, 2019. Around 28 participants from various pulp and paper mills , academic, R & D institutes etc., attended the training programme.
- RSC-DCPPAI Training programme on **Paper Based Food Grade Package Testing** on May 21, 2019 at Central Pulp and Paper Research Institute, Saharanpur. Around 18 participants from various pulp and paper mills , academic, R & D institutes etc., attended the training programme.
- Mill Sponsored Training Programme on **Effluent Treatment and Management** organised on June 28-29, 2019 at Central Pulp and Paper Research Institute, Saharanpur. 18 participants from various pulp and paper mills , academic, R& D institutes etc., attended the training programme.



Participants & Faculty of Training Programme on Effluent Treatment and Management, June 2019

- Mill Sponsored Training programme on **Air Pollution and its Management in Pulp and Paper Industry** on August 31, 2019 at CPPRI, Saharanpur. Around 20 participants from various pulp and paper mills, academic, R& D institutes etc., attended the training programme.
- RSC-DCPPAI Training programme on **Environmental Management in Pulp and Paper Industry** was organised on November 8-9, 2019 at Centre for Rural Development Technology (CRDT), IIT, New Delhi. Around 25 participants from various pulp and paper mills, academic, R& D institutes etc., attended the training programme.
- RSC-DCPPAI Training Programme on **Efficient Operation and Process Control in Chemical Recovery** on January 17-18 , 2020 at Muzaffarnagar. Around 38 participants from various pulp and paper mills , academic, R&D institutes etc., attended the training programme.



Training Programme on Efficient Operation and Process Control in Chemical Recovery

- CPCB sponsored Training Programme on **Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance** on February 24-28, 2020 at Central Pulp and Paper Research Institute, Saharanpur Around 28 participants from various pulp and paper mills, academic, R&D institutes etc., attended the training programme.

In addition six M.Sc./M.Tech. students from following universities were provided training in the area of chemical recovery:

- Uttaranchal University, Dehradun
- Amity University, Noida,
- IIT Roorkee, Saharanpur Campus

PARTICIPATION IN SEMINAR, WORKSHOP AND TRAINING PROGRAMME

CPPRI scientists attended following seminars, workshops and training programme during 2019-20 to disseminate information about the findings of various projects being executed by CPPRI as well as to update the knowledge about the latest developments on various aspects of pulp and paper technology:

- RSC-DCPPAI Workshop on **Dissemination of the Outcomes of the Recently Completed RSC-DCPPAI Funded R& D projects**, May 10, 2019, CGO Complex, New Delhi–Dr. B.P. Thapliyal, Smt. Rita Tandon, Dr. M.K. Gupta, Dr. Kawaljeet Singh, Dr. R.D. Godiyal, Dr. A.K. Dixit, Dr. Shivaker Mishra, Dr. Priti S Lal, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Satya Dev Negi, Dr. Arvind Kumar Sharma Shri, Abhishek Tyagi, Shri Arun Kumar and Ms. Zarka Afroz.
- National Conference on **Innovative Packaging Techniques for Food Products and its Safety**, May 10, 2019, New Delhi - Smt. Anuradha V. Janbade.
- RSC-DCPPAI training programme on **Recent Developments in Coating, Surface Sizing and Printability of Paper and Paperboard** organized by CPPRI on May 2-3, 2019- Shri Abhishek Tyagi, Shri Anshu and Shri Shobhit Kumar.
- Training Programme on **Laboratory Management System as per ISO / IEC 17025: 2017 and Internal Auditing**, May 28, 2019, Chennai – Dr.M.K. Gupta and Shri Kumar Anupam.



Participation of CPPRI scientists in NABL Training

- Workshop on **CPCB Charter & CPCB Project Monitoring of Grossly Polluting Industries**, May 31, 2019 – Dr. Shivaker Mishra and Dr. Nitin Endlay.
- CII Workshop on **Reducing Water Footprint in Pulp & Paper Industry**, July 02, 2019, New Delhi- Dr.B.P.Thapliyal, Dr M.K. Gupta and Dr. Shivaker Mishra.



Director CPPRI addressing the Inaugural Session of Workshop on Reducing Water Footprint in Pulp & Paper Industry

- National Workshop on **"Technology Outreach as an Enabler for Inclusive & Sustainable Development"**, August 10 - 12, 2019, IIT Delhi - Dr.B.P.Thapliyal.
- **Genetically Improved Planting Stocks as an Important and Valuable Resource for Increasing Productivity of Plantation Forest**, FRI Dehradun on August 1, 2019 –Dr . Arvind Sharma.



Participation of CPPRI Scientist Genetically Improved Planting Stocks as an Important and Valuable Resource for Increasing Productivity of Plantation Forest , FRI Dehradun

- National Seminar on **Role of Libraries in Ranking of Institutions**, Bennett University, Greater Noida, September 23, 2019 – Ms.Sarita Sharma.
- International Conference and Exhibition on **Emissions Monitoring** organized by CSE (Centre for Science and Environment) on September 24-26, 2019 at Hotel Leela Ambience, Delhi - Dr. Kawaljeet Singh, Mr. Amitabh R. Tripathi and Mr. Abhishek Tyagi



CPPRI Scientists Participation in UNIDO workshop , Kolkata

- Workshop on **UNIDO Project - Firm Level Demonstration of Technologies and Productivity Enhancement for Pulp & Paper Industry**, October 1, 2019 , Kolkatta-Dr. B. P. Thapliyal, Dr. M. K. Gupta and Dr. Nitin Endlay.
- Workshop on **UNIDO Project - Firm Level Demonstration of Technologies and Productivity Enhancement for Pulp & Paper Industry**, October 4, 2019, Ludhiana - Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta and Dr. A. K. Dixit.



UNIDO workshop, Ludhiana

- **National Conference on Bamboo** , Pusa Agri University, New Delhi, Oct 22, 2019 – Dr. Kawaljeet Singh and Dr. Priti. S. Lal.
- **14th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2019)**, New Delhi, November 1-3, 2019 – Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Dr. Kawaljeet Singh, Dr. R. D. Godiyal, Dr. A. K. Dixit, Dr. Shivaker Mishra, Dr. Priti S Lal, Smt. Anuradha V Janbade, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Satya Dev Negi and Dr. Arvind Kumar Sharma.



Glimpses of CPPRI Participation in Paperex 2019

- RSC- DCPPIAI Training Program on **Environmental Management in Pulp and Paper Industry** organized by CPPRI on November 8-9, 2019 at CRDT, IIT Delhi- Mr. Amitabh R. Tripathi and Mr. Abhishek Tyagi
- 5 Days Workshop on **Design and Analysis of Experiments** organized by Indian Statistical Institute, Kolkata, 25 - 30 November 2019 – Mr. Mohd Salim.

- **National Seminar Organized by National Cement and Building Materials, Balalbharh, Haryana, December 6, 2019** – Dr. B. P. Thapliyal (as Session Chairman).
- BEE Workshop on **Release of EC Guidelines** at Habitat Centre, New Delhi, December 10, 2019 –Dr B.P. Thapliyal.
- Training Program on **Integrated Scientific Project Management for Women Scientists and Technologists** sponsored by DST at Centre of Organizational Development, COD Hyderabad from January 5-9 ,2020 –Dr. Priti S. Lal.



*CPPRI Scientist at Integrated Scientific project Management
for Women Scientists and Technologists*

- RSC-DCPPAI training programme on **Efficient Operation and Process Control in Chemical Recovery** organized by CPPRI on January 17-18, 2020 at Hotel Solitaire INN, Muzaffarnagar – Shri Mohd Salim, Shri Anshu, Ms. Swati Anand and Shri Shobhit Kumar
- **7th Indian Material Recycling Conference** organized by Material Recycling Association of India (MRAI), at Gurugram, February 8, 2020 – Dr B.P. Thapliyal (as Chairman of Panel Discussion on Waste Paper Utilization).

RSC-DCPPAI Workshop May 10, 2019 New Delhi.

- Development of Protocol for Deposit Control in RCF Based Mills for Better Machine Runnability - Smt. Rita Tandon
- Pilot Scale Studies on Efficient Depithing of Bagasse: A Process Developed by CPPRI- Dr .A. K. Dixit.
- Progress of Project on Continuous Education and Human Resource Development - Dr Priti Shivhare Lal.
- Utilization of Lignin By-Product from Paper Industry in Rubber Industry- Dr. A. K. Dixit
- Census Survey of the Indian Paper Industry – Dr. K. Singh



RSC-DCPPAI Workshop

RSC-DCPPAI Training Program on “Paper Based Food Grade Package Testing”, May 21, 2019, CPPRI Saharanpur.

- Regulations for food packaging papers – Global scenario - Smt. Anuradha V. Janbade

Workshop on CPCB Charter & Workshop on CPCB Project Monitoring of Grossly Polluting Industries, IIT Delhi, May 31, 2019.

- Development & Implementation of Charter for Water Recycling & Pollution Prevention in Pulp & Paper Industries of Ganga River Basin-Dr. Nitin Endlay

Two day workshop on Innovative Food Packaging and Testing organised by NIFTEM, Kundli and CIPET-CSTS, Murthal, September 12-13, 2019.

- Innovations in paper/paperboard for food packaging applications - Smt. Anuradha V. Janbade



Workshop on UNIDO Project - Firm Level Demonstration of Technologies and Productivity Enhancement for Pulp & Paper Industry, October 1, 2019, Kolkata.

- Potential of Membrane Filtration System in Pulp & Paper Industry-Dr. Nitin Endlay.

Workshop on UNIDO Project - Firm Level Demonstration of Technologies and Productivity Enhancement for Pulp & Paper Industry, October 4, 2019, Ludhiana.

- Potential of Membrane Filtration System in Pulp & Paper Industry-Dr. M. K. Gupta.

14th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2019), New Delhi, November 1-3, 2017.

- Prospects of Indian Paper Industry in the coming decades - Inferences drawn from the Data Analysis – Dr. B. P. Thapliyal.

Mill Sponsored Training Programme on Effluent Treatment and Management, June 28-29, 2019, Central Pulp and Paper Research Institute, Saharanpur.

- Effluent Treatment System in Indian Pulp & Paper Industry- Dr. M. K. Gupta.
- Environmental Rules & Regulations for Pulp & Paper Industry- Dr. M. K. Gupta.
- Water Conservation Opportunities in Indian Pulp & Paper Industry- Dr. M. K. Gupta.
- Water Recycling and Pollution Control in Pulp and Paper Industry - Dr. Nitin Endlay.
- Significance of Pollution Parameters in Water and Waste Water Analysis- Dr. Shivaker Mishra.

National Seminar on Strategies for Conservation and Sustained Utilization of Biodiversity Organized by Department of Biotechnology, School of Applied and Life Sciences, Uttaranchal University, Dehradun on October 18-19, 2019.

- Sustained Utilization of Biodiversity-.Dr. A. K. Dixit

Training Programme on Environmental Management in Pulp & Paper Industry, IIT – Delhi, November 8-9, 2019.

- Membrane Filtration as an Option for Tertiary Treatment of Paper Mill Effluent-Dr. M. K. Gupta.

RSC-DCPPAI Training Programme on Efficient Operation and Process Control in Chemical Recovery organized by CPPRI on January 17-18, 2020 at Muzaffarnagar.

- Issues Related to Chemical Recovery System in Paper Mills- Dr. B. P. Thapliyal
- Thermal Treatment of Black Liquor To Reduce Viscosity and Better Combustion Behavior- Dr. A. K. Dixit
- Scaling in Evaporators - Causes & Preventive Measures- Dr. A. K. Dixit
- Deposits in Chemical Recovery Boiler- Causes & Control- Dr. A. K. Dixit

Workshop on Industrial Agroforestry organized by PAU, Ludhiana, Punjab , March 2020

- Use of Rice Straw in Pulp & Paper Industries- Dr. A. K. Dixit



CPPRI Scientist at Workshop, Ludhiana

MRAI's 7th International Conference on Indian Material Recycling at Hotel Hayat Regency, Gurugram , February 8, 2020

- Challenges & Opportunities and Technological Advancements in Material Recycling in Paper Industry- Dr. A.K. Dixit

CPCB sponsored Training Programme on Water quality Monitoring of Surface, Ground, Waste water/effluent, Data Interpretation and Quality Assurance, February 24-28, 2020, Central Pulp and Paper Research Institute, Saharanpur.

- Status of Indian Paper Industry and Role of CPPRI in Growth of Pulp & Paper Industry–Dr. B. P. Thapliyal.
- Basic Environmental Law & Policies for Protection of Environment in India- Dr. M. K. Gupta.
- Significance and Relevance of Water Quality Parameters- Dr. Shivakar Mishra.
- Implementation of the Charter for Water Recycling and Pollution Prevention in Pulp and Paper Industries in Ganga River Basin Approach - Strategies - Success – Benefits - Dr. Nitin Endlay.



REPRESENTATION IN EXTERNAL COMMITTEE

Ministry of Environment, Forests and Climate Change, New Delhi

- Member, Environment Appraisal Committee (EAC) Industry –I of Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India - Dr. B. P. Thapliyal.

Ministry of Home Affairs, New Delhi

- Chairman, Nagar Rajbhasha Karyanvan Samiti, Saharanpur - Dr. B. P. Thapliyal.

Development Council for Pulp, Paper & Allied Industries, Govt. of India

- Member-Secretary, Development Council for Pulp, Paper and Allied Industries - Dr. B. P. Thapliyal.
- Member-Secretary, Research Steering Committee of Development Council for Pulp, Paper and Allied Industries (Formerly Cess Committee) - Dr. B. P. Thapliyal.

Bureau of Indian Standards (BIS), New Delhi

- Chairman, BIS Paper and its Products Sectional Committee, CHD 15/16 - Dr. B. P. Thapliyal.
- Member, Alert group of Sectional Committee CHD-15 on of Paper and its Product, BIS, New Delhi – Smt. Rita Tandon, Alok Kumar Goel and Dr. Sanjay Tyagi.
- Member, Sectional Committee CHD-16 on Paper Board and its Product, BIS, New Delhi - Dr. R. D. Godiyal and Dr. Sanjay Tyagi.

Bureau of Energy Efficiency

- Chairman, Sector Expert Committee (Pulp and Paper) Bureau of Energy Efficiency, New Delhi - Dr. B. P. Thapliyal.
- Sector Expert (Part time), Pulp and Paper, Bureau of Energy Efficiency, Ministry of Power, New Delhi- Dr. Sanjay Tyagi.

Avantha Centre for Industrial Research and Development, Yamunanagar, Haryana

- Member Research Advisory Committee (RAC) of Avantha Centre for Industrial Research and Development, Yamuna Nagar (Haryana)- Dr. B. P. Thapliyal.

Assistance to DPIIT Ministry of Commerce & Industry Govt. of India

- Dr. M.K. Gupta Scientist ‘F’ and Mr. Satya Dev Negi Scientist ‘C’ visited M/S Bhabani Offset Pvt. Ltd, Guwahati, Assam for performing field visit along with other members of field visit team (FVT) under Central Capital Investment subsidy Scheme (CCISS) as a part of North East Industrial Promotion Policy 2007, December 6-9, 2019.

Indian Pulp and Paper Technical Association

- Editor- In- Chief, Journal of Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.
- Chairman, Technical Committee, Journal of Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.
- Member, Executive committee, Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.

National Council for Cement and Building Materials, Faridabad

- Member, NCCBM Technical Committee for energy efficient unit award – Dr. B. P. Thapliyal.

Others

- Chairman, Core Group, Delhi Waste Paper Recycling Working Group – Dr. B. P. Thapliyal.
- Member Secretary, Core Group, Delhi Waste Paper Recycling Working Group - Dr. K. Singh.
- Member, RBI, Technical Committee for evaluation of Security Features in Indian Bank Notes – Dr. B. P. Thapliyal.
- Member, Technical Advisory and Paper Purchase Committee (TAPPC), IGNOU, New Delhi – Dr. B. P. Thapliyal.
- Additional Director (Independent) Board of Directors of Satia Industries Limited Muktsar, Punjab - Dr. Priti Shivhare Lal.
- Member of Technical committee to review the specification of passport printing paper constituted by Indian Security Press (ISP), (a unit of SPMICL, Ministry of Finance, GoI), Nashik Road, Maharashtra - Dr. Sanjay Tyagi.
- Member of Technical committee for framing up of Standard Operating Procedures (SOP) for drawing and testing of passport and stamp papers constituted by Indian Security Press (ISP), (a unit of SPMICL, Ministry of Finance, GoI), Nashik Road, Maharashtra - Dr. Sanjay Tyagi.
- Member of Technical Monitoring Committee for reviewing the progress of RMDP activities of NEPA Limited, constituted by Dept. of Heavy Industries, Ministry of Heavy Industries, Govt. of India – Dr. B.P. Thapliyal.



PUBLICATIONS & PATENTS

- *Deepika; Kumar; Anupam, Lal; Priti Shivhare, Melia Dubia Volarization at 4,5 and 6 Year Age For Pulp And Paper Production*, International Journal of Science and Research 8 (2), pp 613-623, 2019.
- *Deepika; Kumar; Anupam, Lal; Priti Shivhare, Sharma; Arvind and Thapliyal; B. P., Evaluation of M. dubia Hardwood Kraft Pulp with Different Bleaching Sequences*, IPPTA Journal, 31(1), pp 49-53, 2019.
- *Lal; Priti Shivhare; Sharma, Arvind; Gupta; M. K and Thapliyal; B. P. Response of Ozone Bleaching on Wheat Straw and Bagasse Pulp. Inpaper, 23 (1), PP30-33.*
- *Sharma, A. K.; Godiyal; R.D. and B.P. Thapliyal; B. P. Kans Grass-A Promising Raw Material for Paper Making*, Cellulose Chemistry and Technology, 53 (7-8), pp 747-753, 2019.
- *Singh S.P. and Endlay Nitin; Fabrication of Nano Silica From Agricultural Residue and Their Application*. In Nanomaterials for Agriculture and Forestry Application, Elsevier, pp. 107-134. pp 107-134, 2020.
- *Singh, Meenu; Pant, Millie ; Godiyal, R. D and Sharma A. K. MCDM approach for Selection of Raw Material in Pulp and Papermaking Industry*, Materials and Manufacturing process Taylor and Francis, 35 (3), pp 241-249, 2020.
- *Sharma; Nidhi, Bhawana, Godiyal; R. D., Thapliyal; B. P. and Kumar; Anupam Morphological and Anatomical Characterization of Bleached Soda, Soda- AQ and Kraft Pulps from Oil Isolated Citronella Grass*, Material Today: Proceedings, MATPR 11863, Elsevier, 03 February, 2020. Pages 1- 8.
- *Prospects of Indian Paper Industry in the coming decades- Inferences drawn from the Data Analysis –Thapliyal ; B. P. , Afroz; Zarka, Kumar; Arun ; Singh and Kawaljeet*, Proceedings of Paper ex Conference, 2019, November 1-3, 2019.
- *A Short Treatise of Global & Indian Paper Industry: Afroz; Zarka, Kumar; Arun, Singh; Kawaljeet & Thapliyal; Bipin Prakash. CPPRI. January 2020.*

Patents Awarded/Filed

- CPPRI was awarded patent on **Method and Apparatus for Depithing of Bagasse**.
 - Four Patent Disclosure Note (PDN) were filed in Feb 2020 based on the research and development activities carried out by the institute in different areas during 2019-2020.
1. **Alkaline Sulphite Mechanical Pulping (ASMP) Process for Production of Pulp and Lignosulphate from Moringa Oleifera** (Application no 202011004977 dated February 5,2020).
 2. **Bleached Chemi Thermo Mechanical Pulping (BCTMP) Process of Whole Jute for Production of Tissue Paper** (Application no 202011004978 dated February 5,2020).
 3. **New Bleached Chemi Thermo Mechanical Pulping (BCTMP) Process of Rice Straw for Production of Disposable Tableware** (Application no 202011004979 dated February 5,2020).
 4. **An Innovative Process to Refine the Bamboo Pulp for Improvement of Paper Formation and Strength Properties** (Application No: 202011005504 dated February 7, 2020).

REPORTS PREPARED



During the year 2019-20 various reports related to Pulping, Bleaching, Waste Paper Processing, Environmental Management, Chemical Recovery etc. were prepared. The details are as under –

Pulping & Bleaching

- Whole Jute Utilization for Pulp and Paper (Draft Report)

Environmental Management

ETP Adequacy Assessment (Paper Units)

- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh
- Shreyans Industries Ltd., Unit- Shree Rishabh Paper, Punjab
- Aroma Kraft & Tissues Pvt. Ltd.,Roorkee, Uttarakhand
- Orient Board and Paper Mills Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Yash Papers Limited, Faizabad, UttarPradesh
- MBD Printographics (Pvt.) Limited, Una, Himachal Pradesh
- Bajaj Kagaj Limited, Unnao, Uttar Pradesh
- Sainsons Paper Industries Pvt. Limited, Pehowa, Haryana
- Vishal Paper Industries Pvt. Limited, Patiala, Punjab
- Garg Duplex & Paper Mills Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Vishwanath Paper & Boards Limited, Kashipur, Uttarakhand
- International Papers APPM Limited, Rajahmundry, Andhara Pradesh
- Maruti Papers Limited, Shamli, Uttar Pradesh
- K M Papers, Rudrapur, U.S.Nagar, Uttarakhand
- Bank Note Paper Mill India Private Limited, Mysuru, Karnataka

ETP Adequacy Assessment (Textile Units)

- Rama Tex Process House Pvt. Limited, Meerut, Uttar Pradesh
- Loothra Handloom, Meerut, Uttar Pradesh

ETP Adequacy Assessment (Dairy Unit)

- Kailash Dairy Limited, Meerut, Uttar Pradesh

Performance Evaluation of Existing ETP

- Kuantum Papers Limited , Sailakhurd, Punjab
- T. K. Papers, Kathua, Jammu & Kashmir
- Kailash Dairy Limited, Meerut, Uttar Pradesh



- MBD Printographics (Pvt.) Limited, Una, Himachal Pradesh
- International Papers APPM Limited, Rajahmundry , Andhra Pradesh

Zero Liquid Discharge (ZLD) Feasibility Report

- Genus Paper Mills Limited, Moradabad, Uttar Pradesh
- Sardhana Papers (P) Limited, Meerut, Uttar Pradesh
- Krishnanchal Pulp & Paper Pvt. Limited, Muzaffarnagar, Uttar Pradesh
- Pudumjee Paper Products Limited, Pune, Maharashtra
- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Shuklambara Papers Pvt. Limited, Bazpur, U.S. Nagar, Uttarakhand

Adequacy and Performance Evaluation of Air Pollution Control Equipment

- MBD Printographics (Pvt.) Limited, Una , Himachal Pradesh

Revival and Mill Development Plan (RMDP) of NEPA Limited, Nepanagar

- Report on Review of progress of Revival and Mill Development Plan (RMDP) of Nepa Limited, Nepanagar (3 reports)

Process Evaluation for Production Capacity Enhancement

- Genus Paper Mills Limited, Moradabad, Uttar Pradesh

Chemical Recovery Audit

- Shreyans Industries Limited (Unit Rishabh Papers), Banah, SBS Nagar, Punjab

Feasibility of Installation of Lime Kiln

- ITC Ltd., PSPD, Sarapaka Village, Bhadrachalam, Telangana

Hazardous Waste Audit Report

- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Karur District, Tamil Nadu.

Annual Contract of Training and Auditing of Chemical Recovery

- Century Pulp & Paper, Lalkua, Uttarakhand.
- Kuantum Papers Ltd., Saila Khurd, Hoshiarpur, Punjab.
- Yash Papers Limited, Faizabad, Uttar Pradesh.

Quality Management System- NABL

- Level I, II, III & IV documents viz. Quality Manual, Procedure Manual, SOPs and Formats were prepared to establish, implement and maintain quality management system as per international standard ISO/IEC 17025:2017 for getting NABL accreditation.

VISITS TO PULP AND PAPER MILLS & OTHER ORGANISATION



During the year 2019 – 2020 CPPRI Scientists visited many pulp and paper mills to provide technical and consultancy services. The scientists also visited various academic and scientific institutes and organizations, regulatory bodies, ministries etc. in connection with various collaborative activities, meetings and discussions. The summary of visits undertaken by the CPPRI scientists is as under:

Environment Management

ETPAdequacy Assessment

Dr. M. K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited 16 Pulp and Paper Mills in Muzaffarnagar, Meerut, Bijnor, Shamli, Pehowa, Patiala, Una, Mysore for ETPadequacy assessment.

ETPAdequacy of Textile and Dairy units

Dr. Shivaker Mishra visited two textiles and one dairy unit in Meerut for ETPadequacy assessment.

Performance Evaluation of Pulp & Paper and Dairy industry ETP

Dr. M. K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Abhishek Tyagi and Shri Amitabh Tripathi visited four paper mills and one dairy unit for ETP performance evaluation.

Adequacy and Performance Evaluation of Air Pollution Control Equipment's of Pulp and Paper Mill

Dr. M. K. Gupta, Dr. Nitin Endlay and Shri Abhishek Tyagi visited one paper mill for adequacy and performance evaluation of Air Pollution Control equipment.

Environmental Monitoring

Century Pulp & Paper, Lalkuan, - Dr. M. K. Gupta, Dr. Nitin Endlay, Shri Abhishek Tyagi, Shri Amitabh Tripathi and Shri Yogesh Jangam.

Zero Liquid Discharge Feasibility

- Dr. M. K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited 7 Pulp and Paper Mill at Bijnor, Muzaffarnagar, Meerut, Kanpur, Moradabad, Pune and Bazpur (Chandpur Enterprises, Parijat Paper Mill, Sardhana Paper Mill, Hariom Industries, Genus Papers and



Boards Ltd., Pudumjee Paper Products Ltd., and Krishnanchal Industries respectively) for evaluation of Zero Liquid Discharge Feasibility.

- Dr. B.P. Thapliyal, Dr M.K. Gupta and Dr Nitin Endlay visited Chandpur Enterprises, Chandpur to see the working of Mechanical Vapour Recompression (MVR) system installed by the mill to operate on ZLD.

Inspection and Monitoring of Grossly Polluting Industries (CPCB Project)

- Dr. M. K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Pankaj Goley, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited thirty two pulp and paper mills in Uttarakhand and Uttar Pradesh.

Monitoring of Activities of Revival and Mill Development Plan (RMDP) of NEPA Limited

- Dr. B. P. Thapliyal, Dr. M.K. Gupta and Dr. Sanjay Tyagi, visited Nepa Ltd., Nepa Nagar, Madhya Pradesh for technical evaluation of work progress under Revival and Mill Development Plan (RMDP).
- Dr. B. P. Thapliyal and Dr. Sanjay Tyagi, visited three times Nepa Ltd., Nepa Nagar, Madhya Pradesh for technical evaluation of work progress under Revival and Mill Development Plan (RMDP.)

TERI Project

- CPPRI was associated with TERI under the DSIR sponsored projects entitled A2K Industrial Energy Efficiency technology, in this project, CPPRI has provided all process-related flow diagrams as well as its synergy between the processes. A detail on paper industry and its technological environment has also been presented by CPPRI. An energy consumption study has also been conducted and provided to TERI. The team of CPPRI involved in the project included Dr. K. Singh, Dr. A. K. Dixit, Shri Stya Negi, Shri Arun Kumar and Zarka Afroz.

Process Evaluation / Trouble Shooting

- Bank Note Paper Mill Pvt. Ltd., Mysore, Karnataka - Shri Satya Dev Negi and Shri Kuldeep Sharma.
- Genus Paper & Board Ltd., Moradabad, Uttar Pradesh - Dr. M. K.Gupta, Dr. Nitin Endlay and Shri Satya Dev Negi.
- Chadha Paper Mill, Bilaspur, Uttar Pradesh - Dr. M. K.Gupta, Dr. Nitin Endlay and Shri Satya Dev Negi.
- Genus Paper & Board Ltd., Moradabad, Uttar Pradesh –Smt. RitaTandon, Dr. M. K.Gupta and Shri Satya Dev Negi.
- Hari Om Industries Ltd., Kanpur, Uttar Pradesh - Dr. M. K. Gupta and Shri Satya Dev Negi.
- Krishnachal Paper Mill, Muzzafarnagar, Uttar Pradesh - Dr. M. K.Gupta, Dr. Shivakar Mishra and Shri Satya Dev Negi.
- Genus Paper & Board Ltd., Moradabad, Uttar Pradesh - Dr. Sanjay Tyagi.

- Field visit Bhabani of Offset (P) Ltd., Guwahati, Assam for Verification of Subsidy Claim of the mill under Central Capital Investment Subsidy (CCIS) Scheme.-Dr. M. K.Gupta and Shri Satya Dev Negi.
- Vishal Coaters (P) Ltd., Patiala, Punjab - Dr. R. D. Godiyal and Dr. Sanjay Tyagi.

Checking the Calibration/Testing Status of Quality Control Laboratories Of Paper Mills

- Bindal Papers Mill Limited, Muzaffarnagar - Dr. R. D. Godiyal, Dr. Sanjay Tyagi and Shri Manoj Kumar.
- Silvertan Pulp & Paper Ltd., Muzaffarnagar, Uttar Pradesh - Dr. R. D. Godiyal, Dr. Sanjay Tyagi and Shri Manoj Kumar.
- Bindlas Duplex Ltd., Muzaffarnagar, Uttar Pradesh - Dr. R. D. Godiyal, Dr. Sanjay Tyagi and Shri Manoj Kumar.
- Bilt (Unit Shree Gopal) Yamunangar, Haryana - Dr. R. D. Godiyal, and Shri Manoj Kumar.

Pre Dispatch Inspection of Paper Manufacturing Units under GeM Procurement

- BILT Graphics Limited (Unit Bighwan) - Dr. R. D. Godiyal and Dr. Sanjay Tyagi.
- BILT Graphics Limited (Unit Bighwan) - Dr. R. D. Godiyal and Shri Manoj Kumar.
- Redox Stationary Products Limited, Dehradun -Dr. R. D. Godiyal and Dr. Sanjay Tyagi.

Collection of Newsprint samples

- Khanna Paper Mill, Amritsar, Punjab - Dr. M. K.Gupta and Shri Satya Dev Negi.
- Nicer Paper Mills, Kathua, Jammu & Kashmir - Dr. A. K. Dixit and Shri Satya Dev Negi.
- Emami Paper Mills Ltd., Balasore, Odisha - Dr. Sanjay Tyagi and Shri N. K. Nayak.
- Amar Ujala Limited, Dainik Jagran (Jagran Prakashan Limited) Noida, Uttar Pradesh - Shri Alok Kumar Goel and Dr. Sanjay Tyagi.
- Chadha Paper Mill, Rampur, Uttar Pradesh - Shri Alok Kumar Goel and Shri. Mohd Salim
- Shri Rama News Print, Surat, Gujarat - Dr. R. D Godiyal and Dr. Arvind Kr. Sharma

Walkthrough Energy Audit

- Dr. B. P. Thapliyal and Shri Alok Kumar Goel visited One Chemical and Five paper mills at Kashipur to carry out walk through energy audit for CPCB, Delhi.

Trouble Shooting in Chemical Recovery Systems

- Bindal Papers Mills Ltd, Muzaffaranagar, Uttar Pradesh



- Bindlas Duplex Ltd, Muzaffarnagar, Uttar Pradesh
- Century Pulp & Paper, Lalkua, Uttrakhand.
- Chadha Papers Ltd., Bilaspur, Uttar Pradesh
- Garg Duplex & Paper Mill Pvt. Ltd. Muzaffarnagar, Uttar Pradesh
- ITC Ltd, PSPD Sarapaka Village, Bhadrachalam, Telangana
- Kuantum Papers Ltd SailaKhurd, Hoshiarpur, Punjab.
- Mohit Paper Mills Ltd, Bijnor, Uttar Pradesh
- Multiwal Duplex Pvt. Ltd., Kashipur, Uttrakhand
- Naini Papers Limited, Kashipur, Uttarakhnad
- Sainsons Paper Industries Limited, SianaSaidan, Haryana
- Satia Paper Mills Ltd., Muktsar, Punjab
- Shreyans Industries Limited (Unit Rishabh Papers), Banah, Punjab
- Shreyans Industries Limited (Unit Shyeyans Papers), Ahmedgarh, Punjab
- Silvertoan Papers Ltd., Muzaffarnagar, Uttar Pradesh
- Silverton Pulp & Paper Pvt. Ltd., Muzaffarnagar, Uttar Pradesh
- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Tamil Nadu
- Yash Papers Limited, Faizabad, Uttar Pradesh

Scientific/Academic Institutes and other Organisations

- FRI Deemed to be University, Dehradun
-Dr. B.P. Thapliyal
-Dr. Priti S. Lal and Dr. Arvind Kr. Sharma
- National Institute of Hydrology, Roorkee, Uttrakhand - Dr. M. K. Gupta, Dr. Shivaker Mishra and Dr. Nitin Endlay.
- Uttaranchal Environmental Protection & Pollution Control Board (UEPPCB) -Dr. M. K. Gupta.
- Central Pollution Control Board, Delhi - Dr. M. K. Gupta, and Shri Amitabh Tripathi.
- National Council for Cement and Building Materials - Dr. B. P. Thapliyal, Dr. M. K. Gupta, Dr. Nitin Endlay, Shri Amitabh Tripathi, Shri Abhishek Tyagi and Shri H.C. Pandey.
- Indian Agriculture Research Institute (IARI), New Delhi - Dr. M. K. Gupta.
- National Environmental Engineering Research Institute (NEERI) Delhi Centre, New Delhi - Dr. M. K. Gupta.
- EMTRC Ghaziabad - Dr. M. K. Gupta, Dr. Nitin Endlay, and Shri Abhishek Tyagi,.
- Food Safety and Standards Authority of India (FSSAI), New Delhi - Smt. Anuradha V. Janbade.
- National Institute of Food Technology Entrepreneurship and Management (NIFTEM), Kundli - Smt. Anuradha V. Janbade.
- Indian Institute of Packaging, Mumbai - Smt. Anuradha V. Janbade.
- Indian Institute of Petroleum, Dehradun - Smt. Anuradha V. Janbade and Shri Vijay Kumar.
- Indian Institute of Technology, Delhi. Dr. B. P. Thapliyal, Dr. M. K. Gupta, Dr. Nitin Endlay, Shri Amitabh

Tripathi, Shri Abhishek Tyagi & Shri H.C. Pandey.

-Smt. Anuradha V. Janbade and Shri Vijay Kumar.

-Dr. Priti S Lal and Dr. Arvind Kr. Sharma

- Analytic Jena Application Centre, New Delhi-Dr. Kawaljeet Singh, Smt. Anuradha V Janbade and Shri A. K Goel.
- Agilent Centre of Excellence, Manesar, Haryana- Ms. Anuradha V Janbade.
- Shimadzu Application Centre, New Delhi-Ms Anuradha V Janbade, and Sh A. K Goel.
- Printing and Stationery Department Haryana, Chandigarh - Shri Alok Kumar Goel
- District Court, Dwarka, New Delhi-Shri Alok Kumar Goel and Dr. Sanjay Tyagi.
- Toshvin Analytical Private Limited, New Delhi- Smt. Anuradha V. Janbade and Shri Alok Kumar Goel.
- NIFTEM, Kundli, Sonapat, Haryana- Smt. Anuradha V. Janbade and Shri Alok Kumar Goel.
- Office of the Controller General of Patents, Designs and Trademarks, New Delhi - Dr.Priti S Lal and Dr. Arvind Kr. Sharma.
- Satia Paper Ltd., Rupana, Punjab - Dr. Priti S Lal and Dr. Arvind Kr. Sharma.
- Netaji Subhash University of Technology (East Campus) (formerly Ambedkar Institute of Advance Communication Technology and Research) Geeta Colony, Delhi - Multiple visits by Dr. B. P. Thapliyal and Dr. K. Singh.

Overseas Visit to Sweden & Finland

Dr. M.K. Gupta, and Dr. A. K. Dixit visited Sweden & Finland under UNIDO Project on Firm Level Demonstration of Technologies and Productivity Enhancement for the Pulp & Paper industry. Following organization were visited by CPPRI scientists:

- RISE, Stockholm, Sweden
- IVL Stockholm, Sweden
- Essity Nokia Paper Mill Tampere, Finland
- Valmet Technologies Tampere, Finland
- Tampere University Tampere, Finland

In all this one week visit to Sweden and Finland comprised of visit to a University, a Research Institute, two membrane system supplier companies and visit to a paper mill equipped with full scale ultra filtration system which helped in gathering various information and technical knowledge for their application during pilot scale demonstration under the UNIDO Project.



CPPRI scientists at Valmet, Finland



M.Sc. (CELLULOSE AND PAPER TECHNOLOGY)

(A Joint Collaborative Course of FRI (Deemed to be University), Dehradun and CPPRI, Saharanpur)

Activities

Final year course for the students of VIII Batch (2018-2020) of **M.Sc. (Cellulose and Paper Technology)** was conducted at CPPRI. Both theoretical and practical knowledge on various aspects of pulp and papermaking i.e. raw material handling and preservation, pulping and bleaching, stock preparation and papermaking, paper testing, paper recycling, chemical recovery, environmental management and biotechnological applications were imparted to the students by CPPRI scientists.

The students also undertook two-month compulsory industrial training at Century Pulp and Paper, Lalkua, Yash Papers Limited, Faizabad, Shreyans Industries Limited, Ahmedgarh and Star Paper Mills Ltd. ,Saharanpur as a part of curriculum and also carried out project work in various areas of papermaking.

The students celebrated **Teachers Day** on September 5, 2019 and organised a cultural programme in honour of CPPRI faculty.

The first year toppers in girls and boys category namely Ms. Unnati Chaudhary and Mr. Vishrut Bhardwaj respectively were awarded scholarship of Rs 25,000/- each by Star Paper Mills Ltd .

The students also participated in the debate and poster competition organised to commemorate **Hindi Week 2019, Vigilance Awareness Week 2019, Swachhta Pakhwada 2019.**

The M.Sc Students also participated as delegates in the 14th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2019).

List of Students

Mr. Akash Dev, Mr. Akash Kukreti, Ms. Archana, Ms. Ashmika Agarwal, Ms. Astuti Singh, Mr. Devanga Tharun Teja, Ms. Jeslin Emmanuel, Ms. Pragati Kamboj, Mr Rohit Gusain, Ms. S. Abirami, Ms. Tanya Kamboj, Ms. Unnati Chaudhari, Mr. Vishrut Bhardwaj and Ms. Yashee Semwal.



M.Sc (CPT) Students at Paperex 2019 International Conference



Presentation of Scholarship Cheque to Director CPPRI by Shri I.J. Singh, Star Paper Mills Limited



Glimpses of Teacher's Day Celebration

Financial Report

2019-20



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas Vikas Colony
Delhi Road, Saharanpur
Contact - 91- 9412233889

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An autonomous organisation registered under societies Act under the administrative control of the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

AUDITOR'S REPORT TO THE MEMBERS OF THE
CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR (U.P.)

We have audited the attached Balance Sheet of CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR (U.P.) as on 31.3.2020 and Income and Expenditure account & Receipt & Payment Account for the year ended on that date, which are in agreement with the books of accounts maintained by the Institute. These financial statements are the responsibility of the auditee's management. Our responsibility is to express an opinion on these financial statements based on our Audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit include examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of audit. In our opinion proper books of accounts have been kept/ maintained by the Institute.

In our opinion and to the best of our information and according to the explanation given to us, the said account reads with notes thereon; give a true and fair view in conformity with the accounting principles generally accepted in India:

- i) In case of Balance Sheet, of the state of affairs of the Institute as at 31.03.2020, and
- ii) In the case of Income & Expenditure Account of the deficit for the year ended on 31.03.2020.

Date: 24-08-2020
Place: Saharanpur

For SANJAY MISRA & CO.
Chartered Accountants

(SANJAY MISRA)
F.C.A., ISA (DISA)



SANJAY MISRA & CO.
Chartered Accountants

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
BALANCE SHEET AS AT 31.3.2020

PARTICULARS	Schedule	Amount (Rs.)	
		Current Year 2019-20	Previous year 2018-19
<u>CAPITAL FUND AND LIABILITIES</u>			
CAPITAL FUND	1	119165903.45	132866049.50
UN-UTILISED SP. PROJECT & CONSULTANCY	2	1124.25	1124.25
UNUTILISED GRANTS	3	20723251.53	37675039.80
CURRENT LIABILITIES AND PROVISIONS	4	69967348.00	69560610.46
TOTAL		209857627.23	240102824.01
<u>ASSETS</u>			
FIXED ASSETS	5	82653404.69	88512194.93
CURRENT ASSETS, LOANS, ADVANCES ETC.	6	127204222.54	151590629.08
TOTAL		209857627.23	240102824.01

The Schedules referred above form an integral part of the Balance Sheet.

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



(SANJAY MISRA)
F.C.A. (S.A.) (DISA)

DIRECTOR

In-charge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



SANJAY MISRA & CO.
Chartered Accountants

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POST BOX -174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.3.2020

Amount (Rs.)

P A R T I C U L A R S	SCHEDULE	CURRENT YEAR 2019-20	PREVIOUS YEAR 2018-19
A: INCOME			
Income from Institutional & Consultancy fee	7	23552785.02	22405985.00
Grants from Govt. of India	8	82973851.01	102519511.76
Fees/Subscription	9	610500.00	126000.00
Interest earned	10	5780086.18	5010593.57
Other income	11	729818.62	761545.53
Closing Stock-Store Spares & Stationery		2341838.61	2237845.39
TOTAL (A)		115988879.44	133061481.25
B: EXPENDITURE			
Opening Stock		2237845.39	2299594.46
Establishment expenses	12	75176007.00	75691341.00
Administrative Expenses etc.	13	45864657.36	49241586.36
Depreciation for current year	5	10950557.00	11062943.32
TOTAL (B)		134229066.75	138295465.14
Excess of Expenditure over Income (B-A)		18240187.31	5233983.89
Excess of Income over Expenditure(A-B)			

The Schedules referred above form an integral part of the Income and Expenditure Account.

As per our separate report of even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ISA(DISA)


DIRECTOR


In-charge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



CENTRAL PULP & PAPER RESEARCH INSTITUTE
POST BOX -174, PAPER MILL ROAD, HIMMATNAGAR, SAHARANPUR
RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31.3.2020

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
Opening Balance:			Grant refunded to Ministry	0.00	135542.00
To Cash Balance	0.00	2011.26	Establishment Expenses:		
To Bank Balance on current account	37505254.49	24153761.81	By Salary & Allowances	50453917.00	55754445.00
To Deposit Accounts(Margin money against letter of Credit)	11387698.74	4344433.74	By CPF Contribution	5264287.00	5397758.00
To Deposit Accounts	60034362.66	62229791.66	By Encashment of Leave	3022062.00	8179557.00
Grant Received:			By Gratuity paid	4678707.00	14450797.00
To Grant in Aid,MOI,GOI	8700000.00	8924000.00	By Reimbursement of Medical Exp.	1599467.00	1880096.00
To Grant in Aid,Development Council	61862104.00	121572761.00	Other Administrative Expenses:		
Grant through IPMA against DCPPI	0.00	225000.00	By Lab & Plant Maintenance	5752273.57	5272367.55
Interest Received:			By Cartage & Freight	87844.00	108000.00
To Int. from Staff on Convey. adv.&HBA	121834.00	719405.00	By Electricity and water	8560920.00	7599031.79
To Interest received from bank	5328806.18	4419518.00	By Repair & Maintenance of Assets	11258363.94	14218140.93
To interest received on TDS	329446.00	0.00	By Rent & Taxes	816480.00	785176.00
Other Income:			By Postage & Telephone & communication	328282.63	349287.58
To Refund of TDS	1664034.00	0.00	By Printing & Stationery	1295108.50	1112912.67
To Sale of Publication	2700.00	8500.00	By Travelling & Conveyance Exp.	2704950.00	2458854.00
To Testing fee	13059208.81	13160307.00	By Testing Fee	104647.00	905120.00
To Consultancy fees	9489309.25	7693629.00	By Hospitality Expenses.	75823.00	136248.00
To Training fees & expenses etc	565620.00	86000.00	By Legal & Professional Exp.	633299.00	420128.80
To Membership fee & Taxes etc.	132000.00	40000.00	By Audit fees	37760.00	37760.00
To Lease Rent	50000.00	98000.00	By Training Exp.	1593374.00	625660.00
To Hostel rent	193475.00	146450.00	By Watch & Ward	7274191.00	6997112.00
To Miscellaneous Receipt	210881.62	198668.53	By Bank charges	6982.26	25664.94
To Licence Fee	272762.00	309927.00	By Advertisement	193368.00	576182.00
To Festival Advance	0.00	11700.00	By Exp.onSeminar & Workshop	20178.00	169837.00
To House Building Advance	45528.00	1200008.00	By Membership & Subscription	0.00	20000.00
To Conyance Advance	24900.00	96650.00	By News Paper	1392.00	38537.00
To Computer Advance	66800.00	104175.00	By Staff Car Maintenance	377245.00	267925.00
To Education cess	0.00	29.00	By Hindi Diwas Exp.	30794.00	11523.00
To H.Education cess	0.00	13.00	By Swachh Bharat Abhiyan Exp.	1306216.00	246307.00
To SGST	0.00	60397.88	By Raj Bhasha Exp	0.00	16900.00
To CGST	0.00	60397.88	By Paper ex	123304.00	161185.00
To IGST	0.00	1148684.70	By Software	167265.00	866013.00
To Security from Staff	0.00	5000.00	By Auction Charges	0.00	149872.00
To Security from Student	0.00	6000.00	By Expenditure on NABL	804114.98	384925.00
To Msc. Course Fee	752000.00	696200.00	By Grant in Aid to Participating Agency	0.00	1825000.00
To Laboratory Fee	0.00	15000.00	By Plantation & Gardening	226509.00	0.00
To Liabrary Fee	0.00	6000.00	By Honorarium	1093050.00	0.00
To Sale of Assets	0.00	4443460.50	By Patent fee	5250.00	0.00
To Earnest Money refund	0.00	175500.00	By scholarship for M sc Student	50000.00	0.00
To amount recoverable	0.00	1414564.00	BY National Festival	66461.00	0.00
To Sundry Debtors	8667845.23	3144651.17	BY Staff Welfare	2300.00	0.00
To Refund of Security Deposit	0.00	300697.00	By Fixed Assets/ Capital work in Progress	4889250.50	8418012.48
To refund of Advance	746189.00	125799.65	Other Payments:		
To Scholarship for M.Sc. Student	0.00	50000.00	By Adv.for Assets & Mise Purchase	0.00	3877876.00
To Library Security	1000.00	0.00	By T.D.S. (Salary & Parties)	1742322.00	6708009.00
To Medical	60180.00	0.00	By TDS - GST	307503.00	0.00
To Advance/Imprest to CPPRI Staff	3545330.18	0.00	By SGST	433235.00	41555.00
To Advance to Supplier	794896.00	0.00	By CGST	433235.00	21097.00
To sales of Fixed Assets (Books)	1300.00	0.00	By IGST	3944444.00	314478.00
			BY Interest Paid on TDS	2484.00	0.00
			By House Building Advance	0.00	840000.00
			By Computer Advance	100000.00	50000.00
			By Advance to Staff for Expnese	16015523.23	114991.15
			By Amount Payable	0.00	300000.00
			By Trade Tax	0.00	42650.00
			By Fellowship	0.00	10000.00
			By Refund of Security	0.00	23100.00
			By Refund of Earnest Money	0.00	120000.00
			By Amount Recoverable	0.00	4142.00
			By Advance to Suppliers	5029095.00	0.00
			By Payment to Parties	4403909.19	0.00
			By TDS deducted by Parties	1834633.00	0.00
			Misc Receipt	48.92	0.00
			Closing Balances:		
			By Bank Balance on current account	19562702.78	37505254.49
			By Deposit A/c(Margin money against L.C.)	5719183.00	11387698.74
			By Deposit Accounts	51181710.66	60034362.66
TOTAL	225615465.16	261397091.78	TOTAL	225615465.16	261397091.78

As per our separate report of even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS



(SANJAY MISRA)
 F.C.A., ICAI

Place: Saharanpur
 Date: 24-08-2020

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

B. Prasad
 DIRECTOR

[Signature]
 In-charge (Finance & Accounts)



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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020
SCHEDULE 1 - CAPITAL FUND

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
	2019-20		2018-19	
CAPITAL FUND				
Balance as at the beginning of the year	132866049.50		121955008.19	
Add:1:				
1. Grants towards Capital Fund	0.00		1030761.00	
2. Cess project(Capital purpose)	4540041.26		13614264.20	
3. Sponsored Project	0.00		1500000.00	
	137406090.76		138100033.39	
less:-				
Balance of net expenditure transferred from the income & expenditure account	18240187.31	119165903.45	5233983.89	132866049.50
BALANCE AS AT THE YEAR - END		119165903.45		132866049.50

As per our separate report of even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., ICAI

Place: Saharanpur
Date: 24-08-2020

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

DIRECTOR

In-charge (Finance & Accounts)



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas Vikas Colony
Delhi Road, Saharanpur
Contact - 91 - 9412233889

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE - 2- DETAILS OF UN-UTILIZED AMOUNT SPONSORED PROJECT/ CONSULTANCY

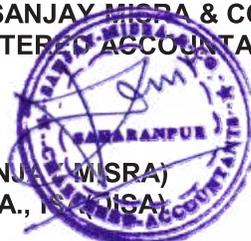
Sl. No.	NAME OF PROJECT	CURRENT YEAR	PREVIOUS YEAR
		2019-20	2018-19
		AMOUNT	AMOUNT
1	CPCB	0.00	0.00
2	DBT-Technological improevmt of Process	1124.25	1124.25
3	Green Chemistry	0.00	0.00
		1124.25	1124.25

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ICAI (ISA)



DIRECTOR

In-charge (Finance & Accounts)

Place: Saharanpur

Date: 24-08-2020

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE - 3- DETAILS OF UN-UTILIZED GRANT

PARTICULARS	BALANCE		GRANTS RECEIVED & UTILISED DURING 2019-2020				UNSPENT BALANCE	
	1.4.2019		RECEIVED	REFUNDED	NET FUNDS	UTILISED	31.3.20	31.3.19
	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
Plan Grant	100158.00	8700000.00	0.00	8800158.00	8795453.00	4705.00	100158.00	
BASE LEVEL SUPPORT(NON-PLAN)	11004896.00	57995104.00	0.00	69000000.00	63149915.00	5850085.00	11004896.00	
Cess Funded project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pilot Scale Studies on eff. Depth.of Bagas, Aprocess developed by CPPRI (CPPRI)	2766749.00	0.00	0.00	2766749.00	2678880.00	87869.00	2766749.00	
Continious Education for Technical Personnel in Pulp & Paper Industry	3061018.00	0.00	0.00	3061018.00	1251151.00	1809867.00	3061018.00	
Demonstration of Ozone Treatment Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Achivement of Highest brightness & whitness in Paper in cost effective	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Biochemical abatement of Pollution load in Waste-water	37937.00	0.00	0.00	37937.00	37937.00	0.00	37937.00	
Utilisation of Lignin as Value Added Product for Manufacturing of Rubber Product	6746739.00	0.00	0.00	6746739.00	3367456.26	3379282.74	6746739.00	
Capacity Building and upgradation of infrastructure for inter lab comparison	463907.80	0.00	0.00	463907.80	463907.80	0.00	463907.80	
Study on Preparation of Cellulose Micro/Nano Fibrils	2287511.00	3000000.00	0.00	5287511.00	3538401.70	1749109.30	2287511.00	
Development of Protocol for Evaluating the Feasibility	9118485.00	0.00	0.00	9118485.00	1948412.65	7170072.35	9118485.00	
Creation of Testing Facilities for Food Packaging paper	720878.00	867000.00	0.00	1587878.00	1188815.00	399063.00	720878.00	
Census Survey of the Indian Paper Industry	650000.00	0.00	0.00	650000.00	573358.00	76642.00	650000.00	
A Synergetic and Economical Approach for Treatment of Pulp & Paper Mill	716761.00	0.00	0.00	716761.00	520204.86	196556.14	716761.00	
Screening of Parents for Clonal Forestry & Hybridization for Higher Productivity								
Total =	37675039.80	70562104.00	0.00	108237143.80	87513892.27	20723251.53	37675039.80	

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS



(SANJAY MISRA)
F. C. A., SA(BISA)

DIRECTOR

In-charge (Finance & Accounts)

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

Place: Saharanpur
Date: 24-08-2020





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POST BOX -174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE -4-CURRENT LIABILITIES AND PROVISIONS

S.No.	PARTICULARS	CURRENT YEAR 2019-20		PREVIOUS YEAR 2018-19	
A.	<u>CURRENT LIABILITIES AND PROVISIONS</u>				
	CURRENT LIABILITIES:				
	<u>Other Liabilities</u>				
1	Retention Money received	32792.00		32792.00	
2	Security Received from Contractors	82212.00		82212.00	
3	Earnest money received	93900.00		93900.00	
4	Advance received for services	214855.00		214855.00	
5	Security received from students	55000.00		41000.00	
6	Security Received from Staff	23000.00		22000.00	
7	SGST	20700.00		60397.88	
8	CGST	20700.00		60397.88	
9	IGST	534813.00		1148684.70	
10	Scholarship for MSC Student	0.00		50000.00	
			1077972.00		1806239.46
	TOTAL (A)		1077972.00		1806239.46
B.	PROVISIONS:				
1	Expenses payable	1762704.00		1664547.00	
2	Pro.for gratuity & encashment of leave	66867696.00		65930347.00	
3	Audit fee payable	37760.00		37760.00	
4	Performance Bank Gurantee	79317.00		88657.00	
5	Fellow Ship payable	13000.00		13000.00	
6	Income Tax (TDS) Payable	69570.00		20060.00	
7	GST (TDS) Payable	59329.00	68889376.00		67754371.00
	TOTAL (B)		68889376.00		67754371.00
	TOTAL (A+B)		69967348.00		69560610.46

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A. (INDIA)

Place: Saharanpur
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FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

DIRECTOR

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POST BOX -174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020
SCHEDULES 5 - FIXED ASSETS

Sl. No.	PARTICULARS	GROSS BLOCK		ADDITION DURING THE YEAR			SALES DURING THE YEAR	COST AT THE YEAR END	%AGE OF Dep	DEPRECIATION FOR 2019-20	NET BLOCK	
		TOTAL COST AS ON 1.4.2019	TOTAL DEPRECIATION 31.3.2019	NET VALUE ON 1.4.2019	FIRST HALF	SECOND HALF					AS AT THE 31.3.2020 YEAR-END	AS AT THE 31.3.2019 YEAR-END
A. FIXED ASSTIES												
1	Land	16872204.10	0.00	16872204.10				16872204.10	0%	0.00	16872204.10	16872204.10
2	Land Scaping Work in Prograss	487684.45	0.00	487684.45				487684.45	0%	0.00	487684.45	487684.45
3	Building	116372547.34	105000449.96	11372097.38				11372097.38	10%	1137210.00	10234887.38	11372097.38
4	Office Equipment	15592661.60	11544030.90	4048630.70	164050.00	657116.26		4869796.96	10%	454124.00	4415672.96	4048630.70
5	Furniture & Fixtures	8765072.38	7030098.31	1734974.07	93414.00	52400.00		1880788.07	10%	185459.00	1695329.07	1734974.07
6	Hostiel Furniture	408288.06	396579.81	11708.25				11708.25	10%	1171.00	10537.25	11708.25
7	Vehicle	2931118.84	2372279.00	588839.84				588839.84	15%	83826.00	475013.84	588839.84
8	Plant Machinery & Lab Equipment	277264965.23	229124233.47	48140731.76	638782.00			49530746.76	15%	7381703.00	42149043.76	48140731.76
9	Plant & Machinery at HNL	580000.00	5740326.29	59673.71				59673.71	15%	8951.00	50722.71	59673.71
10	Equipment with NCBM	500000.00	487806.14	12193.86				12193.86	15%	1829.00	10364.86	12193.86
11	Workshop equipment	536385.07	492106.11	44278.96				44278.96	15%	6642.00	37636.96	44278.96
12	Instruments	211032.13	210607.69	424.44				424.44	15%	64.00	360.44	424.44
13	D.G.Set	2094916.68	2056598.99	38317.69				38317.69	15%	5748.00	32569.69	38317.69
14	Air Conditioner & Cooler etc.	6292006.72	503384.86	1253621.86		120324.00		1411743.86	15%	202737.00	1209006.86	1253621.86
15	Electrical Install & Equipment	2589407.59	1947779.78	641627.81		59000.00		700627.81	15%	100669.00	599958.81	641627.81
16	Books and Periodicals	10419884.18	9993684.85	426199.33		28105.00	1300.00	503359.83	40%	195723.00	307636.83	426199.33
17	Computers	16882770.64	16154240.94	728529.70		296900.00		2753453.70	40%	1042001.00	1711452.70	728529.70
18	Capital work in Progress	965125.00	0.00	965125.00				965125.00	0%	0.00	965125.00	965125.00
19	Guest House Equipment	6800.00	1842.80	4957.20				4957.20	10%	496.00	4461.20	4957.20
20	Horticulture Equipment (tractor)	0.00	0.00	0.00				415565.00	15%	31167.00	384398.00	0.00
21	Tubewell	1298684.00	188309.18	1110374.82				1110374.82	10%	111037.00	999337.82	1110374.82
TOTAL OF CUURENT YEAR		486291554.01	397779359.08	88512194.93	2824874.50	2268192.26	1300.00	93603961.69		10950557.00	82653404.69	88512194.93
TOTAL OF PREVIOUS YEAR		481821917.03	386716415.76	95105501.27	2908725.96	6005345.52	4444434.50	99575138.25		11062943.32	88512194.93	95105501.27

As per our separate report of even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE


DIRECTOR


In-charge (Finance & Accounts)

(SANJAY MISRA)
F.C.A., ISA(DISA)

Place: Saharanpur
Date: 24-08-2020





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POST BOX -174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020
SCHEDULE -6 -CURRENT ASSETS, LOANS, ADVANCES ETC.

SI.No.	PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
		2019-20		2018-19	
	A: CURRENT ASSETS:				
1	<u>Inventories:</u>				
a.	Store & Spares	1815374.90		1781564.63	
b.	Stationery & Misc. Store	<u>526463.71</u>	2341838.61	<u>456280.76</u>	2237845.39
2	Cash balance in hand		0.00		0.00
3	Bank Balances:(With Scheduled Banks)				
	On Current Accounts		19562702.78		37505254.49
	On Deposit Accounts(margin money-against letter of credit)		5719183.00		11387698.74
	On Deposit Accounts on SDR		51181710.66		60034362.66
	Accrued Interest on SDR		1864888.09		1946015.09
	B: LOANS,ADVANCES AND OTHER ASSETS:				
	<u>Loan to Staff:</u>				
1	<u>Non interest bearing Advance</u>				
a	Festival Advance	0.00		0.00	
b	Medical Advance	<u>0.00</u>	0.00	<u>0.00</u>	0.00
2	<u>Interest bearing Advances</u>				
a	House Building Advance	1123436.00		1168964.00	
b	Advance for Purchase of Vehicle	28328.00		53228.00	
c	Advances for computer	162500.00		129300.00	
d	Accrued Interest on Advances	<u>672802.00</u>	1987066.00	<u>801945.00</u>	2153437.00
3	<u>Advances and other amounts recoverable in cash or in kind or for value to be received</u>				
	ADVANCES:				
a	Purchase of Machinery and other work	15711200.94		10680033.94	
b	Advance Paid to IIP for Begass pith Project	0.00		0.00	
c	Advance Paid to DBT for Biological B.L. Project	50.00		50.00	
d	Advance to UPRNN	<u>350000.00</u>	16061250.94	<u>350000.00</u>	11030083.94
	<u>Amounts recoverable in cash or in kind</u>				
a	Amount Recoverable	5353.00		4142.00	
b	T D S	8312858.60		8147259.60	
c	Cenvetavilment -Education Cess	1334.00		1334.00	
d	Cenvetavilment - H.Education Cess	290.00		290.00	
e	Cenvetavilment - K. K. Cess	4999.00		4999.00	
f	Sundry Debtors	12850600.25		10543471.70	
g	Plant Equipment of CPCB	2694541.00		2694541.00	
h	Lab Equipment-IPMA/Dev. Council	1350682.00		1350682.00	
i	Earnest Money Deposit	50.00		50.00	
j	N.P.C.	706.75		706.75	
k	Imprest	22945.18		18420.57	
l	Advance to CPPRI Staff	1184364.50		1028246.15	
m	Security Deposits	1956906.00		1451650.00	
n	Telephone deposit under OYT	39139.00		39139.00	
o	Interest on FDR Amount Recoverable	49813.18		0.00	
p	DCPPAI	11000.00	28485582.46	11000.00	25295931.77
	TOTAL		127204222.54		151590629.08

As per our separate report of even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., (DISA)

DIRECTOR

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

Incharge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



SANJAY MISRA & CO.
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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE -7-INCOME FROM INSTITUTIONAL AND CONSULTANCY FEE

S.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2019-20	2018-19
1	Testing fee	13252154.02	13727565.00
2	Consultancy fee.	9548631.00	7961220.00
3	Laboratory Fee	0.00	15000.00
4	Library Fee	0.00	6000.00
5	M.Sc. Course Fee	752000.00	696200.00
	TOTAL	23552785.02	22405985.00

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FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., ISA, (P.S.A)



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

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In-charge (Finance & Accounts)

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020
SCHEDULE -8 -GOVERNMENT GRANT RECEIVED

S.No	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2019-20	2018-19
1	Government of India - Plan	8795453.00	7746321.00
2(a)	Government of India through Development Council for Pulp, Paper & Allied Industries-Non Plan	63149915.00	80996541.00
(b)	Core Secretariate for Development Council PP&A Industry	0.00	0.00
3	Green Chemistry	0.00	56541.00
4	Central Pollution Control Board (CPCB)	0.00	50324.26
5	Government of India through Development Council for Pulp, Paper & Allied Industries for Cess Projects		
(a)	Continous Education Training of Tech Pesonal	2430880.00	1938376.00
(b)	Development of Protocole	1744334.70	1000424.00
(c)	Improvement in Selectivity of Oxygen Bleaching	0.00	0.00
(d)	An Integrated approach for utilization of Begasse Pith	0.00	1314787.00
(e)	Statistical Data collection Cell for Indian Pulp & Paper Industry	1188815.00	1129122.00
(f)	Ozone Treatment on Indionous Paper	0.00	0.00
(g)	Achivement of Highest Brightness & Whiteness	0.00	201471.50
(h)	Increase in Brightness	0.00	0.00
(i)	Study on Technological status and potential of Productivity	0.00	0.00
(j)	Biochemical abatement of Pollution load in Waste-water	0.00	531000.00
(k)	Utilization of Lignin as Value Added Product for Manufacturing of Rubber Product	37937.00	1114070.00
(l)	Capacity Building and upgradation of infrastructure for inter lab Comparison	1022075.00	1182084.00
(m)	Study on Preparation of Cellulose Micro/Nano Fibrils	463907.80	1077953.00
(n)	Creation of Testing Facilities for Food Packaging paper	1948412.65	1456515.00
(o)	A Synergistic and Economical Approach for Treatment of Pulp & Paper Mill	420765.00	1575000.00
(p)	Screening of Parents for Clonal Forestry & Hybridization for Higher Productivity	520204.86	360000.00
(q)	Demonstration of Ozone Treatment Technology	1251151.00	788982.00
	TOTAL	82973851.01	102519511.76

As per our separate report of even date.

FOR SANJAY MISRA & CO.
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(SANJAY MISRA)
F.C.A., ISA (DISA)



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE 9 - FEES/SUBSCRIPTION'S.

S.No.	PARTICULARS	CURRENT YEAR 2019-20	PREVIOUS YEAR 2018-19
1	Membership fees	121500.00	40000.00
2	Training fees/Registration fees	489000.00	86000.00
	TOTAL	610500.00	126000.00

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., (CA (MCA))



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE


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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE 10-INTEREST EARNED.

Sl. No.	PARTICULARS	CURRENT YEAR 2019-20	PREVIOUS YEAR 2018-19
	INTEREST EARNED		
1	On Term Deposite with schedule Bank	5328806.18	4833781.57
2	On Loan to staff	121834.00	176812.00
3	Interest on Refund of TDS	329446.00	0.00
	TOTAL	5780086.18	5010593.57

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ISA (DISA)

DIRECTOR

In-charge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE 11-OTHER INCOME.

Sl.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2019-20	2018-19
	OTHER INCOME		
1	Hostel rent	193475.00	146450.00
2	Lease rent	50000.00	98000.00
3	Licence fee	272762.00	309927.00
4	Miscellaneous income	210881.62	198668.53
5	Sale of Publications	2700.00	8500.00
	TOTAL	729818.62	761545.53

As per our separate report of even date.

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., ISA(DISA)

DIRECTOR

In-charge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas Vikas Colony
Delhi Road, Saharanpur
Contact - 91 - 9412233889

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An autonomous organisation registered under societies Act under the administrative control
of the Ministry of Commerce & Industry (Govt. of India)

POST BOX -174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE 12 - ESTABLISHMENT EXPENSES.

S.No.	PARTICULARS	CURRENT YEAR 2019-20	PREVIOUS YEAR 2018-19
	ESTABLISHMENT EXPENSES		
1	Salary & Allowances	59674135.00	62290961.00
2	CPF Contribution	5264287.00	5397758.00
3	Gratuity Paid	3452641.00	2748848.00
4	Encashment of leave	5185477.00	3336199.00
5	Reimbursement of medical expenses	1599467.00	1917575.00
	TOTAL	75176007.00	75691341.00

As per our separate report of even date.

**FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS**

(SANJAY MISRA)
F.C.A., ISA(DISA)



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE


DIRECTOR


In-charge (Finance & Accounts)

Place: Saharanpur
Date: 24-08-2020



SANJAY MISRA & CO.
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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020

SCHEDULE 13 - ADMINISTRATIVE EXPENSES ETC.

S.No	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2019-20	2018-19
	OTHER ADMINISTRATIVE EXPENSES ETC.		
1	To Lab & Plant Maintenance	6295492.77	5765642.55
2	To Cartage & Freight	87844.00	140075.00
3	To Electricity and water	8176624.00	7299031.79
4	To Repair & Maintenance of Assets	11776858.94	15169418.40
5	To Rent & Taxes	907200.00	871376.00
6	To Postage & Telephone & Communication	313513.63	560987.58
7	To Printing & Stationery	1305715.50	1111599.80
8	To Travelling & Conveyance Exp.	2627466.00	2701748.00
9	To Exp.on Seminar & Workshop	20178.00	255089.50
10	To Membership subscription	0.00	20000.00
11	To Audit fees	37760.00	37760.00
12	To Hospitality Expenses	75823.00	164248.00
13	To Legal & Professional Exp.	740671.28	494756.80
14	To News Paper Exp.	1392.00	38537.00
15	To Training Expenses	1593374.00	891854.00
16	To Watch & Ward	7365588.00	7631513.00
17	To Bank charges	6982.26	25664.94
18	To Advertisement	197122.00	572389.00
19	To Testing Fee Paid	108117.00	958561.00
20	To Staff Car Maint	399187.00	249409.00
21	To Hindi Diwas Exp.	30794.00	11523.00
22	To Swachh Bharat Abhiyan Exp.	1306216.00	246307.00
23	To Software Exp.	167265.00	1133663.00
24	To Paper Ex	123304.00	161185.00
25	To Raj Bhasha Exp.	0.00	26800.00
26	To Auction Charges	0.00	149872.00
27	To Expenditure on NABL	804114.98	384925.00
28	To Trade Tax	0.00	42650.00
29	To Grant in Aid Paid	0.00	1825000.00
30	To Administrative Charges	0.00	300000.00
31	To Staff Welfare	2300.00	0.00
32	To Patent Fee	5250.00	0.00
33	To Honorarium	1093050.00	0.00
34	To National Festival	66461.00	0.00
35	To Plantation & Gardening	226509.00	0.00
36	To Interest paid on TDS	2484.00	0.00
	TOTAL	45864657.36	49241586.36

As per our separate report of even date.

FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
F.C.A., (INDIA)

Place: Saharanpur
Date: 24-08-2020

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

DIRECTOR

In-charge (Finance & Accounts)



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas Vikas Colony
Delhi Road, Saharanpur
Contact - 91- 9412233889

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An autonomous organisation registered under societies Act under the administrative control of the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

ANNEXURE

Significant Accounting Policies & Notes on Accounts

Overview:

CPPRI is an autonomous organization registered under the Societies Act under the administrative control of Ministry of Commerce & Industry (Govt. of India) vide Government of India Notification dated 7.8.1979.

Financial Accounts:

The financial statements are prepared on the basis of historical cost convention and the Accounting Policies used in preparation of these financial statements confirm with the Accounting Principles generally accepted in India. The Institute follows the accrual method of accounting.

A. Significant Accounting Policies:

1. Revenue Recognition:

1.1 Testing fee is accounted for on accrual basis.

1.2 Lease Rent is accounted for on accrual basis.

1.3 Government Grant, Consultancy fee, Institutional fee, Sponsored Project, Membership fee, Training and Registration fees are accounted for on receipt basis.

2. Inventory valuation:

The inventory comprises of stores and spares are valued at cost.

3. Fixed Assets:

Fixed Assets are stated at cost less accumulated depreciation.

4. Depreciation:

4. 1 Depreciation is provided on written down value methods, as per the rates specified in the Income Tax Act 1961.

5. Government Grants:

Government grants received to the extent utilized for capital expenditure being added to the capital fund

and to the extent utilized for revenue expenditure being treated as income in the income and expenditure account and the un-utilized grant being carried forward. This is not as per the para no.14 of the Accounting Standard (AS-12) relating to Accounting for Government Grants. The Institute was advised to consider the guidelines on the subject in consultation with the concerned organizations /agencies for implementation. The Institute in reply has confirmed that other similar organizations / agencies are also following the same pattern. This point was also discussed by the concerned officer in the training imparted by National Institute of Finance Management, Govt. of India during the course of training.

6. Foreign currency transaction:

Transactions in foreign currency are accounted at the exchange Rate prevailing on the date of transaction in Indian Currency.

B. Notes forming part of Accounts:

1. Information about the activities of the Institute:

The Institute running under the Administrative control of Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade (DPIIT), New Delhi is engaged to promote Research and other scientific work connected with pulp, paper & allied industries to establish and maintain laboratories, pilot plant, and workshop and to edit, print, publish and exhibit books, papers and periodicals bearing upon the said industries. Besides that the Institute also under take Cess funded projects and Sponsored projects from Govt. of India, government institutions and other organizations also.

2. Retirement Benefits:

2.1 Provision for gratuity payable on death/retirement of employees, during this year is Rs. 3452641.00 and for leave encashment is Rs. 5185477.00 payable to them based on accrual basis and as per the actuarial valuation certificate of Shri Bhudev Chatterjee.

3. Current Assets Loans & Advance:

Management has stated that the current assets, loans and advances have full value on realization in the ordinary course of Business.

4. Corresponding previous year figures have been re-grouped or re-arranged wherever necessary.

5. Total advances stand as on 31.3.2020 is Rs. 16061250.94 excluding advance to staff relates for advance against supply of equipments etc.

6. As per Schedule No.1 of the Balance-sheet, capital fund shows that Grant of Rs.4540041.26 has been incurred as capital expenditure while as per Schedule No.5 of the Balance-sheet relating to fixed assets shows an addition of Rs.5093066.76. Regarding more capital expenditure of Rs.553025.50, it is stated by the management that it is due to adjustment of suppliers bills and from letter of credits in the current year.



7. The management has confirmed that:
- 7.1 The provisions of all known income, expenditure and liabilities have been made.
 - 7.2 No contingent liability exit on the date of Balance-sheet.
 - 7.3 No significant event has occurred from the date of Balance-sheet and audit.

For Central Pulp & Paper Research Institute

In-charge (Finance & Accounts)

(DIRECTOR)

**For SANJAY MISRA & CO.
Chartered Accountants**



**(SANJAY MISRA)
F.C.A., ISA (DISA)**

Date: 24-08-2020

Place: Saharanpur

RIGHT TO INFORMATION



Central Pulp & Paper Research Institute has been implementing the Right to Information Act, 2005 since the promulgation of the Act. In compliance of the provision of the RTI Act 2005, CPPRI has constituted a RTI cell. Further, Director is designated First Appellate Authority (FAA) for addressing the appeals/complaints, filed by the Appellant. Dr. B. P. Thapliyal, Director, CPPRI is the designated First Appellate Authority (FAA) in the Institute. Dr. M.K. Gupta, Scientist F was the Public Information officer of the Institute during the year 2019-2020 who was assisted by the APIO, Ms. Sarita Sharma.

RTI Section keeps record of all the RTI applications/appeals being received in the Institute and also monitors their timely disposal

CPPRI has provided the required information on its website (www.cppri.res.in) under Suomotu disclosure on proactive basis. RTI section of Institute website is also being updated on regular basis.

The institute has undergone a third party audit of the pro- active disclosure under RTI Act, 2005 for the financial year 2019-2020 through National Productivity Council (NPC), New Delhi. The recommendations of the NPC were noted for compliance.

During the year 2019-2020, Under RTI Act- 2005 CPPRI received total 17 RTIs and 1 Appeal. Details are as under:

RTI Status (2019-2020)

Year	RTI applications Received / Disposed	Appeal Received / Disposed	Rejected application
2019-2020	17	1	NIL

A report under the RTI Act, is furnished to the Central information commission (CIC) on quarterly basis.



STAFF LIST

Director's Secretariat

Director	Dr. B. P. Thapliyal, M.Sc., M.Tech., Ph.D.
Technician	Shri R. K. Kapoor Shri Sunder Lal

Physical Chemistry, Pulping and Bleaching Division

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist-E II & Incharge	Dr. Priti Shivhare Lal, M.Sc., Ph.D.
Scientist - B	Dr. Arvind Kumar Sharma, M.Sc., PGDPPT Ph.D.
Technician	Shri Mussadi Lal Semwal

Stock Preparation and Papermaking Division

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist E-II	Shri Alok Kumar Goel, M.Sc., Certified Energy Manager
Scientist-C	Shri Satya Dev Negi, M.Sc., PGDPPT
Technician	Shri Sharma Kumar (Superannuated in August 2019)

Paper Testing, Energy Management and Computer Maintenance Division

Scientist E-II & Incharge	Dr. R. D. Godiyal, M.Sc., D.Phil.
Scientist E-II	Dr. Sanjay Tyagi, B.E. (Mechanical Engineering), M.E. (Pulp & Paper), Ph.D., Accredited Energy Auditor
Technical Officer - E I	Shri N. K. Naik, Diploma in Engineering (Industrial Electronics)

Chemical Recovery Division

Scientist-E II & Incharge	Dr. A. K. Dixit, M.Sc., Ph.D.
Scientist-B	Mohd. Salim, M.Sc.
S.S.A	Shri Kumar Anupam, B.Tech. (Chemical Engineering) (on study Leave from 19 August, 2019)
Technician	Shri Avtar Singh Negi (Superannuated in October 2019)

Environmental Management Division

Scientist F & Head	Dr. M. K. Gupta, M.Sc., Ph.D
Scientist E-II & Incharge	Dr. Shivaker Mishra, M.Sc., Ph.D.
Scientist E-II & Incharge	Dr. Nitin Endlay, M.Sc., PGDIPM



Section Officer Pollution Management), Ph.D.
Shri Y. K. Sharma, M.A., PGDM, (Superannuated in August 2019)

Bio-Technology Division

Scientist E-II & Incharge Smt. Anuradha V. Janbade, M.Sc.

Technical Services & Co-ordination Cell (TSCC)

Scientist E II Dr. A. K. Dixit, M.Sc., Ph.D
Scientist-E II Shri Alok Kumar Goel, M.Sc.
Technician Shri Gopal Singh

Library & Documentation Division

Scientist E-II & Incharge Dr. R. D. Godiyal, M.Sc., D.Phil.
Library Officer - B Smt. Sarita Sharma, M.A., MLISc.

Training Cell

Scientist E-II & Incharge Dr. Nitin Endlay, M.Sc., PGDIPM Ph.D. (Up to January 2020)
Dr.A. K. Dixit, M.Sc Ph.D. (From February 2020 onwards)

Patent Cell

Scientist E – II & Incharge Dr. A. K. Dixit, M.Sc., Ph.D.
Members Dr. Arvind Kumar Sharma, M.Sc., PGDPPT Ph.D.
Shri Kumar Anupam, B.Tech. (Chemical Engineering)
Shri Y. K. Sharma, M. A., PGDM, (Superannuated in August 2019)

Engineering and Maintenance Division

Scientist E-II & Head Dr. Shivaker Mishra, M.Sc., Ph. D
Technical Officer - B Shri Pankaj Kumar Goley, B.Tech. (Electrical Engineering)
Technician Shri O. P. Kotnala (Superannuated in January 2020)
Shri Soban Singh
Driver Shri Shribhagwan Sharma



Administration Division

Administrative Officer	Shri A. K. Saxena, M.Com.
Technician	Shri Nasir Ali

Finance and Accounts Division

In charge	Shri A. K. Saxena, M.Com.
Accountant	Shri O. P. Bhatia, B.Com. (Hons.)
Assistant	Shri B. B. Chettri, M.A.
Accountant	Shri H. C. Pandey, M.Com.

Store and Purchase Division

Incharge (Purchase)	Shri Alok Kumar Goel, M.Sc.,
Incharge (Store)	Shri Pankaj Kumar Goley, B.Tech. (Electrical Engineering)
Assistant	Shri J. S. Bist, B.A. (Superannuated in May 2019)
Technician	Shri Dushyant Kumar

Estate & Horticulture Department

Estate Officer	Shri A. K. Saxena, M. Com.
Technician	Shri Gopal Dutt

Industrial Co-operation and Business Development, New Delhi

Scientist F & Officer-Incharge	Dr. Kawaljeet Singh, M.Sc., Ph.D., MBA
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SUPERANNUATION



CPPRI bid farewell to its five staff members during this year, acknowledging their dedicated services and contribution in growth of the institute and wishing them a happy, prosperous and a healthy life !



*Shri J. S. Bist, Assistant
(Superannuated in May 2019)*



*Shri Sharma Kumar, Technician
(Superannuated in August 2019)*



*Shri Y. K. Sharma, Section Officer
(Superannuated in August 2019)*



*Shri Avtar Singh Negi, Technician
(Superannuated in October 2019)*



*Shri O.P. Kotnala, Technician
(Superannuated in January 2020)*

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