



57TH ANNUAL REPORT AND ACCOUNTS
YEAR 2021 - 2022



Wool Research Association
(Approved Body of Ministry of Textiles, Govt. of India)



Wool Research Association

(Approved body of Ministry of Textiles, Govt. of India)

P. O. Sandoz Baug, Kolshet Road, Thane (w) - 400607

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WOOL RESEARCH ASSOCIATION

(Approved Body of Ministry of Textiles, Govt. of India, New Delhi)

P. O. Sandoz Baug, Kolshet Road,
Thane - 400 607 (Maharashtra)



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PRESIDENT	-	SHRI. H.K. CHATTERJEE, RAYMOND LIMITED
SR. VICE PRESIDENT	-	SHRI. DEEPAK GOEL GEETANJALI WOOLLENS P. LTD.

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5.	SHRI. A.K. CHURIWAL	-	BSL LIMITED
6.	SHRI. RAJEEV KAPUR	-	KAPOTEX INDUSTRIES PVT. LTD.
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2. SHRI. K.K. MISRA, DIRECTOR (O) & C.O.O. WOOL RESEARCH ASSOCIATION

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2. SECRETARY GENERAL, I.W.M.F., (EX. OFFICIO)
3. SHRI. POSHAK PATEL, MANAGING DIRECTOR
GUJARAT SHEEP & WOOL DEVELOPMENT CORPN., AHMEDABAD
4. DR. S.K. CHAUDHURI, FARIDABAD, HARYANA
5. ALL OTHER ORDINARY MEMBERS OF WRA.

TECHNICAL CUM RESEARCH ADVISORY COMMITTEE (TRAC) (2020-2022)

CHAIRMAN : SHRI. H.K. CHATTERJEE

MEMBERS :

- | | | | |
|-----|--------------------------|---|--|
| 1. | DR. R.V. ADIVAREKAR | - | I.C.T., MUMBAI |
| 2. | SHRI. G. S. BHATI | - | CENTRAL WOOL DEVELOPMENT BOARD, JODHPUR |
| 3. | DR. ARUN KUMAR TOMAR | - | C.S.W.R.I., AVIKANAGAR |
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| 8. | DR. A.M. MIR | - | CASHMERE MARKETING AGENCIES, J & K |
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| 21. | SHRI. ARUN CHURIWAL | - | BSL LTD, BHILWARA |
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| 25. | DR. R.S. CHAUHAN | - | IDST SCIENTIST, DRDE, GWALIOR |
| 26. | SHRI. RAVIKANT KAPUR | - | CHAIRMAN EMERITUS, WRA (EX-OFFICIO) |
| 27. | SHRI. M.K. BARDHAN | - | MUMBAI |
| 28. | SHRI. K.K. MISRA | - | DIRECTOR (OFFICIATING) & C.O.O. WRA (EX-OFFICIO) |
| 29. | DR. MRINAL CHOUDHARI | - | JOINT DIRECTOR, WRA (EX-OFFICIO) |
| 30. | MS. SEEMA PATEL | - | JOINT DIRECTOR, WRA (EX-OFFICIO) |

NOTICE

Notice is hereby given that the 57th Annual General Meeting of The Wool Research Association will be held on **Wednesday, 28th September, 2022 in the Conference Room, Wool Research Association, P.O. Sandoz Baug, Kolshet Road, Thane at 12 O'Clock** to transact the following business :

1. To welcome Members and Invitees and notice to be read out
2. To confirm the minutes of the last Annual General Meeting held on Friday, 25th March, 2022.
3. To receive and adopt the Annual Report and Accounts of the Association thereon for the year ended 31st March, 2022.
4. To elect The President, Sr. Vice President, Vice President and Members of the Governing Council for the year 2022-2024.
5. To appoint Auditors for the year 2022-2023 and fix their remuneration.

“Resolved that M/s. J.P.J ASSOCIATES LLP, Chartered Accountants, D/401, Shantidwar C and D CHS, Shantivan, Borivali (East), Mumbai – 400 066, the retiring Auditors, being eligible for re-appointment, be and hereby appointed as the Auditors of Wool Research Association for the year 2022-2023 on remuneration of Rs. 60,000/-.”

NOTE: (a) Member entitled to attend and vote at the meeting may appoint a Proxy to attend and vote instead of himself and the Proxy need not be a Member. The Proxy and Nomination Forms are enclosed.

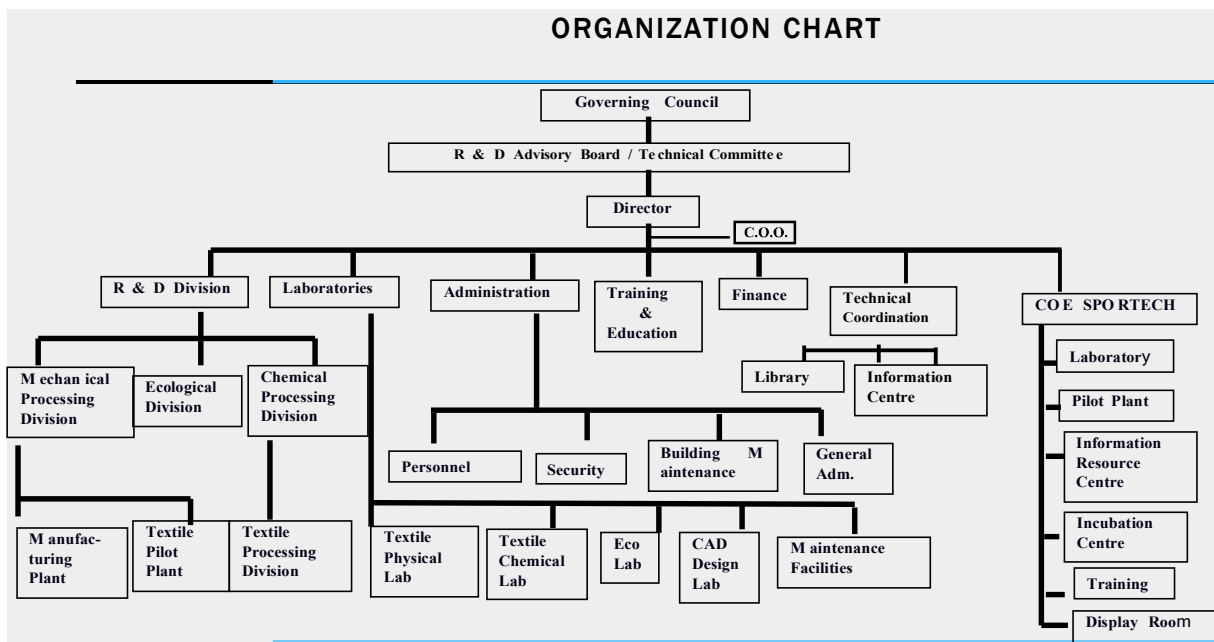
BY ORDER OF THE GOVERNING COUNCIL

Sd/-
(K.K. Misra)
Director (Officiating) & C.O.O.

Date : 13th September, 2022

ANNUAL TECHNICAL REPORT 2021- 2022

1.0 INFRASTRUCTURE



Wool Research Association (WRA) is well equipped with necessary infrastructure in Research and other technical activities as expected from a TRA. The organization has its own sprawling campus of over 13 acres land at Thane.

It has its own accommodation where following infrastructure has been created over last five decades of its existence.

1. Accredited Textile Physical Laboratory
2. Accredited Textile Chemical Laboratory
3. Research & Development Division
4. Eco-testing Laboratory
5. Textile Technology Laboratory
6. Pilot Plant
7. Library
8. Training facilities with classrooms, teaching aids etc.
9. Auditorium & conference room with audio system
10. Computers & LCD projectors
11. Information & Technology Co-ordination Centre
12. Administrative & Accounts Department
13. Center of Excellence – Sportech

Wool Research Association (WRA), Thane Maharashtra has been registered with the Department of Science and Industrial Research (DSIR) for the purpose of availing customs duty exemptions, the registration is valid up to March 2024.

2.0 CENTRE OF EXCELLENCE FOR SPORTECH

Under Ministry of Textiles Technology Mission in Technical Textiles, WRA has set up a Centre of Excellence in Sportech. A state of art testing facility and incubation centre has been established and simultaneous efforts have been made to attain international accreditations and collaborations. WRA has been serving user industry through its wide testing facilities and development of affordable products in India without compromising functionality and performance of our athletes. Wool Research Association's COE-Sportech has planned for market survey of Sportech segment in forthcoming year.

3.0 TYPE OF ACTIVITIES

- i. Research & Development
- ii. Testing/Evaluation service to the Industry, Export Oriented Organisations, Government organizations etc.
- iii. Colour Technology
- iv. Training & Education
- v. Research in the Emerging Technologies like Technical Textiles, Plasma & Nano Technology, Phase Change Materials, IT, Smart Textiles, Supercritical Processing etc.
- vi. Technical services to the Decentralised Carpet Industry, SME's, Cottage/Rural industry.
- vii. Technology Development in Woollens & Manmade Textiles
- viii. Technical Survey & Audit of Industrial Units
- ix. Technical Feasibility Report Formulation
- x. Turnkey Projects
- xi. Research, training, prototype development, etc in Sportech.
- xii. Market survey of Sportech segment

4.0 TEXTILE TESTING LABORATORY

WRA has installed Two (02) new Equipment namely Drying rate tester and Digital Mega Ohm Meter funded under MAVIM project.

● Textile Testing and Analysis (2021-2022)

Detail	2020-21	2021-22
No. of Client Request received	3189	4968
No. of Samples Tested	7463	29722
Client Base	1050	1178
Revenue Generation (in Lakhs)	202.11	272.91
NABL accreditation parameters	415	415

5.0 YARN & FABRIC MANUFACTURING FACILITIES – PILOT PLANT

Pilot plant is equipped with yarn manufacturing facilities for spinning worsted yarn, friction spun yarn, blends of wool with other natural and synthetic fibers.

The facilities available with pilot plant including machineries of Centre of Excellence - Sportech is as mentioned below:

Technology & Application Centre

A. For Long Staple Fibre: Fiber to Sliver conversion

1. Carding Machine
2. Gill Box
3. Combing Machine

B. Yarn Innovation Center - From Sliver/Top to Innovative /Functional yarn

1. Roving frame
2. Ring frame
3. Sliver to yarn ring frame
4. Friction Spinning System (DREF 2)
5. Winding machine (Cheese)
6. Two for one Twister

The friction spun yarn manufacturing constitutes a full - fledged six spindle friction spinning machine to spin homogeneous yarn from textile wastes and special technical fibers and engineered yarn for specifically technical textiles.

C. Knitted / Weaving Centre from Innovative Yarn to fabric

1. Sectional warping machine
2. Weaving Machine (Rapier Loom)
3. Circular Knitting Machine
4. Direct Warping machine
5. Warp Knitting Machine (Tricot)
6. Warp Knitting Machine (Raschel)

Knitting Facility also includes hand knitting machine, semi automatic flat bed knitting machine. Miniature handlooms for developing woven fabric samples.

D. Coating & Laminating Facility

1. Hot melt Coating and laminating machine
2. Fabric rolling machine (Fabric preparation for coating/lamination: fabric from fold to roll, roll to roll)

E. Light Weight Sport Goods Composite Center

1. Heating oven
2. Cold storage chamber
3. Degassing unit
4. Zero grade granite surface table
5. Vacuum pump
6. Braiding machine (Facility under Installation)
7. Precision winding machine

F. Other Machines

1. Compression Moulding Machine
2. Shoe Stitching machine
3. Industrial Sewing Machine
4. Ultrasonic Sealing Machine
5. RF sealing machine
6. Hank to cone winding machine

These machines are being utilized for product development related to sport textiles and other technical textiles.

Carpet manufacturing facility

Apart from the above, Pilot plant is also equipped with carpet manufacturing facility. Hand Knotted carpet can be produced.

6.0 ECO LABORATORY

WRA's ECO laboratory is equipped with analytical instruments like HPLC, Particle size analyzer, UV-Vis Spectrophotometer, ICP-OES, FTIR, DSC. Testing such as Formaldehyde, Heavy Metals, Moth proofing, particle size of dry and liquid sample, thermal analysis, (bioassay and chemical assay) etc. can be performed in the facility.

Eco Laboratory also provides short term training and consultancy as per client's requirement.

7.0 TEXTILE CHEMICAL & COLOUR DEPARTMENT

Textile Chemical & Colour department is involved in R&D and testing related to textile wet processing (Textile pre-treatment, dyeing & Finishing), advanced textile technology like Plasma treatment, ultrasonic treatment, functional finishing, coating, colour difference measurement, quality control, yellowness & whiteness index measurement. It is also involved in colour recipe prediction service for all customer specific requirements. It also has top and yarn dyeing facility up to 1 kg. Chemical & Colour department also conducts short term Advanced Courses in Colour Match Prediction for industrial users. This department also provides training and consultancy to academic projects.

Chemical Department is equipped with Dielectric Barrier Discharge Plasma Reactor, Ultrasonic Cleaner, Ultrasonic Probe, Tube resonator, Laboratory Pad-Dry-Cure machine with IR Pre-heater, Laboratory coating Machine, Brookfield viscometer, Planetary ball milling machine, Mixer mill machine, COD meter & reactor, Research grade meter, turbidity meter, conductivity meter.

Colour Department is equipped with Bench Top Spectrophotometer (i7, X-Rite), hand held spectrophotometer (I one pro, X-rite), Colour matching software, Robotic auto Dispensing System (Colour Focus 72, Dye Focus/ Daelim Starlet), Colour viewing cabinet (Spectra LUX Jr. / Paramount), Infracolour Dyeing machine, Shaker dyeing machine, Laboratory Jigger dyeing machine and HTHP top dyeing machine.

8.0 R & D Projects

8.01 New Project Proposals Submitted to

1) Ministry of Textiles, Government of India, under NTTM Scheme

- i. To Analyze and Compare properties of Erosion Control Blankets for slope protection using Geo-Textiles made from Natural biodegradable fibres such as Wool, Coir & Jute and work out cost effectiveness of such Erosion Control Blankets (ECB's).
- ii. Development of long lasting biodegradable Natural fibre based sustainable mulching material with added durability and functionality with micronutrient using needle punched nonwoven Technology.
- iii. Development of eco-friendly natural fibres based sustainable agro-textiles for packaging of agro-products with protection against rodents, microorganisms including bacteria, fungi and viruses and UV repellent properties

2) Central Wool Development Board under IWDP scheme

- i. Utilization of Indian Coarse Wool as insulating Material for Building Construction as a Green Building Material and Comparison of such coarse wool based developed products against conventional materials like glass wool/rock wool.
- ii. Development of sustainable and Biodegradable Mulching for Agro textiles application using Deccani wool fibre with added functionality using Plant Micronutrient.
- iii. Design & Development of Wool (Special fibres & blends) based Novel Denim Fabric with Multifunctional Properties such as Moisture Management, Anti-microbial etc. using Eco-friendly finishing techniques.
- iv. Development, Application and Benchmarking of Eco-friendly Moth Repellent and Moth Proofing finish for Woolen textiles.

8.02 New R & D Project Sanctioned:

1. National Jute Board (NJB), Govt. of India,

1. Development of Cost Effective Handmade Carpets & Floor Coverings, Home Furnishings & Knitwears using Jute (Treated Woolenised or Untreated) & other natural fibers with value added Eco Friendly Finishes such as with Flame Retardancy, Mosquito Repellent, Anti-Bacterial /Antimicrobial Properties etc.

2. Central Wool Development Board, (CWDB), Govt. of India,

1. Sustainable Enhancement of Aesthetic Values of Woolens by Digital Printing

9.0 ON-GOING R & D PROJECTS

9.1 MINISTRY OF TEXTILES

(i) Design and development of Light Weight and High Impact resistance Sports Goods

Objectives:

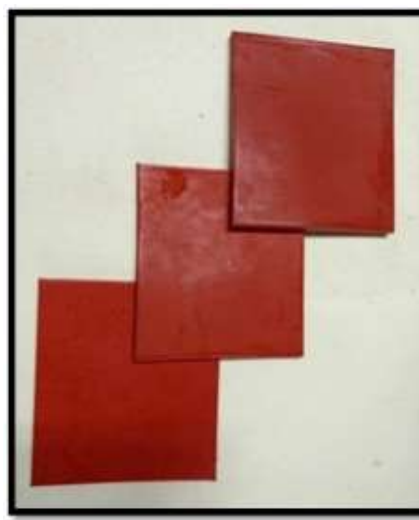
- i. Development of low weight, high efficient cricket gears
- ii. To evaluate the performance of player using the developed products

Progress of work:

Cricket Batting gears are an essential component of any cricket player's protection against the impact of cricket ball. A cork ball having a weight of around 155 gms and a velocity of around 160 kilometer / hour or 44.44 meters/second hits the pad and creates a point impact.

The earlier gears used the different composite foams to make the cricket gears lighter in weight. The impact resistance against the cricket ball was purely depending on the thickness of the foam used. Therefore, in order to achieve the higher impact resistance, higher thickness of the foam is used, which makes the gears thicken which consequently increase the flexural rigidity of the gears. Here, cricket gears are made by using innovative technology like shear thickening fluids based (Non-Newtonian Fluids) and different light weight composites using different fibers combinations etc. This will not only make the lighter weight cricket gears but also will enhance the impact resistance against cricket ball without increasing the thickness of gears. This will result in reduce hindrance in range of movement of player and enhance the performance efficiency.

Few of the sheets were tried which were made up of polymer rubber and foam-based polymers



Non-Newtonian sheets developed for Impact Resistance in Cricket

Research work which remains to be done under the project

- Development of other pads such as shin guards and chest cover using the same technology.
- Field trials for the same

(ii) **Design and Development of sportswear and sports accessories having Thermo Physiological Comfort properties in order to enhance the performance assessed by using a Sweating Thermal Manikin system under different environmental conditions**

Approved Objectives of the Proposal

- Designing and Development of sportswear and sports accessories having Thermo Physiological Comfort properties by assessing the performance using Sweating Thermal Manikin under different environmental conditions.
- Study and analysis of data gathered by human field trial vis-s-vis Sweating Thermal Manikin under different environmental conditions.

Salient Research Achievements:**Summary of Progress****Literature survey:**

A detailed literature survey was carried out covering major international & national journals, magazines, newsletters and web portal etc. for commercially available miniature sensors for measuring heartbeat, sweat rate and skin temperature of the wearer. The following is the gist of literature survey:

Every sports demands different dress depending upon low speed, high speed, indoor, outdoor games types. It is available in literature that micro filament based polyester based sports garments are better than normal polyester based sports garments in terms of moisture management properties. However, polyester based sports garments have disadvantage of having heat retention properties. It is stated in literature that in active sports like tennis and soccer demands high body movements which in turn increase the heat stress due to high level of metabolic heat generation which is in the range of 800-1200 W and this amount of heat can increase the body core temperature by 2°C. Therefore, heat release and water vapour permeability properties of sports garments is mandatory in order to control the core body temperature of the body. Hence, the main functional requirement of high active sportswear is sweat absorbing, fast drying and cooling. Therefore, thermo physiological comfort properties of sportswear are very much essential for enhancing the performance of an athlete in different environmental conditions like from. -20°C upto + 50°C, the results of thermo physiological comfort properties and performance of a sports garment and sports accessories cannot be quantified by using human perception in the field trials. Therefore, it is highly essential to design and develop the sportswear and sports accessories having Thermo Physiological Comfort properties by assessing the performance using a sweating thermal manikin system where the parameters can not only be accurately quantify but also repeatable under different set of environmental conditions for better performance.

Development of yarn:

Polyester, Polyester/cotton and polyester /viscose Blended yarn were developed using different techniques. Testing such as strength, mass evenness etc were carried out for optimization of yarn blend.

Development of fabrics:

- Development of Polyester, Polyester/cotton and polyester /viscose Blended yarn and producing the knitted sports jersey.
- Testing for thermo-physiological comfort properties such as quick dry, moisture management, Thermal insulation properties, breathable, high wickability, good handle properties were carried out.
- Comparison of results of initial sample developed products (such as thermal insulation properties, moisture management properties) with market available products by established brands.

New Observations

- It is observed that initial developed sports garments have better heat release properties than commercially available garments.
- It is observed that initial developed sports garments have better moisture management properties, drying rate properties, wicking properties etc. as compared to commercially available garments.

Innovations:

Development of sports garments with better heat release properties with moisture management properties, drying rate properties, wicking properties is ongoing.

10.0 REVENUE GENERATING ACTIVITIES

Revenue for Year 2021-2022	
Description	Rs. in Lacs
Textile Testing Laboratory of WRA	272.91
Eco lab	43.36
Incubation Activities	5.70
Pilot Plant	19.48
MAVIM	60.85
Training	0.10
Total	402.40

11.0 MAJOR ASSIGNMENTS UNDERTAKEN**I. Memorandum of Understanding (MOU) signed between WRA & Industries/ Institutions etc:**

- WRA is in the process of signing one MOU with Government of Maharashtra and Indian Rubber Manufacturers Research Association (IRMRA), Affiliated to DPIIT, Ministry of Commerce & Industry, Government of India on various R&D and Testing Technology Applications.
- WRA has signed Memorandum of Understanding (MOU) with **Apparel Made-Ups Home Furnishing Sector Skill Council (AHMSSC)** for offering and conducting skill/entrepreneurship development training programme in different areas of apparel manufacturing.
- WRA has also signed Memorandum of Understanding (MOU) with **Sports Engineering Association India (SEA)** for Joint work on Research Projects in SPORTECH i.e. sports textiles, sports accessories, sports goods and Technical Textiles in general, Management and allied discipline in Sportech.

II. Consultancy:

- WRA's Technical Team has participated in the interactive session with the Stakeholders of Department of Industries & Commerce (Pashmina spinners/Entrepreneurs/Traders etc.) of Ladakh (UT) held on 6th September 2021 at Leh to address their Technical requirement during meeting therein and offered its Technical Consultancy services to set up a world Class State-of-the-Art Testing Lab to assist stakeholders with certification of Pashmina on their products/raw material.
- WRA is providing Technical Consultancy to Ladakh Hills Development Council (LAHDC), Ladakh (UT) Under Pashmina Dehairing Project, as per supply order machineries are received and machines installation are in progress. The Machines named as Scouring Machine with Dryer and Hopper Feeder, Willow Machine, Axiflow Cleaner, Picker Machine for fine Opening, Boiler, Water Softening Plant, Generator, Boiler are delivered at site. LAHDC is in process to complete the civil work & pre installation requirements. Supply order for Pashmina Dehairing Machine has been already placed by LAHDC. A Trial of 100 kgs Scoured Pashmina fibers is planned for verification of the Pashmina Dehairing Machine before its dispatch from China.

III. Incubation Services rendered

- WRA has developed anti-microbial middle layer for face mask which is being commercialised and repeat order for bulk Prototype developments are ongoing.
- Repeat order also for developed flame retardant PBI fabric for the industry is ongoing.
- Work on Two (02) Knitting Machines namely Tricot Warp Knitting Machine & Raschel Warp Knitting Machine are ongoing for the industry under COE-Sportech.
- WRA has developed 10 GSM Knotless Nets for Sports and Agro Textiles from HDPE Monofilament UV repellent yarn (0.13 mm thickness) which is being commercialized and discussion for scheduling bulk trials are ongoing.
- WRA has developed Elastic Stretchable Warp Knitted Fabric for Sports Application.
- CoE has developed a Knitted Design using 100% Wool Yarn for Application in Toys (Doll Hair).
- CoE has developed knitted fabrics such as Hexagonal nets, Square nets, 2 way stretchable fabric utilizing using 100% DREF PP yarn (2/15 Nm count).

IV. Training to Industry :

- WRA in Association with Govt. of Maharashtra (Through its entity MAVIM), is successfully running Hand Made Carpet Production cum training centre at Two (02) centres at Pombhurna & Mul taluka, Distt. Chandrapur, where around 120 nos. of women have been trained and working with Centre to earn their wages through commercial production of exportable Hand-Made carpet manufacturing activities. The objective of above setup is to skill the manpower from rural background in Hand made carpet manufacturing and to augment their family income by providing earning opportunity at their door step to prevent migration and improve their livelihood.

On the ground of Success of Previously set up Carpet Production cum Training centres at Pombhurna & Mul taluka, Distt. Chandrapur. WRA has additionally proposed three (03) Nos. of New Carpet Training cum Production Centres at Brahmpuri, Saoli & Sindebai Taluka at Distt. Chandrapur to train 240 women. All three Projects have been sanctioned out of which two (02) centres i.e. Brahmpuri & Saoli Dist. Chandrapur, Maharashtra are now operational.



V. Conference/Seminar:

- WRA has participated as supporting partner in the International Conference on Technical Textiles organized by International Confederation of Indian Industry (CII) in partnership with the Ministry of Textiles on 12th March 2022 at New Delhi. The conference focus was on the following areas including technical textiles in sync with the National Technical Textiles Mission (NTTM): Geo Textiles, Agro Textiles, Specialty Fibres, Protective Textiles, Sports Textiles, Textiles Waste and Medical Textiles. The Conference has deliberated on key areas like Market Development, Boosting Demand, Export Promotion, Research, Innovation and Development (RID) and Education, Training and Skill Development of the Technical Textiles Sector.



Mr. K K Misra, Mr. Shihsir Tyagi, WRA with Mr. V K. Kohli and Mr. Ajay Pandit, O/O The Textile Commissioner

12.0 PAPERS PRESENTED/PUBLISHED & PATENTS APPLIED

During the year 2021-22 following Article/ write up were published by technical staff of WRA.

1. Smita Bait, A study on multifunctional protein fibre with UV protection, moth repellency and antibacterial properties using ESIPT core containing benzimidazole and benzothiazole based functional acid azo dyes, Journal of the Indian Chemical Society, [Volume 98, Issue 12](#), December 2021, 100236, <https://doi.org/10.1016/j.jics.2021.100236>
2. Smita Bait, ESIPT Core Containing Benzothiazole and Benzimidazole Based Fluorescent Acid Azo Dyes for Protein Fiber: Synthesis, Spectral Characteristics, and Fastness Evaluation, Polycyclic Aromatic Compounds, <https://doi.org/10.1080/10406638.2022.2061534>

PATENTS:

1. Wool Research Association has filed complete specification for the Patent on Development of Novel Detergent Formulation for Wool with immobilized enzymes for enhancing machine washability of wool fabric : Complete Specifications were filled along with request for examination dated 05-04-2021 , reply of Examination report received dated 22-11-2021
2. Wool Research Association has filed complete specification for the Patent on Water Soluble Fluorescent Dyes for Protein Fibre, patent Application Number. 201921045226 on 07th November 2019. Request for Examination of said patent No. R20202035262 was done by WRA on 10th November 2020. Patent was published by the Patent office on 14th May 2021. Patent examination report was received from Indian Patent office on 30th August 2021 Ref (सं.संया/Ref.No /आवेदन संया/Application No/ 201921045226). Reply to the patent examination report was filed on 18/02/2022 to the Indian Patent Office.

13.0 MEETINGS ATTENDED:**Shri. K.K. Misra, Director (Officiating) & C.O.O., WRA**

- Attended VC meeting with Sports Engineering India & BITS Pilani, Rajasthan on 29th May, 2021 to understand the role of each organization and discuss areas towards working together.
- Attended free Webinar On Sportswear and Knitting Technology on 21st June, 2021 organised by Maharashtra Centre for Entrepreneurship Development (MCED)
- Attended VC meeting of Central Wool Development Board on 27th July, 2021 to “Explore an incentive scheme to increase revenue of the Wool Industry so that they don't have to be dependent on Meat Revenue”.
- Attended CII Annual Meeting on 11th August, 2021 on “India@75: Government and Business working together for Aatma Nirbhar Bharat”.
- Attended VC Evaluation meeting organized by Expert & Monitoring Committee (EMC) Chaired by the Jute Commissioner on 22nd August, 2021 in the Office of National Jute Board on submitted Revised R&D Projects Proposals along with Industry Partners.
- Attended VC Expert Committee Meeting on 31st December, 2021 at 3.00 p.m. for Rationalization of TRAs
- Attended Stakeholder's meeting (in VC mode) on 4th January 2022 at 17.00 hrs to finalize research topics in various segments of technical textiles under National Technical Textiles Mission.
- Attended VC 39th Governing Body Meeting of CWDB on 18th February, 2022.
- Attended Stakeholder's meeting (in VC mode) on 4th February, 2022 at 17.00 hrs to finalize research topics in the fields of (i) Sportech, (ii) Meditech, (iii) Mobiltech (iv) Bio-degradable Technical Textiles and (v) High performance fibers for inviting research proposals under National Technical Textiles Mission (NTTM)
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – SITRA & ATIRA) on 11th February, 2022.
- Attended VC 206th Board Meeting of Gujarat Sheep And Wool Development Corporation Ltd (Gusheel) 23rd February, 2022 at 3.00 p.m.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – BTRA & MANTRA) on 26th February, 2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – NITRA) on 08th March, 2022.
- Attended Project Approval Committee Meeting (PAC) (through VC) under the Scheme for R&D for Textiles Industry including Jute, scheduled on 22.03.2022 at 01:00P.M. under the Chairmanship of Addl. Secretary, MOT.

Dr. Mrinal Choudhari, Joint Director, WRA

- 23rd Meeting of Textiles Division Council, TXDC through Video Conferencing on Friday, 09 April 2021, 1100 hrs
- 24th meeting of Textiles Division Council, TXDC through Video Conferencing on 19-4-2022 at 11:00
- 1st MEETING of BIS Expert Panel on Sportech (TXD 37) held on 09th March 2022 thru video conferencing
- 2nd Meeting of BIS Expert Panel on Sportech (TXD 37) on 29th March 2022 at 3.00 PM thru video conferencing
- Attended VC meeting with Sports Engineering India & BITS Pilani, Rajasthan on 29th May, 2021 to understand the role of each organization and discuss areas towards working together
- An "Awareness and Implementation Webinar on Indian Standards on Hosiery/Knitted Products and Suiting/Shirting Products" on Friday, 25th March 2022 at 15 00 h organized by Textiles Department, Bureau of Indian Standards
- 4th meeting of Technical Textiles for Sportech Applications Sectional Committee TXD 37 held on 14 December 2021 through Video Conferencing.
- 28th meeting of Chemical Methods of Tests Sectional Committee TXD 05 on 28-10-2021 at 11:00 a.m. (Virtual Mode).
- Attended 27th Meeting of BUREAU OF INDIAN STANDARDS (BIS) -Chemical Methods of Tests, Sectional Committee, TXD 05 on 28th May 2021 (Virtual Mode)
- Attended 15th Meeting of BUREAU OF INDIAN STANDARDS (BIS) - Textiles Speciality Chemicals and Dyestuffs, Sectional Committee, TXD 07 on 07th April 2021 (Virtual Mode).
- 6th Meeting of Textile Speciality Chemicals and Dyestuffs Sectional Committee, TXD 07 on 8-9-2021 (Virtual Mode)
- 27th Meeting of Chemical Methods of Tests Sectional Committee, TXD 05 on 28th May, 2021 (Thursday), 1100 h Video Conference through CISCO Webex
- 15th Meeting of Textiles Speciality Chemicals and Dyestuffs Sectional Committee, TXD 07 (Virtual Mode)
- 3rd meeting of Technical Textiles for Sportech Applications Sectional Committee, TXD 37 held on 16th April 2021 through video conferencing
- Attended Stakeholder's meeting (in VC mode) on 4th February, 2022 at 17.00 hrs to finalize research topics in the fields of (i) Sportech, (ii) Meditech, (iii) Mobiltech (iv) Bio-degradable Technical Textiles and (v) High performance fibers for inviting research proposals under National Technical Textiles Mission (NTTM)
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – SITRA & ATIRA) on 11th February, 2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – BTRA & MANTRA) on 26th February, 2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – NITRA) on 08th March, 2022.
- Attended Project Approval Committee Meeting (PAC) (through VC). under the Scheme for R&D for Textiles Industry including Jute, scheduled on 22.03.2022 at 01:00P.M. under the Chairmanship of Addl. Secretary, MOT.

Ms. Seema Patel, Joint Director, WRA

- Attended 22nd BIS meeting (Virtual mode) of Wool, Wool Products and Textiles Floor Coverings Sectional Committee TXD 04 on 26.04.21.
- Attended BIS meeting with pashmina stakeholders for their inputs/feedback related to certification of pashmina products as per IS 17269: 2021 'Identification, Labelling and Marking of Pashmina Products (first revision)' on 21 October, 2021 through video conferencing.
- Attended BIS Meeting on testing and certification of Pashmina Products on 17th November 2021.
- Attended 22nd Meeting of Physical Methods of Test Sectional Committee, TXD 01 on 11th March 2022
- Ms. Seema Patel visited Techtextil India at Bombay Exhibition Center on 25th Nov 2021

Dr. Smita Bait, Deputy Director, WRA

- Attended VC on evaluation meeting on submitted revised project proposal –WRA to National Jute Board on 22nd November 2021 1:45pm – 2:45 pm.
- Visited Techtextil India on 25th November 2021 at Bombay Exhibition Centre,
- Attended 27th Meeting of BUREAU OF INDIAN STANDARDS (BIS) -Chemical Methods of Tests, Sectional Committee, TXD 05 on 28th May 2021 (Virtual Mode)
- Attended 15th Meeting of BUREAU OF INDIAN STANDARDS (BIS) - Textiles Speciality Chemicals and Dyestuffs, Sectional Committee, TXD 07 on 07th April 2021 (Virtual Mode).
- Attended 03rd Meeting of BUREAU OF INDIAN STANDARDS (BIS) -Technical Textiles for Sportech Applications Sectional Committee, Sectional Committee, TXD 37 on 16th April 2021 (Virtual Mode)
- Attended VC on the draft guidelines for the implementation of the projects under “Integrated Wool Development Programme (IWDP)” of CWDB during FY 2021-22 to 2025-26 held on 25th August, 2021.
- Attended Review meeting on functioning of Textile Research Associations by Secretary (Textiles) September 2021.
- Attended Stakeholder's meeting (in VC mode) to finalise research topics in various segments of technical textiles under NTTM held on 23.09.2021.
- Attended 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III at O/o Textile Commissioner, Mumbai in 14.02.2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – SITRA & ATIRA) on 11th February, 2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – BTRA & MANTRA) on 26th February, 2022.
- Attended VC 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III of Ministry of Textiles for TRA's (Specifically – NITRA) on 08th March, 2022.
- Attended Project Approval Committee Meeting (PAC) (through VC) under the Scheme for R&D for Textiles Industry including Jute, scheduled on 22.03.2022 at 01:00 P.M. under the Chairmanship of Addl. Secretary, MOT.

Mr. Mayur Basuk, Deputy Director, WRA

- Attended 3rd BIS Meeting of Technical Textiles for Sportech Applications, TXD 37 on 16.4.21.
- Attended 22nd BIS meeting (Virtual mode) of Wool, Wool Products and Textiles Floor Coverings Sectional Committee TXD 04 on 26.04.21.
- Attended 2nd BIS meeting (Virtual mode) PGD27 : P1 Panel on Mountaineering Ropes on 09.06.21
- Attended 12th BIS meeting (Virtual mode) of Hosiery Sectional Committee TXD 10 on 28-6-2021
- Attended BIS meeting (Virtual mode) of Physical Methods of Tests Sectional Committee, TXD 01 on 09.07.21.
- Attended VC on the draft guidelines for the implementation of the projects under “Integrated Wool Development Programme (IWDP)” of CWDB during FY 2021-22 to 2025-26 held on 25th August, 2021.
- Attended Review meeting on functioning of Textile Research Associations by Secretary (Textiles) September 2021.
- Attended Stakeholder's meeting (in VC mode) to finalise research topics in various segments of technical textiles under NTTM held on 23.09.2021.
- Attended BIS meeting with pashmina stakeholders for their inputs/feedback related to certification of pashmina products as per IS 17269: 2021 'Identification, Labelling and Marking of Pashmina Products (first revision)' on 21 October, 2021 through video conferencing.
- Attended Ministry of Textiles Meeting regarding Blended Skilling Module & for identification of the courses on 28th October, 2021.
- Attended BIS Meeting on testing and certification of Pashmina Products on 17th November 2021.
- Attended BIS 4th Meeting of Technical Textiles for Sportech Applications, TXD 37 on 14-12-2021
- Attended BIS 23rd Meeting of Wool, Wool Products and Textile Floor Coverings Sectional Committee, TXD 04 through Video Conferencing on 23-12-21.
- Attended 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III at O/o Textile Commissioner, Mumbai in 14.02.2022.
- 22nd Meeting of Physical Methods of Test Sectional Committee, TXD 01 on 11th March 2022.
- Attended meeting of PAC (Virtual Mode) under the Scheme for R&D for Textiles Industry including Jute, scheduled held on 22.03.2022

Mr. Shishir Tyagi, Deputy Director, WRA

- Attended free Webinar On Sportswear and Knitting Technology on 21st June, 2022 organised by Maharashtra Centre for Entrepreneurship Development (MCED).
- Attended Stakeholder's meeting (in VC mode) on 4th January 2022 at 17.00 hrs to finalize research topics in various segments of technical textiles under National Technical Textiles Mission.
- Attended Stakeholder's meeting (in VC mode) on 4th February, 2022 at 17.00 hrs to finalize research topics in the fields of (i) Sportech, (ii) Meditech, (iii) Mobiltech (iv) Bio-degradable Technical Textiles and (v) High performance fibers for inviting research proposals under National Technical Textiles Mission (NTTM)

- Attended Project Approval Committee Meeting (PAC) (through VC) under the Scheme for R&D for Textiles Industry including Jute, scheduled on 22.03.2022 at 01:00P.M. under the Chairmanship of Addl. Secretary, MOT.
- Attended Review meeting on functioning of Textile Research Associations by Secretary (Textiles) September 2021.
- Attended Stakeholder's meeting (in VC mode) to finalise research topics in various segments of technical textiles under NTTM held on 23.09.2021.
- Attended 14th Meeting of Project Appraisal & Monitoring Committee (PAMC) under Scheme for Research and Development for the Textiles Industry including Jute period of five years from 2014-15 to 2019-20 for component I & III at O/o Textile Commissioner, Mumbai in 14.02.2022.
- Attended Ministry of Textiles Webinar on "Make in India for the World" on March 2022.

14.0 WORK BY THE PROJECT TEAM

- Shri. Mayur Basuk & Shri. Shishir Tyagi visited LAHDC, Leh to attend technical bid meeting at Leh (Ladakh) in April 2021.
- Shri. Mayur Basuk & Shri. Shishir Tyagi visited the site at Leh for the machines received at LAHDC, Leh named as Scouring Machine with Dryer and Hopper Feeder, Willow Machine, Axiflow Cleaner, Picker Machine for fine Opening, Boiler, Water Softening Plant, Generator, Boiler, Water Softening Plant for Establishment of Pashmina Dehairing Plant (New Building) at Leh (Ladakh) in Nov 2021

15.0 WEBINAR/ SEMINAR/ CONFERENCES /EXHIBITIONS ATTENDED/ CONDUCTED:

- Dr. Mrinal Choudhari attended Independence Day Webinar on "Nation Building with Geographical Indications" on Saturday, 13th Aug, 5pm - 6pm Virtual Mode organised by Turnip innovations through Online mode.
- Dr. Mrinal Choudhari attended Webinar on NEWTOPIA: A BALANCE OF OPPOSITES: COLOR THAT SOOTHES AND COLOR THAT KICKS. , Date: 03rd September 2021 (Fri) 11:30-12:30 Hrs organised by SDC through video conferencing.
- Dr. Mrinal Choudhari attended Lecture on "Product Stewardship - Need of the hour & quot" by Dr. Dileep Wakankar Past Chairman - Regulatory committee , Indian Chemical Council Wednesday 23rd February 2022 at 3.00 pm organised by Institute Of Chemical Technology, Matunga through Zoom conferencing
- Dr. Smita Bait attended Webinar on Thermal Analysis: Tips and Hints for TGA on 23rd November 2021; 15:30 – 16:30, organised by Mettler Toledo.
- Dr. Smita Bait attended webinar on "Textile Wet Process Optimization and Management - Sustainable Strategies and Cost-Neutral Techniques" organised by SDC EC on 26th November 2021 at 05.30 PM to 06.45 PM
- Dr. Smita Bait, Deputy Director Attended International Conference (virtual mode) on Technical Textiles organized by International Confederation of Indian Industry (CII) in partnership with the Ministry of Textiles on 12th March 2022.
- Dr. Smita Bait Attended Webinar on Sustainable Innovation in Finishing and Technical Textile on Thursday, July 2021 organized by Archroma.
- Mr. Mayur Basuk, Deputy Director Attended Webinar on " Extra Long Staple (ELS) Cotton" jointly organized by SVPISTM and GIZ, Germany on 29th April, 2021.
- Mr. Mayur Basuk, Deputy Director Attended Webinar on Thermoplastic Polyurethane (TPU) Films: Simple Hotmelt Processing for Textile Lamination and Fabric Coating Applications on May 19, 2021 organized by Covestro.
- Mr. Mayur Basuk, Deputy Director Attended Webinar on Sustainable Innovation in Finishing and Technical Textile on Thursday, 15th July 2021 organized by Archroma.

- Mr. Mayur Basuk, Deputy Director Attended webinar on "ropes for mountaineering" hosted by BIS on 30.07.2021
- Mr. Mayur Basuk, Deputy Director Attended virtual international conference on "Innovations In Textiles Products And Processes (ITPP-21)" organized by D.K.T.E. Society's Textile and Engineering Institute on 2nd and 3rd September 2021.
- Shri. Mayur Basuk visited Techtextil India at Bombay Exhibition Center on 25th Nov 2021
- Mr. Mayur Basuk, Deputy Director Attended Conference (virtual mode) on "Diversified Applications of Nonwovens In Technical Textiles" on 17th Dec, 2021 organized by Indian Technical Textiles Association (ITTA).
- Mr. Mayur Basuk, Deputy Director Attended Ministry of Textiles Webinar on "Make in India for the World" on 3rd March 2022.
- Mr. Mayur Basuk, Deputy Director Attended International Conference (virtual mode) on Technical Textiles organized by International Confederation of Indian Industry (CII) in partnership with the Ministry of Textiles on 12 March 2022
- Shri. Shishir Tyagi Attended Webinar on "Extra Long Staple (ELS) Cotton" jointly organized by SVPISTM and GIZ, Germany on April, 2021.
- Shri. Shishir Tyagi Attended Webinar on Thermoplastic Polyurethane (TPU) Films: Simple Hotmelt Processing for Textile Lamination and Fabric Coating Applications on May, 2021 organized by Covestro.
- Shri. Shishir Tyagi Attended virtual international conference on "Innovations In Textiles Products And Processes (ITPP-21)" organized by D.K.T.E. Society's Textile and Engineering Institute on September 2021.
- Shri. Shishir Tyagi Attended Conference (virtual mode) ON "Diversified Applications of Nonwovens in Technical Textiles" on Dec, 2021 organized by Indian Technical Textiles Association (ITTA).
- Shri. Shishir Tyagi Attended Ministry of Textiles Webinar on "Make in India for the World" on March 2022.
- Shri. Shishir Tyagi Attended International Conference (Physical mode) on Technical Textiles organized by International Confederation of Indian Industry (CII) in partnership with the Ministry of Textiles on March 2022

16.0 TRAINING PROGRAMME CONDUCTED / ATTENDED :

Training Programme Conducted

Wool Research Association's (WRA) Webinar on "Sportswear & Knitting Technology" in a Joint Venture with Maharashtra Centre for Entrepreneurship Development (MCED), Government of Maharashtra



Wool Research Association (WRA) in a Joint Venture with Maharashtra Centre for Entrepreneurship Development (MCED), Government of Maharashtra organized An Eight (08) Days Webinar (Online Training) on "Sportswear & Knitting Technology" from 21st to 28th June, 2021 from Time : 2.00 p.m. to 4.00 p.m. Twenty Five (25) participants were benefited from these interactive training sessions. The profiles of attendees were Start-up Entrepreneurs, Academicians, Researchers and students from Technical Institutions.

The training was broadly divided into five days technical presentations by Wool Research Association (WRA) team and last 3 days Commercial aspects by Maharashtra Centre for Entrepreneurship Development (MCED) team.

Day 1: Inaugural session: In this session Opening Speech was delivered by Shri K. K. Misra, Director (Officiating) & C.O.O., WRA. Dr Mrinal Choudhari, Joint Director, WRA welcomed all the participants of training programme followed by their introduction. Shri. S. B Umap, Regional Officer, Maharashtra Centre for Entrepreneurship Development (MCED) briefed all participants about activities of MCED.

In first Technical session Dr. Mrinal Choudhari delivered lecture on "Introduction to Technical Textile". She gave detailed information about what is Technical Textile, different categories of technical textile, Applications and Market sizes of each segments of Technical Textile. Dr Choudhari also covered Opportunities in Technical Textile in detailed.

On first Day Mrs. Smita Bait Honade, Deputy Director, WRA discussed briefly on "Sportech-Product, Technology & Evaluation of Performance" She gave details about Sports Textiles and its categories, such as sportswear, sports goods and sports accessories. Technical interventions in sports textiles are focused on friction, moisture management, comfort, compression, thermoregulation and lightweight characteristics. Sportswear are designed based on type of sports, level of activity, climatic condition and duration of engagement. She also covered in detailed various modified synthetic fibres such as Hygra, dacron, lycra , triactor and fabric composite materials such as coated fabric used for development of sportswear.

Day 2: Technical session began with eminent speaker Mr. Ravi Arora, CEO and Founder of Unified Knowledge Services Pvt Ltd New Delhi. He delivered a lecture on "Sport Market, Demand and supply". He covered in details about current status of Sportech segment from commercial point of view and explained the forecast of exports of sports items from India.

On second Day Mr Devvert Ruhela, Scientist-B, WRA delivered lecture on "Introduction to weft Knitting, Types of Knitting technologies and their machine styles". He discussed briefly the Knitting Process along with the understanding of basic terminologies such as course, wales, stitch density, loop length, etc. He explained the difference between a knit and woven structure. He also explained around 19 types of different knitting structure from which the fabric can be developed. A detailed discussion was done on types of needles like breaded, compound, latch needle and their uses in knitting technology along with their working system. Lastly few related videos were shown for a better understanding of the topics.

Day 3: Technical session began by Mr. Shishir Tyagi, Deputy Director, WRA; he gave presentation on "Evaluation on Performance Characteristics of Sport textiles". He stated that Sportswear is one of the category of Sports Technical Textiles and being a part of SPORTECH, it should consists of functional aspects such as; thermo-physiological comfort properties, moisture management properties, breathability etc. He briefed about methods & Instruments used for evaluation of such properties of sportswear which can directly affect the performance of sportsperson/ wearer. He also briefed the audience about Research & development work carried out by WRA's COE SPORTECH in the area of Smart Electronic wearable T-shirt for measuring heart rate, sweat and skin temperature of the wearer in real time, Active Heating system Based Sleeping Bag and Cooling Jackets based on Evaporative Cooling mechanism etc.

On third day Mr. Devvert Ruhela, Scientist B, WRA delivered lecture on “Weft Knitting Structures and fabric designs.” He discussed in detail about weft knitting along with its prominent knitting structures, their properties, and end-uses. A detailed discussion along with the pictures and videos on the type of knit stitch was done (Plain Stitch, Purl Knit, Rib Knit, Interlock Knit). After that, a brief discussion was done on the types of weft knitting machines such as Single Jersey Circular Knitting Machine, 2 Track, 4 Track Single Jersey Circular Knitting Machine, Terry and Fleece Single Jersey Circular Knitting Machine, Jacquard Single Jersey Circular Knitting Machine, Double Jersey Circular Knitting Machine, and flat needle bed weft knitting machine. Basic Calculations were shown in weft knitting.

Day 4: Technical session began by Mr. Mayur Basuk, Deputy Director, WRA; he delivered lecture on “Introduction to Warp Knitting”. During his presentation he covered preparation of Warp knitting which along with direct warping machine, raw material, parts & functions of direct warping machine, importance of warping. He also explained the objective of warping, type of warping, the component of warping machine, warp beams, warping elements & motion, the requirement of warping, the function of components of creel, brake & stop motions, beam cycles, warper beam defects, production calculations.

On the 4th Day second lecture was delivered by eminent speaker from Knitting Industry, Mr. Shrilesh Trilokekar, Certified Trainer - Warp Knitting in the Karl Mayer Academy, Surat & Ahmedabad. He explained in detailed about the introduction to Warp Knitting machine also covered Types of Warp Knitting Machines – Tricot and Raschel, the difference between the two machines, Knitting elements and their function (Sinker & guide bar, needle bed, needle). He further briefed about Warp Knitting Technology- Loop Formation, Tricot Knitting, Knitting Element Displacements: Swinging and Shogging Motions (Overlap and Under lap) Guide bar shog. He also explained the graphical Representation of Warp Knitting Structures, Lapping Diagrams, Looping Diagrams, and Numerical Notation Related to Chain Link Height & Chain Link Arrangement.

Day 5: Technical session began by Mr. Devvert Ruhela, Scientist-B, WRA; he gave presentation on “Knitted Fabric Defects and Remedies”. He covered in detail knitting defects on the fabric such as raw material-related defects, knitting elements-related defects, Machine setting-related defects. Also detailed discussion was done on types of stitches and thereafter their representation on computer designing software. Around 4-5 types of fabric designs were discussed on the computer-aided software.

On the 5th day Mr. Mayur Basuk, Deputy Director, WRA give presentation on “Recent Trends in Sportswear”, he covered various latest trends in the segment of sportswear. On the 5th day Mr. Shishir Tyagi, Deputy Director, WRA given presentation on “Business Model for setting up Warp Knitting & Circular Knitting Unit”. He explained in details financial aspects involved in setting up a Warp Knitting & Circular Knitting Unit. He explained that business model was formulated based on certain predefined assumptions such as pre-defined end product, Annual production capacity requirement, no. of shift of production etc. The financial aspects covered about requirement of fixed cost, operational cost, working capital requirement, net profit ratio and rate of return etc. to make a self-sustainable business model.

6th, 7th and 8th days training was given by MCED team where lectures on “Digital Transformation” was delivered by Mrs. DeepaRaut , IT Technology Expert, Thane, another lecture on “Communication Skill and Business plan” was delivered by Mrs. Ruchira Das, Professor, MIT, Pune. The last Lecture of training session was taken by Shri S. B Umap, Regional Officer, MCED on “Role of MCED- Government schemes”. Eight days training concluded by feedback of participants and vote of thanks by organizing team.

Training Programme attended

- Dr. Mrinal Choudhari competed successfully ITTA's Online Certificate Course on Medical Textiles held from 24th-28th May 2021.
- Dr. Mrinal Choudhari, Joint Director & Mr. Mayur Basuk, Deputy Director attended Training Program on Emotional Intelligence at Workplace for Scientists/Technologists (September 20-24, 2021) conducted by Centre for Organization Development (COD), Hyderabad, Sponsored by Department of Science and Technology, Govt. of India
- Dr. Smita Bait attended online training programme on Leadership and Organization Development for Women Scientists /Technologists (Sponsored by Department of Science and Technology) organized by Centre for organization development, Hyderabad from October 25 - 29, 2021.

Lecture Delivered

- Dr Mrinal Choudhari delivered Expert Session on "Advancement in Sportech and its applications" on 13th October 2021 for 7 semester students of National Institute of Fashion Technology (NIFT), Jodhpur for their Professional Project
- Dr. Smita Bait was invited for A Five-Day Faculty Development Programme' on "Ethical, Circular and Sustainable Fashion: Trans disciplinary Approaches" organised by Amity University Chhattisgarh and given expert lecture on Sustainable Textile Processing on 16th July 2021(Virtual Mode).
- Dr. Smita Bait is also assigned as a Supervisor of Ph.D. researchers at Amity University, Mumbai

17.0 COUNCIL MEETINGS

Three Governing Council Meetings and One Annual General Meeting were held during the year 2021-2022.

153rd Governing Council Meeting

Wool Research Association's 153rd Governing Council Meeting (Virtual) was held on Wednesday, 30th June, 2021 at 12.30 p.m. in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020.

154th Governing Council Meeting

Wool Research Association's 154th Governing Council Meeting of Wool Research Association was held on 18th November, 2021 at 12.30 p.m. in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020.

155th Governing Council Meeting

Wool Research Association's 155th Governing Council Meeting of Wool Research Association was held on Friday, 25th March, 2022 at 12.30 p.m. in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020

56th Annual General Meeting

56th Annual General Meeting of the Members of the Wool Research Association was held on Friday, 25th March, 2022 at 12 o'clock in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020

18.0 MEMBERS OF WRA**ORDINARY MEMBERS :**

01. M/s. Bhilwara Synthetics Ltd, Bhilwara
02. M/s. Banswara Syntex Limited, Banswara
03. M/s. Cashmere Marketing Agencies, Srinagar
04. M/s. Centex International Pvt. Ltd., Ludhiana
05. M/s. G. R. Woollen Mills Pvt. Ltd., Mumbai
06. M/s. Grentex & Co. Pvt. Ltd. Mumbai
07. M/s. Gujarat Sheep & Wool Development Corporation, Gandhinagar
08. M/s. Geetanjali Woollens Pvt. Ltd., Panchmahal
09. M/s. Grasim Industries (Jaya Shree Textiles), Hooghly
10. M/s. Kusumgar Corporates Pvt. Ltd., Mumbai
11. M/s. Kapotex Industries Pvt. Ltd., Gujarat
12. M/s. Modern Woollens , Mumbai
13. M/s. Raymond Limited., Thane
14. M/s. Saravanabava Mills, Mumbai
15. M/s. Shree Ram Textile Mills Ltd., Silvassa
16. M/s. Thaker Felts Pvt. Ltd., Vadodara
17. M/s. Wooltex Associates, Mumbai

ASSOCIATE MEMBERS :

18. M/s. Indian Woollen Mills Federation, Mumbai
19. M/s. Woolmark Services India Pvt. Ltd, Thane

SPECIAL ASSOCIATE MEMBERS :

20. M/s. The Synthetic & Art Silk Mills Research Association, Mumbai
21. M/s. OCM India Ltd, Amritsar

19.0 FOUNDER MEMBERS OF WOOL RESEARCH ASSOCIATION IN 1963

1. Mr. T.N. Khaitan.
Dhruva Woollen Mills Pvt. Ltd.,
Sun Mill Compound, Lower Parel, Bombay
2. Mr. G.K. Singhania
Raymond Woollen Mills Ltd., J.K. Building,
Ballard Estate, Bombay
3. Mr. B.M. Grover
Modella Woollen Mills,
50, Vulcan Insurance Bldg.,
Veer Nariman Road, Bombay
4. Mr. L.P. Pittie
Bombay Woollen Mills P. Ltd.
20, Hamam Street, Bombay
5. Mr. R.K. Seth
Simplex Woollen Mills
Sadhana Raymond House,
D.N. Road, Bombay
6. Mr. R.B. Kanwar Rajnath
Ahmed Woollen Mills
Amernath C. Rly.
Office : 87, Tamba Kanta
Nakhoda Street, Bombay
7. Mr. T.K. Nagpal
Nagpal Woollen Mills
Old Atlas Mills Compound,
Reay Road, Bombay
8. Mr. R.K. Birla
Shree Digjam Woollen Mills
Aerodrome Road, Jamnagar

20.0 LIST OF CHAIRMAN EMERITUS PRESIDENTS/SR.VICE PRESIDENTS & VICE PRESIDENTS SINCE INCEPTION

PERIOD/ YEAR	CHAIRMAN EMERITUS	PRESIDENT	SR. VICE PRESIDENT	VICE PRESIDENT
1964/65 to 1968/69	—	Mr.G..K. Singhania Raymond Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills
1969/70	—	Mr. U.M. Patel Dinesh Woollen Mills	Mr. B.M. Grover Modella Woollen Mills	Mr. B.B. Nagpal Nagpal Woollen Mills
1970/71 to 1975/76	—	Mr. B.M. Grover Modella Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills	Mr. R.K. Seth Simplex Woollen Mills
1976/77 to 1977/78	—	Mr. B.M. Grover Modella Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills
1978/79 to 1981/82	—	Mr. B.M. Grover Modella Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. B.K. Kedia Raymond Woollen Mills
1982/83	—	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. B.K. Kedia Raymond Woollen Mills	Mr. U.M. Patel Dinesh Woollen Mills
1983/84	—	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Mr. U.M. Patel Dinesh Woollen Mills	Mr. K.V. Iyer Raymond Woollen Mills
1984/85 to 1993/94	—	Mr. B.K. Kedia Raymond Woollen Mills	Mr. U.M. Patel Dinesh Woollen Mills	Mr. Ravikant Kapur Grentex & Co.
1994/95 to 1997/98	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Mr. U.M. Patel Dinesh Woollen Mills	Mr. K.V. Iyer Raymond Woollen Mills
1998/99 to 1999-2000	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. Hari Prasad Kedia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2000-2002	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2002-2004	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2004-2006	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2006-2008	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2008-2010	Mr. B.K. Kedia Raymond Woollen Mills	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2010-2012	—	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2012-2014	—	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. S.L. Pokharna Raymond Ltd	Shri.R.K.Khanna Amritsar Swadeshi Shri. R.K. Khandelwal Raymond Ltd
2014-2016	—	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. L. Shri. R.K. Khandelwal Raymond Ltd
2016-2018	Mr. Ravikant Kapur Grentex & Co. Pvt. Ltd.	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. Ltd.	Shri. R.K. Khandelwal Raymond Ltd
2018-2020	Mr. Ravikant Kapur Grentex & Co. Pvt. Ltd.	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. Ltd.	-----
2020-2022	Mr. Ravikant Kapur Grentex & Co. Pvt. Ltd.	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. Ltd.	-----

21.0 LIST OF DIRECTOR GENERAL /DIRECTORS/ JOINT DIRECTOR /DY.DIRECTORS SINCE INCEPTION

PERIOD (YEAR)	SECRETARY	DIRECTOR GENERAL	DIRECTOR	JOINT DIRECTOR	DEPUTY DIRECTOR
1964/65	Mr. J.N. Chaudhuri	-	-	-	-
1965/66	Mr. A.C. Chaudhuri	-	-	-	Dr.M.G. Kulkarni
1966/67 & 1967/68	Mr. A.C. Chaudhuri	-	-	-	Dr. N.P. Badve
1968/69 & 1969/70	Mr. A.C. Chaudhuri	-	-	-	Dr. N.P. Badve
1970/71 to 1977/78	Mr. A.C. Chaudhuri	-	Mr. Sule Assistant Director (from 1971 to 1975)	-	-
1978/79	Mr. A.C. Chaudhuri	-	Dr.V.G. Kulkarni	-	-
1979/80	Mr. A.C. Chaudhuri	-	-	-	Dr. (Mrs) Usha Nandurkar
1980/81 & 1981/82	-	-	Dr. A.D.M. Nath	-	Dr. (Mrs) Usha Nandurkar
1983/84 to 1985/86	-	-	Dr. (Mrs) Usha Nandurkar	-	-
1986/87 to 1987/88	-	-	Dr.(Mrs) S. Patwardhan (Offg)	-	-
1988/89 to 1998/99	-	-	Dr.(Mrs) S. Patwardhan	-	-
Jan' 2000 - 7 th Sept.2003	-	-	Mrs. G.P. Rane Acting Director (Offg)	-	-
8 th Sept.2003 - 7 th Sept.2006	-	-	Mr. S.C. Agarwal	-	Mrs. G.P. Rane
8 th Sept.2006	-	-	-	-	Mrs. G.P. Rane
2 nd July, 2007 to 2015	-	-	Mr. M.K. Bardhan	-	-
1 st March 2012-15	-	-	-	-	Dr. (Mrs) Mrinal Choudhari
January,2016 onwards	-	Mr. M. K. Bardhan	-	Dr. (Mrs.) Mrinal Choudhari	Mr. P.R.Kulkarni
May- Dec,' 2016	-	-	Dr. Suman Bhattacharyya	-	-
June, 2016 onwards	-	-	-	-	Mr. Shivendra Parmar
Feb.'2017 till Sep., 2019 June,2017 onwards August,2017 onwards	-	-	Dr. A.K. Sharma	Dr. (Mrs.) Mrinal Choudhari Ms. Seema Patel Mr. Pawan Sharma	-
July, 2019	-	-	Dr. Md. S. Rahman	Dr. (Mrs.) Mrinal Choudhari Ms. Seema Patel Mr. Pawan Sharma	-
Dec., 2020 onwards	-	-	Shri. K. K. Mishra Director (Officiating) C.O.O.	Dr. (Mrs.) Mrinal Choudhari Ms. Seema Patel	-
April, 2021 onwards			Shri. K. K. Mishra Director (Officiating) C.O.O.	Dr. (Mrs.) Mrinal Choudhari Ms. Seema Patel	Dr. Smita Bait Shri. Shishir Tyagi Shri. Mayur Basuk

Dr. (Mrs.) Mrinal
Choudhari
Ms. Seema Patel

Dr. Smita Bait Shri. Shishir Tyagi Shri. Mayur Basuk
--

22.0 LIST OF DONOR MEMBERS

SR. NO.	NAME OF THE ORGANISATION	YEAR OF DONATION
1	M/s Raymond Woollen Mills	1971-72
2	M/s Modella Woollens Ltd	1971-72
3	M/s Shree Dinesh Mills	1971-72
4	M/s G.K. Nagpal Sons	1971-72
5	M/s Beekay & Sons	1971-72
6	M/s Shree Digvijay Woollen Mills Ltd.	1971-72
7	M/s Dhruva Woollen Mills	1971-72
8	M/s Wool Combers of India	1971-72
9	M/s Bombay Woollen Mills	1971-72
10	M/s Karamchand Tulsidas	1971-72
11	Shri. B.M. Grover - Chairman - Modella (For Physical & Colour Research Laboratory)	1976-77
12	Shri Gopal Krishna Singhanian - Raymond (For Chemical Research Laboratory)	1980-81
13	Shri. Upendrabhai M. Patel - Chairman Shri Dinesh Mills Ltd (For Textile Research Department)	1992-93
14	M/s. R. G. Deshpande and Bros.	1999-2000
15	Shri. M. K. Bardhan, Ex-Director, W.R.A.	2019-2022

23.0 EDUCATIONAL ACTIVITIES

- Smt. Smita Bait completed her Ph.D and Mr. Mayur Basuk is pursuing Ph.D.

24.0 ACKNOWLEDGEMENT

We are thankful to Ministry of Textiles, Ministry of Finance, Central Wool Development Board, Office of the Textile Commissioner, Department of Science & Technology, Indian Woollen Mills Federation for the help extended to Wool Research Association from time to time.

J.P.J. ASSOCIATES LLP CHARTERED ACCOUNTANTS

Registered Office :

D/401, Shantidwar C & D Wing CHS
Shantivan, Borivali (East)
Mumbai - 400066

Tel : 022 – 6883 1279

Email : jpj@jpjassociates.com

AUDITOR'S REPORT

To the Members

**Wool Research Association
Thane**

Report on the Financial Statements

We have audited the accompanying financial statements of Wool Research Association ("the Society"), which comprise the Balance Sheet as at March 31, 2022, and the Income and Expenditure Account for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance in accordance with the Accounting Standards and Generally accepted accounting principles. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud

or error. In making those risk assessments, the auditor considers internal control relevant to the Society's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion and to the best of our information and according to the explanations given to us, the financial statements give the information required by the Act in the manner so required and give a true and fair view subject to :

- a) Note No.3 regarding Balance Confirmations and GST reconciliation,
- b) Note No. 4 regarding Subscription
- c) Note No. 6 Non provision of diminution of Value of investment.
- d) Note No. 10 Non Provision of Depreciation.

in conformity with the accounting principles generally accepted in India:

(a) in the case of the Balance Sheet, of the state of affairs of the Society as at March 31, 2022;

(b) in the case of the Income and Expenditure Account, the Excess of Expenditure over Income for the year ended on that date; and

Report on Other Legal and Regulatory Requirements

a. we have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;

b. in our opinion proper books of account as required by law have been kept by the Society so far as appears from our examination of those books;

c. the Balance Sheet, Income and Expenditure Account dealt with by this Report are in agreement with the books of account;

for **J.P.J. ASSOCIATES LLP**

CHARTERED ACCOUNTANTS

FIRM REG.NO. 113012 W/W100296

Sd/-

VAIBHAV VAIDYA

PARTNER

MEM. NO. 157754

Date : 30th August, 2022

UDIN : 22157754AQIH HB2222

WOOL RESEARCH ASSOCIATION, THANE.
BALANCE SHEET AS ON 31st MARCH 2022

AS ON 31/03/2021 Rs.	LIABILITIES	SCH- DULE	AS ON 31/03/2022 Rs.	AS ON 31/03/2021 Rs.	ASSETS	SCH- DULE	AS ON 31/03/2022 Rs.
7,73,67,225	CAPITAL FUND	A	11,33,04,083	35,81,97,083	FIXED ASSETS	E	37,17,69,976
9,92,41,757	RESERVES	B	12,65,73,234	11,56,400	INVESTMENT AT COST		11,56,400
3,23,51,085	SUNDRY LIABILITIES	C	3,59,74,637		11564/- Equity shares of Rs.100/- each fully paid up of M/s.Gujarat Sheep & Wool Development Corpn. Ltd., (for break-up value of the shares, please refer to Note 6 the notes on Account schedule "L")		
26,67,97,738	GRANT-IN-AID FROM MOT, KVIC, AIHB, & UNDP TOWARDS CAPITAL EXPS. FOR SPECIAL PROJECTS	D	24,46,34,320				
	OP.Balance 25,659						
	Grant recd. 0						
	Add: Int.recd. on F.D. 8,15,556						
	Add: FMD & Other receipts 3,46,244						
	OP.Balance 11,87,556						
	Grant recd. 11,62,546						
	Less: Funds applied/utilised						
25,659	Design & Dev. of light weight..			8,52,53,423	CURRENT ASSETS	F	12,76,88,270
	MAVIM		25,010				
	OP.Balance 28,245						
	Less: Funds applied/utilised 13,99,522			63,09,232	LOANS & ADVANCES	G	1,03,64,886
	Grant recd. 7,57,68,000						
	Add: Int.recd. on F.D. 4,91,343						
	Add: Other receipts. 3,53,235			2,62,95,093	PROJECTS	H	2,63,22,665
	7,80,12,100						
	Less : Funds applied/utilised 6,12,47,013						
28,245			25,826				
13,99,522			1,67,65,087				
47,72,11,231	TOTAL		53,73,02,197	47,72,11,231	TOTAL		53,73,02,197

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

NOTE : SEE SCHEDULE 'L' OF NOTES ON ACCOUNTS AS PER OUR REPORT OF EVEN DATE ATTACHED.

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 K. K. MISHRA
 DIRECTOR (OFFICIATING) & COO

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION, THANE.
INCOME AND EXPENDITURE ACCOUNT FOR NON-PLAN A/C FOR THE YEAR ENDED 31st MARCH 2022

AS ON 31/03/2021 Rs.	EXPENDITURE	SCHE- DULE	AS ON 31/03/2022 Rs.	AS ON 31/03/2021 Rs.	INCOME	SCHE- DULE	AS ON 31/03/2022 Rs.
2,04,54,971	STAFF SALARY	I	2,47,32,668	1,50,00,000	GRANT-IN-AID FROM MINISTRY OF TEXTILES, GOVT.,OF INDIA TOWARDS RECURRING EXPENDITURE		2,10,00,000
88,91,372	ESTABLISHMENT CHARGES	J	1,32,71,197				
45,000	AUDIT FEES		60,000				
11,025	AGM ,SEMINAR & MEETING AND CONFERENCE EXPS.		48,850	1,56,19,741	SCHEDULE - (INCOME) INDUSTRY'S CONTRIBUTION TOWARDS RECURRING EXPS.	K	1,78,26,586
76,178	CHEMICALS AND RAW MATERIAL		6,19,277				
11,41,195	PROJECT COST INCURRED BY WRA		94,593	5,95,476	EXCESS OF EXPENDITURE OVER INCOME CARRIED TO BALANCE SHEET		7,33,348
5,95,476	DEPRECIATION		7,33,348				
3,12,15,217	TOTAL		3,95,59,934	3,12,15,217	TOTAL		3,95,59,934

NOTE : SEE SCHEDULE 'L' OF NOTES ON ACCOUNTS AS PER OUR REPORT OF EVEN DATE ATTACHED.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 K. K. MISHRA
 DIRECTOR (OFFICIATING) & COO

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2022

PROJECT : Development of Novel Detergent Formulation for wool with immobilized enzymes for enhancing machine wash ability of wool fabric.

(SCHEDULE - 1)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
3,30,830	Raw material/consumables	—	4,66,326 (Due)	Grant-in-Aid from Ministry of Textiles, New Delhi (Due)	27,580 (Due)
3,08,500	Consultancy	--			
26,850	Promotion/Proof of Concept	39,400	1,99,854	Industry's/WRA's contribution towards project expenses	11,820
6,66,180	TOTAL	39,400	6,66,180	TOTAL	39,400

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 K. K. MISHRA
 DIRECTOR (OFFICIATING) & COO

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2022

PROJECT : Synthesis of water soluble fluorescent colorants for high visible hydrophilic textile substrates

(SCHEDULE - 2)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
76,670	Promotion/Proof of Concept	—	76,670 (Due)	Grant-in-Aid from Ministry of Textiles, New Delhi	--
76,670	TOTAL	--	76,670	TOTAL	--

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
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 MEM. NO. 157754

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Sd/-
 K. K. MISHRA
 DIRECTOR (OFFICIATING) & COO

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION**(R & D PROJECT)****INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2022**

PROJECT : Synthesis of optical whiteners with good photostability and improvements in the bleaching processes to produce photostable bright white and pastels shades woollen casual fashion knitwear, sports and leisurewear products and carpets using Indian and other cheaper imported qualities of wool

(SCHEDULE - 3)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
1,74,160	Raw material/consumables	—	1,94,205 (Due)	Grant-in-Aid from Ministry of Textiles, New Delhi (Due)	—
1,03,275	Promotion/Proof of Concept	—	83,230	Industry's/WRA's contribution towards project expenses	—
2,77,435	TOTAL	--	2,77,435	TOTAL	--

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

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SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION**(R & D PROJECT)****INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2022**

PROJECT : Design and Development of sportswear and sports accessories having Thermo Physiological comfort properties in order to enhance the performance assessed by using a Sweating Thermal Manikin system under different environmental conditions

(SCHEDULE - 4)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
36,645	Raw material/consumables	—	54,002 (Due)	Grant-in-Aid from Ministry of Textiles, New Delhi	—
40,500	Consultancy	—	23,143	Industry's/WRA's contribution towards project expenses	—
77,145	TOTAL	--	77,145	TOTAL	--

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION
PROJECT A/C - COE-SPORTECH

(SCHEDULE - 5)

PREVIOUS YEAR (2020-21) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)	PREVIOUS YEAR (2020-21) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)
26,308	Opening Balance	25,659	4,03,242	Machinery/Lab Instruments	—
8,20,564	Interest on FD	8,,15,556	63,519	TDS receivable	81,564
48,161	Accrued Interest	10,341	6,31,500	EMD refunded	3,36,000
3,47,845	Sundry Debtors	2,20,206	7,73,491	Fixed Deposits	7,44,333
9,78,080	TDS refund (recd.)	1,15,794	649	Bank Charges	649
			3,22,898	Sundry Creditors	—
			25,659	Bank Balance	25,010
22,20,958	TOTAL	11,87,556	22,20,958	TOTAL	11,87,556

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

**WOOL RESEARCH ASSOCIATION
PROJECT A/C - LAB UPGRADATION**

(SCHEDULE - 6)

PREVIOUS YEAR (2020-21) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)	PREVIOUS YEAR (2020-21) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)
2,25,977	TDS receivable 15-16 (RECD)	–	–	Sundry Creditors	5,00,000
9,08,963	Sundry Debtors	5,00,000	11,34,940	Interest on FD including Interest refunded	–
11,34,940	TOTAL	5,00,000	11,34,940	TOTAL	5,00,000

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION

PROJECT A/C. - Design and Development of Light Weight and high Impact resistance sports goods

(SCHEDULE - 7)

PREVIOUS YEAR (2020-21) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)	PREVIOUS YEAR (2020-21) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)
30,998	Opening Balance	28,245	3,75,125	Salary Expenses	—
4,65,513	Sundry Creditors	—	96,884	Consumables	—
5,454	Consultancy Charges	--	1,711	Bank Charges	2,419
			28,245	Bank Balance	25,826
5,01,965	TOTAL	28,245	5,01,965	TOTAL	28,245

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION

PROJECT A/C. - Mahila Arthik Vikas Mahamandal (MAVIM)

(SCHEDULE - 8)

PREVIOUS YEAR (2020-21) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)	PREVIOUS YEAR (2020-21) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2021-22) (Rs.)
5,72,520	Opening balance	13,99,522	12,61,358	Fixed Deposit	2,79,39,056
1,15,50,000	Grant from MAVIM (Govt. of Maharashtra)	7,57,68,000	7,75,231	Sundry Creditors	—
—	Sundry Creditors	2,56,131	15,32,421	Fixed assets	1,20,17,240
4,57,878	Interest earned	4,91,343	—	Sundry Debtors	16,08,560
28,669	Interest accrued on FD	—	53,36,800	Mandays/Salary expenses/consultancy	78,92,600
10,98,408	LC margin money	—	2,40,249	Travelling expenses	5,59,657
1,39,835	Sundry Debtors	—	15,24,438	Raw material	51,58,956
—	Salary payable	70,000	9,39,764	Testing and Inspection charges	12,58,597
—	TDS receivable (recd.)	27,104	—	Interest accrued	1,91,062
			33,584	TDS receivable	49,148
			4,51,750	Misc. exps.	5,27,169
			1,88,150	Processing cost	4,590
			—	Carpet Design	24,27,400
			4,700	Bank Charges	2,173
			1,43,090	Designing/hardware/software	14,11,360
			1,252	Forex loss	—
			15,000	Web designing/working capital	1,99,445
			13,99,522	Bank Balance	1,67,65,087
1,38,47,310	TOTAL	7,80,12,100	1,38,47,310	TOTAL	7,80,12,100

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
K. K. MISHRA
DIRECTOR (OFFICIATING) & COO

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 30/08/2022

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE “A”**

AS ON 31/03/2021 Rs.	CAPITAL FUND	AS ON 31/03/2022 Rs.
6,96,50,721	Balance as per last Balance sheet.	7,62,10,825
6,96,50,721		7,62,10,825
65,60,104	Add : Project Assets taken over during the year	3,59,36,858
7,62,10,825		11,21,47,683
-		-
,7,62,10,825		11,21,47,683
11,56,400	a) EARMARKED CAPITAL FUND : [Being donation received from members for investment in M/s. Gujarat Sheep & Wool Development Corporation Ltd., in terms of resolution passed in 23rd G.C. meeting held on 26th August. ' 1971.]	11,56,400
7,73,67,225	TOTAL	11,33,04,083

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "B"****RESERVES**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
	<u>I. DEPRECIATION RESERVE A/C.</u>	
12,0,17,670	a] Depreciation upto last year	1,26,31,146
5,95,476	b] Depreciation for the year	7,33,348
1,26,13,146		1,33,46,494
	<u>II. RESEARCH AND DEVELOPMENT AND REPLACEMENT / UPGRADATION RESERVE</u>	
1,10,00,508	Balance as per last balance sheet.	1,10,00,508
—	Add : Addition during the year.	—
1,10,00,508		1,10,00,508
	<u>III. EDUCATION FUND.</u>	
3,55,520	Balance as per last balance sheet.	3,66,620
11,100	Add : Interest received during the year	9,810
3,66,620		3,76,430
	<u>IV. CORPUS FUND</u>	
5,93,72,080	Balance as per last balance sheet.	7,50,48,841
1,62,72,237	Add : Addition during the year.	2,73,12,566
7,56,44,317		10,23,61,407
5,95,476	Less : Excess of expenditure over income transferred.	7,33,348
7,50,48,841		10,16,28,059
	<u>V. DONATION CORPUS FUND</u>	
2,05,890	Balance as per last balance sheet.	2,12,642
0.00	Add : Received during the year	—
6,752	Add : Interest received during the year	9,101
2,12,642		2,21,743
9,92,41,757	TOTAL (I+II+III+IV+V)	12,65,73,234

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "C"****OUTSTANDING LIABILITIES**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
59,47,886	For the year 2017-2018	59,47,886
31,605	For the year 2018-2019	31,605
11,28,137	For the year 2020-2021	582
–	For the year 2021-2022	8,40,114
25,000	Security Deposit (EMD)	25,000
36,77,578	Gratuity provision.	48,35,326
34,15,433	Leave salary provision.	48,09,430
8,34,533	Sundry liabilities (WRA)	6,60,844
1,32,92,869	COE - Sportech	1,30,72,663
13,42,551	Amount Refundable to MOT	13,42,551
38,821	Duties and taxes	6,83,404
	<u>PROJECT LIABILITIES :</u>	
2,23,446	MAVIM Project A/c.	18,32,006
23,93,226	Lab Up-Gradation A/c.	18,93,226
3,23,51,085	TOTAL	3,59,74,637

WOOL RESEARCH ASSOCIATION, THANE.
SCHEDULE "D"
ASSETS OF PROJECT (MINISTRY OF TEXTILES)

NAME OF THE PROJECT	PARTICULARS	AS ON 31/03/2021 Rs.	ADDITION DURING THE YEAR Rs.	TAKEN OVER DURING THE YEAR Rs.	ASSETS AS ON 31/03/2022 Rs.
SPENT GRANT					
1) COE - Sportech	Lab equipments/Machinery	21,54,50,989	-	-	21,54,50,989
2) COE - Sportech	Books& Journals	59,50,058	-	-	59,50,058
3) COE - Sportech	IT Infrastrure	11,99,237	-	-	11,99,237
4) Lab Upgdadation- Equipments	Lab equipments	3,59,36,858	-	3,59,36,858	-
5) Dev.and appl.of eco friendly microencapsulated..	Lab equipments	5,06,990	-	-	5,06,990
6) Dev.of high performance,smart sportswear...	Lab equipments	4,18,653	-	-	4,18,653
7) Dev. of innovative sportech products...(Hot melt)	Lab equipments	7,18,697	-	-	7,18,697
8) Development of Membrane Bioreactors	Lab equipments	5,65,921	-	-	5,65,921
9) Dev.of Novel Detergent Formulation for wool	Lab equipments	11,32,800	-	-	11,32,800
10) Dev.of fitness clothing like gym and Yoga wear with...	Lab equipments	4,01,613	-	-	4,01,613
11) Development of sports gears (inner wears, socks, etc)	Lab equipments	4,18,000	-	-	4,18,000
12) Synthesis of water soluble fluroscent colorants for....	Lab equipments	3,01,810	-	-	3,01,810
13) MAVIM project	Lab equipments/Furniture	37,96,112	1,20,17,240	-	1,58,13,325
	TOTAL	26,67,97,738	1,20,17,240	3,59,36,858	24,28,78,120
NOTE : 1) Grant-in-Aid due has been shown under the head of "Current Assets." 2) Balance in grant shown in liability side is as follows :					
UNSPENT GRANT			CAPITAL	RECURRING	TOTAL (RS.)
a) Sustainable enhancement of Aesthetic values by digital printing			17,56,200	-	0.00
TOTAL			17,56,200	0.00	--
TOTAL OF SPENT AND UNSPENT.				TOTAL	24,46,34,320

WOOL RESEARCH ASSOCIATION, THANE.

SCHEDULE 'E' 2021-2022

SR. NO.	PARTICULARS	RATE %	GROSS BLOCK				DEPRECIATION				NET BLOCK	
			AS ON 01.04.2021	ADDITION DURING THE YEAR	DEDUCTION DURING THE YEAR	AS ON 31.3.2022	UP TO 01.04.2021	DEPRECIATION FOR THE YEAR	ADJUSTMENT DUE TO SALE/ LOSS	TOTAL UPTO 31.3.2022	AS ON 31.3.2022	AS ON 31.3.2021
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1)	LAND		5,83,883	—	—	5,83,883	—	—	—	—	5,83,883	5,83,883
2)	BUILDING (Old)	2.5	26,43,986	—	—	26,43,986	17,04,902	23,477	—	17,28,379	9,15,607	9,39,084
3)	FURNITURE AND FIXTURE	15	5,88,713	2,58,104	—	8,46,817	5,37,990	46,324	—	5,84,314	26,25,03	50,723
4)	LAB EQUIPMENT	15	46,84,986	—	—	46,84,986	35,43,066	1,71,288	—	37,14,354	9,70,632	11,41,920
5)	OFFICE EQUIPMENT	15	6,95,763	1,66,911	—	8,62,674	4,82,502	47,182	—	5,29,684	3,32,990	2,13,261
6)	AIRCOND. WDG. PLANT	15	1,77,025	—	—	1,77,025	1,76,943	12	—	1,76,955	70	82
7)	ELECT. INSTALLATION	15	10,87,776	10,85,850	—	21,73,626	7,28,234	1,79,549	—	9,07,783	12,65,843	3,59,542
8)	LAB FURNISHING	10	14,72,715	—	—	14,72,715	10,59,083	41,363	—	11,00,446	3,72,269	4,13,631
9)	WATER COOLER	15	12,182	—	—	12,182	8,791	509	—	9,300	2,882	3,392
10)	AIR CONDITIONER	15	3,07,543	—	—	3,07,543	2,18,481	13,359	—	2,31,840	75,703	89,062
11)	FIRE FIGHTING EQUIPMENTS	15	59,232	—	—	59,232	41,934	2,595	—	44,529	14,704	17,299
12)	WATER TANK	15	31,600	—	—	31,600	31,388	32	—	31,420	180	212
13)	MOPED (LUNA)	15	11,300	—	—	11,300	11,225	11	—	11,236	64	75
14)	BUILDING (New)	2.5	13,37,551	—	—	13,37,551	6,26,810	17,769	—	6,44,579	6,92,973	7,10,741
15)	BUILDING (WRA'S CONTR. FOR PILOT PLANT)	2.5	7,50,000	—	—	7,50,000	3,51,470	9,963	—	3,61,433	3,88,567	3,98,530
16)	MOTOR CAR (BUS & CAR)	15	24,82,764	—	—	24,82,764	19,38,679	81,613	—	20,20,292	4,62,472	5,44,085
17)	AIR CONDITIONING PLANT FOR COE LAB	15	14,96,477	—	—	14,96,477	10,16,741	71,960	—	10,88,701	4,07,776	4,79,736
18)	CCTV INSTALLATIONS	15	2,65,730	44,788	—	3,10,518	1,34,907	26,342	—	1,61,249	1,49,269	1,30,823
	Total		1,86,89,227	15,55,653	—	2,02,44,880	1,26,13,147	7,33,348	—	1,33,46,494	68,98,387	60,76,080

Note : 1 : Rate of depreciation constant since 1970-71.

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "E" (1)****PROJECT ASSETS TAKEN OVER ON COMPLETION OF PROJECTS**

SR. NO. (1)	NAME OF THE PRODUCTS (2)	FURNITURE (3)	LAB EQUIPMENTS (4)	AIR CONDITIONER (5)	BUILDING (6)	TOTAL (7)
1	Dying of wool	4,156	30,628	—	—	34,785
2	Blending of wool	7,074	1,36,211	—	—	1,43,285
3	Chemical finishing of carpet	6,622	87,345	—	—	93,967
4	Designing of wool	—	4,49,307	—	—	4,49,307
5	Color Research project	—	54,637	—	—	54,637
6	Carpet Weaving programme	23,997	3,438	—	—	27,435
7	Standardisation of yarn.	—	2,85,481	—	—	2,85,481
8	Computer Aided Designing (Old)	—	5,44,495	—	—	5,44,495
9	Evaluation of Wool Jute.	—	5,00,000	—	—	5,00,000
10	Techno Economic study of shoddy.	—	4,77,130	—	—	4,77,130
11	Development of cheap furnishing.	—	3,00,000	—	—	3,00,000
12	Software for garment designing.	—	9,34,800	—	—	9,34,800
13	Extraction of various dyes.	—	24,255	—	—	24,255
14	CAD for Textiles.	—	10,34,620	—	—	10,34,620
15	To set of norms (Siro Fast)	—	9,93,851	—	—	9,93,851
16	Pilot Plant.	—	—	—	7,50,000	7,50,000
17	Modification of reactive dyeing.	—	2,25,134	—	—	2,25,134
18	Development of Eco-friendly.	—	1,76,956	—	—	1,76,956
19	Eco-Testing Lab.	1,27,829	31,42,640	—	—	32,70,468
20	Angora Rabbit Wool	—	2,05,060	—	—	2,05,060
21	To Investigate the factors.	47,310	1,03,191	—	—	1,50,501
22	To Make the Natural dyeing.	4,400	1,70,601	—	—	1,75,001
23	To Develop the Software.	49,210	1,36,288	—	—	1,85,498
24	Development of Design for carpet.	8,743	4,56,774	—	—	4,65,517
25	Value Added.	11,257	65,112	—	—	76,369
26	Computer Aided Embroidery.	31,131	5,94,775	—	—	6,25,906
27	Development of Instrumental.	1,16,760	12,83,985	—	—	14,00,745
28	To Develop Software Prediction.	—	1,75,350	—	—	1,75,350
29	Role of Enzymes	—	45,552	—	—	45,552
30	Study of Technical Aspects.	—	25,097	—	—	25,097
31	To Develop Different Type of Knitwear	—	66,062	—	—	66,062
32	To Improve Aesthetics Value	—	1,99,842	—	—	1,99,842
33	Textiles committee	—	64,68,437	—	—	64,68,437
34	To Dev. Innovation Yarn	—	5,50,000	—	—	5,50,000
35	To Dev. Cotton Core	—	2,75,000	—	—	2,75,000
36	Enrichment of Painting	—	2,00,000	—	—	2,00,000
37	Dyeing of Wool	—	50,000	—	—	50,000
38	Information Technology	—	2,89,550	—	—	2,89,550
39	CAD Jaquard	—	2,70,650	—	—	2,70,650
40	Design and Fabricate	—	14,22,816	—	—	14,22,816
41	To Improve Processing	—	7,38,812	—	—	7,38,812
42	UNDP -GOI project	2,25,350	1,17,82,004	1,05,000	25,02,829	1,46,15,183
43	To Develop Itch free woolen(Plasma)....	—	12,00,717	—	—	12,00,717
44	Ultra Sound assisted...	—	7,99,191	—	—	7,99,191
45	To asses Quality norms....	—	45,39,900	—	—	45,39,900
46	Blind dyeing..	—	10,64,885	—	—	10,64,885
47	Softening..	—	3,66,593	—	—	3,66,593
48	Preloom processing....	—	3,46,747	—	—	3,46,747
49	Dev.of Composites....	—	2,15,543	—	—	2,15,543
50	To evolve feasible...	—	51,150	—	—	51,150
51	To Synthesise wool dyes....	—	24,23,882	—	—	24,23,882
52	Dev.of Internet based...	—	37,19,940	—	—	37,19,940
53	Surface Topographical...	—	4,04,438	—	—	4,04,438
54	To Dev.cost effective ETP	—	6,04,685	—	—	6,04,685
55	Effluent treatment system for Power generation	—	1,50,849	—	—	1,50,849
56	Upgradation of Indian wool	—	12,26,307	—	—	12,26,307
57	Dev.of Thermal Responsive HighAltitude(CWDB)	—	2,12,653	—	—	2,12,653
58	Negative ion finishing for woolen carpets...	—	12,17,367	—	—	12,17,367
59	Dev.of pollutin free and eco-friendly dry scouring.	—	6,49,624	—	—	6,49,624
60	Dev.of Multifunctional finish with anti bacterial..	—	10,63,034	—	—	10,63,034
61	To impart superwash property to Indian wool..	—	2,21,557	—	—	2,21,557
62	UNDP-Panamina Project	—	53,17,564	—	—	53,17,564
63	Dev. Effective & eco-friendly electroflocculation ..	—	8,73,285	—	—	8,73,285
64	Dev.Waterproof Breathable sports wear..	—	4,82,550	—	—	4,82,550
65	Fibre Length Measurment Instrument(DST)	—	4,33,968	—	—	4,33,968
66	Instrumentto Determine...	—	7,65,763	—	—	7,65,763
67	Synthesis & Application of Solar Ultraviolet....	—	10,03,268	—	—	10,03,268
68	Innovation of Bulky yarns of woolenised Jute....	—	7,05,050	—	—	7,05,050
69	To design & develop evaporative cooling textiles	—	4,02,713	—	—	4,02,713
70	Enhancement of Moisture management properties..	—	2,02,960	—	—	2,02,960
71	To develop light sensitive Photo-Chromic Smart	—	57,605	—	—	57,605
72	Design & Dev.of Indian Wool based Smart Textiles...	—	20,66,147	—	—	20,66,147
73	Design & Dev.of India Wool based Tech.Textiles..	—	9,22,630	—	—	9,22,630
74	Lab Upgradation - Equipments	—	35,9,36,858	—	—	3,59,36,858
	Total Rs.	6,63,839	10,46,25,308	1,05,000	32,52,829	10,86,46,976
	WRA Assets.					2,02,44,880
	Project Assets taken over upto 2021-2022.					10,86,46,976
	Assets of existing projects.					24,28,78,120
	TOTAL (Rs.)					37,17,69,975

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "F"**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
	<u>FIXED DEPOSITS</u>	
	Corpus Fund/R & D Replacement Fund	
6,21,19,874	Fixed Deposits with State Bank of India	6,38,78,680
56,12,642	Fixed Deposits with Central Bank of India	2,07,18,144
23,47,941	Fixed Deposits with Axis Bank	24,22,731
26,25,450	Interest accrued on FD (SBI)	41,65,593
19,945	Interest accrued on FD (CBI)	66,238
	<u>CASH & BANK BALANCES</u>	
8,12,449	Current Account with S.B.I. (A/c. 11100522024)	5,07,540
25,659	ESCROW A/c. with S.B.I. (A/c. 32424163025)	25,010
7,806	Cash on hand	6,520
80,326	CWDB Project Account C.B.I. (A/c. 1334639360)	17,97,482
56,40,777	Central Bank Of India (Testing fees) (A/c. 1334641891)	1,24,51,669
3,951	WRA Trustee's Account. C.B.I. (A/c. 1334698893)	411
13,99,522	MAVIM project A/c. with SBI (A/c. 39012931052)	1,67,65,087
88,029	Axis Bank Ltd. (A/c. 061020003285)	2,52,763
80,86,763	Axis Bank Ltd. (Project; Light weight...) (A/c. 918020094870444)	25,826
	<u>SUNDRY DEBTORS.</u>	
42,17,188	Testing Fees outstanding considered good (net)	42,89,578
	<u>OUTSTANDING SUBSCRIPTION</u>	
5,750	Considered Good for the year (2017-2018)	5,750
5,900	Considered Good for the year (2018-2019)	5,900
1,02,090	Considered Good for the year (2019-2020)	1,02,090
1,09,879	Considered Good for the year (2020-2021)	87,618
2,23,619	Considered Good for the year (2021-2022)	1,13,640
8,52,53,423	TOTAL	12,76,88,270

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE “G”****ADVANCE RECOVERABLE**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
4,44,128	Deposits with MSEDCL/TMC etc..	4,44,128
20,72,984	Gratuity fund with L.I.C. of India	31,81,287
6,62,712	Other Advances	4,54,530
66,556	Service tax and Krishi Kalyan cess paid in advance/ GST	23,54,575
2,14,996	Prepaid expenses	2,97,828
1,97,498	TDS Receivable (10-11)	1,97,498
15,47,324	TDS Receivable (19-20)	-
11,03,035	TDS Receivable (20-21)	11,03,035
-	TDS Receivable (21-22)	23,32,006
63,09,232	TOTAL	1,03,64,886

WOOL RESEARCH ASSOCIATION, THANE.
SCHEDULE "H"
CURRENT ASSETS (PROJECT)

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
	<u>GRANT-IN-AID DUE FOR RECURRING EXPENSES.</u>	
11,69,881	Dev.waterproof breathable sportswear....	11,69,881
12,27,674	Dev. effective & eco-friendly electroflocculation ..	12,27,674
12,38,790	Dev.of keratin based bio-composite fils and electro spun..	12,38,790
15,53,475	Dev.smart indigenous sleeping bag with heating property..	15,53,475
13,54,516	Synthesis & Application of Solar Ultraviolet	13,54,516
19,75,150	Dev.of high performance,smart sportswear...	19,75,150
17,34,744	To develop light sensitive Photo-Chromic Smart	17,34,744
11,95,275	To design & develop evaporative cooling textiles ,,,,,,	11,95,275
10,90,565	Development of Membrane Bioreactors as a solution for compact....	10,90,565
11,08,155	Enhancement of Moisture management properties of polyester....	11,08,155
12,46,359	Development and application of eco friendly microencapsulated moth..	12,46,359
13,42,071	Dev. of innovative sportech products...(Hot melt)	13,42,071
13,67,235	Development of sports gears (inner wears,socks,bands,leggiings ets.)	13,67,235
17,12,094	Dev.of Novel Detergent Formulation for wool with immobilized enzymes..	17,39,674
12,86,610	Synthesis of optical whiteners with good photostability	12,86,602
17,37,236	Dev.of fitness clothing like gym and Yoga wear with	17,37,236
26,52,029	Synthesis of water soluble fluroscent colorants for	26,52,029
6,34,373	Design & Dev.of sportswear having Thermo Physiology..	6,34,373
6,68,864	Design & Dev.of Light weight and high impact resistance sport goods	6,68,864
2,62,95,093	TOTAL	2,63,22,665

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "I"****STAFF SALARIES**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
1,87,12,535	Salaries & Allowances (Includes PF/FPF, ADMN. charges & EDLIS premiums)	2,29,27,246
2,016	Maharashtra Labour Welfare Fund.	2,052
1,62,798	Staff Medical Expenses.	42,464
2,99,932	Staff Welfare Expenses	5,34,493
43,529	Staff Leave Travel Concession.	27,903
12,34,161	Group Gratuity Scheme	11,98,511
2,04,54,971	TOTAL	2,47,32,668

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "I"****STAFF SALARIES**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
1,87,403	Printing & Stationery.	2,30,022
1,94,674	Postage, Telegram & Telephones.	2,39,582
20,25,878	Electricity & Water Charges.	23,70,918
26,250	Advertisement & Publicity	10,800
17,36,369	Repairs & Maintenance	45,98,293
27,125	Rates & Taxes.	27,125
2,23,186	Insurance Exps.	2,86,738
1,08,134	Conveyance & Travelling.	3,50,318
14,873	Entertainment Exps.	5,179
17,701	Bank Charges.	19,599
—	Journals & Periodicals.	2,000
15,000	Subscription to the other Association.	34,500
90,068	Miscellaneous exps.	1,15,063
8,93,899	Security Service Charges.	9,97,325
3,71,858	Motor car exps.	5,98,352
10,88,879	Professional charges.	7,18,170
8,59,128	Testing charges.	14,49,683
8,12,145	Labour charges/wages to casual workers	12,10,721
1,96,303	Interest on delay payments/GST liabilities etc.	4,309
2,500	Employer's contribution to MPT	2,500
88,91,372	TOTAL	1,32,71,197

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE “K”****INCOME**

AS ON 31/03/2021 Rs.	PARTICULARS	AS ON 31/03/2022 Rs.
3,21,118	Members Subscription.	3,21,117
1,95,60,643	Testing Fees Income.	3,22,45,936
59,96,050	Consultancy Service charges and R & D	79,84,778
2,559	Miscellaneous receipts.	1,34,289
15,26,156	Old Liabilities/Creditors written back	—
—	Educational & Technical Training ...	10,000
42,87,687	Interest on Fixed Deposites.	42,29,555
1,97,765	Interest credited by LIC for Gratuity fund	2,13,478
3,18,91,978	TOTAL	4,51,39,152
1,62,72,237	Less: Transferred to Corpus Fund	2,73,12,566
1,56,19,741	Transferred to Income & Expenditure A/c.towards Industry's contribution	1,78,26,586

WOOL RESEARCH ASSOCIATION

SCHEDULE 'L'

NOTE ON ACCOUNTS

1. Significant Accounting Policies

Accounts have been prepared under the historical cost convention. The significant account policies are as under:

- a. Fixed Assets: Fixed assets are stated at cost of acquisition inclusive of expenses relating to acquisition.
- b. Depreciation: Depreciation is provided on Assts acquired by the Association, out of its own funds by the WDV method at the following rates.

Building	-	2.5 %
Furniture, Fixtures & Equipments	-	15 %
Furnishing	-	10 %
- c. Investment: Investments acquired out of donation from members are valued at cost of acquisition.
- d. Inventory: Consumable items such as Laboratory chemicals and Wool Consumables, Color Software development and computer stationery and other consumables purchased during the year are treated as consumed during the year.
- e. Retirement Benefits
 - i. Provident fund contribution is funded with Regional Provident Fund Commissioner.
 - ii. Provision of Leave Salary:
Provision of leave salary is made by the Association on the basis of leave accumulated to the credit of employee at the year end.
 - iii. Liability for gratuity is provided on the basis of calculation made by the Association as per the payment of Gratuity Act, 1972 on Balance Sheet date. However, valuation has been estimated by the WRA at Rs. 48,35,326.00 The premium paid to LIC for the Group Gratuity Trust is shown as Deposits as Rs. 31,81,287.00.
- f. Foreign currency transaction: All foreign currency transaction during the year are converted at the standard rate as specified by Grant Sanctioning Authority.
- g. Grant-in Aid :
 - 1) Grant-in-aid from Government authorities is accounted for on the basis of amount sanctioned.

- 2) Grant-in-aid for recurring expenses (WRA as well as specific projects) is adjusted as and when the expenses are incurred.
 - 3) Grant-in-aid of Capital nature on WRA account is transferred to capital fund on purchase of fixed assets.
- h) a) Interest on Fixed Deposits is accounted for on accrual basis and is shown under income
- b) Subscription and testing fees are accounted for on accrual basis and consultancy service charges and other income are accounted for on receipt basis and the same is first utilized for off setting the industry's contribution to meet capital expenses as well as revenue expenses and the balance has been transferred to R & D Replacement Fund.
- i) Corpus Fund :
- As per Ministry of Textiles O.M. No. 20/21/98/A & MMT dated 9th September, 1998 – Minutes of the 13th Meeting of the Co-ordination Council for Textile Research Association (TRA) held on 11th August, 1998. TRAs' are authorized to retain 100 % of the earned income by building a Corpus Fund from such retained income and utilize interest from such Corpus Fund to meet their need based requirement.
- j) Education Fund :
- Education fund has been created out of donation received for the purpose of enhancing the educational facilities at Training Centre and improving the level of training.
- k) Donation Corpus Fund :
- As per the decision taken in the 148th Governing Council Meeting, Donation Corpus fund has been created from the Donation received from Ex. Director, Shri M.K. Bardhan for giving reward to the best Paper published by WRA staff from the interest earned from the fund.
- l) All expenses are accounted for on accrual basis. Allocation of various recurring expenses to the various projects is done on the basis determined by the Management.
- 2 a) In the opinion of the Governing Council, subject to these note, current assets, loan and advances, including grant receivable, have value on realization in the ordinary course of activities of the Association, not less than at which these are stated in the Balance Sheet, except subscription and testing fees of previous years which may prove irrevocable for which no provision has been made. Provision for all known liabilities has been made in the accounts and the same is not in excess of what is reasonably necessary.
- b) During the year the management has carried out physical verification of fixed assets. However there are some discrepancies found with book record and the management is in the process of reconciling the same with book record.

3. No confirmations from debtors, creditors, deposits and in respect of loan and advances have been obtained. Confirmations in respect of fixed deposits placed with banks are being obtained. WRA is in the process of reconciliation of Goods and Service Tax (GST) balances as per books of accounts and as per GST returns filed.
4. The provision of subscription receivable from ordinary and Special associate members and the details of the installed capacity of the member mills on the basis of which calculation of subscription is made is as prepared by the management and is relied upon by the auditors without verification for want of relevant records.
5. The mutual adjustment of grant for capital to revenue and vice versa are made and not yet confirmed by the granting authorities for relevant years.
6. Investment in M/s Gujarat Sheep & Wool Development Corpn. Ltd. Rs. 11,56,400/- represent the contribution from industry through WRA in sheep breeding program of M/s Gusheel. Audited Accounts of Company are still awaited. In the absence of audited accounts, the net worth, diminution in value of investment can not be ascertained.
7. The apportionment of staff salaries, freight charges, raw material, traveling, spares and other overheads including testing charges between the Association and various projects is made as per the advice from the respective project-in-charge/Director in this regard.
8. Depreciation on fixed assets amounting to Rs. 7,33,348/- for the current year (Previous year Rs. 5,95,476/-) on WRA assets has been provided for and shown under depreciation reserve.
9. Impairment of Assets.
The carrying amount of assets, other than inventories is reviewed at each balance sheet date to assess whether there is any indication of impairment in respect of such asset or group of assets. If such indication exists, the recoverable amounts of such assets or group of assets is estimated. If such recoverable amount of asset or group of assets is less than its carrying amount, an impairment loss is reckoned by reducing the carrying amount to its recoverable amount. If there is an indication at the balance sheet date that the previously assessed impairment loss no longer exists, the recoverable amount is reassessed and the asset is reflected at the recoverable amount subject to a maximum of depreciable historical costs.
10. Fixed Assets: The Association has purchased/taken over assets worth Rs 120.17 Lakhs, Rs. 15.55 Lakhs and Rs. 1086.46 Lakhs as on 31.03.2022 out of the Projects funded by MOT, COE Sportech Project, MAVIM and other agencies respectively. These assets are being used by the Association to carry out the activities. However, no depreciation has been provided during the year as well as during the earlier years on such assets. The impact of depreciation is not quantified.
11. The Association has not identified the creditors having registration under Micro, Small and Medium Enterprises Act 2006 and the Small Scale Industries Act. Hence the disclosure as required is not made in the accounts.
12. During the year, excess expenditure incurred on project of Rs. 94,593/- has been shown as project cost incurred by WRA as expenditure of WRA.

13. Assets Of Bikaner and Kullu purchased by WRA : As per the sanction letter received from Central Wool Research Board, Ministry of Textiles, the WRA is implementing agency for the “Upgradation and strengthening of existing Wool Testing Laboratory of CWDB at Bikaner and Kullu”. Fixed assets are purchased for this project which are not recorded as “Fixed Assets” in the Books of WRA and the same is shown under amount spent for the project.
14. Previous year figures are re-grouped/re-arranged wherever necessary to make them comparable with those of current years.

SIGNATURES TO SCHEDULES 'A' TO 'L'

FOR J.P.J.ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

For & on behalf of the
 GOVERNING COUNCIL

Sd/-

VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-

H.K. CHATTERJEE
 PRESIDENT

Sd/-

R.V. BHANDARKAR
 SR. ACCOUNTS OFFICER

Sd/-

K. K. MISRA
 DIRECTOR (OFFICIATING) & COO

PLACE : MUMBAI
 DATE : 30/08/2022