FOOTWEAR WITH MEDIAL ARCH
Dear Doyens and Members of the Indian Leather Fraternity; Colleagues from CSIR, Colleagues and Friends! It gives us great pleasure in sending you our August 2019 edition of The LEATHER POST.

I read with great concern that the Indian Leather Exports has registered a decline of 4.90% in dollar terms for the period April-June 2019 as against the same period in Year 2018. Almost all segments of the Leather and Leather products pie have a decline. It is not a surprise that non-leather footwear has a record growth of 78.48% signalling us on what we need to do next. We at CSIR-CLRI are paying attention to this ‘change’ and we need to focus on Design Development, Capacity Utilisation and Productivity.

This edition of the LEATHER POST carries reports on our new work on development of footwear for Flat Feet using scientific methodologies. Parallely, CSIR-CLRI is also focussing on nation-building activities that includes CSIR Skill Training programmes and special training and workshop for the North East Region.

We at CSIR-CLRI will strive to make this magazine informative and interesting and welcome your feedback for improvement.

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Prof Santosh Kapuria, Director, CSIR-CLRI salutes the guards on the occasion of the 73rd Independence Day Celebrations. In his address to the Staff and Students, Director called for unity and brotherhood amongst the fraternity.

PRIZE WINNER!
Dr KJ Sreeram, Senior Principal Scientist and Head, Centre for Analysis, Testing, Evaluation and Reporting Services (CATERS) of the institute has been elected as a Fellow of the Royal Society of Chemistry, which is headquartered in London. Individuals are eligible to become a Fellow if they’ve spent more than five years in a senior position and their efforts have made an impact in any field of the chemical sciences.

During the same period, Dr Sreeram was also elected as the Fellow of the Society of Leather Technologists and Chemists, UK, the only fellowship that is offered exclusively for contributions to leather science and technology in the world. Dr Sreeram is currently the only fellow of SLTC in the institute.

Dr Sreeram’s contributions to the development of auxiliaries that would enable the leather industry to be sustainable alongside his efforts in the last few years to the development of test methods and standards have been instrumental in his election to this prestigious fellowship.

Dr Sreeram earned his PhD from Anna University. His research areas include chromium management, use of nanotechnology for applications in leather and sustainable chemistry and development of standards and test methods. He is also the Vice President of the Indian Leather Technologists Association (ILTAC).
Dr. S Easwaramoorthi, Senior Scientist, Inorganic & Physical Chemistry Laboratory of CSIR-CLRI has been listed as one of the top five published authors from India for the year 2018 in the journal “ACS Sustainable Chemistry and Engineering”. It was highlighted by Professor T. Pradeep, Associate Editor of the journal during ACS-CRSI symposium held at IIT Kanpur during July 18 2019.

The research work published in the journal predominantly discusses the development of simple protocol for the identification of toxic metal ions present in the environmental samples, particularly the Ni^{2+}, Al^{3+}, Hg^{2+}, and Ag^{+} ions. The molecular probe developed undergoes specific color changes with respect to the metal ions even if it is present in the ppm to ppb level, which can be identified using the naked eye or mobile phone flash light. Indeed, these molecular probes also respond to the presence of metal ions in the biological samples. Overall, these probes allow the on the field determination of toxic metal ions in the water immediately without the requirement of any sample preparation and sophisticated scientific instrumentation.
Meeting of the Review Committee on Fast Track Translation (FTT) and Fast Track Commercialization (FTC) was held on 30 July 2019 at the CSIR Science Centre, New Delhi under the Chairmanship of Prof. AB Pandit, ICT Mumbai. The Review committee consisted of distinguished professors of various IITs, Industrial leaders and distinguished scientists of the CSIR. Shri. Sampath Kumar, Secretary LCMA & CMD M/s. ZCMPL Chennai was the member for leather chemicals. The committee reviewed 7 FTT projects and 1 FTC project as per the objectives and milestones set. The committee was empowered to recommend for enhancement or reduce the funding of the projects and even foreclose or drop the projects if objectives were not met. CSIR-CLRI had two FTTs, viz. Retanning agent from paper industry wastes (PI: Dr KJ Sreeram, Co-PI: Dr R Aravindhan) and Retanning cum Fatliquoring Agent (PI: Dr KJ Sreeram, Co-PI: Dr R Aravindhan) and one FTC Project, viz., waterless chrome tanning technology (PI: Dr. J Raghava Rao).

The presentations were made by Dr R Aravindhan, Dr KJ Sreeram and Dr J Raghava Rao respectively. The committee observed that the retanning agent from paper industry wastes was an attractive technology that targets the use of black liquor wastes of the paper industry for use in leather through a circular economy. With reference to the project on retanning cum fatliquoring agent, the committee observed that significant progress had been met with industrial level trials completed. The committee requested the PI to highlight the USP of the product vis-à-vis commercial processes currently employed in the industry. For the waterless tanning technology project, the committee asked the PI to explore the possibility of branding the technology package and also explore the licensing and royalty model.

The time bound successful running of the project and high level of clarity in the business plan of the projects undertaken by CSIR-CLRI was highly appreciated by the committee and recommended for continuation.
Training programme on eProcurement was conducted at CSIR-CLRI on 18th and 19th July 2019
Officials of CLRI, CLE, CEMCOT and Export Inspection Agency have taken active part in the training programme.

The programme was conducted by National Informatics Centre, (NIC) Chennai. Shri B. Seenivasan, Technical Director (Scientist E) from NIC, Chennai addressed on “Introduction about GePNIC and Digital Signature Certificates (DSC), Tender creation by the Department User, Tender Publishing, Java Drive & DSC Driver Installation, Bid Submission by the Bidder, Price Bid-Bill of Quantity (BOQ), Technical and Financial Bid Opening and Evaluation, Award of Contract and Corrigendum Creation.
The Leather Post

FOOTWEAR WITH MEDIAL ARCH SUPPORT


Prevalence of flat foot

To remain on one’s feet is literally becoming a little challenging these days. Of late many have been complaining of foot pain or lower back pain, while standing for long or walking continuously. The reason could be old age or lack of physical activity or it may be due to some deformity in the feet i.e. flat feet! In the recent years, unilateral (one foot) or bilateral (both foot) flat foot deformity has become common among adults.

The foot, adapted to a bipedal posture, serves a double function: bearing the weight of the entire body, and performing the dynamic movements necessary for walking. This requires both strength and flexibility. The foot contains 26 bones, 31 joints, and 20 intrinsic muscles. Unfortunately, malformation of the foot is common due to mechanical stresses from excess weight and poorly-fitted shoes.

Arches of the Foot

Arches are a vitally important structural feature of our feet because they absorb the bulk of the significant pressure our body creates with movements like walking or running. The construction and movement of foot arches are vital for the actions of the foot, like shock absorption, body weight distribution and to act as a device for thrusting the body forward during propulsion. The foot, when placed forward lands on the heel (Calcaneus) and then on the ball of the foot (metatarsals). The plantar muscles help to steady the foot while the toes (phalanges) help in takeoff to form the next stride.

The foot grows faster than the rest of the body and it achieves three quarters of the foot mature length when the child is 7 years old. By 6 to 7 years of age, most of the children have developed their medial arch, although some take until age 10 to 11 years to complete the development of the foot arch. The arches of the foot are formed by the tarsal and metatarsal bones, strengthened by ligaments and tendons. The three types of foot arches are

1. Medial (inner) longitudinal arch
2. Lateral (outer) longitudinal arch
3. Transverse arch

It is the medial longitudinal arch that is most contributory in the propulsion of the foot. It helps in not only taking the next step forward, but also steadies the torso from tipping/rolling over. It supports the bodyweight and pronates normally under load. Some pronation or “rolling in” of the foot is required and acts as a natural shock absorber.

The main distinctive aspect of this arch is its elasticity, due to its height and the small joints between its component parts. The joint between the talus and navicular is considered to be weak but this portion is steadied by the plantar calcaneo-navicular ligament, which is elastic and hence restores the arch to its original condition. Of the two sides of arches, the medial side arch is more curved with a raised position.

Functions of foot arches

• Support and divide the body weight about equally between the calcaneus (rear foot) and the heads of the metatarsal bones (hind foot);
• Propel the body in walking and running;
• Adapt to changes when walking on uneven surfaces;
• Acts as a spring which helps in walking and running;
• Acts as a shock absorber in stepping and particularly in jumping;
• Concavity of arches protects the soft tissues of the sole against pressure;
• Arch foot is dynamic and pliable;
• It acts as a segmental lever.

Foot typology
Based on the anatomy of foot arches, the foot can be classified into the following typology
1. Supinated foot (high arch foot)
2. Neutral foot (normal arch foot)
3. Pronated foot (low arch foot)

Supinated foot also called high arch foot is the condition wherein the medial arch is lifted high from the ground. This pushes the navicular and cuneiform bones higher thus giving a higher instep. The foot is rolled over on the outside. The footwear for such person wears out on the outer side of the sole. A wedge incorporated on the outer side in the footwear is the rectification suggested for this condition.

Pronated foot also called Flat feet or fallen arches is a deformity in which the arches of the foot collapse, with the entire sole of the foot coming into complete or near-complete contact with the ground. This condition brings a change in the gait of the person. This may cause mild to medium pain in some cases. Sometimes it may also lead to unbearable pain in the foot.

Flat feet can affect the orientation of the body when a person is standing, walking, or running. As a result, they can increase the likelihood of pain developing in the hips, knees and ankles.

So, how does one deal with this kind of abnormality or deformity. By varying the construction of the footwear this can be alleviated. This can be done by incorporating a medial arch support in the footwear. The foot has too little support and therefore medial arch supports are placed in the footwear to support the foot.

Footwear with Arch Support
Arch support is a feature present in few kind of shoes where the foot bed or foot insert or shoe insert is shaped to contour the base of the feet's inner area. However, the level of support tends to greatly vary depending on the type of shoe. Further, the level of support required by the wearer greatly depends on their foot length, body weight, body mass index and the contact area of foot with the ground which can be measured using plantar pressure analysis. Physical assessment and visual analysis of foot are also required to identify the type of foot arches of an individual such as anatomical low arch (common feature in children) or functional low arch (arch will become low on weight bearing) or collapsed arch (complete contact of foot with the ground). Based on the type of the arch and foot (slim, wide or large), the design and materials of arch support will be selected. Soft arches for children to support the normal construction of foot arch as they grow are made up of materials having shore A value between 17 and 22. Medium arches for adults to reconstruct the fallen arches are made up of materials having shore A value between 30 and 35. Materials having shore A value between 40 and 45 are preferred for hard arches which are normally incorporated in midsoles and covered with soft foam insoles/foot bed in therapeutic/corrective footwear.
Arch supports in the footwear would prevent the plantar muscles from stretching out which could lead to painful foot conditions like plantar fasciitis. Wearing footwear with arch support would treat and prevent the following foot related problems.

- Over pronation
- Heel pain
- Plantar fasciitis (an inflammation of the ligaments in the soles of the feet)
- Posterior tibial tendonitis (pain at the inner foot & ankle)
- Pain in the shin area

Problems that may be caused by footwear without arch support:
- Wearing footwear without arch support will exacerbate the foot problems that already exists and it may lead to new orthopedic problems
- Over-pronation and poor posture can cause problems in gait (walking pattern), which can weaken the base and make lead to other neuromuscular pain.

Benefits of wearing footwear with good arch support:
- Footwear with arch support will provide greater stability and balance, which can make walking and standing more comfortable as well as ease foot pain;
- Keeps the foot in neutral position by reducing overpronation;
- Better distribution of body’s weight, resulting in better posture and better alignment of body;
- Wearing sandals with arch support can minimize and prevent the discomfort caused by painful foot conditions.

Design and development of footwear with arch support for people with flat foot at Pilot plant of Shoe and Product Design Centre (SPDC) of CSIR- Central Leather Research Institute (CLRI)

Stepwise procedure:
- The foot outline profile of the person on standing position will be sketched on a white paper.
- Then the points respective to the highest width in the metatarsal region (fore foot), toe region, ankle region and in the heel region will be marked carefully by the skilled trained technical person to obtain the insole pattern for the footwear with medical arch support.
- In the insole pattern, the Standard Insole Length (SIL) is measured and two points are marked. One third of SIL (A) is marked from the top toe and one fourth of SIL (B) is marked from the heel.
- The medial arch is to be placed in between A & B. C is the middle point of AB. The width of the insole is measured at point C (CD). One third of CD is marked inside the insole and this forms the width of arch. An additional 10 mm allowance is added to the arch for tapering to be placed on the insole.
Chronological construction of Footwear with Medial Arch Support

Although the foot carries the person all around the world, the footwear is not given the same significance as much as the dress costume, tie, or accessories like watch. Hence to conclude we may say that one is as comfortable or good as his/her footwear.
Tanning is a process that stabilizes raw putrescible hides/skins of animals to non-putrescible leather towards a longer life by saturating reactive functional groups of collagen with chemicals. Use of chrome tanned leathers supersedes that of vegetable tanned leathers. Collagen with its active binding sites gets attached to these auxiliaries to avoid further deterioration. Tanning uses tannins which are sourced from vegetable-base or chromium-salt or synthetic material-base. In the latter case, combination of synthetic agents with chrome or vegetable tannins is used to make semi-chrome leathers. However, primary tanning is not enough to provide desired characteristics of leather. A retanning is required using different tannins to provide a better feel of leather, dye-ability, fullness, fineness & stability of grains, light-fastness and finishing. It also helps in bleaching. In this case, acrylic resins, dicyandiamidic resins, melaminic resins, or syntans are used as auxiliaries which are classified as either inorganic mineral substance (chrome, aluminium or zirconium etc) or organic materials (aldehydes, vegetable tannins, syntans and resins). Organic re-tanning is of three types: (a) syntans (b) resins (c) polymers. All the above retanning procedures have their own pros and cons.

There is a need to develop sustainable tanning technology for leather processing. Combination tanning using glyoxal and wattle extract is beneficial in producing leather with increased shrinkage temperature and organoleptic properties. Recently, Kanagaraj et.al (2019) formulated a retanning agent using glyoxal where following materials and methods were used:

**Materials:** Glyoxal, LR grade (40%), wet-salted goat skins, wattle extract (Acacia mearnsii, containing 35.6% polyphenol), glycerol (LR grade, 98%), sodium formate, sodium bicarbonate, fatliquoring, retanning agents, dyes, and potassium bromide.

**Method:** The first step of preparation, where wattle extract is made, is as follows:

**Step 1:** The bark is dried and chopped to desired size at first. It is made ready for stripping for extraction in a counter-current mode in autoclave under pressure and temperature above 100 °C. The extract is then concentrated in evaporator. The thick, hot and viscous liquor is spray-dried to a natural powder and is packed in bags for storage. The polyphenol content is found to be 35.6% in the extract.

**Step 2:** The depickled pelt (pH 5.5) was treated with different concentrations of glyoxal (4, 5, and 6% based on pelt weight) and agitated in a drum for 120 min to tan the pelt. The tanned leather was subjected to 5% wattle extract. The combined tannage was fixed with formic acid 1%, and the tanned leather was produced.

**Step 3:** This is a step to produce crust leather. The tanned leathers were neutralized to pH 5.5 and subsequently post-tanned. Retanning, dyeing and fatliquoring were carried out for making the crust leather. In the retanning stage, composition of (Basyntan DI—5%, Relugan RE—5%, Basyntan FB6—4%) was added. Then, brown dye—2% and fat liquor (Lipoderm Liquor SA—5%, Lipoderm Liquor 2FB—3%, Lipoderm Liquor SAF—5%) were added and agitated in the drum for a period of 4 h, and later the chemicals were fixed with formic acid (1%).

**Analysis & Properties:** The combination retanning agent was subjected to different tests. Leather with glyoxal tanning showed through thermogravimetric analyses that the product gives better thermal stability at 113.52 °C, with a residue of 86.94%, in comparison with the leather tanned with combination tanning system using wattle extract showing stability at 110 °C and residue of 87.29%. The visual assessment results showed that the leathers produced from experiments were soft, with smoother grain, uniform dyeing properties and overall comparable strength properties.

The plausible mechanism for improved tanning performance of glyoxal was due to the multipoint hydrogen bonding by the presence of –OH functional groups with active sites of collagen. The increase in shrinkage temperature for solo tanning may be attributed to a starch dialdehyde compound predominantly present in polymerized form, where the terminal hydroxyl groups of the polymer are active and capable of reacting with amino groups of collagen, whereas in combination tanning reaction between functional groups from polyphenol (of water extract) and dialdehyde increases rapidly, primarily through multiple hydrogen bonding and then covalent cross-links improving hydrothermal stability of collagen fibers. FTIR investigation confirms participation of dialdehyde groups in the solo-tanning process. TGA analysis of glyoxal-tanned and combination-tanned leather showed overall better stability but a slight increase in the case of combination tanning system. The results of SEM analysis revealed that crust leather obtained from solo as well as combination tanning produced different surface morphology with different orientations of collagen fibers. In the case of combination tanning, wattle extract acted as a filling agent so that comparative smooth morphology was observed. The reduction in BOD and COD values from effluent stream in the case of solo tanning showed 64–70% and 68–71%, respectively. Physical strength properties of leather were slightly better in combination tanning as compared to solo-tanning system. The above results relating to pollution reductions, improved organoleptic and stability properties yield to sustainable leather processing.
CSIR-CLRI organized an executive training program on “Identification and Examination of Leather Articles” for 41 officials from the Office of Commissionerate of Customs, Ambattur, Chennai. The training program was held from 31st July to 2nd August 2019 and the various technical sessions were handled by the experts from Leather Process Technology and CHORD departments of CSIR-CLRI. The first two days of the program was held at the Customs Office and the third day of technical sessions was held at CSIR-CLRI. The inaugural session was held at 10.00 am on 31st July 2019 at Customs Office and was presided over by Shri.Venugopalan Nair IRS, Assistant Director, National Academy of Customs, Indirect Taxes & Narcotics (NACIN). The program covered various aspects including - different types of raw materials, overview of leather processing, different finishing techniques, DGFT norms pertaining to finished leathers for export and visual and practical evaluation of different types of leathers. An evaluation was conducted for the trainees based on the above aspects imparted to them. The valedictory function was held at 4.30 pm on 2nd August 2019 at CSIR-CLRI and the function was presided over by Shri. Kesava Narayana Reddy IRS, Additional Director, NACIN and Dr.C.Muralidharan, Chief Scientist and Head, Leather Process Technology, CSIR-CLRI.
Training on Leather Processing Technologies for Leather Manufacturers from Africa
Sponsored by Supporting Indian Trade and Investment for Africa (SITA),
International Trade Centre (ITC), Switzerland

Supporting Indian Trade and Investment for Africa (SITA), International Trade Centre, Switzerland, has been taking efforts aiming at the development of the Leather and Leather Product sectors in African countries. SITA has sponsored 8 personnel (trainees) from the tanning sector of Uganda, Kenya and Tanzania to undertake a short-term training program in leather manufacture at CSIR-CLRI titled “Training on Leather Processing Technologies for Leather Manufacturers from Africa”. The objective of the training program is to train the personnel in leather manufacturing utilizing the rich expertise of CSIR-CLRI, with special focus on (a) quality improvement, (b) cleaner technologies and (c) management of wastewater and solid waste. The training program is organized from 5th to 31st August 2019. The inaugural session for the training program was held at 10.30 am on 5th August 2019 at Heritage Hall, CSIR-CLRI and the session was presided over by Dr. C. Muralidharan, Chief Scientist and Head, Leather Process Technology, CSIR-CLRI. Dr. C. Muralidharan delivered an insightful lecture to the trainees about the transition of the leather industry, the journey of CSIR-CLRI over the years and its role in the remarkable evolution of the global cum Indian leather industry.

Post the inaugural session, visit to various departments of CSIR-CLRI was organised for the delegates. The delegates were acquainted to the various activities of CSIR-CLRI and were given a prelude to the four-week training program to be organized for them. The following are the focal points of the technical sessions organized as part of the program:

- Unit operations/ process involved in different stages of leather manufacture
- Newer concepts in leather manufacturing
- Theoretical rationale of best available cleaner technologies
- Tannery wastewater treatment methods
- Utilization of solid wastes from tanneries
- Quality management system
- Contemporary aspects of importance like Inventory Control and Occupational health and safety

The program will also include visits to Effluent Treatment Plants, Tannery and Leather Goods/Garments manufacturing units to give the delegates on-field industry exposure. The program is more practical intensive to expose the delegates to experiential learning in the field of leather processing.
Science India Forum (SIF) is an outreach of Vijnana Bharathi (Vibha) in Middle East Countries and supported by the Embassy of India, working to promote science education among students and create an awareness of the glorious past of our nation. Every year toppers from various schools are selected after multiple levels of screening and are made to visit places of scientific importance. Under this programme, 24 school students (5th to 12th grade students) along with 6 faculties and parents from Saudi Arabia visited CSIR-CLRI on 8th August 2019. The visit was organized by CHORD. Dr.B.Madhan, Principal Scientist, CARE delivered a lecture to the students on “Journey of CSIR-CLRI: Research to Livelihood” post which the students visited the various labs/ departments of CSIR-CLRI. The students gained knowledge about the various technologies of CSIR-CLRI and the scientific activities carried out at the Institute. The students’ feedback indicated that the visit was extremely useful to them and helped them to increase their awareness level on current scientific activities.
Development of Stores and Purchase Inventory Software for LIDI, Ethiopia. Training programme conducted by Shri G Sathiamoorthy, CSIR-CLRI under Twinning Phase II

Background:
While carrying out the industry consultancy work, the industry consultancy team members from LIDI and CLRI observed that the leather product industries in Ethiopia have been using predominantly manual ledgers for Inventory management and very few industries have been using MS Excel sheets. LIDI, LGG industry consultancy team requested CLRI to develop user friendly inventory software. CLRI in response to the request of LIDI have developed inventory software. To enable LIDI personnel to get familiarised with the software, a training programme was conducted. A team of six IT Department personnel attended the training.

The following topics were covered in the training program.
- Step by step working method of the application.
- Method to create new user profile using Database.
- Inputs of each menu and their functions.
- Method to view Various Reports from the Database
- SQL server Installation
- .NET Framework Installation
- Internet Information Services Installation and configuration
- Web Deployment.
- Database backup and Database restore

Website management Training provided to LIDT IT team

As requested by the IT Team Leader Website Management Training programme organised and the following tasks were carried out:
- How to Create a new Dot Net webpage using Microsoft Visual studio
- How edit the existing web pages
- How to Build/Publish the portal
- How to add/edit images
- How to upload and download files from the Web Server using Plesk User interface.
- Explained about File Transfer Protocol (FTP) and its important features.
- Explained how to install FTP software and configuration of the website using WINSCP FTP software
- How to create sub-domains

Intranet Training to Human Resource Directorate personnel.
As requested by the IT Team Leader, HR Intranet Portal Maintenance training organised for LIDI HR Directorate personnel to maintain the staff DB
The following tasks were carried out
- Created a new login for HR portal
- How to add a new employee details with personal details and photograph
- How to modify / delete the existing Employee

Intranet Management Training to IT Department personnel.
Intranet Admin Module training provided to LIDI IT team.
The training programme attended by:
1. Ms. Selamawit Kahsay
2. Ms. Selamawit Teklew
3. Ms. Saba Belaynen
4. Ms. Alemnesh Megersa
5. Mr. Samson Belete

The following topics were covered in the training.
- Every menu in the Intranet Admin Panel explained in detail.
- QMS forms and procedure upload.
- Managing Employee Data
- Deployment of Intranet
- Intranet Data Backup

To manage the various portals, conducted a Database Management System (DBMS) Training for LIDI IT personnel.

The following topics covered.
- DB Installation procedure
- Create and Drop Database
- Create Data Table with Primary key
- Database backup
- Database Restore
- Database migration
- Database Scripting and Restore

CAD/CAM Services
Mr. Getachew Adhena, Director, LGGD informed me that, the Digitizer and Plotter in the CAD centre are not working. He requested me to check and rectify the issues.

New version of Garment CAD system (AccuMark 10.2) Installed and the Digitizer and Plotter Configured. Trial run carried out both Digitizer and plotter working successfully.

Also provided CAD systems installation and troubleshooting training to Leather Goods and Garment Directorate personnel.
1. Ms. Emebet
2. Mr. Getachew Kassa

Industrial Service
LIDI Stores and Purchase Inventory System was already installed in Entoto leather goods Industry, Hanna Mariyam.

The factory is facing some issues in finished goods Entry screen. They requested LIDI to trouble shoot the software. CLRII team has visited the factory along with LIDI IT person and LGG person. It was found that, there was problem in the pagination view and the same was rectified.

Future plans
- Conductance of demonstration workshop on tannery inventory control and leather products inventory control software to tannery and leather products industry personnel at LIDI
- Implementation of software at select Ethiopian leather industries (implementation of software at products industries to be coordinated by LIDI IT staffs in consultation with LGGID directorate)
- Assessing the gaps on IT enabled business in leather and leather products sector (Visit to tanneries and leather products units to be coordinated by LIDI IT staffs in consultation with LTD and LGGID directorates)
- Implementation of software and other IT enabled services to Ethiopian leather industries to be planned based on the action pan report
- Leather export database management system

Meeting with LIDI Deputy DG and other senior officials. Conducted a meeting on 19 July 2019 and presented the work carried out and the future plan to Deputy Director General.

The following LIDI Staff attended the meeting.
- Mr. Hailekiros Debesay, Deputy Director General
- Mr. Tesfaye, Twinning coordinator
- Mr. Getachew Adhena, Director LGG
- Mr. Frezer Solomon, IT Team Leader
During 23-06-2019 to 20-07-2019
Study of existing network setup at LIDI
Prepared a document with details of LIDI existing network active & passive component configuration and hardware details for making further modification in the LIDI network. Details of Router, Firewall and Core switch configuration including network details documented

Videoconferencing facility @ LIDI
CSIR-CLRI created the Video Conferencing Facility through Firewall configured with Core switch. Video Conferencing facility incorporated with existing LIDI VLAN network. License for Polycom device vx7000 HD renewed. Key Enabled for HDX 7000 Equipment Enabled for Multi Point &1080p activated.

The following are the action taken by CSIR CLRI IT experts along with LIDI IT Team
Video conferencing facility reconnected and reconfigured. All the accessories and CODEC connected. The local IP assigned in the VC equipment and NAT with the Public IP in the Router and Firewall

Identified the issues in the video conferencing facility that the audio and video not able to view. The license key for multi-party as well as codec license installed in the codec

Connected Video Conferencing to Chennai, India (with Direct Connection)
Directly connected the VC equipment with Ethio Telecommunication ISP at LIDI. Connected the VC session with Chennai and able to connect through Polycom Bridge. LIDI VC equipment with renewal of license able to connect Chennai.

Training given to LIDI IT Team
-Video Conference - Hardware details, connecting accessories, Device Configuration, Network settings and conducting VC session. Video Conference Hardware Details, Codec Operation, Connecting Video Conferencing Equipment
Visit to Ethio Telecom
Along with IT team leader Mr. Frezer Soloman visited Ethio Telecom main office and met officials. Explained the importance and need of Video Conference facility at LIDI and discussed with Technical manager and to the facilitator and given all the necessary documents which enabled the LIDI to get VC facility under Ethiopian Government new IT Policy.

Meeting with LIDI Deputy DG and other senior officials.
Conducted a meeting on 19 July 2019 and presented the work carried out and the future plan to Deputy Director General.

The IT Team at LIDI was given hands on training on operation of Video conferencing facility. The topics covered are
- Hardware Connections
- Ports to connect
- Network configuration
- Preset, Camera Control
- Audio setup & MIC Control and operation
- Dialing the remote site
- Saving the Client address
- Creation and maintenance of Dictionary

Training - Firewall, Router and Core Switch – Configuration, Present LIDI setup

The following LIDI Staff attended the meeting.
- Mr. Hailekiros Debesay, Deputy Director General
- Mr. Tesfaye, Twinning coordinator
- Mr. Getachew Adhena, Director LGG
- Mr. Frezer solomon, IT Team Leader.

E Guruprasath presented the tasks carried out during the deputation period. Also presented the future plans for the IT Directorate. Deputy DG appreciated our efforts.
Inauguration of CSIR-HARIT Project
“Enhancement of Economic and Social Status of Rural Populace of North East India”
&
Four-day training programme on Novel Products based on Ethnic Designs and Fabrics of North East, India
During 16th July 2019 to 19th July 2019 at CSIR-NEIST, Lamphelpart, Imphal, Manipur.

CSIR proposed a project “CSIR-HARIT” - Harnessing Appropriate Rural Interventions and Technologies (CSIR-HARIT) Programme to focus on enhancing income generation and improvement in quality of lives of rural communities, thus catalyzing and bringing socio-economic development through CSIR interventions/technologies.

Inauguration of CSIR-HARIT Project “Enhancement of Economic and Social Status of Rural Populace of North East India”. A four-day training programme on novel products based on Ethnic designs & Fabrics of NE India was organised in collaboration with the proposed programme of NEIST, Jorhat to be conducted at CSIR-NEIST, Imphal on Distribution of Anti-Arthrities medicine developed by CSIR-NEIST, Jorhat.

Dr. S P Saikia, Senior Scientist, CSIR-NEIST, Jorhat, Assam welcomed the trainees and audience. Guest of Honour Dr. G. Narahari Sastry, Director CSIR-NEIST, Jorhat, Assam, expressed his thoughts and expectations on the need for the job-oriented activities between CSIR-CLRI and CSIR-NEIST. Address by Chief Guest for the event Shri. Karam Shyam, Hon’ble Minister, Revenue, CAF & PD, Manipur touched upon various benefits of the training programme and the long prospect/advantages for the trainees.

President remark was given by Dr. Huidrom Birkumar Singh, Senior Principal Scientist, CSIR-NEIST Branch Laboratory, Lamphelpat, Imphal, Manipur. The Inauguration programme concluded with vote of thanks by Mr. P. S. Suresh Kumar, Principal Scientist, PI, CSIR-CLRI, Chennai.

The inauguration of the programme was organized by NEIST, Jorhat wherein Shri Karam Shyam Honourable Minister for Revenue, CAF & PD, Manipur was the Chief Guest and Dr G. Narahari Sastry, Director CSIR-NEIST, Jorhat was the guest of honour.

The Chief guest Shri Karam Shyam Honourable Minister for Revenue, CAF & PD, Manipur praised the training programmes earlier conducted by CSIR CLRI and also wished success for the upcoming training programme. The guest of honor Dr. G. Narahari Sastry, Director CSIR-NEIST, Jorhat thanked CSIR – CLRI for conducting such training programmes at CSIR NEIST, Imphal. Shri P. S. Suresh Kumar, CSIR-CLRI gave the vote of thanks.

Details about the Training programme addressed to trainees.

There were around 50 trainees who enrolled for the training programme. Out of the 50 trainees only 10 trainees possessed some skill in the product making. All the others were fresher’s. The four-day training programme was intended to give awareness to the already trained candidates in product making and introduction of combination products already designed and developed by CSIR-CLRI in other programmes. So ten candidates were selected.
for this training programme and others were informed that they will be given training in product making in the future training programmes which will be carried out at Imphal. Detailed discussion about the scheduled 4 weeks training programme was explained to the trainees.

Out of 10 trainees selected seven of them turned up for training. Initially they were showcased with products already designed and developed by CSIR-CLRI using the Northeastern material and other combination products designed and developed at CSIR-CLRI using other natural fiber material. This initiative enthused the participants and three of the trainees requested for rigorous training programme in products making.

It is proposed to commence a training programme for a period of one month in any of the three premises possibly during the 3rd week of August 2019 followed by other two training programmes of similar nature likely during mid-September 2019. We also had a detailed discussion with PPBD staff of CSIR, NEIST regarding setting up of training centre at NEIST, Jorhat. They have positively acknowledged our proposal and promised to explore the possibility of identifying space for setting up a training centre at NEIST, Jorhat.

Through this CSIR HARIT programme, CSIR-CLRI intends to create jobs and generate entrepreneurs. Further, it helps to motivate the self-help groups to venture into start-ups in NE region. The possibility of the products being marketed in showrooms and in online portal is also envisaged. This would enhance the revenue generation and livelihood of the northeastern people, which will improve upon their socio economic status.

Finally, it might result in lesser migration of the northeastern population in search of job in other states.

*Silk yarn preparation at the site*

Best Wishes on your Retirement

**Shri RADHEY SHYAM**
Principal Technical Officer
RCED - KANPUR
“Celebration of 77th Foundation Day of CSIR” was discussed at the first meeting of the Steering Committee held in CLRI on 26th August 2019 & presided over by Dr C Muralidharan, Chief Scientist. The meeting was attended by the members of the steering committee. Dr (Ms) A Gnanamani, Co-Chairman and Shri P Shyam Sundar, Convenor of the 77th CSIR Foundation Day celebrations committee 2019 presented the agenda for the meeting. CSIR-CLRI will organize several scientific, sports and cultural programmes on that day. An OPEN Day cum JIGYASA will coincide with the celebrations. More details will be updated on www.clri.org shortly.
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