



this issue

Joint Secretary, DIPP, GoI reviews ILDP projects **P.1**

Training programme on O&M of ZLD systems **P.2**

Update on CEMCOT projects **P.3**

Energy conservation in tanning industry **P.4**

Study tour delegation from Bangladesh **P.5**



Safety Audit

ILIFO has been engaged by Vanitec to conduct safety audit in 132 tanneries and two CETPs of Vanitec. So far, 40 tanneries have been audited. Under this safety audit project, the occupational safety and health related aspects are assessed in tanneries starting from raw hides handling to finishing area including pre-treatment facilities. Detailed recommendations priority-wise are provided to each tannery separately indicating potential contractors and suppliers with an estimated cost of improvements.

Joint Secretary, DIPP, Government of India reviews ILDP Projects

Mr. Chaitanya Prasad, Joint Secretary, Department of Industrial Policy and Promotion (DIPP), Government of India was in Chennai from 14 to 16 July 2011 to review the progress of projects under the India Leather Development Programme (ILDP) including the projects under "Environmental Initiatives" subcomponent of ILDP, in which six Zero Liquid Discharge (ZLD) systems are being implemented through Chennai Environmental Management Company of Tanners (CEMCOT) as the Special Purpose Vehicle.

An interactive meeting was organized by Council for Leather Exports (CLE) and CEMCOT under chairmanship of Mr. M. M. Hashim, Chairman, CEMCOT. Mr. A. Sahasranaman, Vice Chairman, CEMCOT presented a historical review of environmental management by the tanning industry in Tamil Nadu and its impact on the profitability of tanning in the state. He also informed the Joint Secretary that the projects under CEMCOT should be fully functional before the end of December 2011.

Shri Chaitanya Prasad gave details of various schemes proposed to be taken up for the leather sector under the 12<sup>th</sup> five year plan and sought the inputs of all stakeholders. He said that taking into account the performance in the 11<sup>th</sup> plan, the outlay for the 12<sup>th</sup> plan could not be pegged too high, but it may be expected to be in the range of Rs. 3500 crores.

After the presentation and general discussion regarding leather sector, the Joint secretary assured full support of the DIPP to the leather sector.

On 15 and 16 July 2011, the Joint Secretary visited the project sites at Pallavaram, Ranipet, and Ambur. He appreciated the stakeholders for their keen interest in these projects and was impressed by the progress achieved at various project sites.



Mr. Chaitanya Prasad, JS, DIPP at the interactive meeting



Site visit to Ranitec CETP, Ranipet



Site visit to SIDCO I CETP, Ranipet





# Training programme on O & M of ZLD Systems



## Treatment cost with ZLD systems

A group of 27 fresh engineering professionals was trained by ILIFO in a two week training programme on operation and maintenance of ZLD systems in Ranipet from 16 to 27 May 2011. The ZLD systems employ reverse osmosis and evaporator plants which have very sensitive equipment. Trained manpower is very important for the O & M of these sensitive ZLD systems as even a small mistake by operators might either lead to adverse impact on efficiency of plant or high replacement costs. In this background, with the support of CEMCOT, ILIFO took the initiative and conducted the first-of-its-kind training. The candidates were nominated by the contractors, who are currently installing ZLD systems and they will operate after installation. About 20 of them were nominated by G.E.T. Water Systems and the rest of the participants were from Ramky Infrastructure, Ranitec CETP and Pertec CETP.

It is expected that the cost of expenditure for effluent treatment and solid waste management will become four-fold compared to the existing treatment cost.

The training programme was inaugurated by Mr. A. Sahasranaman, Vice Chairman, CEMCOT and Hony. Director, ILIFO on 16 May 2011. On the Valedictory ceremony on 27 May 2011, Mr. M. Pannirselvam, M. Tech., MBA, District Environmental Engineer, TNPCB, Vellore distributed certificates to the candidates.



Mr. A. Sahasranaman, Vice Chairman, CEMCOT, Hony. Director, ILIFO inaugurating training

The cost of effluent treatment per cubic meter will be somewhere Rs.125 to 150 per cubic meter with ZLD systems. The proportionate cost on finished leather will be about Rs. 1.50 to Rs.2.00 per sq.ft.

The training programme comprised of classroom lectures in the mornings and factory visits to operating plants and practical demonstrations by various equipment manufacturers in the afternoons. Each candidate was provided with worksheets for the factory visits and practical demonstrations so that they fully involved themselves in the training programme. A total of 16 experts from various fields provided lectures and practical demonstrations over the two weeks programme. The topics covered sources of pollution from tanneries until secure storage of salt obtained from evaporators including occupational safety and health aspects.

This becomes necessary to reduce the quantity of salt and effluent sent to the CETPs in order to reduce the cost of effluent treatment.



Mr. G. Sundaramurthi, MD, CEMCOT and Mr. M. Pannirselvam, M. Tech., MBA, District Environmental Engineer, TNPCB, Vellore issuing certificate to a successful candidate

Measures such as desalting of raw hides and skins, use of good quality chemicals, reuse of waste streams wherever possible, salt-less tanning technologies, use of low-salt-containing-chemicals in post tanning processes will help reduce the quantity of salt and volume of effluent. ILIFO is willing to provide consultancy to any tannery in this regard.

## Vishtec CETP commissions its ZLD System

Melvisharam Tanners Enviro Control Systems Pvt Ltd, a common effluent treatment plant established by a group of 33 tanneries near Melvisharam has recently commissioned its Zero Liquid Discharge System (ZLD).

Though the overall capacity of the CETP is 3400 m<sup>3</sup>/d, the ZLD has been established for 600 m<sup>3</sup>/d, keeping in view the average flow of effluent to this plant in the past few years.

The total cost of ZLD project was about Rs. 8.35 crores. The sources of funding for the project is as follows: ASIDE Grant (through CLE): Rs. 2.53 crores, Contribution from members: Rs. 2.79 crores, Loan obtained through the contractor: Rs. 3.03 crores. The plant is being operated by G.E.T. Water Solutions, a group company of Hydroair Tectonics PCD Ltd, Mumbai.

Though as experienced in other plants, there were initial teething troubles in the evaporator, the plant is currently operating satisfactorily, processing about 550 cubic meter of effluent average on a daily basis.



## Update on ZLD systems implemented by CEMCOT

The implementation of ZLD systems of CEMCOT in the five locations is ongoing with varying progress at each location. The first plant to be functionally complete is ZLD system at Pertec CETP, Pernambut. Some works are yet pending which are now taken up but these will not affect the commissioning of the plant for trial runs and stabilization.

The progress of works at Ranitec, SIDCO I and SIDCO II CETPs are now satisfactory and it is expected that these plants would be ready by September 2011 for trial runs and stabilization. The Pallavaram CETP is also expected to be ready by end of September and trial runs will be taken up by October 11.

The Dintec CETP project is yet to kick off, however the system at Dintec would be ready by December 2012, subject to DIPP releasing the first installment without any delay.



UF modules erected at Ranitec CETP, Ranipet



RO modules erected at SIDCO I CETP, Ranipet



Evaporator at Pertec CETP, Pernambut



RO building at SIDCO II CETP



Multigrade filters at PTIETC CETP, Pallavaram





## Energy Conservation in Tanning Industry

A joint workshop by UNIDO, IFLMEA, ILIFO, Planters Energy Network and South India Tanners and Dealers Association (SITDA) was organized on 14 July 2011 in Ranipet to bring awareness of energy conservation measures and application of solar heating technology in tanneries.

### *Rationalize energy use in tanneries & ETPs for greater productivity*

The main losses of energy occur in drum operations, compressed air systems and thermal systems.

The energy loss in drums are due to wooden V-block bearings, wear of which changes the centre of rotation of drum and separate mounting of gear wheel and star shaft, cause eccentric ring gear movement. Other reasons are rough-cast gear teeth, poor belt drive design and misalignments

Modifications of drive system in existing drums are possible that reduces electricity consumption

Quantifying and eliminating air leaks, efficient line sizing and optimal pressure setting improves compressed air system thus reduces electricity consumption

Proper storage of fire wood, fire wood quality monitoring, fire wood feeding frequency, insulation and correct sizing of piping, improves efficiency of thermic fluid heaters

T-5 fluorescent lamps are currently preferred energy-efficient option for factory indoor lighting. These lamps are available with high colour rendering index (up to 98), for e.g. sorting of leather

Selecting pumps for operation close to Best Efficiency Point, ensures energy-efficient operation of pumps

Process economies such as Reducing number of washings and combining unit processes, reduces the energy consumption



*Drive system in drum is an important area that improve energy saving*

The workshop on energy conservation in tanning industry was attended by about 60 companies, most of them being tanneries located in and around Ranipet. Mr. C.M. Zafarullah, Secretary, SITDA welcomed the participants. Mr. M. Viswanathan, Cluster Development Agent (Leather & Footwear) provided a brief update on the project interventions in the last three years in the tannery sector. With the project's aim of enhancing the competitiveness and sustainability of MSME clusters by strengthening the capacity of firms and bringing stronger collaboration among the companies and the cluster level institutions, the workshop was particularly aimed at creating awareness on the energy conservation possibilities in tanneries and application of the solar heating in tanneries.

Mr. Mathew Alexander, Vice President, ILIFO presented a paper on "Rationalize Energy Use in Tanneries & ETPs for greater productivity". Dr. C. Palaniappan, CEO, Planters Energy Network presented a paper on "Reducing leather processing cost by using solar heating – air and water". Mr. D.M. Parikh, Project Coordinator, EDII BDS Market Development Project spoke on the methodology of energy auditing implemented in Pallavaram Tanning Cluster.

*Similarly thermic fluid heaters are another important area to improve energy savings*



### *Reducing leather processing cost by using solar heating – air and water*

In India, 240 to 320 days of full sunshine in a year with daily radiation 4 - 7 kWh per m<sup>2</sup>

The main area for application of solar heating in tanneries are generation of hot water for leather processing, drying of leather after dyeing, drying of leathers after spraying and coating

The payback period of industrial water heating installation is about 1.5 years

In solar air heating, about 60% of the solar incidental energy is tapped by air and used for drying purposes

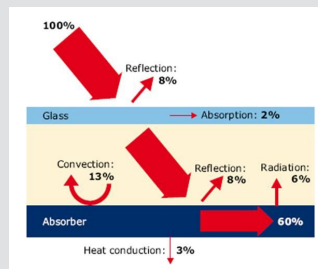
Solar air heaters are used in several industrial sectors, like chemical, pharma, textiles, ceramics, and mainly agro industries

In agro industries, the solar hot air is used for drying pulses, spices, fish and other vegetable products

The solar hot air unit in MA Khizar Hussain & Sons tannery provides the annual fire wood savings of about 610 tones

Similar unit set up in a tannery for an autospray provided diesel saving of about 26 litres per day

The payback period for solar air heating system is 2.2 years on average.



*Basics of solar heating*



*Solar hot air application in a tunnel drier of an autospray*

## Ambur Open 2 impacts

The Exhibition of Footwear Components, Accessories and Finished Leather was held from 9 to 10 July 2011 in Ambur Trade Centre, Ambur. There were 130 stalls over a total area of about 1005 sq.m. On the sidelines of the event, there were several seminars and CLE's panel discussions.



## 15th AGM of ILIFO

Fifteenth Annual General Meeting of ILIFO was conducted on 28 July 2011 at its registered office at 43/53, Raja Muthiah Road, Periamet, Chennai—600 003 under the chairmanship of Mr. M.M. Hashim. The activities of the Foundation during 2010-11 was presented to the members.

Members expressed satisfaction over the activities of ILIFO and expected it to provide continued service to the industry not only in India but also in other countries of Asia. The successful completion of the ETP in South Arabia was noted with pride.



## Study Tour delegation from Bangladesh

A study tour delegation from Bangladesh comprising of the tannery owners, office bearers of two prominent leather industry associations, technical representatives from tanneries and officials from UNIDO-bfz-Sequa partnership project visited a few tanneries and common effluent treatment plants in Chennai and Kolkata in India from 31 May to 7 June 2011 in order to understand and see the initiatives of leather industry in the abatement of pollution emanating from tanneries and complying with the environmental regulations prevailing in these locations.

Under the large scale SWITCH Asia programme of European Union, UNIDO in partnership with bfz gGmbH (Training & Development Centres of the Bavarian Employers' Associations, Hof, Germany) and sequa gGmbH is implementing the project "Reduction of environmental threats and increase of exportability of Bangladeshi leather products (Re-Tie project)". This project aims at enabling local leather-based industry to sustain conversion of raw hides and skins into exportable leather or as derived finished product. Dhaka Chamber of Commerce and Industry (DCCI), Bangladesh Finished Leather, Leather Goods and Footwear Exporters' Association (BFLLEA) and Bangladesh Tanners Association (BTA) are the local partners of the project.

The team had an interactive session with CEMCOT and ILIFO in AISHTMA. Mr. M. M. Hashim chaired the meeting. Among the participants were Mr. A. Sahasranaman, Vice Chairman, CEMCOT and Hony Director, ILIFO, Mr. G. Sundaramurthi, Managing Director, CEMCOT.

The participants expressed that the study tour had been very useful for the visitors and the team would like to implement the best practices learned during the study tour in their factories.



At effluent flow metering in K.R. Leathers



Mr. M.M. Hashim, Chairman, CEMCOT and ILIFO and Mr. A. Sahasranaman, Vice Chairman, CEMCOT and Mr. G. Sundaramurthi, MD, CEMCOT interacting with visitors

ILIFO Newsletter and Journal of Cleaner Tanning, Issue 11-2, July 2011



## INDIAN LEATHER INDUSTRY FOUNDATION

F2, "Shreyas", 87, Greenways Lane  
Off Greenways Road  
RA Puram, Chennai—600 028. India  
P +91-44-2461 5497  
F +91-44-2461 5494  
E [ilifo@vsnl.com](mailto:ilifo@vsnl.com)  
W [www.ilifo.in](http://www.ilifo.in)