SWITCH–Asia Thematic Regional Roundtable & Networking Event

March 2015

Presentation on: Sustainable Textiles (Sustex) project, India
Sustainable Textiles for Sustainable Development

To promote the production & consumption of textiles from Rajasthan that are both environmentally friendly & positively impact on poor workers & their communities.

Expected Results:
Model eco-friendly Textile Park – producing 50% eco-friendly products
Tool kit on Sustainable Textile Production developed
1000 block printers are trained & employed by textile park.
Models for low cost & efficient Technologies are developed.
Reduced contamination of the local environment & water sources.
Improved quality of working conditions for artisans & workers.
New range of eco-friendly textile products
Increased sales of organic textiles from JITPPL & target SMEs
Impact: Sustex Project

- Model Texcraft Park established – CETP functioning; ~90% water recycled; Zero liquid Discharge
- All products made at the park are sustainable
- Toolkit on Sustainable Textiles Development disseminated to over 3000 M/SMEs and 25 Textile Parks.
- Training of 1018 artisans – 80% women; 40% employed in Park
- Models on low cost technology developed --3 SETPs set up and functioning
- Focus on OHS issues – Inclusion in 12th FYP and knowledge sharing on the same with 2500 M/SMEs
- New range of textiles products developed. New brand of textiles ‘Jaipur Bloc’ developed.
Textile Industry -- background

14% of industrial production & 4% of GDP
17% of total export earnings
Second largest employer in India (~ 21%)
Water consumption – 1 metre of fabric = 3 litres of water
~1.6 billion litres of effluent per day (approx)
Jaipur, Rajasthan is one of the major hubs of textile production
Untreated Polluted Water – a major cause of concern for Dyeing & Printing activities
About Jaipur Bloc

Mission statement of the JITPPL

Sustainable development & responsible production and strategic planning for forward and backward linkages

Created under Scheme for Integrated Textile Park (SITP) Government of India

As Special purpose vehicle (SPV) that aims to address the challenges that are faced by Hand Crafted Textile Industry
Features of Park – Common Facilities

• Secretariat

• Training and Resource centre

• Common Facility centre

• Central Effluent Treatment Plant (CETP) of 500 KLD (Kilo Litres Per Day) capacities wherein 90% of water used in dyeing and washing is being recycled and reused

• A central RO drinking plant with supply to all units

• Flow and water metres installed at all inflow and outflow points

• A central control room that monitors effluence and usage online

• A Sewage Treatment Plant (STP) of 60 KLD capacity, the recycled water supports green belts
19 members – 20 worksheds – in an area of 24 acres

- Activation and maintenance of green belts

- State of art infrastructure
  - Central water collection pond of 17 million litres
  - Water recharge points
  - Cement roads
  - Solar streetlights etc
  - Rooftop rainwater harvesting structures on each factory shed
  - Canteen facilities for workers

- Solar energy generation 55 KVA

- Storm water drains

- Centralised security system

- Proposed testing labs

- Design and development centre

- Resource centre for library and archives for further research and documentation of our rich heritage textile & craft
Water and Waste management

Fresh water treatment – Reverse Osmosis – 240 KLD

Effluent treatment with recovery and complete zero liquid discharge – 500 KLD

Sewage treatment – 60 KLD

Pumping system – For effluent and sewage

Automated conveyance and management system
Water treatment system

- The plant treats raw water using Reverse Osmosis technology to provide pure potable water for use in industries.

- Plant capacity – 240 KLD
Effluent Treatment Plant

Capacity – 500 KLD

- Uses latest technologies to recover treated water from the effluent
- Treated water is used back in the units for process use
- Designed as zero liquid discharge system
- Uses a very cost effective net evaporative RO reject management system for Brine
- Proposal for implementing Brine recovery is under process
Effluent and Sewage Water management system

- Manages and monitors feed water, treated effluent and sewage
- Level indicator installed to monitor level in individual units
- Effluent discharge/ water intake controlled with motorized valve
- Flow monitoring through electro mechanical flow meters
- Online TDS meter with alarm for higher range
- PLC based telemetry system displays real time parameters
- Continuous communication between SCADA and the field
Advantages

- Remote monitoring of a system
- SCADA – Bi directional communication is achievable
- Warning alarm to operators for any abnormalities
- Monthly bill delivered by pre – registered email or by SMS
- System operated at multiple level of security
- Can be viewed through designated user name and password
- Consolidated report for upto 3 years can be viewed
What we have today is....

- A complete water management
- Latest technology for treatment
- Sophisticated monitoring and management system
- Can be monitored from remote
- Automated pumping system
Cost structure: CETP

- Plant and machinery approx INR 100 million for a 500 KLD
- Electricity
- Diesel (Genset)
- Manpower
- Chemicals
- Repair & maintenance
- Sludge disposal
- Running cost is pretty high (still arriving at a figure as plant is in stabilising phase and yet to function at full capacity)
Awards, visits

Jaipur Bloc has been awarded as “Responsible Indian Business Membership Organisation by Ministry of Micro Small and Medium Enterprises Government Of India.
The roadmap ahead

Build on many existing instruments & dimensions

- Energy and water saving plan
- Effluent treatment
- Waste management
- Research and Development Activity
- Eco-designing
- Training & Increasing human resources efficiency
- Occupational health and safety policy
- Creating symbiotic systems in the local industrial area
Thank you

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