Full Report - External

National Roundtable: Mainstreaming Resource Efficiency in Textile Industry in India

Date: Friday 04 February 2022 | 14:00 -16:00 (India Time)
Venue: Online

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List of Acronyms:

ABFRL	Aditya Birla Fashion and Retail
CO2	Carbon Dioxide
CE	Circular Economy
CRB	Centre for Responsible Business
CSR	Corporate Social Responsibility
COVID-19	Coronavirus Disease
CTPs	Chemical Treatment Plants
DJSI	Dow Jones Sustainability Index
ESG	Environment Social Governance
ETP	Effluent Treatment Plants
EU	The European Union
GHG	Greenhouse Gas
PLI	Production Linked Incentive
R&D	Research and Development
RPAC	Regional Policy Advocacy Component
SCP	Sustainable Consumption and Production
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
S&P	Standard and Poor's Index
SWITCH-Asia RPAC	SWITCH-Asia Regional Policy Advocacy Component
TERI SAS	The Energy & Resources Institute School of Advanced Studies
UNEP	United Nations Environment Programme

Background:

SWITCH-Asia is the programme funded by the European Union (EU) to promote sustainable consumption and production (SCP) across the Asian Region. The SWITCH-Asia Regional Policy Advocacy Component (RPAC), implemented by United Nations Environment Programme, is designed to strengthen the dialogue at regional, sub-regional and national policies on Sustainable Consumption and Production (SCP) and thereby contributing to green growth and reduction of poverty in Asian countries.

The textile industry is a key sector of Indian economy and a major source of employment for the people. Its rise has also resulted in sizeable use of natural resources and causing negative impact on the environment. To make the textile sector more sustainable, there is a need for fundamental changes by mainstreaming resource efficiency and circular economy in the textile manufacturing and processing to minimize/mitigate the detrimental environmental impacts of the textile industry and bring long term sustainability.

In this context, a national activity with TERI School of Advanced Studies (SAS) was initiated to understand the sector's resource use profile and policy landscape for mainstreaming resource efficiency in India. As part of this national activity, a National Roundtable on "Mainstreaming Resource Efficiency in the Textile Industry in India" was organised on 4th Feb 2022 from 2 – 4 pm (IST).

Objectives of the event

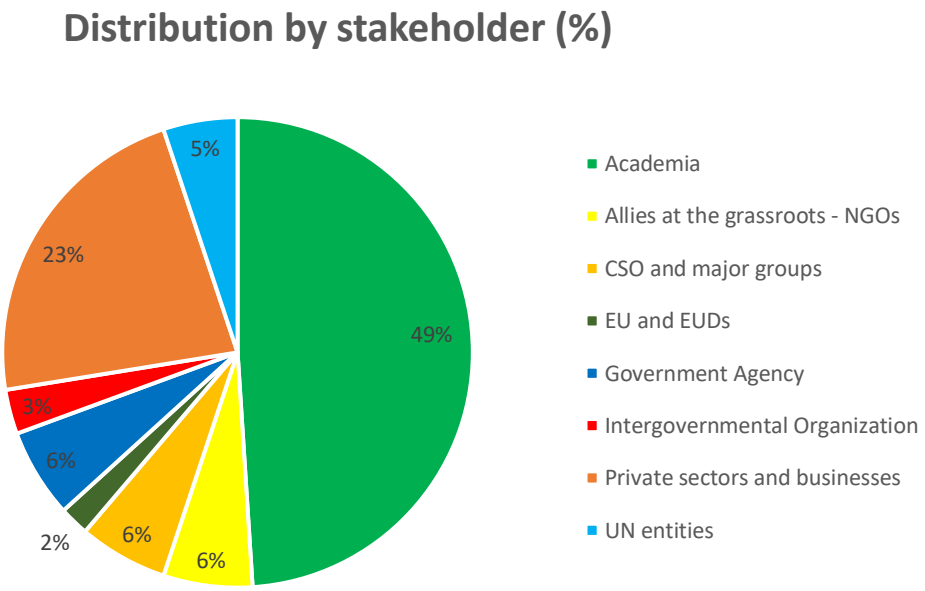
- To engage in dialogue with the industry, government, and civil society stakeholders on critical needs and enabling solutions to induce resource efficiency in the textile sector in India;
- To explore systemic changes needed in policies and processes involved in various stages of production to help institutionalize resource efficiency and circular economy in the textile industry;
- To share best practices, initiatives and lessons learned on implementing resource efficiency and circularity in the textile value chain (policies, programs, economic instruments, voluntary measures, activities etc.)

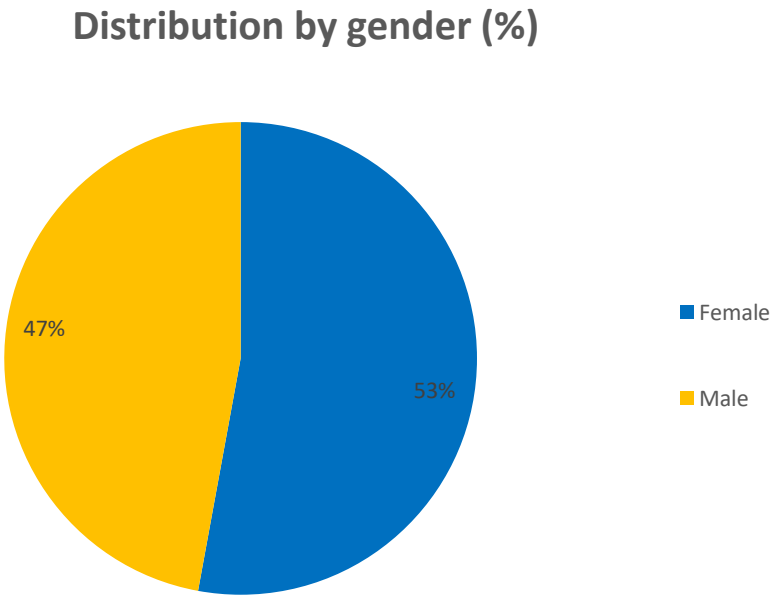
Logistical information about the event

The event was organized by the SWITCH-Asia RPAC in partnership with TERI SAS through Microsoft Teams and was livestreamed on TERI SAS's YouTube page.

Review on Participants:

Based on the registrations, the national dialogue was attended by 112 participants belonging to different stakeholder groups (graph below). Figures below presents the distribution of participants who registered prior to the event by stakeholder type. Based on the registrations, 47% of the participants were male and 53% were female.





Summary of key messages:

The sub-regional dialogue brought together key stakeholders from government, private sector, academia and civil society to share insights on the current practices in textile industries, policies and ways to achieve resource efficiency in the sector.

The expert panel discussed the challenges they face in incorporating resource efficiency measures in the production processes. Lack of capacity, institutional support, technical knowledge, textile waste, fragmented value chain and personnel were the key challenges faced regarding mainstreaming sustainable food consumption. Priority areas highlighted in this dialogue were: sustainability in design, clear policies, transparency and traceability throughout value chain, upskilling of workers, separate processing of textile waste, empowerment of women, youth, and vulnerable groups, support for innovative materials, action throughout the value chain, integrated processing development, access to technology and public awareness. Value addition, sustainable financing, technology, innovation, and policy were highlighted as important tools to achieve this. The importance of building a network of change makers and stakeholders who are supporting sustainability in the textile sector was highlighted.

Welcome Remarks

Prof. Prateek Sharma

TERI School of Advanced Studies, New Delhi, India

In his introductory remarks Prof Sharma opined that textile sector it is a very highly resource intensive industry and at the manufacturing stage it requires resources like water, energy and chemicals and generates waste. He drew attention to studies which predict that by 2030 the global clothing consumption will increase by 63% and that current greenhouse gas emissions from the textile production stands at around 1.2 billion tons per annum. He quoted the Ellen MacArthur Foundation report which indicates that under business-as-usual scenario the textile industry by the 2050 will contribute more than 25% of the global CO2 emissions. In the Indian context, the textile industry contributes significantly to the national GDP, and India is the 6th largest exporter of textiles in the world. This industry contributes significantly to the Indian economy, is one of the most fast-growing industries in the Indian context. It is imperative that we take a critical view of the entire life cycle of the textiles and quantify the environmental impacts at each stage of the supply chain, starting from fiber to fabric. The role of all the stakeholders involved in the supply chain of this industry will need to come together on a common platform and identify the control points, innovation, and collaboration. This will result in mainstreaming resource efficiency at different stages of the entire supply chain, reduce pollution load in different environmental matrices, take a very significant step in combating climate change and ensuring sustainability of the planet.

Dr. Mushtaq Memon

Project Manager, EU SWITCH-Asia Regional Policy Advocacy Component (RPAC)

In his welcome address Dr. Memon highlighted that the textile industry is the backbone in most of the Asian countries. Learning from Indian experiences can help the Asian countries. With the efforts to build back better post COVID, textile industry is amongst the leaders in this building back better initiative. The textile industry started generating new green jobs because this rebooting was to change the energy usage to renewable energy, also change the inputs as after packaging, the textile industry is the second largest plastic pollution contributor.

Gender imbalance (more male dominant industry) in the textile industry specially at manufacturing points need attention. Circular economy proponents across the world like Europe, Japan have business models where reuse and recycle of textiles, fabrics, dresses is emphasized. The new chain of businesses coming up have high female ratio in design, collection, and recycling shops.

India has large potential for reuse of textiles. Many of the textile companies through the CSR and ESG investments are bringing this whole value chain through extended producer responsibility.

He thanked the European Union for their support on sustainable consumption and production in different sectors. He concluded by emphasizing the importance of the textile sector and its interlinkages with agriculture, pollution and plastic waste.

Opening Address

Dr. Michael Bucki

EU Delegation to India and Bhutan

In his opening address, Dr. Bucki presented the EU perspective on sustainable textile and informed the audience that the EU textile strategy is not fully agreed yet by member states.

The sustainable textile strategy is inspired by the European Green Deal that is this general intention to reach carbon neutrality and living in harmony with nature by the middle of the century. Therefore, it relates to the circular economy action plan, the chemical strategy for sustainability and the upcoming initiative on sustainable products. Textile is a priority sector in which the EU can pave the way towards the carbon neutral toxic free circular economy. At the same it relates to an industrial strategy and a post COVID communication which is called repair and prepare for the next generation that needs to fix and improve their industrial ecosystem for textile in EU.

Fashion makes up a very diverse industrial ecosystem that covers different value chains and types of products. On average, one EU citizen uses about 26 kilograms of textiles per person, per year and of that we throw away 11 kilos so that's almost half of it is used each year. The pandemic has affected the international trade notably in secondhand textile products and disrupted waste streams. The textile consumption is very high in terms use of primary use materials and water after food, housing and

transport is the 4th and is the 5th as regards GHG. Moreover, it is estimated that just a very small fraction less than 1% of all textile worldwide are recycled. It's still very large industry in Europe, employs 1.5 million people. It spreads across 160,000 companies in EU, mostly SME's and it can be challenging for those small companies, to prove that their products are produced under acceptable environment and working conditions. Besides this the textile sector often suffers from skill gaps, shortages, mismatches, rapid technical changes that they need to adapt to.

He stated that the goal is to adopt a coordinated and harmonized response across the EU, to those structural weaknesses regarding textiles, textile waste collection, sorting and recycling in the Member States, and to strengthen the capacity of the public authority and industry in a globalised manner. This will be done through three main pillars: 1) drive sustainable investments in a production process design, new materials, new business models, infrastructures and capacities; 2) support technologies, notably the digitization and traceability, logistics related to innovative textiles and 3) tackle the release of microplastics that can be very polluting. The EU also intends to boost demand for sustainable and circular textile, extended producer responsibility, GPP, among others. He highlighted that on the global dimension, they will also look at the protection of human rights, environmental duty of care and due diligence across the global value chains, including improving traceability and transparency.

Keynote Address

Sh. Upendra Singh

Secretary – Ministry of Textiles, Government of India

Secretary in his keynote address highlighted that the textile industry is the second largest employer after agriculture in India and contributes about 2.5% to the GDP. The government has taken several initiatives in the recent past, like launch of PLI (production linked incentive) scheme for textile.

The production linked incentive scheme focuses on two textiles- man-made fiber-based textiles, and technical textile. He highlighted that while Indian textile is more natural fiber based specifically cotton dominated, the composition around the world is different with man-made fiber being predominately used. India needs to focus more on technical textiles which have multidimensional applications and therefore the national technical textile mission was launched. He further highlighted that the textile value chain in India is very fragmented unlike countries like Bangladesh and Vietnam. This fragmented value chain will be addressed through the recently launched PM MITRA scheme to set up 7 Mega textile parks in the first phase.

He further mentioned that Sustainability index has been suggested by industry stakeholders for textile in India to focus on resource efficiency. Amongst natural resources, India receives good rainfall though skewed in distribution, water management, water footprint are causes of concern. Cotton is water intensive, needs better water management strategies. Land productivity and water productivity brings the focus on Resource Efficiency. Besides more water consumption means more generation of effluent, textile processing is one of the most polluting processes within the industry. Wastewater treatment facilities exist but actual capacity utilization and quality achieved on daily basis should be the focus. Similarly old and non-usable

textiles are going to landfill sites, reuse of these like PET bottles would enrich the textile value chain.

Presentation 1: Findings of the Assessment of Indian Textile RE Policy Landscape

Dr. Ranjana Chaudhuri

TERI SAS

Dr. Chaudhari shared that the study aimed to capture the resource use profile of the textile industry, identify the hotspots, where we need to institutionalize the resource efficiency and also map policies across the lifecycle stages of the textile value chain and identify gaps over the existing policies.

She shared the findings of the policy mapping, highlighted the various policies, starting with the National textile policy, integrated processing development scheme, Make in India amongst others. The research team also studied various cross cutting policies which are relevant for the textile industry such as the national mission for sustainable agriculture, the draft notification for the amendment rules of standard effluence, the draft national resource efficiency policy, the pesticide bill and the PM Mitra scheme. She then discussed the policy gaps, they identified that most of India's pilot policies are at the first two stages of the lifecycle, fibre production and textile production stages, but an integrated approach to building a circular system across the textile value chain is required. She stated that policies relevant to the allied sectors of agriculture, manufacturing and processing need to evolve towards a singular cross sectoral policy framework that incorporates multilateral facets, governing the textile industry and align the policy goal with local context by involving all stakeholders. She concluded by highlighting the need for upscaling upskilling measures for the informal sector and the need for market support for secondary textiles.

Presentation 2: Sustainable Textiles – Challenges and Benefits

Mr. Naresh Tyagi

Chief Sustainability Officer, Aditya Birla Group

Mr. Tyagi shared that the Aditya Birla Group is one of the largest fashion and lifestyle retail company. In 2012 the company started its sustainability journey by looking at the national and global regulatory landscape, requirements and expertise at the global level. The company set 10 mission from energy, carbon waste water, great building, product packaging, CSR and safety to establish a balance with the natural resource consumption. 75% water is recycled/ reused in various operations and send zero waste to landfill. 34% of the energy requirements come through solar and other renewable energy sources and have improved energy efficiency. Green building certification has been obtained by ABFRL factory, warehouse, and office space through USGBC/IGBC lead certificate. 88% of the product packaging is sustainable packaging. S&P global DGSI, in their corporate sustainability assessment has rated ABFRL as Asia's topmost sustainable company in the sector and ABFRL is globally at 8th position in textile, apparel and retail sector, anchoring Circular Apparel Innovation factory. He further announced that their Sustainability 2.0 program has set in, and

targets have been set for 2025 and 2030, where more circularity will be established to consumer, customer and value chain together (using product centric approach).

Presentation 3: Circular Textiles and Apparel in India – Policy Intervention Priorities and Ideas

Ms. Devyani Hari

Director, Centre for Responsible Business (CRB)

Ms. Hari highlighted some of the priorities and requirements for mainstreaming circular textiles in India. There is a need to develop a framework which includes policy, financing, technology, research, innovation, capacity building for the textile sector.

It is important to focus on design aspect for circularity as using the right materials, which are easy to recycle and environment friendly should be promoted. The end-of-life use, collection mechanisms, design innovation to reduce wastage in the design and production stage needs the designer, design institutes, academia to play an important role. Benchmarks need to be set at local and regional level, because different clusters have different local conditions. A task force could be set up involving various industry stakeholders and design institutes to establish circularity.

Focus on cleaner alternatives for chemicals, waste management with emphasis on post-consumer collection and recycling with very robust collection mechanism is needed. Policies for startup which prioritize waste collection, reuse are needed. EPR and reverse logistics need to be deployed especially by brands/buyers to reduce textile waste.

The focus on renewable energy, energy efficiency, needs long term investments in clean energy systems, which needs support of stable long term renewable energy policies. More challenges exist in wastewater treatment, especially for the small and medium enterprises (SME) sector and enough solutions are not available. The textile and apparel sector wastewater is different in its profile, cluster units together need to be connected for improving efficiency of the effluent treatment plant (ETP)s. Green finance and cross sectoral policies need to be developed for skill and capacity building of workers, especially for the SME sector, this will help the cause of inclusive transition for industry workers and farmers.

Presentation 4: A Multi-Stakeholder Approach for Pollution Prevention, Efficient Water Use and Circular Economy

Mr. Tatheer Zaidi

SOLIDARIDAD

Mr. Zaidi presented a case study on “Strengthening sustainable measures in the supply chain of agricultural and industrial commodities resource efficiency”. It has been tried for the tannery sector of leather industries with success. Introducing resource efficiency has reduced pollution in this highly polluting sector. However, the proposed solutions need to be technically and economically viable. The example of a low cost desalting machine that scientifically removed total dissolved solids (TDS) and reduced its content by 33% proved to be an innovation which reduces pollution load

of leather industries and has been scaled up in the entire cluster level in Kanpur, Kolkata and scaling up in the Tamil Nadu region now.

Like the textile industry, the leather industry has certain processes which are water intensive. In the leather industry water efficiency has been improved in the fleshing process by introducing volume control devices. In collaboration with Central Leather Research Institute, devised technology which enable reuse and recycle of water from the industry and clearance has been obtained from pollution control board. Central of Excellence has been established in Kanpur cluster for capacity building of workers. Similarly, waste sludge has been converted to paver blocks, it has been recommended for use by the National Mission for Clean Ganga. Another example of circularity is use of waste like finished leather scraps/ leather cuttings/ trimmings/ buffing/ scraps being converted into valuable leather products and use of tallow oil in cosmetics industry. It is an effort to establish use of secondary material in the leather value chain. A multi stakeholder platform has been established for uniform communication between public and private stakeholders on a single platform. Solidaridad will scale up its learnings of the leather industry to strengthen the sustainability of the textile value chain sector in the Panipat textile cluster, which has around 400 enterprises, both small and medium.

Roundtable Discussion

The roundtable discussion focused around 5 specific questions targeted towards the relevant experts invited as discussants.

1. What are the gaps or barriers or challenges to mainstream sustainability into textile sector?
2. What actions (policies, regulatory/ economic instruments, industry led voluntary targets etc.) are needed to reduce environmental impacts of textile industry as informed by the resource consumption? (focus on areas that have not yet been covered in existing programs and the areas that are most challenging to achieve)
3. Priority areas/entry points that should be targeted for immediate adoption of RE measures (e.g., opportunities that will be easiest to implement early in the mainstreaming process)
4. What kind of institutional and capacity development arrangement/ needs are required for industry and government stakeholders to operationalising the RE measures?

The highlights of inputs and suggestions received during the roundtable discissions are as follows:

- The main gaps in textile sectors is absence of world class Research /R&D / trained manpower and professional management.
- Missing concept of chemical management system, best management practices and nonproductive output.
- Fear of increasing cost of cleaner and greener technology.
- No focus on environmental impact assessment, lifecycle assessment or low carbon lifestyle.
- Lack of attention on health and safety aspect (occupational and environmental aspects)

- Majority of the textile industries don't have the effluent treatment plant (ETP) working in a correct manner.
- Steps must be taken to notify EPR i.e., extended producer responsibility in textile sector. It is important that under EPA 1986 rules are framed for the waste textile as well.
- Promotion and incentivization of waste textiles into value added materials
- Technology demonstration for cleaner production, pilot projects are crucial for adoption of energy efficient systems. The cost of the technology and size of the system to be replaced are barriers which must be addressed even for successful technology demonstrations.
- Government can look at supporting indigenous technologies through R&D projects and promoting startups through tax rebates, which substitute the import to the country in terms of raw material and machinery
- Need to look at the dye manufacturers as part of the textile value chain as it's a very polluting process. Apart from regulating the banned dyes and what types of dyes are utilized in the country, we have to look at alternative technologies of dye manufacturing because that is leading to a lot of sludge generation, spent acid generation (its disposal although has been regulated under hazardous waste management rules)
- For adjudging eco friendliness, performance indicators could be introduced just like the rating system we have on our electrical appliances where we use five-star rating. Such rating based on water footprint or life cycle assessment can be devised where customer level education will also take considerable time.
- Mega clusters need emphasis on common effluent treatment plant. Similarly common boiler can reduce the cost of energy by 20%, in a connected industrial cluster set up, improving resource efficiency.
- Adoption of innovative measures in clusters can lead to better resource utilizations like upscaling water use efficiency and use of simple mechanical levers instead of manual labour in weaving.
- Cleaner production can be achieved through local legislation, or by brand or eco label or consumer production safety norms.
- Best management practices mean improvements in raw materials selection, in selection of fuel, in selection of use of type of electricity, recycling of energy, achieving water efficiency, chemical efficiency, and improvements in the scale of the workforce.
- Social dimensions of sustainability including gender inclusion for capacity building is important.
- The textile industry is largely concentrated in clusters with 80% of the country's total textiles being produced by 70 textile clusters.

Conclusion and Way Forward

Dr. Arun Kansal

TERI School of Advanced Studies, New Delhi, India

Dr. Kansal thanked all the speakers and participants for a fruitful discussion and implored the group to continue supporting collective action and collaborations for a sustainable textile sector.

Highlights of Discussion

The discussion highlighted the main gaps in policy interventions as: women empowerment is not emphasised in most cases, the targets of policies are not sufficiently ambitious, the most cost effective, feasible and evidence-based win-win interventions are not being prioritized, lack of clarity and effectiveness of existing governance and coordination mechanisms, accountability is weak and capacity to enforce policies is not always present.

The discussion highlighted that to promote a sustainable textile industry, it is important to have policy support, clustering of the entire process, financial support to SMEs, upskilling of workings, targeted capacity building for uptake of innovative technologies and treating textile waste separately. All the experts in the panel highlighted the need to empower women and youth, technological and institutional innovations, and cohesive supply chain as key to improve the environmental footprint of the sector. The need to have multi-sectoral and multi-stakeholder cooperation was also highlighted.

Evaluation and Assessment Results

This dialogue was delivered in online mode with live streaming with the purpose of reaching out to the maximum public participation. Some feedback was also received in the chat box after the event indicating interests in discussions on similar topics, and interactive sessions where views can be shared directly.

Annex:

Annex 1: The Final agenda

Time	Programme
1400 - 1405	**Introductory Remarks** *Prof. Prateek Sharma* *TERI School of Advanced Studies, New Delhi, India*
1405 - 1410	**Welcome Address** Dr. Mushtaq Memon *Project Manager, EU SWITCH-Asia RPAC*
1410 - 1420	**Opening Address** Dr. Michael Bucki *Counsellor, EU Delegation to India and Bhutan*
1420 - 1435	**Keynote Address** Sh. Upendra Singh Secretary – Ministry of Textiles, Government of India *Delegation of European Union to India*
1435 - 1445	**Presentation 1: Findings of the Assessment of Indian Textile RE Policy Landscape** Dr. Ranjana Chaudhuri *TERI SAS*
1445 - 1455	**Presentation 2: Sustainable Textiles – Challenges and Benefits** Mr. Naresh Tyagi *Chief Sustainability Officer, Aditya Birla Group*
1455 - 1505	**Presentation 3: Circular Textiles and Apparel in India – Policy Intervention Priorities and Ideas** Ms. Devyani Hari *Director, CRB*
1505 - 1515	**Presentation 4: A Multi-Stakeholder Approach for Pollution Prevention, Efficient Water Use and Circular Economy** Mr. Tatheer Zaidi *SOLIDARIDAD*
1515 - 1555	**Roundtable Discussion** Moderator: Dr. Fawzia Tarranum *TERI SAS* Conversation outline and Guiding Questions: • What are the gaps or barriers or challenges to mainstream sustainability into textile sector? • What actions (policies, regulatory/ economic instruments, industry led voluntary targets etc.) are needed to reduce environmental impacts of textile industry as informed by the resource consumption? (focus on areas that have not yet been covered in existing programs and the areas that are most challenging to achieve) • Priority areas/entry points that should be targeted for immediate adoption of RE measures (e.g., opportunities that will be easiest to implement early in the mainstreaming process)

- What kind of institutional and capacity development arrangement/ needs are required for industry and government stakeholders to operationalising the RE measures?

1555 - 1600 **Conclusion and Way Forward**
Dr. Arun Kansal
TERI School of Advanced Studies, New Delhi, India

For more information

SWITCH-Asia event page:
https://www.switch-asia.eu/event/national-roundtable-on-mainstreaming-resource-efficiency-in-the-textile-sector-in-india/

Contact SWITCH-Asia Regional Policy Advocacy Funded by European Union
Implemented by United Nations Environment Programme, Asia and the Pacific Office
Dr. Mushtaq Ahmed Memon
Regional Coordinator for Resource Efficiency
United Nations Environment Programme, Regional Office for Asia and the Pacific
Project Manager
Regional Policy Advocacy Component
(SWITCH-Asia – the European Union funded programme)
Email: memon@un.org