

**Report on**  
**The implementation of a green supply chain and its impact on the**  
**organizational performance: A case of COATS Bangladesh Ltd.**

By

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A practicum report submitted to the BRAC Institute of Governance and Development (BIGD),  
BRAC University, in partial fulfillment of the requirements for the degree of “Masters in  
Procurement and Supply Management.

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## **Declaration**

This is hereby to declare that,

1. The practicum report submitted is my own original work while completing degree at BRAC University.
2. The report does not contain material previously published or written by a third party, except where appropriately cited through full and accurate referencing.
3. The report does not contain material, which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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### **Academic Supervisor's Full Name and Signature**

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Mohammad Sirajul Islam

Sr. Academic Coordinator

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## **Letter of Transmittal**

Mohammad Sirajul Islam

Sr. Academic Coordinator

BIGD, BRAC University

**Subject: Submission of Practicum Report (PSM-665).**

Dear Sir,

With due respect and humble submission, I would like to take the privilege to submit my practicum report entitled ‘The implementation of a green supply chain and its impact on the organizational performance: A case of COATS Bangladesh Ltd.’ as a partial requirement to fulfillment of MPSM at BIGD, BRAC University.

I have tried my best to complete the report with the essential information and suggested proposition in an exceedingly vital compact and comprehensive manner as possible. I believe that this report will meet the benchmark of academic report in the best possible manner.

Sincerely yours,

Md. Muzahidur Rahman

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BIGD, BRAC University

September 2023

## **Non-Disclosure Agreement**

This agreement has made and entered into by and between COATS Bangladesh Ltd. and the undersigned student at BRAC Institute of Governance and Development, BRAC University. COATS Bangladesh has allowed me to prepare a report on the implementation of green supply chain and its impact on organizational performance of COATS Bangladesh Ltd for the degree of Masters of Procurement and Supply Management. I have the opportunity to work closely with the officials of the organization and have access to official data and information. I will prepare a report based on work experience, data, and information collected. I will use all sorts of data and information for academic purposes and will not disclose to any party against the interests of COATS Bangladesh Ltd.

### **Student's Full Name and Signature**

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### **Organizational Supervisor's Full Name and Signature**

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Ajjul Islam

Manager, Supply chain planning

## **Acknowledgment**

Predominantly, all praises be to the most merciful Almighty, for His constant blessings as well as my beloved parents who always been acted as my foremost inspiration and motivation throughout this time span of my degree of Masters in Procurement and Supply Management (MPSM) to accomplish the report/practicum successfully. I would like to express my deepest appreciation and gratitude to my academic supervisor, Mr. Mohammad Sirajul Islam, Sr. Academic Coordinator, BIGD, BRAC University for his best possible support and guidance. He has guided me in each step of producing this report as clearly as possible. Furthermore, I would like to express my deep and sincere gratitude to my industry supervisor Mr. Ajijul Islam, Manager- Supply chain Planning; COATS Bangladesh Ltd., for giving me the opportunity to accomplish this practicum and providing invaluable guidance throughout this span of time. It was an extreme privilege and honor to work and study under his supervision. His professionalism, industry experience and expertise, knowledge, dynamism, vision, sincerity, and motivation have deeply inspired me. Last but not the least, I would like to acknowledge my sincere gratitude and humbleness for the learning opportunities from the MPSM program offered by BIGD, BRAC University.

I would like to say thanks to my MPSM fellows and colleagues for their constant support, understanding and encouragement. Nevertheless, my special gratification and humbleness to them, who constantly supported me to accomplish this report directly or of this report/practicum as titled PSM-665: Supply Chain Management in Practice-Report/Practicum.

## **Executive Summary**

Green supply chain management (GSCM) is emerging as an environmental innovation. It incorporates environmental considerations into supply chain management. We have no alternative to GSCM to protect the environment and build a sustainable future for the next generations. The purpose of this report is to examine the initiatives taken by Coats, a leading textile manufacturer in Bangladesh, to ensure sustainability throughout its supply chain. The report outlines the proactive measures taken by Coats Bangladesh to address environmental sustainability, focusing on waste reduction and reuse, efficient energy consumption and use of sustainable product. In Bangladesh, the textile industry plays a major role in environmental degradation through resource consumption, pollution, and waste generation. Coats Bangladesh has pioneered the textile industry in prioritizing environmental sustainability, knowing that sustainable practices are not only good for the environment, but also contribute to operational efficiency and long-term business success. By integrating environmental sustainability into its core business strategy, Coats is committed to building a greener and more sustainable future. Environmental sustainability should be a primary focus of responsible business practices, and Coats Bangladesh Ltd. exemplifies this commitment through several initiatives outlined in this report.

**Keywords:** GSCM, Sustainability, Environment, Waste, 3R.

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## List of Acronyms

3R	: Reduce, Reuse, Recycle
BGID	: BRAC Institute of Governance and Development
CBL	: Coats Bangladesh Ltd.
D&C	: Dyes and Chemical
DP	: Demand Planning
EHS	: Environment, health, and safety
ETA	: Estimated Time of Arrival
ETP	: Effluent Treatment Plant
FG	: Finish Goods
FIFO	: First in First Out
FTSE250	: Financial Times-Stock Exchange 250 share index
GSCM	: Green Supply Chain Management
GSM	: Green Supply Chain
GT	: Gray Thread
IOT	: Internet of Things
LLR	: Low Liquor Ratio
MRP	: Material Requirement Planning
MTO	: Make to Order
MTS	: Make to Stock
MUM	: Make Up Material
RF	: Radio Frequency
RL	: Reverse Logistics
RM	: Raw Materials
RMG	: Ready Made Garments
SAP	: Systems, Applications & Products in data processing. (ERP software)
SC	: Supply Chain
SCM	: Supply Chain Management

SDG : Sustainable Development Goal

UK : United Kingdom

WH : Warehouse

ZWTL : Zero Wastes to Landfill

# CHAPTER 1

## Overview of COATS Bangladesh Ltd. and Scope of Practicum

### 1.1 Overview of COATS Bangladesh Ltd.

COATS Bangladesh Ltd. is a subsidiary of COATS Plc. UK and a joint venture of AK Khan a thread manufacturer. Coats is the leader in thread manufacturing globally for apparel and footwear. Coats is also an innovative pioneer for performance materials. A wide range of products, including those that offer safety and protection for people, data, and the environment, are made using these essential solutions. Coats, a FTSE250 company with its headquarters in the UK, is also a component of the FTSE4Good Index. The revenue in 2022 was \$1.6 billion.



*Figure 1: Coats thread (Coats.com)*

Coats provides products that add value, including threads for clothing, accessories, and footwear, structural elements for footwear and accessories, fabrics, yarns, and software programs. The world's top corporations rely on Coats to deliver essential, innovative, and sustainable solutions.

Companies in the apparel, footwear, automotive, telecom, personal protection, and outdoor goods sectors are among the customer partners. With operations in more than 50 countries and a workforce of more than 17,000, Coats serves its customers globally. Coats has a proud history spanning more than 250 years and a spirit of evolution to constantly stay ahead of changing market needs. Through a partnership with A, Coats grew its clientele in Bangladesh in 1990. K. Khan and Co. Ltd. and began operating under the name Tootal Thread Bangladesh Ltd. A global merger between Coats and Total Thread resulted in the formation of Coats Bangladesh Ltd. in 1997. Currently Mr. Mohammad Al Kashem is the managing director of Coats Bangladesh Ltd. It has 2 production sides and warehouse, one in Chattogram and another one is Gazipur with the head office situated at Tejgaon industrial area. Coats has its own ETP (Effluent Treatment Plant) at both the locations for treating industrial wastewater and reuse them to mitigate environmental impact. It was the pioneer in achieving the ISO 9002 Certificate in the textile sector. It achieved the ISO 9001:2000 Certificate. (Coats.com| About us| About overview, 2023).

Coats Plc is one of the oldest companies operating in the world at present days. It started its journey in 1750 by holding the hands of Clark and Coats family. Coats created the weaving and textile industries of Paisley, Scotland. Coats is the pioneer and leading manufacturer and supplier of sewing thread globally. Coats started its business in Bangladesh in 1990 by partnering with A. K. Khan & Company Ltd. and called as Total Thread Bangladesh Ltd. In 1997 after a merger with Coats and Total Thread, it formed Coats Bangladesh Ltd. (CBL).

### **1.1.2 Vision and Mission**

A better and more sustainable world is created by Coats by fusing talent, textiles, and technology. There are three specialized Coats Innovation Hubs located around the world where

professionals work with partners to develop the materials and goods of the future. It is committed to Science Based Sustainability Targets for 2030 and Beyond with a goal of Achieving Net-Zero emission by 2050 and participates in the UN Global Compact. Its visions are to manufacture 100% sustainable recycle products by 2024, by 2030 70% of total energy use will be from renewable sources, 33% increase in recycle wastewater use by 2026. Coat’s goal is to create a better and sustainable world for future generation to live in along with bringing innovation in garments industry. Along with these objectives, Coats is dedicated to achieving its goals for supplier social performance, employee & community wellbeing, workplace health & safety, and diversity, equity, and inclusion. (Coats.com| About us| Who we are, 2023)

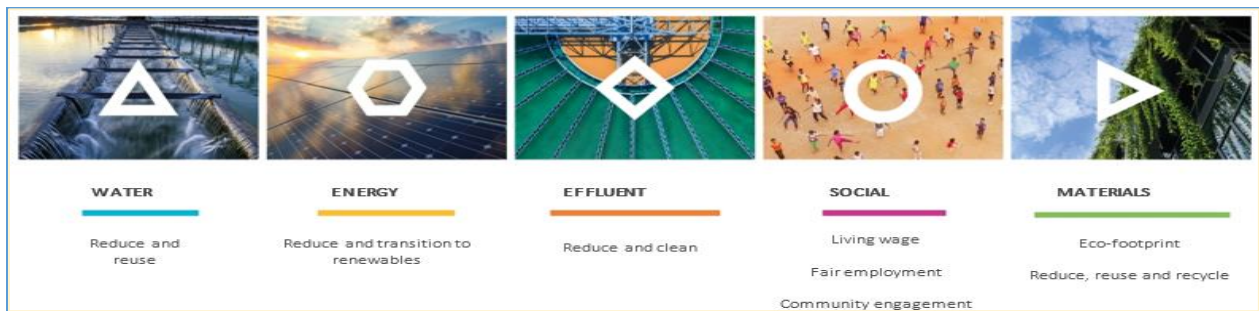


Figure 2: 5 pillars of sustainability (Coats.com)

## 1.2 Practicum Timeline and Objectives

Currently, I am working in CBL as an Assistant Manager in supply chain department. For this practicum, I have chosen my current organization for the practicum work under the supervision of Mr. Ajijul Islam, Manager- Supply Chain Planning in CBL. The duration of my practicum is almost five months, from March to June 2023.

The scope of my practicum is to examine the implementation of a green supply chain and its impact on the organizational performance of COATS Bangladesh Ltd. Through this practicum and working with my workplace supervisor, I wanted to achieve the following objectives,

- i. Waste reduction and profitability with sustainable growth.
- ii. Increase manufacturing of recycled premium polyester thread.
- iii. Optimize resource utilization and promote efficiency by reusing and recycling in operations and logistics.
- iv. Mitigate risks associated with environmental regulations and climate change.

### **1.2.1 Green Supply Chain**

The biggest problem facing humanity is the environmental impact of industry, which traditional supply chains have ignored in favor of cost reduction and organizational efficiency. Here comes the idea of a green supply chain. Green supply chain management (GSCM) integrates 3R (reduce, reuse, recycle) principles into all aspects of conventional supply chains, including manufacturing, operations, and end-of-life management. In general, green supply chain management involves cooperation between industry, suppliers, and customers to improve environmental performance. GSCM is the sum of green procurement, green manufacturing, green packaging, green distribution, and marketing. GSCM aims to eliminate or minimize waste in terms of energy, emissions, hazardous, chemical, and solid waste. We can implement GSCM by doing the following steps:

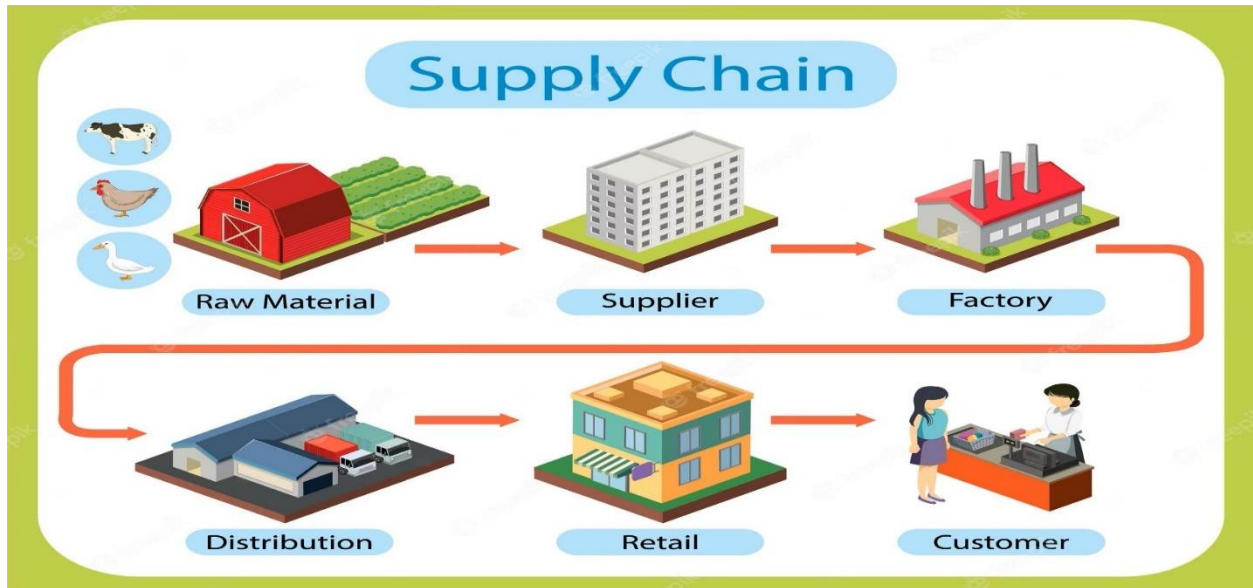
- Cleaner or sustainable material sourcing
- Waste reduction, reuse and recycle
- Reduction in transportation emissions
- Select the proper supplier with sustainable certification
- Logistics optimization

## **CHAPTER 2**

### **Supply Chain Management of Coats Bangladesh Ltd. (CBL)**

A supply chain is a chain or network of organizations, resources, and information involved in the production, distribution, and delivery of goods or services from the point of origin to the end consumer. It includes operations like sourcing, procurement, manufacturing, logistics, warehousing, transportation, and customer service. It also includes the entire process of converting raw materials into finished goods. A typical supply chain involves various interconnected entities, including suppliers, manufacturers, wholesalers, retailers, and customers. To deliver the right product, in the right quantity, to the right place, at the right time, and at the right cost, it involves the flow of materials, information, and money from one stage to another. Efficient supply chain management is crucial for organizations to ensure the smooth flow of goods or services, minimize costs, optimize inventory levels, meet customer demands, and gain a competitive advantage in the marketplace. It involves strategic planning, coordination, and collaboration among the different stakeholders involved in the supply chain to maximize efficiency and deliver value to customers. SCM is a crucial and intricate function that holds immense value and has the potential to elevate the competitiveness, effectiveness, and efficiency of a business organization to unprecedented heights while ensuring sustainable growth. Figure 1 depicts the fundamental cycle of the basic SCM,





*Figure 3: Basic Supply Chain Cycle (Freepik.com)*

## 2.1 Supply Chain Management of CBL

Supply chain management (SCM) is the control of resources, data, and finances as they move through a process from supplier to manufacturer to wholesaler to retailer to consumer. In modern competitive business market SC complete with other organizations' s SC instead of company to company. In this modern era having competitive, Sustainable, Agile and Flexible SC is very important to achieve organizational goals. CBL is a very structural and process driven organization and has a great and efficient SC team to manage the full process.

## COATS SUPPLY CHAIN

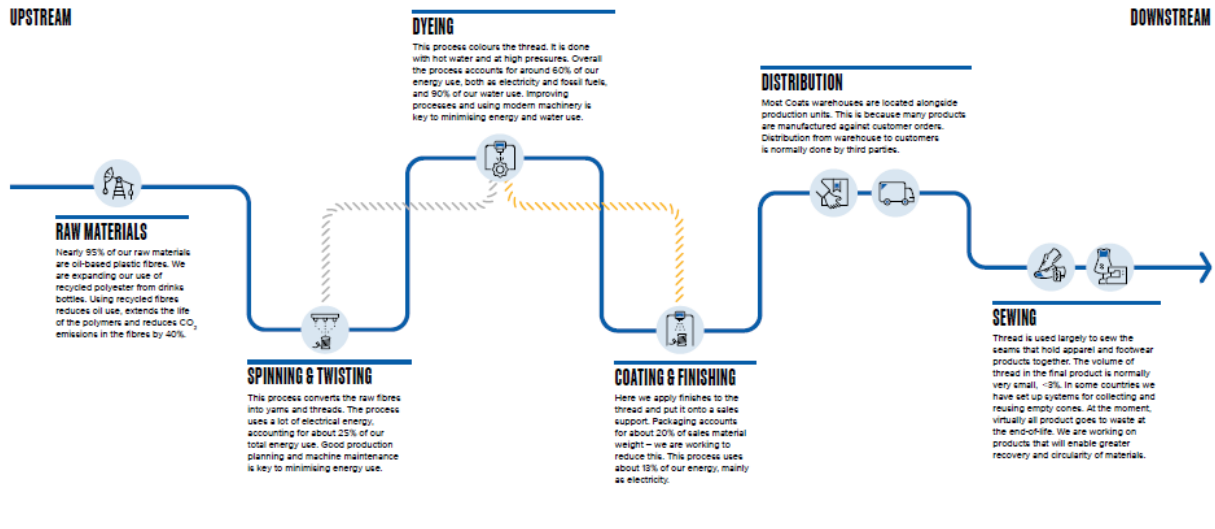


Figure 4: Coats Supply Chain (Coats sustainability report 2022)

Coats SC department mainly consist with 3 subdivisions. They are Planning, Import/export operation and Distribution & Logistics. Because of local market condition and operational strategy Procurement and Production are separate from SC to become more efficient and more customer focus. Following is SC strategy of CBL,

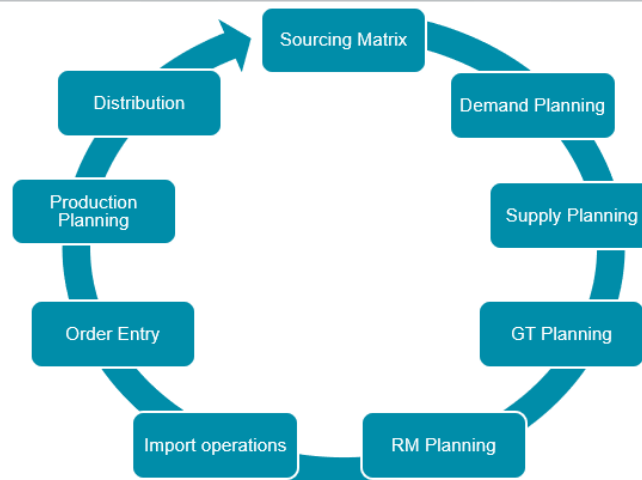


Figure 5: CBL Supply Chain Cycle

There are 5 layers of planning in CBL from managing Raw materials (RM). Cycle starts with defining the sourcing matrix and then Material requirement planning (MRP). After that we need to complete forecasting and demand planning (DP), then Supply planning starting by generating gray thread (GT) and Dyes and Chemical (D&C) requirements and placing orders accordingly. As we import most of our RMs, so the lead time is high, and it is very important to have proper planning to avoid any supply interruption. Import team work here to make them inhouse as per requirement. Based on customer requirement and RM availability Production planner start order releasing to start production. After completing production Warehouse (WH) team receive Finish goods FG and distribute to the customer. We also hold FG stock in some materials to ensure faster delivery and maximum utilization of machines. We have both Make to Stock (MTS) materials and make to order (MTO) materials to run the operation. CBL has 2 production plants, 2 WHs and 2 distribution locations.

## **CHAPTER 3**

### **Implementation of a green supply chain in Coats and its impact on the organizational performance: Findings, and Observations**

The key vision of Coats is to create a better and sustainable world for our future generations by fusing talent, textiles, and technology. Coats is committed to achieving net zero emission by 2050 and participates in the UN Global Compact. Coats has always been an environmentally friendly company. Sustainability is at the heart of our transformation processes and decision-making. CBL has invested more than Tk 340 million to build its new Effluent Treatment Plant (ETP) in the Gazipur plant which shows our firm commitment to sustainable development.

As mentioned above, this practicum aimed to examine the implementation of a green supply chain and its impact on the organizational performance of COATS Bangladesh Ltd. with a focus on waste management, energy consumption optimization and material handling. The major findings and observations are presented below.

#### **3.1 Waste management, reduction and zero waste to landfill**

As part of Coats Sustainability Strategy, the company has committed to the target of becoming a Zero Waste to Landfill (ZWTL) organization by 2026. Waste refers to unwanted or unusable materials that are to be discarded after primary use, or is worthless, defective and of no use or value. The company uses a waste hierarchy to emphasis on reducing, reusing, recycling, and composting as key to sustainable materials management, with treatment and disposal the least

preferred method of waste management. These strategies reduce greenhouse gas emissions, which contribute to climate change. The strategies are elaborated below.

### 3.1.1 Formation of a multifunctional waste management team

First, the company formed a waste management team in each plant each unit. Team formed with local leaders in manufacturing, warehousing, supply chain, environment, health, and safety (EHS) and procurement. Forty percent of the team made up from shop floor operators.

Overall Leading			XXX	Manufacturing Director
Team Leader			XXX	Manufacturing Manager
Team Member	Management Employee	1	XXX	Manager- EHS
		2	XXX	Assistant Manager-Industrial Engineering
		3	XXX	Manager-Plant Logistics
		4	XXX	Senior Executive-Procurement
		5	XXX	Assistant Manager-Supply chain
		6	XXX	Manager-Dyehouse
		7	XXX	Senior Executive-Laboratory
		8	XXX	Manager-Final Winding
		9	XXX	Manager-Eng.
		10	XXX	Senior Executive-HR
	Shop Floor Employee	11	XXX	Operator-Dyehouse
		12	XXX	Charge Hand-Final Winding
		13	XXX	Mechanic-Engineering
		14	XXX	Cycle Counter-Warehouse

*Table 1: Cross functional team to manage waste*

### 3.1.2 Waste map creation

The company created a waste map to help identify opportunities to eliminate, reduce, reuse, and recycle waste materials. It divides the facility into process related areas or zones and identifies raw materials and wastes by type, quantity, and generation source or process. It also identifies the waste collection and storage methods within each area or zone, including number and types of containers used to store wastes and the types of waste materials stored in each container.

There should be one container for each waste type (like- wood, paper/cardboard/, thread wastes, fiber wastes, etc.). Also, kept in mind if sufficient space is available to segregate waste materials, proper signage and labeling on containers and bins, and interview employees if they are aware of the waste management procedures. Put in place a process to track each month the waste generated and stored at each location to observe the changing. The map makes sure that we kept a record of what we have produced on a substrate level so we can understand what correlation exists between production volume & waste types.

Dept.	Waste Type	Approx. volume at dept	Approx. Wait time (Before sending to wastage shade)	Remarks
Quality	Thread			
	Paper			
	Plastic Wrapping Card			
	Chemical			

*Table 2: Sample of waste classification based on waste map for QA*

### 3.1.3 Effectively Separate the Waste

We have identified what level of separation needs to be done where make this effective by ensuring sufficient bins exist by linking to the waste map and show examples of what waste is

allowed in which bin. We introduced the use of colored bags; ensuring all bags are semi-transparent except e.g., toilet waste which would need to be in an in transparent bag. We avoided using “black bags” which are not see-through. Put in place a system where the bins are controlled and give feedback to operators who may have made mistakes. We have arranged a reward system to the departments who separate well and/or have reduced their waste. We did standardize waste containers in color and style and be consistent throughout the facility. For example: Green Container for Limited to food waste, yard waste, green waste, other organic materials. Blue Container for traditional recyclables, such as bottles, cans, and plastic and organic waste such as paper and cardboard. Black Container has limited to waste that is not organic or recyclable. We avoid using red containers for recycling as in many locations this indicates biomedical or biohazardous wastes. We also placed additional colored bins in different places to further segregate waste materials and standardized throughout the facility.



*Figure 6: Separate waste collection bin*

### **3.1.4 Inventory Control- A place for everything and everything in its place**

We labeled each container holding waste materials for better understanding and ensured containers do not over-fill in the process by regular monitoring. We put these containers in

temporary waste storage areas and ensured these are covered and shaded. Our team made sure that the hazardous waste is separated from all other waste types. We have established the First In First Out (FIFO) principles and made sure that all actions are in place for all D&Cs and MUMs to ensure no waste is generated by obsolescence. We have kept all our documentation related to the waste at the right storage area to make it easier for the work forces.



*Figure 7: Waste inventory*

### **3.1.5 Waste Minimization**

Waste reduction methods focus on preventing the generation of waste, also known as source reduction and recycling. These techniques should be practiced at several stages throughout the waste generating processes, but require careful planning, creative problem solving, changes in attitude, sometimes capital investment, and genuine commitment by all levels of the organization. Some types of commonly observed wastes in manufacturing facilities include waste from overproduction, defects, inventory, unnecessary motion, and transportation, waiting times, and over-processing. Many of these types of wastes ultimately ended up in the landfill. We have taken below actions to minimize the waste generation,



- i. The local procurement and operations team are to be engaged in waste minimization by the careful purchasing and sourcing of raw materials, commodities, packaging materials, dyes, chemicals, and other materials used within the factor.
- ii. Select suppliers that provide materials in smaller packaging with less wastes and those that can accept the packaging materials back for reuse. This creates a circular economy and reduces the number of wastes to be disposed of at the site. This includes paper, wood, cardboard, plastic, and metallic packaging materials.
- iii. Purchase waste is needed to fulfill the immediate production needs for a specific period. “Bulk” buying to obtain a better price, or excess purchasing, can result in materials expiring or becoming damaged, and thus needing to be disposed of off-site.
- iv. Maintain a FIFO methodology for raw materials and supplies.

### **3.1.6 Reprocess and Re-use**

Some wastes are reprocess able and reusable after. We redye waste thread to black and sell as regular black FG materials. Most of the substrate we can reprocess to make them black. We reallocated our production capacity and increase reprocess capacity as an action of waste reduction. Also sending back plastic dye centers and cones to the vendor to recycle them and make them reusable. This is called reverse supply chain.

### **3.1.7 Alternatives to Landfill- No production waste to landfill**

All thread waste must be re-used or re-cycled and none to landfill under any circumstances. This is key to our brand image and company reputation. Thread waste must be removed from dye

inserts or bobbins. The waste reduction plan must make this a top priority. Followed the waste hierarchy of elimination, reduction, recycling, and reuse to work to get to ZWTL. Composting is a biological process related to the decomposition of organic waste into useful substances with the help of various microorganisms in the presence of oxygen. It also includes converting organic waste into industrial and manufactured products such as fertilizer, tallow, and industrial chemicals.

Waste-to-Energy is the process of generating energy in the form of electricity or heat from the incineration of waste. Beneficial reuse” is defined as reusing a waste material, which would otherwise be discarded, in a manner that makes it a valuable commodity. Beneficial reuse may be an option in some Coats locations for very specific waste types. Always consult regional Environmental Compliance Manager where we have a waste stream that you are considering beneficial reuse as an option.

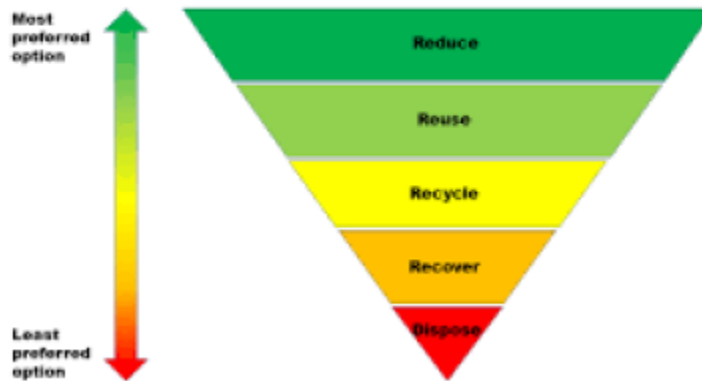


*Figure 8: Plastic dye center*

### **3.1.8 Waste disposal**

Waste disposal should follow the waste hierarchy scheme, with landfill as the least preferred option. In some certain waste types, landfill may be the only option available or required by local, state, or federal requirements. Communicate and take approval from local or regional Environmental Lead for assistance with on waste disposal options. Disposal to a permitted facility (including packaging, labeling, marking) must be compliant with local legislation and Coats policy. We must keep records of all waste being shipped from site by destination (landfill, incineration, etc.). This must be supported by waste notices from the waste collecting companies.

Waste should be weighed onsite prior to being loaded for shipment & compared to the waste notices received and any errors corrected. In the Sustainability App upload waste notices related to a) landfill; b) incineration; c) Re-cycle internal; d) Re-use external; e) Other; and f) circular (this is not included in the waste total). This is key for internal & external audit.



*Figure 9: Waste hierarchy*

### **3.2 Energy consumption optimization through Process Improvement**

The primary consumers of all utilities are production processes, and energy efficiency depends on how well we manage these limited resources at the user. We did review thoroughly, the end-to-end process to identify the following areas for improvement and take action. The next page describes some of the initiatives

- i. **Optimizing the Dyeing Process:** In search of the latest technology, we had installed a new generation of dye tanks with a low Liquor ratio (LLR) design, also known as the I-Cone dye tank, which consumes 20% less energy and more than 40% less water. Based on the mastery of new technology, Coats has renovated and converted all traditional paint containers to a low-liquid ratio paint that consumes less energy and water. The team also

utilizes local and global talent as a team and constantly strives to optimize the dyeing cycle to save water and energy.

- ii. **Optimizing the drying process:** We introduced a new generation of radio frequency (RF) dryers that use steam instead of electricity to generate heat, reducing energy consumption by 44%. We have applied the same technology to our existing conventional RF dryers and reduced electricity consumption by 35%.
- iii. **Final Winding:** In the final winding process, the old equipment was replaced with a new generation of winding equipment that enables IoT, reducing energy consumption by 20%. In addition, Coats replaced the lubrication heating system in conventional winding machines, reducing the electricity consumption for heating the lubricating oil by 25%.

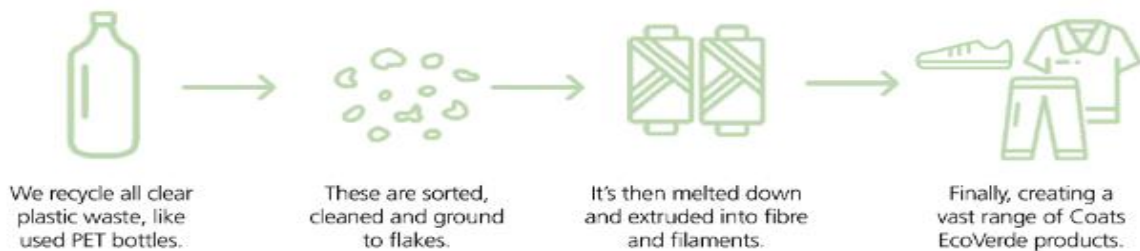
### **3.3 Materials- Eco-footprint. (Reduce, Reuse and Recycle)**

Materials consumption is a critical issue in the textile industry, and we are (CBL) therefore highly mindful of what we consume, with a focus on minimizing waste and using raw materials that contribute to our sustainability objectives. For materials usage and waste reduction, we have adopted the 3R (Reduce, recycle and reuse) technique.

#### **3.3.1 Recycled thread**

The virgin materials we use to produce thread are primarily oil-based and are energy intensive in their upstream manufacturing. They are the most important source of our greenhouse gas emissions. In the fight against climate change, the transition to materials with lower emissions, using recycled or bio-based materials, is a top priority. Coats Eco Verde is the world's first line of 100% recycled premium spun and textured sewing threads that offer the same proven

performance levels as industry leading virgin threads. Plastic waste is collected from various industrial and post-consumer sources. A significant proportion of waste plastic bottles (PET) is an example of how this works. These materials are collected, sorted, cleaned, flaked, then melted and extruded into fibers and threads to produce Eco Verde sewing threads. Already we are using around 60% recycled RM in Bangladesh and working to move to 100% recycled threads.



*Figure 10: Coats recycled thread production*

### **3.3.2 Reusing Cartons and use of metal dye center in place of plastic dye center**

launched a project in April this year to reuse the Grey Thread (GT) cartons that we receive from suppliers. This project is still running to take the opportunity to reduce paper waste by 95 tons annually.

We are running a project that started this year to use environment friendly metal dye center in GT package instead of plastic dye center so that we can reuse it and able to reduce plastic use.

### **3.3.3 Other initiatives**

Some of the other initiatives taken to reduce waste include as following in the period of this practicum and which will continue,

- Receiving dyes chemicals in IBC containers instead of drums which are heavier

- Reducing the paper GSMs of cartons used
- Multiple level packaging elimination
- Poly bag usage reduction
- Using PP bags instead of paper cartons
- Reducing weight of plastic cones etc.

## **CHAPTER 4**

### **Challenges, Recommendations and Conclusion**

This report aims to showcase the numerous activities that Coats Bangladesh has undertaken, emphasizing waste reduction, using recycled environment friendly materials, and reducing energy consumption. These initiatives are also aligned with its vision and mission of creating a sustainable future. Coats Bangladesh Ltd. focuses on Reduce, reuse, and recycle of manufacturing waste, water, energy consumption and materials to contribute to a more sustainable future. However, it must be recognized that no single organization can solve all environmental problems alone. CBL already paved the way of sustainability in Bangladesh, now is the time for other players in the textile industry to recognize the importance of sustainability, develop action plans and implement responsible environmental practices. Inspired by Coates' initiative and supported by the government, other organizations can also achieve amazing levels of environmental sustainability.

#### **4.1 Challenges**

Green supply chain implementation, while beneficial for the environment and business in the long run, can also create various challenges. Some notable challenges that we have faced implementing GSM in CBL are as following,

- i. Initial high implementation cost. Every project has cost but implementation of GSM is very costly at first, but it has a great prospect on environment as well as on business and profitability. CBL always invest on sustainability and environmental development.



- ii. Collection of waste based on different category and manage inventory properly.
- iii. Ensure proper training to the team.
- iv. Proper disposal area based on waste category.
- v. Projects are always time bound and completing within the time is a big challenge.
- vi. Challenges to manage data while moving from regular materials to recycled materials.
- vii. Supply chain complexity and supply availability of green raw materials.

## **4.2 Recommendations**

RMG sector in need of a sustainable development, hence the awareness and demands of green products must be encouraged. Companies should first increase the awareness of smart and green supply chain management and implement/practice the supply chain according to the requirements. Few points are mentioned following as recommendation,

- i. Completely stop the generation of waste in not practical hence CBL should give more focus on reprocess and reuse the waste. CBL should focus to build the capability to reprocess its 100% thread waste.
- ii. CBL should create a dedicated team for waste management instead of only forming cross functional team from existing employees.
- iii. Prioritize supplier collaboration: Work closely with suppliers to promote sustainable practices throughout the supply chain.
- iv. Every project should be thoroughly planned in advance, considering the possibility of trial and error, which may lead to additional time requirements for implementation.

- v. Providing appropriate GSCM training to individuals involved in the process after the implementation.
- vi. All stakeholders must be informed and aligned with the company's goals regarding the environmental and economic impact of the implementation.

CBL is pioneering a sustainable future in Bangladesh. More on that I think by incorporating above recommendations, CBL can pave the way for a more sustainable and responsible approach to business operations, benefiting both the company and the environment.

## References

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## Annex

Below is the detailed table of waste classification based on departments and waste map.

Dept.	Waste Type	Approx. volume at dept	Approx. Wait time (before sending to wastage shade)	Remarks
DH	Thread			
	Plastic Wrapping Card			
	GT Carton			
	Paper			
	Chemical Drum			
	Unusable Carton Straps			
	Dyestuff Carton Box			
	Chemical and Dyes plastic containers			
	Hydro's Polythene cover			
	Broken & Damaged spacer, locknut, & spindles			
	Unusable PPE, Apron, Nitrile Gloves, Gumboot			
	Expiry date crossed dyes and chemicals waste			
Finishing	Thread			
	Plastic Dye center			
	Trimmer			
	Polythene			
	Trolley			
	Paper			
	Packaging Material			
	GT Bag, Plastic Cone Bag			
	Drum (Lube/Chemical) Direct			
	Lube			
	Plastic Cone			
	Carton			
	PPE			
	Used Cloth			
Quality	Thread			
	Paper			
	Plastic Wrapping Card			

Dept.	Waste Type	Approx. volume at dept	Approx. Wait time (before sending to wastage shade)	Remarks
	Chemical			
Engineering	Cable		Electrical Waste	Electrical Waste
	IT Equipment (Large Device/Hardware, Mouse)			
	Electronic Appliance (Micro Oven, Weighing Scale)			
	Monitoring & Controlling Device (Panel, Drive, Contactor, Circuit Breaker, Controller)			
	Light (Led, Lamps)			
	Battery			
	Burnt Oil (Generator, Lubricant)		Oil	Oil
	Used Lube oil			
	Filter (Air, Oil)			
	Empty Container of Above		Others	Others
	Sludge			
	Broken Glass			
	Mechanical Waste - Metal (Iron, Trolley)			
HR	Food Waste			
	Medical Waste (Mask, Cotton)			
	Gardening Waste			
	Safety Shoe			
	Paper			
Laboratory	Thread			
	Paper			
	Empty Chemical carboys			
	Unusable PPE, Apron, Nitrile Gloves, Gumboot			
	Unusable Cleaning Cloth			
Warehouse	Unusable Carton			
	Polythene			
	Wood Plate			
	Paper			

Dept.	Waste Type	Approx. volume at dept	Approx. Wait time (before sending to wastage shade)	Remarks
Other				

*Table 3: Detailed waste classification based on waste map*