UNGC COMMUNICATION ON PROGRESS

2017

MAY 25, 2018

S AND D CHEMICALS (PVT) LTD.
Block A, Biyagama Export Processing Zone (BEPZ), Walgama, Malwana, Sri Lanka

STATEMENT BY CEO

25th May 2018

To our stakeholders,

Our company, S AND D CHEMICALS (PVT) LTD. is the first in Sri Lanka to manufacture the full range of products needed for textile processing and wet processing of garments. This greatly benefits the local textile industry and contributes to Sri Lankan garments to be more competitive. The company exports to Bangladesh, Indonesia and Vietnam and also to buyers in India, Oman and Dubai. We are also excited about the possibility of exporting our products to other countries in the region and our target is to become a leading manufacturer of textile auxiliaries and wet processing aids in the region.

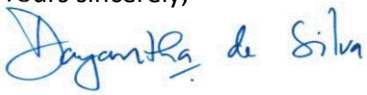
S&D is a very professional and highly customer focused organization, developing innovative value-added products tailor made to a variety of customers' end-use. Almost all products manufactured by us are biodegradable and therefore environment friendly. Our focus is for a sustainable future and we always consider process optimization and the use of sustainable energy.

In the process of making profits in the business, it has not forgotten the commitment that it has for the environment and the society. Since its beginning in 2013, one vision of the company has been to be a sustainable business. In each and every step of designing and developing our product profiles we always make sure to avoid restricted substances in our building blocks, which complies with our internally developed S&D Material Restricted Substance List (S&D-MRSL). Therefore, we were able to obtain approval for our products from some of the world's leading standards for textiles such as Bluesign, GOTS and ZDHC. As recognition of our highest level of commitment and endeavor to operate our business as a greener industry we were awarded the Bronze Award at the Presidential Green Awards ceremony in the year 2016. We are a signatory for United Nations Global Compact (UNGC) and also a member of the Lanka Responsible Care Council. Registering and taking part in the National Green Reporting System (NGRS) and the UNGC Communication on Progress (COP) Reporting System spells out the company's commitment to human rights, occupational health and safety (OHS), resource productivity and environmental and social sustainability.

I am pleased to confirm that S AND D CHEMICALS (PVT) LTD. reaffirms its support to the Sustainable Development Goals (SDGs) as well as the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labour, Environment and Anti-Corruption.

In this, our first annual Communication on Progress report, we describe our actions to continually improve the integration of the Global Compact and its principles into our business strategy, culture and daily operations. We also commit to sharing this information with our stakeholders using our primary channels of communication.

Yours sincerely,



Dayantha De Silva
Managing Director

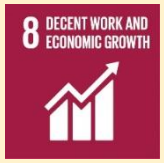
S&D CHEMICALS

DESCRIPTION OF ACTIONS

A summary of the actions that were undertaken and are to be taken, thereby reaffirming our support to the SDGs and correspondingly the Ten Principles under the UNGC in the areas of Human Rights, Labour, Environment and Anti-Corruption are shown below in Table 1:

Table 1: Summary of the commitments made and plans that are to be made by S & D Chemicals in support to the SDGs we contribute towards, which corresponds alternately to the Ten Principles under the UNGC in the areas of Human Rights, Labour, Environment and Anti-Corruption.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
HUMAN RIGHTS	 **SDG 3: GOOD HEALTH AND WELL-BEING** Ensure healthy lives and promote well-being for all at all ages	✓ A 100% healthy workforce and a safer environment were ensured to be maintained. Appropriate training programs were conducted to promote awareness amongst the employees on OHS. ✓ A 100% fire safe environment was ensured to be maintained. ✓ Accidents and near misses were ensured to be minimized. ✓ 100% performance on OHS compliance within both the facility and the surroundings was ensured.	✓ A 100% healthy workforce and a safer environment is further ensured to be maintained. More appropriate training programs as well as appropriate health checkups for each of the respective personnel are to be conducted. ✓ A 100% fire safe environment is further ensured to be maintained. ✓ All unearthed key machineries present in the facility are to be earthed. ✓ A special unloading mechanism is to be implemented to the delivery lorries. ✓ Continue to meet 100% performance on OHS compliance within both the facility and the surroundings.
	 **SDG 6: CLEAN WATER AND SANITATION** Ensure availability and sustainable management of water and sanitation for all	✓ Numerous amenities were provided to employees such as all necessary sanitary conveniences, which includes the supply of fresh drinking water.	

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
LABOUR	 **SDG 5: GENDER EQUALITY** Achieve gender equality and empower all women and girls	✓ All employees are secured and shielded from discrimination based on gender. ✓ All amenities provided are for all employees may they be men or women.	
	 **SDG 8: DECENT WORK AND ECONOMIC GROWTH** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	✓ Through company written policies, employee rights of individuals are ensured to be respected and protected in the highest possible way. ✓ We protect the rights of freedom of association and employee interests including negotiating salaries, benefits and other conditions of work. ✓ We are committed to eliminating child labour exploitation and we ensure there is no use of forced labour including forms of slavery, debt bondage and human trafficking.	✓ Measures will be taken to continuously monitor our compliance with existing laws and regulations. Moreover, newly laid laws and regulations that should be complied with in relation to employee rights will be investigated and implemented.
ENVIRON-MENT	 **SDG 6: CLEAN WATER AND SANITATION** Ensure availability and sustainable management of water and sanitation for all	✓ Administrative controls were proposed and developed on the proper usage of fresh water.	✓ Several measures are to be taken to reduce the volume of fresh water consumption at the facility.
	 **SDG 7: AFFORDABLE AND CLEAN ENERGY** Ensure access to affordable, reliable, sustainable and modern energy for all	✓ 100% procurement of electrical energy from a renewable energy source was achieved by setting up a roof mounted 32.5 kW solar electrical unit at our head office.	✓ To further facilitate the 100% procurement of electrical energy from a renewable energy source, a roof mounted solar electrical unit is also to be set up at the factory.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
ENVIRON-MENT	 **SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	✓ Constantly developed sustainable solutions, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain. ✓ Takes care of both the regulatory requirements in their target markets and also the prevailing trends relating to health, safety and sustainability, through process optimization, eco-efficient products and solutions, quality assurance and introducing innovative effects and functions.	✓ Continue to constantly develop sustainable solutions, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain. ✓ An ICP-OES is to be set up at the in-house laboratory, which would aid in the testing of heavy metals. ✓ Preparations are to be made for certification of the in-house laboratory in accordance with ISO 17025.
	 **SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION** Ensure sustainable consumption and production patterns	✓ Several measures were taken to minimize thermal energy loses and to reduce the cost of electricity consumption at the facility. ✓ Various measures were also taken to control and monitor air emissions to the environment and within the facility. ✓ For those customers who had given their consent, used packaging materials were washed, cleaned, dried and reused to pack finished products. ✓ Several measures were taken to reduce hazardous waste produced at the facility. ✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ Several measures are to be taken to reduce the cost of electricity consumption and the hazardous waste produced at the facility. ✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.
	 **SDG 14: LIFE BELOW WATER** Conserve and sustainably use the oceans, seas and	✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	marine resources for sustainable development		
ANTI-CORRUPTION	 **SDG 16: PEACE, JUSTICE AND STRONG INSTITUITIONS** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	✓ Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international anti-corruption laws, corruption in any form including bribery was ensured to be avoided.	✓ We will ensure that all our employees are committed to observe and uphold the zero-tolerance position on bribery and corruption.

HUMAN RIGHTS

UNGC PRINCIPLES

Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights

Principle 2:

Businesses should make sure that they are not complicit in human rights abuses

OUR SDG CONTRIBUTIONS

SDG 3: GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

SDG 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

OUR COMMITMENTS

We maintain a 100% healthy workforce and a safer environment without violating any locally and internationally proclaimed human rights.

Appropriate training programs were conducted for respective personnel to promote awareness amongst the employees on OHS. These include:

- Usage of Personal Protective Equipment (PPE),
- Firefighting training inclusive of mock drills,
- First-aid and
- Safe Handling of Chemicals and Machinery.

Moreover, emergency pathways in the facility were lighted up, an emergency vehicle was ensured to be made available at all times in the facility and a storage room was also constructed to ensure all necessary PPE for each of the respective personnel are kept in place.

A 100% fire safe environment was ensured to be maintained by installing correct fire extinguishers, hose reels and hydrants at all appropriate locations in the facility. An interconnected tank system was set up to enhance in-house fire protection by having an existing total capacity of 50,000 litres of water to store water. The fire certification is also renewed on an annual basis by the Board of Investment (BOI) of Sri Lanka.

Accidents and near misses were ensured to be minimized or prevented by recording, analyzing and taking appropriate corrective measures for past incidents.

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international laws and regulations, we ensure that 100% performance on OHS compliance within both the facility and the surroundings are met with.

100% performance on OHS compliance within both the facility and the surroundings were ensured to be maintained by:

1. Commissioning an accredited third-party organization on an annual basis to measure and analyze occupational exposure levels, which include:
    - thermal discomfort (based on humidity and temperature),
    - light intensity,
    - respirable dust levels and
    - Volatile Organic Compound (VOC) emissions.
2. Providing the following amenities as appropriate to the employees, which complies with Factory Ordinance No. 45 of 1942:
    - a hygienic working environment,
    - ample cubical spacing, which prevents overcrowding,
    - acceptable temperature, ventilation and lighting,
    - adequate sanitary conveniences that includes:
        - adequate number of washrooms and changing rooms separately for men and women,

    - a hygienic canteen area,
    - supply of fresh drinking water and
    - supply of all essential PPE at all times.
  - medical supervision which includes supply of all essential first-aid by a responsible trained person and
  - supply of safety provisions in case of a fire.
3. Implementation and certification of the company in accordance with globally approved standards such as OSHAS 18001. We were also able to achieve the Bluesign System Partnership and become a Member of the Lanka Responsible Care Council.

OUR FUTURE SDG CONTRIBUTION PLANS

SDG 3: GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

OUR FUTURE PLANS

We further aim to maintain a 100% healthy workforce and a safer environment without violating any locally and internationally proclaimed human rights.

More appropriate training programs are to be conducted for respective personnel to promote awareness amongst the employees on OHS. These include:

- Environmental Safety,
- Waste Management and
- Minimizing the improper handling of chemicals.

Moreover, appropriate health checkups for each of the respective personnel are also planned to be conducted to ensure the well-being of all.

A 100% fire safe environment is further ensured to be maintained by setting up an interconnected tank system to enhance in-house fire protection. Two additional 10,000 litre tanks are to be placed to store water. This would then increase the existing onsite water storage capacity of 50,000 litres to a total of 70,000 litres.

All unearthed key machineries present in the facility are to be earthed, which would therefore, safeguard the employees from getting electrocuted by machineries, due to earth leakages.

A special unloading mechanism is to be implemented to the delivery lorries so as to improve the safe transportation of products.

100% performance on OHS compliance within both the facility and the surroundings will be ensured to be continuously met with.

LABOUR

UNGC PRINCIPLES

Principle 3:

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

Principle 4:

Businesses should uphold the elimination of all forms of forced and compulsory labour

Principle 5:

Businesses should uphold the effective abolition of child labour

Principle 6:

Businesses should uphold the elimination of discrimination in respect of employment and occupation

OUR SDG CONTRIBUTIONS

SDG 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls

SDG 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

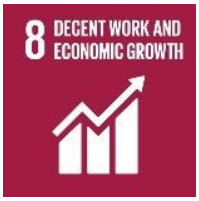
OUR COMMITMENTS

Through company written policies, procedures and continuous monitoring systems, employee rights of individuals are ensured to be respected and protected in the highest possible way. To begin with, employees are secured and shielded from discrimination based on race, caste, gender, religion, sexual orientation and age. We protect the rights of freedom of association and employee interests including negotiating salaries, benefits and other conditions of work. We are committed to eliminating child labour exploitation and ensuring there is no use of forced labour including forms of slavery, debt bondage and human trafficking.

The following amenities are ensured to be provided as appropriate to all employees, which complies with Wage Board Ordinance No. 27 of 1941:

- Payment of wages, which are well above the minimum wage standards that complies with the National Minimum Wage of Workers Act, No. 3 of 2016 and the Budgetary Relief Allowance of Workers Act, No. 4 of 2016.
- Payment of Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF) which complies with the EPF Act, No. 15 of 1958 and the ETF Act, No. 46 of 1980 respectively.
- Standard hours of employment.
- Payment of attractive remunerations for overtime employment and those carried out on holidays.
- Standard leave entitlements (annual, casual, medical and maternity).
- All mercantile holidays.

OUR FUTURE SDG CONTRIBUTION PLANS



SDG 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

OUR FUTURE PLANS

Measures will be taken to continuously monitor our compliance with existing laws and regulations. Moreover, newly laid laws and regulations that should be complied with in relation to employee rights will be investigated and implemented.

ENVIRONMENT

UNGC PRINCIPLES

Principle 7:
Businesses should support a precautionary approach to environmental challenges

Principle 8:
Businesses should undertake initiatives to promote greater environmental responsibility

Principle 9:
Businesses should encourage the development and diffusion of environmentally friendly technologies

OUR SDG CONTRIBUTIONS

SDG 6: CLEAN WATER AND SANITATION
Ensure availability and sustainable management of water and sanitation for all

SDG 7: AFFORDABLE AND CLEAN ENERGY
Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

SDG 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

OUR COMMITMENTS

The actions that were undertaken in this category are further divided into subcategories namely, energy, water, emissions, general and innovations. The details of the actions undertaken are described in detail in each of these individual subcategories.

ENERGY

To begin with various measures were taken to minimize thermal energy loses. These included tuning-up the boiler and insulating components such as flanges, valves and couplings present at the production floor. Moreover, preheated fuel was supplied to the boiler, by installing a steam operated fuel oil preheater. This would thus improve the overall combustion. A vent system (flush system) was ensured to be utilized for low pressure activities and a steam flow meter was also installed to calculate the system efficiency using the displayed measurement.

Several measures were taken to reduce the cost of electricity consumption by:

1. Reducing the total number of energy units used by replacing CFL and flash lights present with LED lights and placing semitransparent sheets onto the roofs of the production floor to obtain natural lighting.
2. Reducing peak demands by introducing inverter driven technology for high power motors. Moreover, administrative instructions were proposed and developed to precisely schedule the usage of the general electrical units such as lights, fans, air conditioning units and photocopiers in the facility according to a predetermined time interval.

Hot and humid air trapped within the production floor were ensured to be reduced by installing natural ventilators at all appropriate locations on the roof infrastructure, in order to reduce the amount of heat generated through natural mechanisms.

100% procurement of electrical energy from a renewable energy source was achieved by setting up a roof mounted 32.5 kW solar electrical unit at our head office.

WATER

Various measures were taken to reduce the volume of fresh water consumption such as the implementation of a rain water harvesting system and the recycling of treated wastewater for flushing and gardening purposes. Moreover, administrative controls were proposed and developed on the proper usage of fresh water.

EMISSIONS

Various measures were undertaken to carefully control and monitor air emissions to the environment and within the facility, which is mandatory to maintain a clean and pollution-free environment, thereby ensuring the sustainable operation of the facility. A dust extraction and a fume extraction system were setup, which is used to collect airborne particulate matter and acidic gases respectively. Moreover, an air purifying system that includes scrubbing and neutralizing was also setup. Furthermore, the exhaust of the generator was connected directly to the boiler stack as per the legal requirements set by the BOI, in order to prevent the release of noxious emissions to the environment (ground level).

For those customers who had given their consent, used packaging materials were washed, cleaned, dried and reused to pack finished products.

Several measures were taken to reduce hazardous waste produced at the facility by:

1. Installing a filter press to minimize the amount of chemical sludge generated at the facility.
2. Minimizing the amount of PPE waste generated at the facility by implementing the use of high end quality PPE that are purchased from the 3M corporation, which could be re-used over an extended period of time.

GENERAL

100% prevention of used and unused packaging material from getting mixed up was maintained by constructing a storage room to ensure all uncontaminated packaging material are kept in place.

Spill containers were installed to the delivery lorries to improve the safe transportation of products.

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international laws and regulations, we ensure that 100% performance on environmental compliance within both the facility and the surroundings are met with.

100% performance on environmental compliance within both the facility and the surroundings was ensured to be maintained by:

1. Commissioning an accredited third-party organization on an annual basis to measure and analyze emissions to the environment, which include:
    - wastewater quality,
    - ambient air quality,

- stack emissions and
- noise levels.

2. Complying to the regulations enforced by the National Environmental Act, No. 47 of 1980 and the BOI.
3. Executing the software based Raw Material HazMat Control System. This system aids to control the input of raw materials at the initial stage of the production process, which complies with our S&D-MRSL prepared based on Bluesign, GOTS, ZDHC, OEKO-TEX, SVHC, Inditex as well as RSLs of global key buyers such as Levis, VS and H&M. Therefore, through the use of this control system, the entry of hazardous substances into the production process are controlled.

   Moreover, at the production phase the use of sophisticated analytical equipment (e.g.: GCMS, HPLC and the FTIR Spectrophotometer) in the in-house laboratory, aid to test various production parameters at identified frequencies, thereby enabling the analysis of product quality and the detection of the presence of any hazardous substances or impurities in the desired, finished products, which also complies with our S&D-MRSL. Hence, the ultimate objective of producing non-hazardous finished products are met with.
4. Implementation and certification of the company in accordance with globally approved standards such as ISO 14001.

OUR INNOVATIONS

We are a proven partner for customers involved in the textile value chain and is constantly developing sustainable solutions for the future. We always take care of both the regulatory requirements in their target markets and also the prevailing trends relating to health, safety and sustainability, through process optimization, eco-efficient products and solutions, quality assurance and by the introduction of innovative effects and functions. We help customers with flexible, cost-efficient and eco-friendly solutions.

Though conventional processes are extremely used nowadays, they pose a measurable negative impact on the environment due to the increased consumption of water and energy. Therefore, it is

clear that these processes need to be improved considerably in order to meet today's energy and environmental demands. Therefore, we, S and D Chemicals (Pvt) Ltd. innovate specially developed formulations, which are listed below in Table 2 that emerge as the best alternatives to the otherwise lesser ecofriendly conventional processes.

Table 2: Specially developed eco-friendly formulations.

Product Name	Application
Scourzyme TXP	Biological Enzymatic Scouring Process
Lanzene Cellu Cross N	Sustainable Enzyme Process
Biozep Combi L	Sustainable Dyebath Enzyme Process
Lanzene Maxi OV2	Stone Free Enzyme Process
Turbo Bleach H5	Sustainable Bleaching Process
Sapanol LP 7	Low Temperature Soaping Process

SCOURZYME TXP – BIOLOGICAL ENZYMATIC SCOURING PROCESS

The bioscouring process emerges as the best ecofriendly alternative to the conventional, polluting caustic scouring process.

Scourzyme TXP, a product formulated by S & D, is a bioscouring system that uses a specially developed enzyme formulation, based on pectinase to removes waxes, pectins, sizes and other impurities on the surface of the fabric. Pectate lyase degrades the pectin from the primary cell wall of cotton without degrading the cotton itself. Research has shown that pectin acts like glue between the fibre core and the waxes, but that it can be removed by an alkaline pectate lyase, making the residual waxes easy to eradicate in the subsequent hot rinse.

As shown below in Figure 1, the conventional process is a 6-stage process where the scouring and the acid biopolishing process take place separately in 2 stages. However, as shown below in Figure 2, the bioscouring process is a 4-stage process, where the scouring and the acid biopolishing process is now combined into one single stage. Alkaline scouring is a process that uses high concentrations of NaOH and also requires the neutralization of wastewater. Even though alkaline scouring is effective and the costs of NaOH are low, this conventional scouring process is rather inefficient as it consumes large quantities of water and energy.

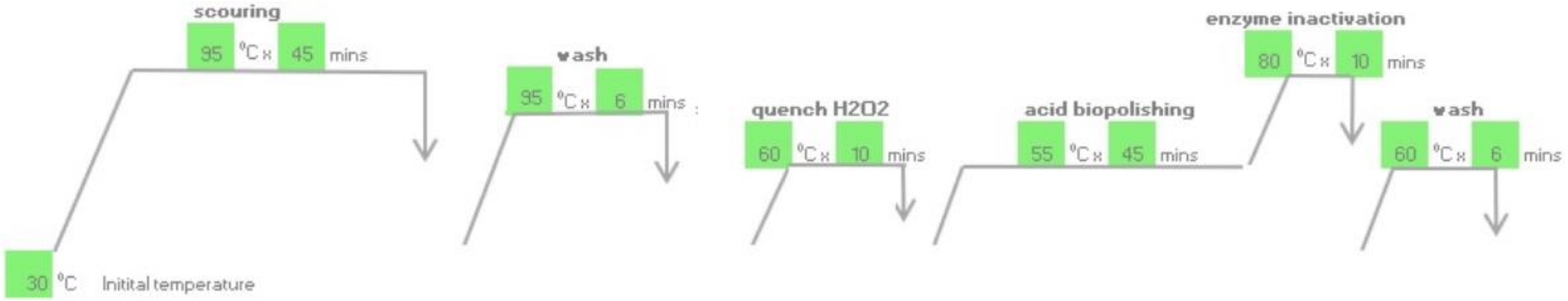


Figure 1: Working mechanism of the conventional process.

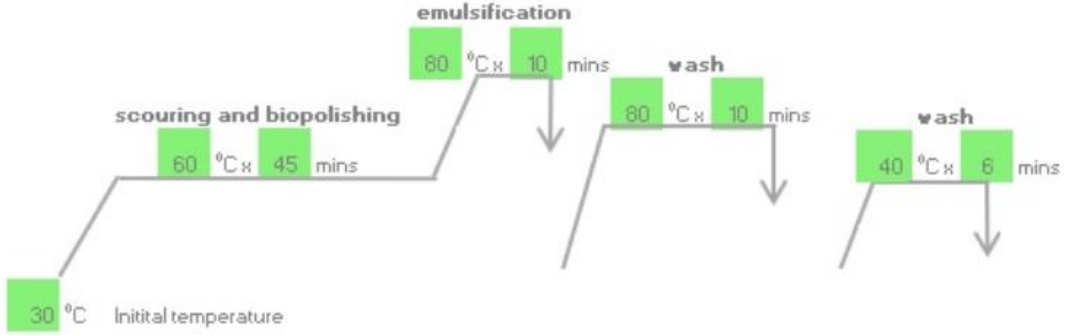


Figure 2: Working mechanism of the bioscouring process.

The Scourzyme TXP system has many advantages in comparison to the conventional alkaline scouring method and these are shown below in Table 3 and Figure 3.

Table 3: Comparison of features between the conventional alkaline scouring process and the Scourzyme TXP bioscouring process.

Parameter	Conventional Alkaline Scouring Process	Scourzyme TXP Bioscouring Process	Saving
BOD, COD and TDS of Effluent	High (due to use of many harsh chemicals)	Low	30 - 45 %
Loss of Fabric Strength	More (due to use of many harsh chemicals)	Significantly Less	
Weight Loss	Significantly High	Less	atleast 2 %
Surface	Less Smooth	Smooth due to presence of pectin in fibres	
Addition of Final Softener	High	Low	25 - 40 %
Running Temperature (°C)	95 - 100	60	
Water Consumption (m^3)	0.05	0.01	80 %
Energy Consumption (kWh)	2.78	1.64	41 %
Labour (h)	2.78	1.64	41 %
Chemicals (kg)	6.57	1.85	72 %
Process Time (min)	180	50	72 %

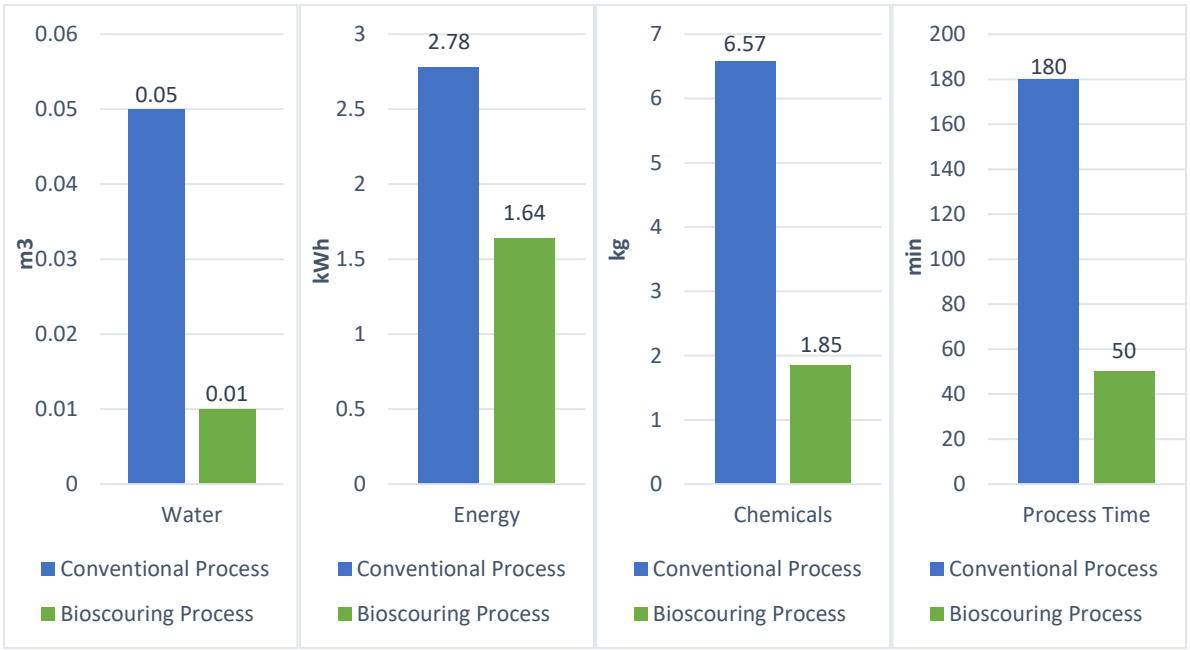
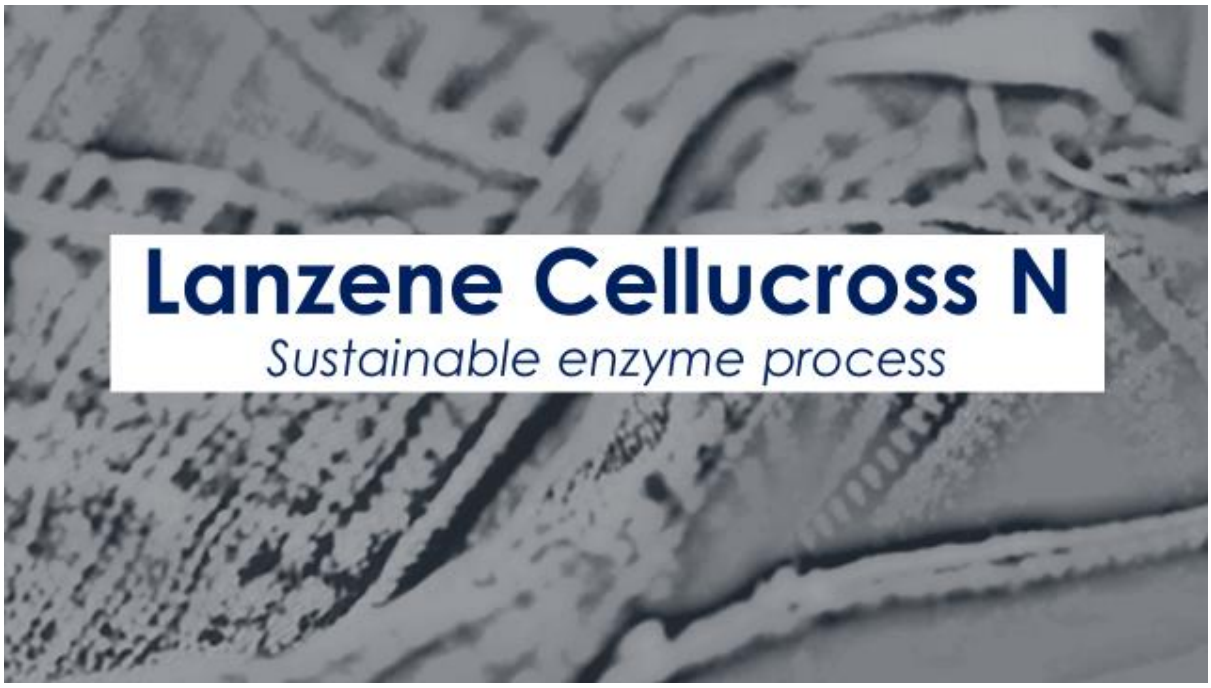


Figure 3: Graphical comparison of features between the conventional process and the bioscouring process.

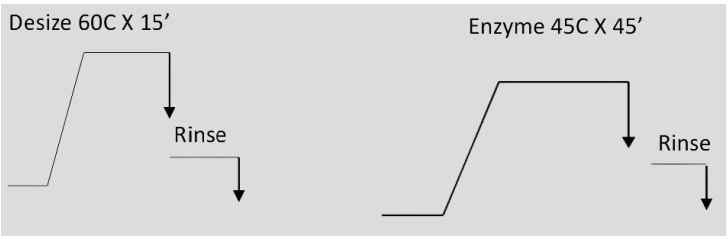
LANZENE CELLUCROSS N - SUSTAINABLE ENZYME PROCESS



This combination process is a sustainable enzyme process that emerges as the best ecofriendly alternative to the conventional process.

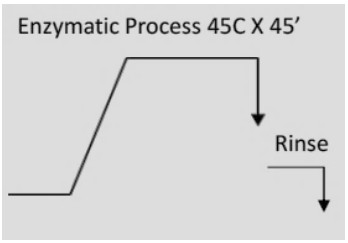
Lanzene Cellucross N, a product formulated by S & D, is a combination process, which is a sustainable enzyme system that uses a specially developed enzyme formulation.

As shown below in Figure 4, the conventional process is a 4-stage process where the desizing and the enzyme processes take place separately in 2 stages followed by rinsing in both these individual stages. However, as shown below in Figure 5, the combination process is a 2-stage process, where the desizing and the enzyme process is now combined into one single stage followed by rinsing. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of water and energy.



Machine Power	**46 KW**
Fabric Weight	**100 Kg**
Garments per lot	**120 Pcs**
Liquor Ratio (Desize)	1: 8
Liquor Ratio (Enzyme)	1: 5
Liquor Ratio (Rinse)	1: 8

Figure 4: Working mechanism of the conventional process.



Liquor Ratio (Combi) 1: 6
Liquor Ratio (Rinse) 1: 8

Figure 5: Working mechanism of the combination process.

The Lanzene Cellucross N enzyme system has many advantages in comparison to the conventional process and these are shown below in Table 4 and Figure 6.

Table 4: Comparison of features between the conventional process and the combination process.

Parameter	Conventional Process	Lanzene Cellucross N Combination Process	Saving	%
Time (min)	83	55	28	33.73
Water (m^3)	2.9	1.4	1.5	51.72
Electricity (kWh)	63.63	42.17	21.47	33.73
Steam (ton)	0.085	0.032	0.052	61.74

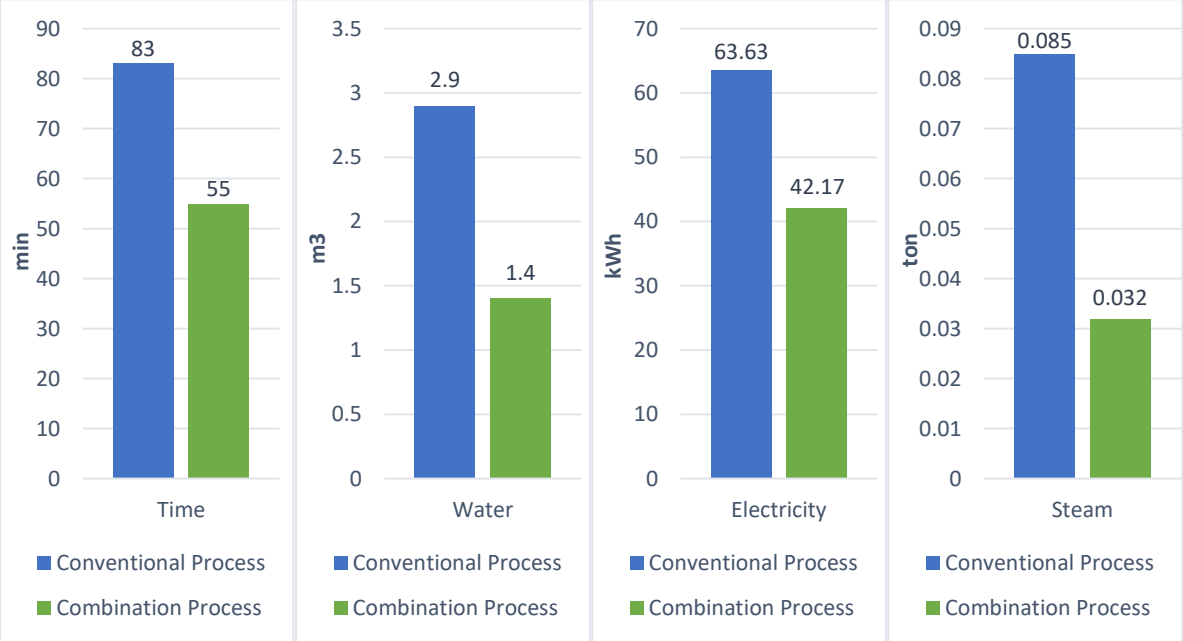


Figure 6: Graphical comparison of features between the conventional process and the combination process.

BIOZEP COMBI L - SUSTAINABLE DYEBATH ENZYME PROCESS

This combination process is a sustainable dyebath enzyme process that emerges as the best ecofriendly alternative to the conventional process.

Biozep Combi L, a product formulated by S & D, is a combination process, which is a sustainable dyebath enzyme system that uses a specially developed enzyme formulation.

As shown below in Figure 7, the conventional process is a 5-stage process. However, as shown below in Figure 8 the combination process is a single stage process, where the dyeing and the biopolishing processes are now combined into a single stage. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of water and energy.

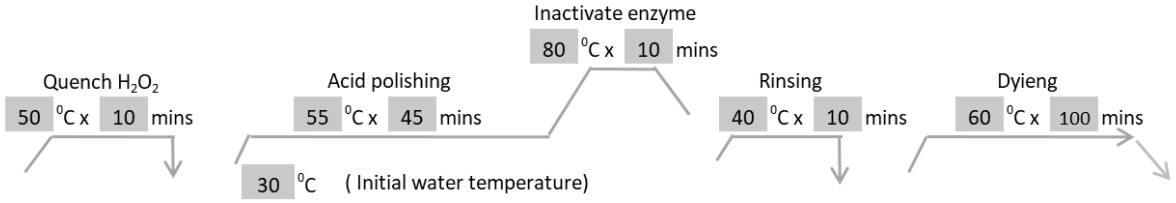


Figure 7: Working mechanism of the conventional dyebath enzyme process.

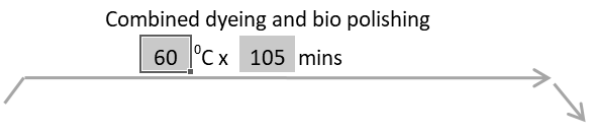


Figure 8: Working mechanism of the combination process.

The Biozep Combi L dyebath enzyme system has many advantages in comparison to the conventional process and these are shown below in Table 5 and Figure 9.

Table 5: Comparison of features between the conventional process and the combination process.

Parameter	Conventional Process	Biozep Combi L Combination Process	Saving	%
Water (m^3)	4.0	1.0	3.0	75
Electricity (kWh)	2.92	1.75	1.17	40
Steam (ton)	0.77	0.29	0.48	62
Catalase (kg)	0.50	0.00	0.50	100

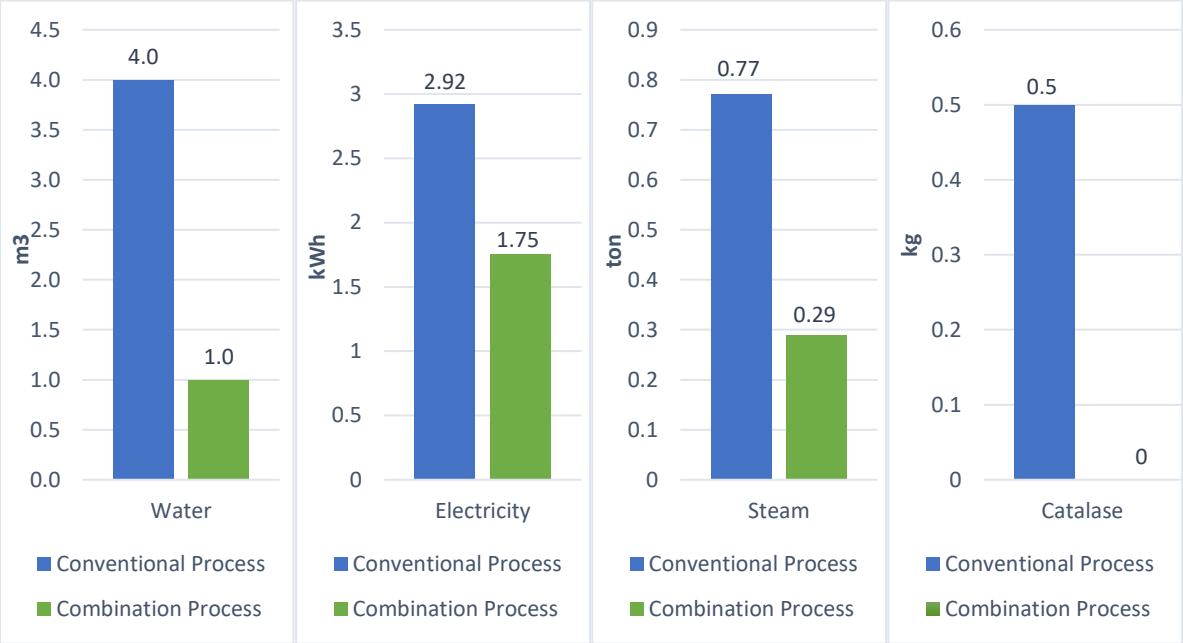


Figure 9: Graphical comparison of features between the conventional process and the combination process.

LANZENE MAXI OVT 2 – STONE FREE ENZYME PROCESS

This combination process is a stone free enzyme process that emerges as the best ecofriendly alternative to the conventional process.

Lanzene Maxi OVT 2, a product formulated by S & D, is a sustainable stone free enzyme system that uses a specially developed enzyme formulation.

The Lanzene Maxi OVT 2 stone free enzyme system has many advantages in comparison to the conventional process and the differences are shown below in Figure 10 and Figure 11.

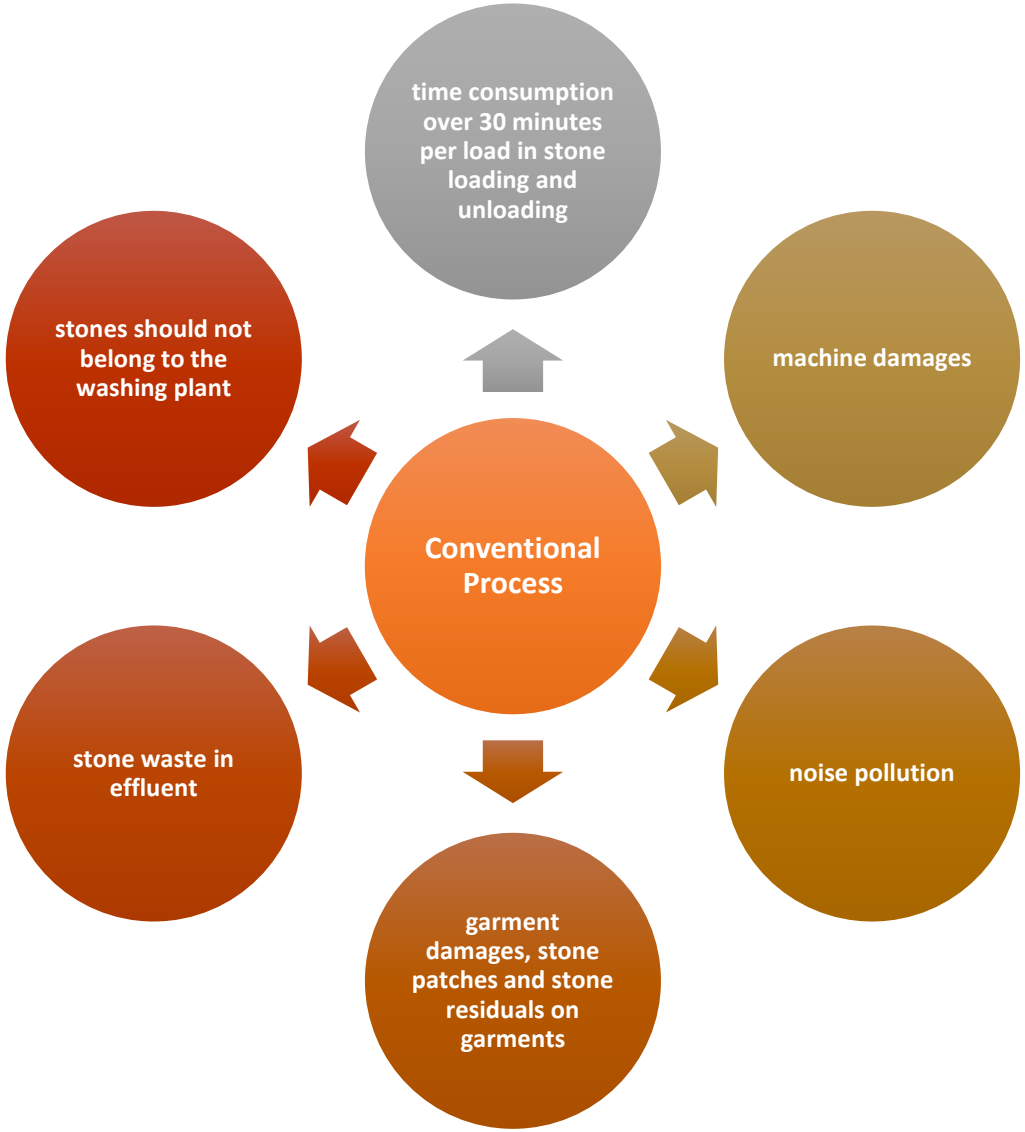


Figure 10: Drawbacks of the conventional process.

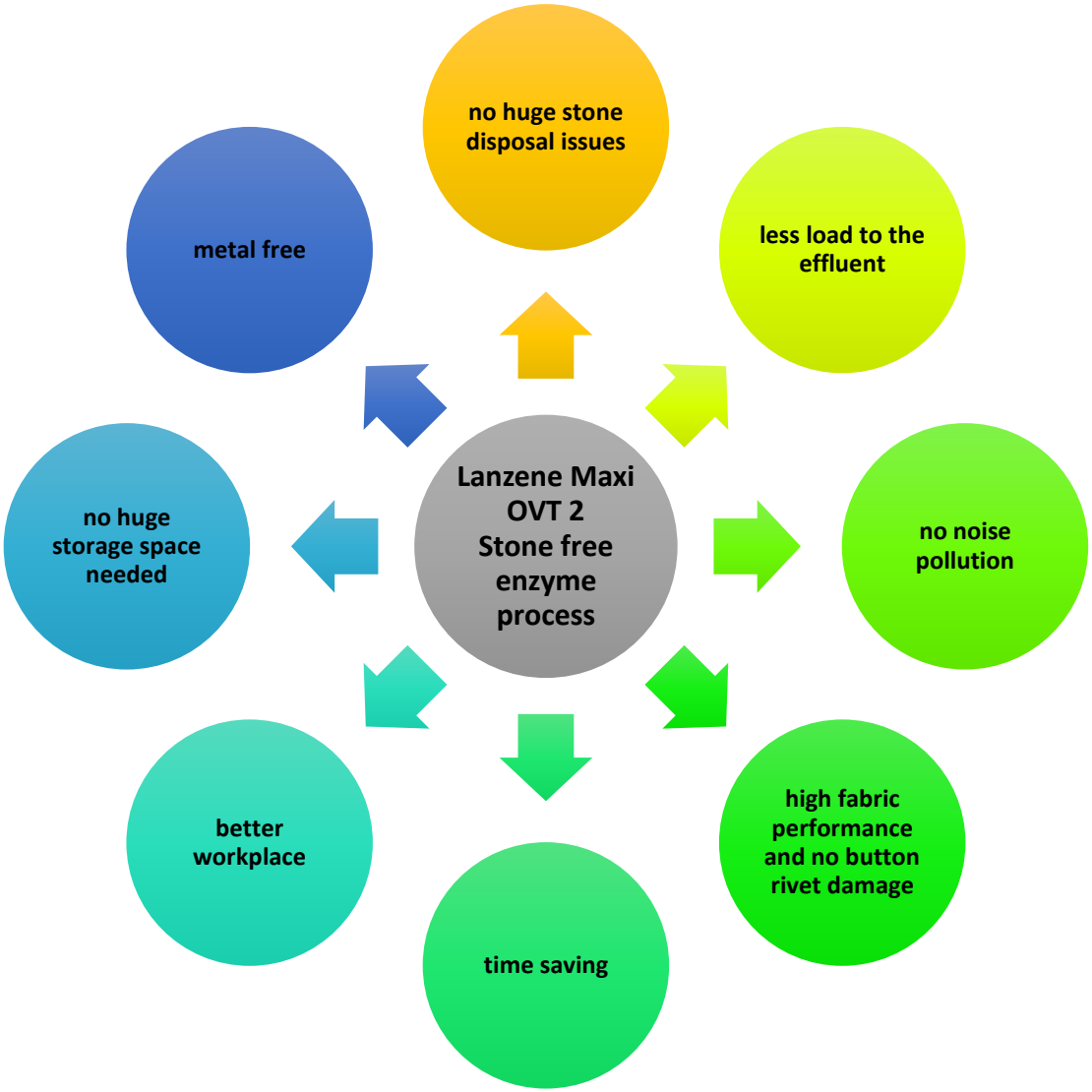


Figure 11: Advantages of the Lanzene Maxi OVT 2 stone free enzyme process.

TURBO BLEACH H5 - SUSTAINABLE BLEACHING PROCESS

This is a sustainable bleaching process that emerges as the best ecofriendly alternative to the conventional process.

Turbo Bleach H5, a product formulated by S & D, is a sustainable bleaching system that uses a specially developed formulation.

As shown below in Figure 12, the conventional process is compared to the turbo bleach process. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of energy and caustic.

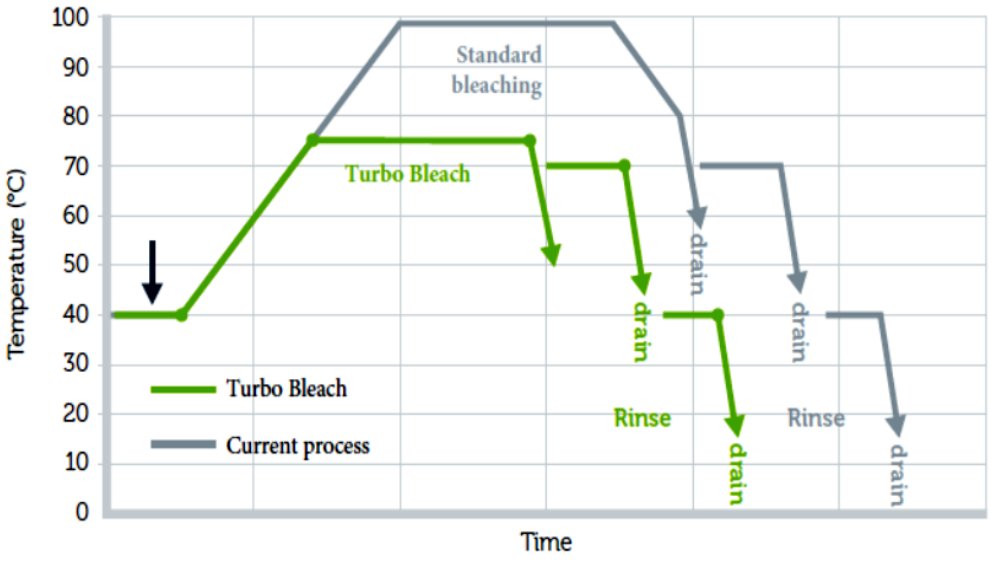


Figure 12: Working mechanism of the conventional and the sustainable bleaching processes.

The Turbo Bleach H5 bleaching system has many advantages in comparison to the conventional process and these are shown below in Figure 13.

Figure 13: Advantages of the Turbo Bleach H5 sustainable bleaching process.

SAPANOL LP7 – LOW TEMPERATURE SOAPING PROCESS

This is a sustainable low temperature soaping process that emerges as the best ecofriendly alternative to the conventional process.

Sapanol LP7, a product formulated by S & D, is a sustainable low temperature soaping system that uses a specially developed formulation.

As shown below in Figure 14, the conventional process is a 6-stage process in comparison to the sustainable low temperature soaping process shown in Figure 15, which is a 4-stage process.

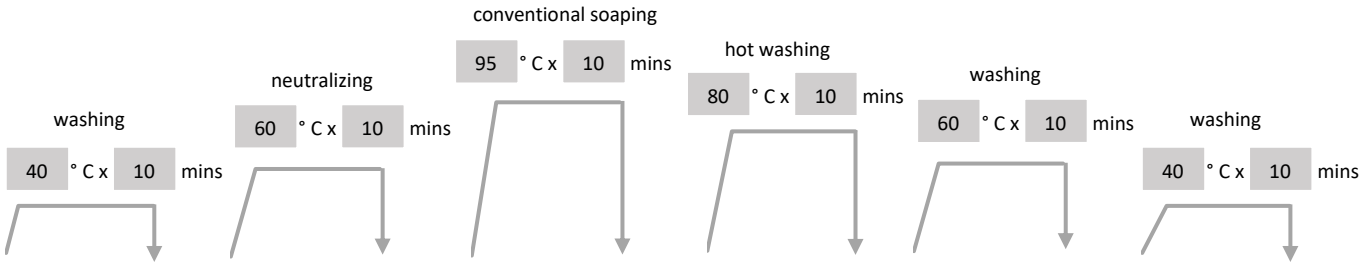


Figure 14: Working mechanism of the conventional soaping process.

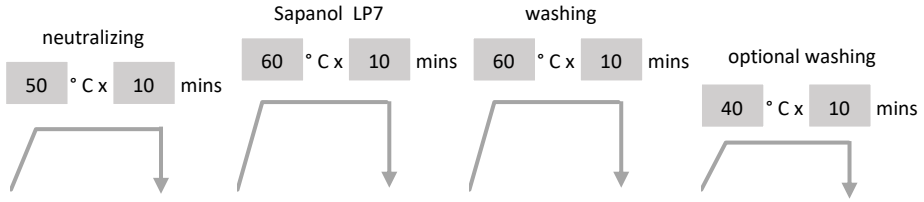


Figure 15: Working mechanism of the Sapanol LP7 sustainable low temperature soaping process.

The Sapanol LP7 low temperature soaping system has many advantages in comparison to the conventional process and these are shown below in Figure 16.

Figure 16: Advantages of the Sapanol LP7 sustainable low temperature soaping process.

OUR FUTURE SDG CONTRIBUTION PLANS

SDG 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

SDG 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

SDG 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

OUR FUTURE PLANS

Several measures are to be taken to reduce the cost of electricity consumption. Peak demands are to be further reduced through promoting awareness amongst the employees, by conducting appropriate training programs on energy conservation.

A solar electrical unit is also to be set up at the factory to further facilitate 100% procurement of electrical energy from a renewable energy source.

Various measures are also to be taken to reduce the volume of fresh water consumption. These include the installation of sub-meters to measure the individual amount of water utilization in different sections of the facility. Moreover, awareness amongst the employees are to be promoted by conducting appropriate training programs on water conservation.

Several measures are to be taken to reduce the hazardous waste produced at the facility. The amount of PPE waste generated at the facility is to be further minimized through promoting awareness

amongst the employees by conducting appropriate training programs, to educate them on the re-use of relevant materials that could be re-used over an extended period of time.

100% performance on environmental compliance within both the facility and the surroundings will be ensured to be continuously met with.

An ICP-OES is to be set up at the in-house laboratory, which would aid in the testing of heavy metals, thereby enabling further analysis of product quality and the detection of the presence of any hazardous substances or impurities in the desired, finished products, which also complies with our S&D-MRSL. Hence, the ultimate objective of producing non-hazardous finished products are further met with.

Preparations are to be made for implementation and certification of the in-house laboratory in accordance with globally approved standards such as ISO 17025.

Sustainable solutions will be constantly developed, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain.

ANTI-CORRUPTION

UNGC PRINCIPLES

Principle 10:

Businesses should work against corruption in all its forms, including extortion and bribery

OUR SDG CONTRIBUTIONS

SDG 16: PEACE, JUSTICE AND STRONG INSTITUITIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

OUR COMMITMENTS

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international anti-corruption laws, we ensure that corruption in any form including bribery is avoided.

S & D is committed to conduct its businesses professionally, honestly and with accountability, trustworthiness and integrity in all dealings wherever we operate. Our policy exists to set out the responsibilities of S & D and those who work for us to observe and uphold the zero-tolerance position on bribery and corruption. S & D ensures that bribery and corruption in any form (offering, giving, promising, asking, agreeing, receiving, accepting, or soliciting something of value or of an advantage

so as to induce or influence an action or decision) is eradicated. In addition, we ensure to keep records of all payments to reflect transparency in all transactions.

This policy applies equally to employees at all levels. S & D will take proper legal and disciplinary action against all employees and third parties who violate the anti-bribery and anti-corruption policy.

OUR FUTURE SDG CONTRIBUTION PLANS

SDG 16: PEACE, JUSTICE AND STRONG INSTITUITIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

OUR FUTURE PLANS

We will ensure that all our employees are committed to observe and uphold the zero-tolerance position on bribery and corruption.

The anti-bribery and anti-corruption clause will be incorporated into our latest Employment Letter format for all new recruits.

For existing employees, a written declaration letter will be signed by each of the respective personnel, agreeing that they are committed to abide to our anti-bribery and anti-corruption policy.

MEASUREMENT OF OUTCOMES

HUMAN RIGHTS

The training programs that were conducted for respective personnel to promote awareness amongst the employees on OHS are shown below in Table 6.

Table 6: List of training programs participated by respective personnel in 2017.

Type of Training	Employee Category	No. of Participants	Duration	Conducted on	Conducted by
Usage of PPE	Production, Maintenance, Stores & Transport Staff	36	1.5 hours	22nd May	External
	Laboratory Staff	4	0.5 hours	6th September	Internal
Firefighting	Production Staff	40	2.5 hours	8th May	External
Fire mock Drill	All Staff	52	15 minutes	9th November	External
Emergency Preparedness Planning & Safety Auditing	Stores and Laboratory Staff	2	2 days	13th & 14th September	External
Safe Handling of Chemicals & PPE	Production Staff	40	2 hours	10th July	Internal
Equipment & Instrument Handling	Laboratory Staff	3	1 hour	10th October	Internal
First-aid	All Staff	52	1 day	11th February	External
Health & Occupational Safety	Production Staff	40	3 hours	15th February	External
New OSH Challenges with Rapid Economic Development of Sri Lanka	Stores and Laboratory Staff	2	1 day	10th October	External

LABOUR

The total workforce in accordance with age is shown below in Table 7:

Table 7: Staff breakdown by age (as at 31st December 2017).

Section	Gender	Total No. of Employees	Age Group			
			18 < 25	25 < 40	40 < 55	> 55
Directors	Male	1	-	-	-	1
	Female	1	-	-	-	1
	Total	2	-	-	-	2
Marketing	Male	4	-	3	1	-
	Female	-	-	-	-	-
	Total	4	-	3	1	-
Administration	Male	1	-	1	-	-
	Female	1	-	1	-	-
	Total	2	-	2	-	-
Accounts	Male	5	2	3	-	-
	Female	4	2	2	-	-
	Total	9	4	5	-	-
EHS	Male	-	-	-	-	-
	Female	2	-	2	-	-
	Total	2	-	2	-	-
Production	Male	40	13	23	4	-
	Female	3	-	1	2	-
	Total	43	13	24	6	-
Laboratory	Male	6	2	4	-	-
	Female	2	1	1	-	-
	Total	8	3	5	-	-
Stores	Male	3	1	-	2	-
	Female	-	-	-	-	-
	Total	3	1	-	2	-
Maintenance	Male	2	1	1	-	-
	Female	-	-	-	-	-
	Total	2	1	1	-	-
Transport	Male	9	-	6	3	-
	Female	-	-	-	-	-
	Total	9	-	6	3	-
Total	**Male**	**71**	19	41	10	1
	Female	**13**	3	7	2	1
	Total	**84**	22	48	12	2

ENVIRONMENT

The test results of treated wastewater, which are obtained from an accredited laboratory of a third-party organization are shown below in Table 8:

Table 8: Test results of treated wastewater in 2017.

Test		Unit	Treated Wastewater		Maximum Tolerance Limits
Colour (Spectral Absorption Coefficient), wavelength range	436 nm (Yellow Range)	per m	0.5	-	7
	525 nm (Red Range)	per m	0.2	-	5
	620 nm (Blue Range)	per m	0.1	-	3
Chemical Oxygen Demand (COD)		mg/L	441	-	600
Oil & Grease		mg/L	24	-	30
pH			6.5	at 25°C	6.5 - 8.5
Total Dissolved Solids (TDS)		mg/L	387	-	2100
Total Suspended Solids (TSS)		mg/L	26	-	500
Ammoniacal Nitrogen (as N)		mg/L	n.d.	LOD: 5	50
Biochemical Oxygen Demand (BOD)		mg/L	83	5 days	200
Chloride (as Cl)		mg/L	28	-	900
Phenolic Compounds		mg/L	0.10	-	5.0
Residual Chlorine (as Cl_2)		mg/L	n.d.	LOQ: 0.07	Nil
Sulphate (as SO_4)		mg/L	11.4	-	1000
Sulphide (as S)		mg/L	2	-	-
Temperature		°C	25	-	40
Cyanide (as CN)		mg/L	n.d.	LOD: 0.04	0.2
Copper		mg/L	n.d.	LOQ: 0.01	3.0
Lead		mg/L	n.d.	LOQ: 0.04	1.0
Arsenic (as As)		mg/L	n.d.	LOQ: 0.02	0.2
Boron (as B)		mg/L	0.01	-	2.0
Chromium (as Cr)		mg/L	n.d.	LOQ: 0.01	2.0
Mercury (as Hg)		mg/L	n.d.	LOQ: 0.001	0.001
Nickel (as Ni)		mg/L	n.d.	LOQ: 0.01	3.0
Tin (as Sn)		mg/L	0.09	-	-
Zinc (as Zn)		mg/L	0.03	-	10
Abbreviations					
LOD: Limit of Detection					
LOQ: Limit of Quantification					
n.d.: not detected					