



PROTECT THE PLANET

Study circle



ENERGY USE IN DAILY LIFE – CLOTHING

This guide has been designed to help Centres/Groups of the Sathya Sai International Organisation (SSIO) facilitate a study circle on the topic of Clothing and its impact on the environment. It has been developed as part of a series of study circle guides that aim to look at Energy use in daily aspects of living. This is part 1 with an estimated duration of one hour.

Part 1 will cover: *The environmental impact of the clothing industry, Ceiling on Desires in relation to clothing – distinguishing between want and need, the 5Rs of waste management and how to have 'less luggage' in this journey called life.*

PART 1

OPENING AND INTRODUCTION			
ACTIVITY	NOTE TO FACILITATOR	RESOURCES	DURATION
3 OM's or silent sitting followed by an opening prayer	Omkar or a minute of silent sitting is to be observed. The objective of this activity is to help settle the group and establish group dynamics. This is to be followed by a prayer or short reading.		1 min
Introduce today's topic	<p>This study circle is part of the Serve the Planet (STP) initiative of the SSIO and is based on the theme 'Protect The Planet' with a focus on 'Energy'.</p> <p>The purpose of this study circle is to understand the impact of the clothes we buy and wear, on Mother Earth.</p> <p>It is important to remain respectful and open at all times. Keep in mind that the study circle is about sharing and exploring the topic and inspiring each other rather than 'finding the right answers'.</p>		2 mins
TODAY'S DELIVERY			
ACTIVITY	NOTE TO FACILITATOR	RESOURCES	DURATION
Question 1: How often do we think about the clothes we wear?	<p>Clothes are one of the basic needs of human being. They protect us from the elements (rain, cold, wind, and sun), daily hazards (e.g. thorns and insects), and are part of social and cultural identities.¹</p> <p>Ask the participants to name the different types of materials used to make fabrics that eventually become clothes that we wear and the source of each fabric. Use the information below to support your discussions:^{2,3}</p> <p>Natural Fibres:</p> <ul style="list-style-type: none"> ● Cotton – plant fibre (cotton plant) ● Silk – produced by silkworms ● Linen – plant fibre (flax plant) ● Wool – produced by sheep ● Cashmere – produced by cashmere goats ● Mohair – produced by angora goats or hares 		10 mins

	<ul style="list-style-type: none"> ● Leather – preserved hides of animals ● Hemp – plant fibre (hemp plant) ● Jute – plant fibre (jute plant) <p>Synthetic Fibres:</p> <ul style="list-style-type: none"> ● Rayon/Viscose – semi synthetic fibre (modified fibres from soy/sugarcane/bamboo) ● Polyester – synthetic fibre (Petroleum derivative) ● Nylon – synthetic fibre (Petroleum derivative) ● Spandex – synthetic fibre (Petroleum derivative) ● Polypropylene – synthetic fibre (Petroleum derivative) ● Polyethylene – synthetic fibre (Petroleum derivative) ● Vinyl – synthetic fibre (Petroleum derivative) <p>Group discussion/activity: Having reviewed the types of materials used to make certain fabric, encourage the group to think about the process involved in the life-cycle of the clothes they are wearing at the moment. Request the group to identify energy consumption at each step of the process, where applicable. The purpose of this is to help the group realise and assess the impact (negative or positive) that clothing has on the environment.</p> <p>This can be discussed amongst the group or written down on paper (preferably using recycled or scraps of paper that can be recycled afterwards).</p> <p>To support the discussion, you may use the Figure 1 provided below, which shows the overall life-cycle of cotton (natural fibre)⁴ and polyester (synthetic fibre)^{5,6} – from manufacturing to consumerism. Subsequent to the diagram, Attachment A of this guide presents the negative impact that the various stages of the clothing cycle have on the environment.</p> <p>After the discussion, you may play Video 1, which highlights environmental impacts of textile industry.</p>	<p>VIDEO 1 – https://www.youtube.com/watch?v=NXTIfczSnE</p> <p>(3 mins 43 secs)</p>	
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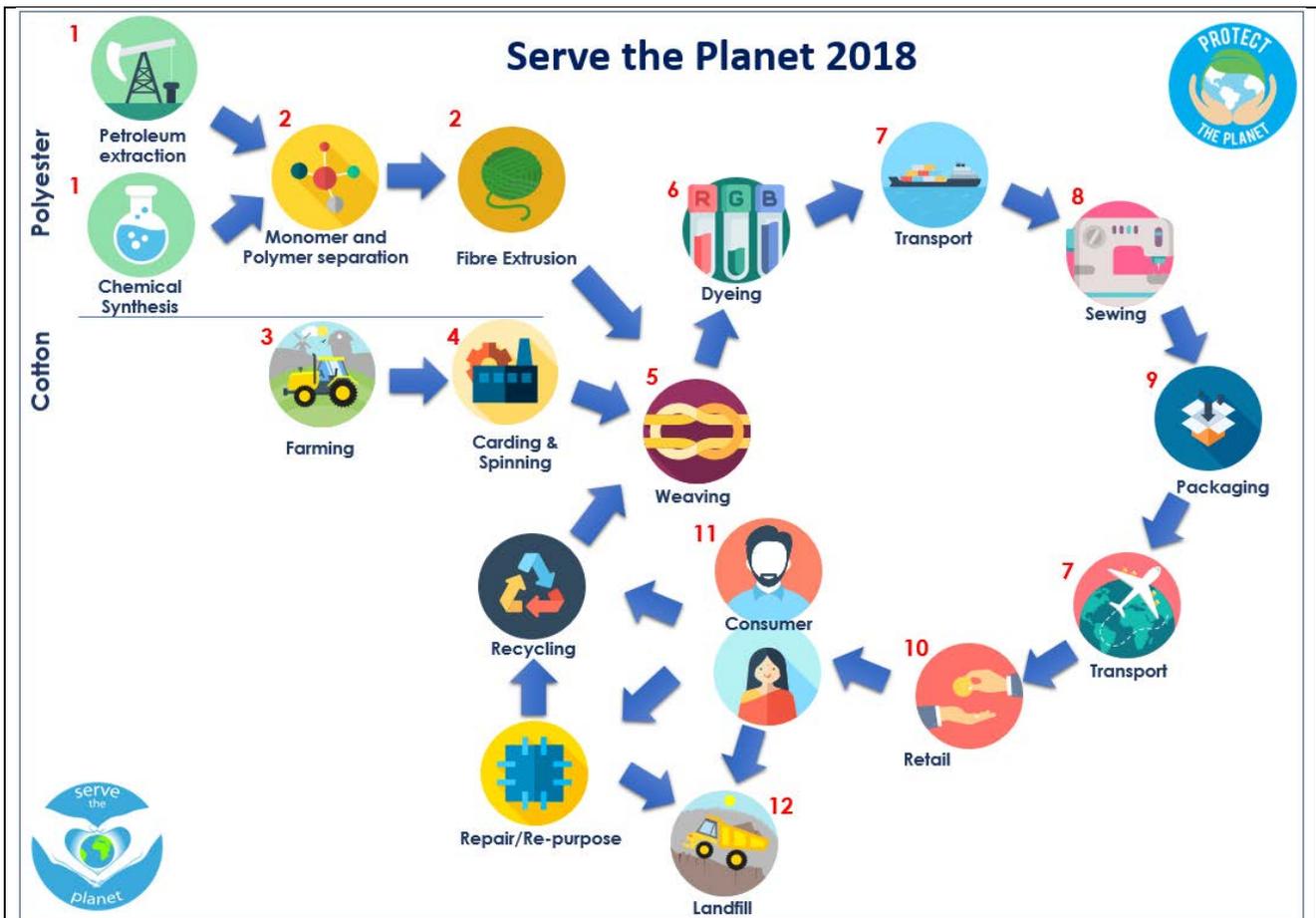


Figure 1

Source: Adapted from <http://buddhajeans.com/encyclopedia/life-cycle-map-t-shirt-cotton-graphics/>

It is important to note that recycling uses energy to breakdown clothes into fibres that can be rewoven. However, the energy and water it saves from production of a new item (by minimising resources use), outweighs the energy consumed (from maximising the use).



Ref 12

To wrap-up the discussion on this section, ask the group to introspect on the view they now have on their clothing

	<p>habits, resources used and their effect on the environment. After a minute of introspection, read the following quote.</p> <p>“Today, all the five elements (earth, water, fire, air, and space) are polluted and, consequently man is mired in insecurity. Today the world is losing its ecological balance as man, out of utter selfishness, is robbing Mother Earth of her resources like coal, petroleum, iron, etc. As a result, we find earthquakes, floods, and such other devastating natural calamities. Human life will find fulfillment only when ecological balance is maintained. Balance in human life and balance in nature, both are equally important.” – Sathya Sai Baba (SSS 33.15: September 25, 2000)</p>		
<p>Question 2: <i>Do we buy more clothes than we need? Why?</i></p>	<p>Begin this exercise by requesting all participants to close their eyes, and introspect on the following:</p> <ul style="list-style-type: none"> • The number of clothes and shoes that they currently own, including all items of clothing that they have not worn in the last 1–3 years and clothes that may still have the original purchase labels on them • The number of clothes they wear on a regular basis <p>Now, pose the question to the group – “Why do we buy more clothes than we need?”</p> <p>Someone in the group may mention ‘fashion’ or ‘trend’ as one of the reasons. You could encourage the group to reflect on the extent our consumerism and clothing habits are easily stimulated by advertising and how we are driven towards desiring for more than we actually need.</p> <p>‘Fashion’ is defined as a style that is popular at a particular time especially, with respect to clothes, shoes, jewellery, etc., while a ‘trend’ is a change in the style or behaviour. Traditionally fashion trends have changed from season to season.¹³ Currently, there is a move to fast fashion,⁷ i.e. changing trends several times in a single season, often something completely different to the previous months’ offerings. Advertising is geared to highlight the change in fashion and the ‘cool factor’ of owning the latest option. There is a disconnect created by brands, between a need and a want, and the fashion industry has become very skilled at selling a want as a need.¹⁴ In addition, advertising campaigns portray this ‘need’ as the key to happiness and fulfilment, making them go beyond the selling of an item to appealing emotionally to the potential buyer.¹⁴</p> <p>Read the quote below that guides us to discriminate between needs and wants and in making an environmentally responsible decision:</p> <p>“Develop renunciation towards your own needs and wishes. Examine each on the touchstone of essentiality. When you pile up things in your apartments, you only promote</p>		<p>10 mins</p>

	<p>darkness and dust; so also, do not collect and store too many materials in your mind. Travel light. Have just enough to sustain life and maintain health. The pappu (dish made of lentils) must have only enough uppu (salt) to make it relishing; that is to say, do not spoil the dish by adding too much salt. Life becomes too difficult to bear if you put too much desire into it. Limit your desires to your capacity and even among them, have only those that will grant lasting joy. Do not run after fashion and public approval and strain your resources beyond repair. Also, stick to your own dharma and the code of rules that regulate life or the stage you have reached.” – Sathya Sai Baba (SSS 4.28: August 19, 1964)</p>		
<p>Question 3: What change can you make?</p>	<p>Now that the participants have an understanding of the energy footprint and environmental impact from buying and using clothes, brainstorm ideas with the group on the changes we can make to reduce this environmental impact using the information below to guide the discussions.</p> <p><u>THE 5Rs – REDUCE, REUSE, RECYCLE, REFUSE and REPURPOSE</u></p> <p>Most people are familiar with 3Rs – Reduce, Reuse and Recycle. There are two more R’s to consider – Refuse and Repurpose. Below is a broad understanding of the 5Rs with some examples to help understand how living the 5Rs^{15,16} can help reduce our use of natural resources, including energy.</p> <ol style="list-style-type: none"> 1. Refuse is the first step in this virtuous cycle and has the potential to have the greatest impact in the creation of waste. By simply refusing, you are able to reduce the amount of waste you generate. If we all do this collectively, then the demand for items reduce, which in turn also reduces the number and variety of items that are produced and ultimately also reduces the negative impact on the environment. The best way to refuse is to apply the following five questions before following through with a purchase: <ol style="list-style-type: none"> a. Do I need it? b. Can I afford it? c. Will I use it? d. Is it worth it? e. Can I find it cheaper elsewhere or borrow it? <p>And if you still must buy that item, try and donate something from your existing wardrobe first.</p> <p>Also, consider buying clothing items that are more friendly to the environment, when possible. For example:^{3,7}</p> <ul style="list-style-type: none"> ● Linen – made from flax, which does not require as much water and pesticide to produce vs. cotton 		<p>15 mins</p>

	<ul style="list-style-type: none"> ● Hemp – similar to linen, the water consumption is lower than cotton and requires very little chemical intervention to grow <p>2. Reduce is the next step of the cycle. Decrease the number and quantity of items you need in your daily life. Think about what you buy and use – can you use less? Like Refuse, this ensures that the overall waste you generate is lowered. Most of us wear 20% of our clothing 80% of the time.¹⁷ Try the following tips to reduce the amount of clothes you have:¹⁷</p> <ol style="list-style-type: none"> a. Begin by removing the clothes that are stained, ripped, or faded beyond recognition. Items that are in wearable condition can still be donated and those that are not, can be recycled. b. Get rid of clothes that do not fit – those ill-fitting items are weighing you down physically, mentally, and emotionally. Pass them on to someone who can use them. c. Try experimenting with less. Try placing half of your clothing in a different room for two weeks. You will be surprised how much easier it is to function and get ready with fewer clothes in your closet. <p>3. Reuse – Of course, clothing like many items is not something we buy and only wear once. However, reuse in the case of clothing can include:</p> <ol style="list-style-type: none"> a. Being prepared to wear clothes from siblings/friends that they no longer want and in turn handing over our own clothes to other family members/friends in a bid to reduce and reuse b. Donating clothes to charity/clothes collectors that use the clothes for other purposes <p>4. Repurpose – This means using an item for an alternate purpose instead of disposing it. Sometimes repurposing can involve modifications to items to fit its new use. This is fundamentally what Upcycling is. Examples in the case of clothes include:</p> <ol style="list-style-type: none"> a. Using a scarf to create a wrapped skirt b. Repurposing a men’s shirt to create a woman’s top c. Cutting fabric into strips and creating a mop for cleaning the floor d. Cutting up clothes to create stuffing for a pillow or toy <p>(Refer to Attachment B for a group activity which involves repurposing a T-shirt into a bag. You may also play Video 2 that provides instruction)</p> <p>5. Recycle – Once you have gone through the above 4 steps and an item of clothing is no longer possible to wear, cannot be mended or repurposed, then the last</p>	<ol style="list-style-type: none"> 1. Old T-shirt 2. Fabric Scissors 3. Needle and thread (optional) <p>Video 2 – https://www.youtube.com/watch?v=DesGx5lpMWQ (1 min 24 secs) (*Note if no</p>	
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	<p>option is recycling. The act of recycling helps us reduce our environmental impact by diminishing our requirements for mining or extraction of natural resources and use of energy.</p> <p>More tips to reduce the environmental impact of using and storing clothes:</p> <ul style="list-style-type: none"> ● In areas of good climate or if you work in an air-conditioned office, use clothes more than once, before putting them for a wash ● Fold clothes instead of hanging them using plastic hangers ● Use environmental-friendly detergents and set your washing machine to use less water in a cycle. Many detergent companies recommend the quantity of detergent which is based on heavy staining. However, as individuals, experiment with lower quantities for your individual needs ● Hang clothes outside to dry naturally instead of using a dryer ● If using a dryer, fold clothes immediately afterwards to avoid heavy creases and save on electricity through ironing <p>Ceiling on desires can make a huge impact on the environment in every aspect of our lives and the most important part of ceiling on desires is being vigilant of our greed and desires and making the right choices.</p> <p>“Your life is a long journey. You should have less luggage (desires) in this long journey of life. Therefore, it is said, “Less luggage, more comfort, makes travel a pleasure.” So, ceiling on desires is what you have to adopt today. You have to cut short your desires day by day. You are under the mistaken notion that happiness lies in the fulfilment of desires. But, in fact, happiness begins to dawn when desires are totally eradicated. When you reduce your desires, you advance towards the state of renunciation. You have many desires. What do you get out of them? You are bound to face the consequences when you claim something as yours. When you claim a piece of land as yours, then you will have to reap the harvest. This instinct of ego and attachment will put you to suffering. You will be blissful the moment you give up ego and attachment.” – Sathya Sai Baba (SSS 32.6: March 14, 1999)</p> <p>“Ceiling on desires is a must for leading a peaceful and meaningful life. You must curb the desire to seek more and more wealth and turn your effort to realise the Reality within. In pursuing this effort, you must avoid waste of food, money, time, energy, and knowledge as all these are forms of God.” – Sathya Sai Baba (SSS 27. 20: July 21, 1994)</p>	<p>video facilities are available on-site, participants can be sent ALL video links beforehand to watch at home prior to the study circle taking place)</p>	
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<p>Group introspection</p>	<p>Knowing what you now know about the clothing industry, how will you apply ‘ceiling on desires’ in relation to your clothes wardrobe going forward?</p> <p>Please remember this is not about clearing out the clothes we currently wear and are in good condition, it is rather about refusing to buy more, reducing waste and reusing what we have. Also, it is not to remove any items that are being used, as that will only lead to buying more clothes later down the line.</p> <p>The purpose of this exercise is to discriminate between want and need.</p> <p>A plan of action could include:</p> <ol style="list-style-type: none"> 1. Refusing to shop for new clothes until you have sorted your existing wardrobe out 2. Separating all clothes into ‘being used’ and ‘not being used’ 3. Separating out all clothes that are not being used into: <ul style="list-style-type: none"> ● New clothes with labels can be given as gifts ● Worn clothes that can be given to family members/friends or charity ● Worn clothes that can be repurposed into something else ● Worn clothes that can be recycled 		<p>2–3 mins</p>
SUMMARY AND CONCLUSION			
<p>Closing summary of today’s session and what to expect at the next session</p>	<p>The clothing industry, from end to end, is now known to be the second greatest polluter by the creation of greenhouse gases, pollution of soil and water and the impact on the lives of workers in the industry (including their mental and physical energy), to name a few. Consumerism drives the production line forward and thus, we hold the key to making the biggest changes by curbing our desires. While a t-shirt, pants, saree or dress, etc. may be small elements, the amount of energy that was consumed to get it to your closet is enormous.</p> <p>Ceiling on desires also increases our mental and spiritual energy that can be used to focus the mind on the ultimate goal of Transformation.</p> <p>In PART 2 of this study circle series, we will cover how food cultivation, production, transportation, consumerism (choices) and disposal of food are responsible for energy use and consumption, and how we can conserve non-renewable energy sources, as well as help to mitigate climate change and the loss of planet Earth’s primary resources.</p>		<p>2–3 mins</p>
<p>HOMEWORK Fun Activity</p>	<p>Earlier, we saw a great example of how to repurpose a T-shirt into a shopping bag.</p> <p>Now when you go home, find another item of clothing that you no longer use and find ways in which it can be</p>		<p>10 mins</p>

	repurposed. You may do this activity with other members of the family or friends and make it more fun by customising your item. Take a picture of your repurposed item and post it on social media and include the following tags #STP2018 #Repurpose		
CLOSE	Closing prayer or reading. Prayer for universal peace – Om Shanti, Shanti, Shantihi		1 min

Note: Ideally there should be two facilitators in groups of ten or more participants. The first facilitator is the one who is conducting the study circle. The second facilitator observes the group's dynamics and informs the first facilitator of any lethargy and confusion from participants. This second facilitator also conducts the opening activity (E.g. Omkar) and the sharing of insights at the end. This helps give variety to the participants, but also allows the first facilitator space to capture important feedback and learning points as insight sharing.

Attachment A

Supplement to group discussion presented in Question 1 segment above, on the clothing lifecycle and the impact each stage of the clothing process has on the environment.

Negative impact on the environments at the various stages of the cycle (refer to Figure 1 in the main content):

1. Petroleum extraction and chemical synthesis⁷ – This is done through oil drilling and mining for minerals from the earth. Both of these processes cause significant damage to the environment as they contaminate soil and water, release greenhouse gases (fuels climate change), disrupt wildlife migration and breeding patterns, consume vast quantities of energy during the refining process and through transportation of materials.
2. Monomer and polymer separation, and fibre extrusion^{5,6} – This step uses vast quantities of chemicals in their processing. These chemicals can be recovered and used again but have a finite lifespan before they can be disposed off.
3. Cotton farming^{7-9,10} – Cotton crops are the largest consumers of chemical fertilisers and pesticides versus any other agricultural crop grown commercially today. Cotton is also a very thirsty crop consuming large quantities of water, which is diverted away from rivers and lakes, adversely impacting people and the environment.
4. Carding and spinning⁴ – This is a mechanised process where the fibres are chemically treated, washed and spun into threads ready for weaving. Large quantities of water, chemicals and energy is consumed in this process.
5. Weaving – It is also a mechanised process and consumes energy in the production (energy often derived from burning of fossil fuels).
6. Dyeing¹¹ – The process of dyeing fabrics uses synthetic dyes due to their resistance to fading and generates large quantities of wastewater. Wastewater in developing nations is often released directly into natural waterways threatening the health and survival of humans, animals and plants that depend on these streams and rivers.
7. Transport¹¹ – Due to the delocalisation of production, various stages of manufacture take place in different countries around the world. Transport of raw materials (cotton, polyester, nylon, etc.), intermediate goods (thread and fabric) and finished goods (t-shirts, pants, socks, etc.) need to be transported via cargo ships. These ships burn vast quantities of fuel generating the same amount of greenhouse gases as 50 million cars and the crude oil they burn is 1,000 times more polluting than diesel.
8. Sewing¹¹ – About 60% of garments are sewn in the developing world, and workers are subjected to long working hours, low salaries, child labour and poor health and safety.⁹ The waste generated from these factories are often sent straight to landfill, which is considered the powerhouse that generates methane and other greenhouse gases.
9. Packaging material⁴ – Cardboard is made from chemically treated paper and if not recycled responsibly, it is sent to landfill when it reaches retailers. Plastic packagings are made from crude oil and often not biodegradable, and end up in landfills (impacting human and environmental health through leaching of chemicals) or in the ocean through waterways or direct dumping of waste (thereby impacting aquatic and avian species). Their production and short lifespan (during use) makes this energy intensive.
10. Retailers⁴ – Major retailers such as department stores use lighting setups for clothes to look optimal on display to entice customers to buy clothes, which consumes energy. Other waste generated by retailers include packaging waste (boxes, plastic, tags, old displays) that is sent to landfill.

11. Consumers^{7,10} – The consumer has a major impact on the environmental impact. Washing of clothes uses large quantities of water, sometimes hot water – this is one of the greatest consumers of energy in the life-cycle of clothes. Another generator of waste by the consumer during the washing process, is the creation of microfibres. Nylon, Rayon and polyester microfibers are often not biodegradable and can accumulate in the environment and/or are consumed by animals and can make their way up the food chain.
12. Landfill³ – this is often the end destination of clothes and their upstream intermediates. Even during the manufacturing process, such as weaving, dyeing, and sewing, any rejected materials are sent to landfills. Consumers that don't donate, recycle, or repurpose clothes will also send vast quantities to landfill. It takes years for natural fibres to degrade and synthetic fibres can take thousands of years to degrade while leaching chemicals into the soil and water. Landfills take up large pieces of land and create air, water and soil pollution. Landfills are a huge environmental problem and as materials begin to break down they release chemicals that are toxic or react with other materials to become toxic. This can enter the water table and contaminate the groundwater and soil, preventing its future use.

Attachment B

Group Activity Idea: This activity is an example of repurposing an item of clothing – How to turn an old t-shirt into a shopping bag

The facilitator will demonstrate to the group how to make this item. The participants can then replicate the bag as part of their homework.

- 1) Fold the T-shirt in half
- 2) Cut around the arm seams
- 3) While still folded, cut out the neck line
- 4) **No sew option** – unfold your t-shirt and turn the shirt inside out using some heavy duty string to tie the bottom. Once you have turned it to right side, you will have an upcycled bag
- 5) **Sewing option** – turn the shirt inside out and sew the bottom of the shirt closed
- 6) Optional additional step – use one or both sleeves to add pockets in your new bag.

References

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