

Sustainable Fashion Practices

Sustainable Fashion Practices – Study Notes

1. Core Principles

Principle	What It Means	Why It Matters
Reduce	Minimize material use, waste, and energy throughout the product life cycle.	Lowers resource extraction and pollution.
Reuse & Upcycle	Extend garment life by repairing, redesigning, or repurposing.	Cuts demand for new production and diverts waste from landfills.
Recycle	Turn post-consumer or post-industrial textiles into new fibers.	Saves virgin fibers, reduces landfill pressure.
Responsible Sourcing	Choose fibers and trims with lower environmental and social impacts (e.g., organic cotton, recycled polyester, Tencel, hemp).	Improves biodiversity, water use, and labor conditions.
Transparency	Provide clear information on materials, factories, and supply chain impacts.	Builds consumer trust and drives accountability.

2. Sustainable Materials

Material	Key Benefits	Typical Applications	Considerations
Organic Cotton	No synthetic pesticides, lower water use (when rain-fed).	T-shirts, denim, basics.	Requires certified farms; still water-intensive in arid regions.
Recycled Polyester (rPET)	Diverts plastic waste, reduces CO ₂ by ~60% vs virgin PET.	Sportswear, outerwear, fleece.	Micro-fiber shedding persists; recycling loops need proper collection.
Tencel/Lyocell (eucalyptus)	Closed-loop production, low toxicity, biodegradable.	Dresses, shirts, activewear.	Sourced from sustainably managed forests.
Hemp	Minimal pesticides, fast growth, strong fibers.	Denim, workwear, accessories.	Rough texture can require blending.

Sustainable Fashion Practices

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Piñatex (pineapple leaf)	Uses agricultural waste, vegan leather alternative.	Shoes, bags, jackets.	Still emerging; scaling challenges.
Recycled Wool	Keeps natural fibers in use, reduces need for new shearing.	Sweaters, suits.	Must be carefully sorted to avoid contamination.

3. Design Strategies

1. Zero-Waste Pattern Cutting

- Layout patterns to leave no scrap fabric.
- Software tools (e.g., Optitex, Gerber) assist in optimization.

2. Modular & Multifunctional Design

- Garments that can be worn in multiple ways (reversible, detachable parts).
- Extends utility and reduces total wardrobe volume.

3. Durability & Timeless Aesthetics

- Choose robust stitching, high-quality hardware.
- Classic silhouettes avoid fast-fashion turnover.

4. Take-Back & Rental Models

- Design for easy disassembly and material recovery.
 - Offer leasing or subscription services to keep garments in circulation.
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4. Production Practices

Practice	Description	Environmental / Social Impact
Low-Impact Dyeing	Use water-less technologies (e.g., CO ₂ dyeing), natural dyes, or digital printing.	Cuts water use, reduces chemical discharge.

Sustainable Fashion Practices

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Energy?Efficient Factories	Solar/wind power, LED lighting, heat? recovery systems.	Lowers carbon footprint.
Fair?Labor Standards	Living wages, safe workplaces, transparent contracts.	Improves worker wellbeing and brand reputation.
Closed?Loop Water Systems	Recycle and	