

THREADED HARMONY

Threaded Harmony: A Sustainable Approach to Fashion [...] will make a significant contribution to the Fashion Industry. An indispensable guide for embracing sustainability in fashion, *Threaded Harmony* is a must-read for anyone committed to making a positive impact. Highly recommended for its comprehensive insights and practical approach to sustainable practices.

—*Richard S. Howard*, UN Resident Coordinator, Papua New Guinea

Threaded Harmony: A Sustainable Approach to Fashion offers actionable insights into reducing the industry's environmental footprint through navigating the complexities of sustainable fashion. It emphasizes the urgency for change and empowers readers to make conscious fashion choices. The book is recommended to young fashion enthusiasts who are passionate about promoting a more ethical and sustainable industry.

—*Deepika Dhiman*, Associate Professor

This groundbreaking book is poised to revolutionize the fashion industry with its comprehensive insights and practical approach to sustainability. It's not just a guide; it's a roadmap for positive change. Whether you're a designer, manufacturer, or consumer, *Threaded Harmony* is a must-read for anyone dedicated to making a meaningful impact in fashion.

—*Avik Roy*, Associate Professor, School of Fashion,
Pearl Academy, New Delhi, India

Bringing clarity to the complexities of sustainable fashion, *Threaded Harmony* is a beacon of inspiration for industry professionals and conscious consumers alike. I highly recommend this invaluable resource for its actionable insights and unwavering commitment to sustainability.

—*Sushil Raturi*, NIFT, Mumbai, India

Threaded Harmony: A Sustainable Approach to Fashion is an absolute game-changer in the realm of sustainable fashion. This groundbreaking guide transcends mere trends, offering a holistic blueprint for a paradigm shift in the industry. With meticulous research and visionary insights, *Threaded Harmony* empowers readers to not only embrace sustainability but also become catalysts for positive change. A must-read for fashion leaders, innovators, and enthusiasts alike, this book sets a new standard for conscientious design and

responsible consumption. Prepare to be inspired, informed, and motivated to create a fashion ecosystem that harmonizes beautifully with our planet.

—*Sajan Veerr Abrol*, Founder, Clothes Box Foundation

[Rana's] dedication to advancing sustainability in the fashion industry is truly admirable. Through thorough research and profound analysis, he has crafted an invaluable resource that not only offers pragmatic solutions but also serves as a catalyst for meaningful change. I wholeheartedly recommend *Threaded Harmony* to anyone eager to contribute to the enhancement of sustainable practices within the realm of fashion.

—*Ramesh Babu V.*, Head & Professor,
Kumaraguru College of Technology, Tamil Nadu, India

As an esteemed expert in the field, [Rana's] commitment to driving sustainability in the fashion industry is truly commendable. *Threaded Harmony* arrives at a pivotal moment, as the global fashion community grapples with the urgent need for ethical and environmentally conscious practices. [Rana's] book offers a comprehensive and thought-provoking exploration of sustainability, delving into circular economy principles, ethical production methods, and the transformative role of technology. With its well-researched insights and practical guidance, *Threaded Harmony* serves as a valuable resource for fashion professionals, entrepreneurs, and conscious consumers alike. By shedding light on the intricate challenges and opportunities within sustainable fashion, this book empowers readers to make informed decisions and catalyze positive change. [Rana's] passion for creating a more responsible and equitable fashion industry shines through in this work. *Threaded Harmony* is a must-read for anyone committed to fostering a future where beauty and ethics coexist harmoniously.

—*Georgy Sunny*, Assistant Professor, Fashion Design Department,
National Institute of Fashion Technology, Kannur, India

This book is a game-changer for the industry, offering invaluable insights and practical guidance for embracing sustainability in fashion. From sourcing ethical materials to advocating for circular fashion, it's a must-read for anyone committed to positive change.

—*Gagan Kansal*, Founder, Respun Textile Recycling Facility

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THREADED HARMONY: A SUSTAINABLE APPROACH TO FASHION

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PREFACE

In the tapestry of our lives, the choices we make about what we wear can be powerful threads of change. Fashion, a realm often associated with trends and whims, is undergoing a transformation – one that goes beyond esthetics to embrace sustainability as a guiding principle. *Threaded Harmony: A Sustainable Approach to Fashion* is a journey into this transformative realm, an exploration of how we can weave threads of harmony into the fabric of the fashion industry. Fashion, once a symbol of glamor, has, in many instances, become synonymous with environmental degradation, exploitation, and excess. The urgency for change is evident, and this book delves into the pressing need to redefine our relationship with fashion. Through its pages, we will unravel the environmental impact of our clothing choices, examine the ethical considerations behind our garments, and explore the avenues through which we can collectively reshape the industry. This book serves as a comprehensive guide, navigating the vast landscape of sustainable fashion. We begin by understanding the environmental toll of the fashion industry, examining the intricate web of impact that stretches from production to disposal. From there, we explore sustainable materials and ethical fashion practices, shedding light on the importance of conscious consumerism and responsible manufacturing.

Threaded Harmony goes beyond theory; it is a practical handbook for those seeking to adopt a sustainable approach to fashion. Chapters on the circular fashion economy and the slow fashion movement provide actionable steps for reducing waste and embracing a more mindful and intentional way of dressing. Readers will discover how to build a wardrobe that reflects personal style while aligning with the principles of sustainability.

In our exploration, we shine a spotlight on the pioneers of sustainable fashion – designers and brands who have embraced innovation and ethics to redefine the industry. The role of technology in fashion's sustainable future is also examined, showcasing how advancements in materials and manufacturing processes are contributing to a more eco-friendly and socially responsible sector. *Threaded Harmony* is not just a book; it is a call to action. We delve into the realm of advocacy and activism, highlighting the power each individual possesses to influence positive change in the fashion industry. The journey

toward sustainability is not solitary but a collective endeavor, and every voice, every choice, contributes to the harmonious tapestry we aim to weave.

As we embark on this journey, let *Threaded Harmony* be your guide. Whether you are a seasoned fashion enthusiast, a conscious consumer, or someone curious about the sustainable fashion movement, this book invites you to explore, question, and reimagine the role of fashion in our lives. Together, let us weave a future where style is synonymous with sustainability, and our clothing choices echo a harmonious rhythm with the world around us.

Welcome to the transformative world of *Threaded Harmony*.

Nirbhay Rana

INTRODUCTION

0.1. DEFINING SUSTAINABLE FASHION

In navigating the labyrinth of contemporary fashion, sustainable fashion emerges as a guiding beacon, calling for a conscientious departure from the status quo. Beyond the shimmering facade of trends and runway spectacles lies a profound need to redefine our relationship with clothing, transcending its role as a mere adornment to embody a more profound philosophy – one that harmonizes with the environment, upholds human dignity, and extends the life cycle of our garments.

0.1.1. A Nuanced Philosophy of Responsibility

Sustainable fashion is not a fleeting trend but a profound shift in perspective, demanding an acknowledgment of the interconnectedness between our clothing choices and the global ecosystem (Fletcher & Grose, 2012). At its essence, it serves as a counterbalance to the industry's historical practices, compelling us to reconsider how garments are produced, consumed, and discarded. It challenges the prevailing linear model, advocating for a circular approach that minimizes waste and fosters sustainability throughout the entire life of a garment.

0.1.2. Environmental Stewardship in Fabric and Form

Delving into the core of sustainable fashion, we encounter a commitment to environmental stewardship that spans the entire supply chain. It prompts us to scrutinize the origin of our fabrics, championing alternatives that minimize ecological impact. From organic cotton to regenerative fibers and innovative recycled materials, sustainable fashion champions a diversified palette that not only adorns but also nurtures the planet (Fletcher & Grose, 2012).

In essence, sustainable fashion is a conscious design ethos. It asks designers to reimagine their creative process, exploring innovative techniques that reduce resource consumption, promote eco-friendly dyeing methods, and prioritize durability (Fletcher & Grose, 2012). The result is a harmonious marriage of esthetics and environmental responsibility, where every thread contributes to a narrative of renewal rather than depletion.

0.1.3. Ethical Threads: Human-centric Sustainability

Sustainable fashion extends beyond environmental considerations to champion ethical practices, addressing the human toll often obscured by the glamor of the runway (Fletcher & Grose, 2012). It confronts the shadowy corners of the supply chain, advocating for fair wages, safe working conditions, and the empowerment of communities involved in the production process. In adopting sustainable fashion, we become advocates for human dignity, intertwining threads of ethics into the very fabric we wear.

0.1.4. Conscious Consumption and Prolonged Apparel Lifespan

Central to sustainable fashion is the paradigm shift from mindless consumption to conscious choices. It encourages us to view clothing as an investment, prompting a departure from the disposability ingrained in fast fashion. By choosing quality over quantity, by embracing timeless designs, and by caring for our garments, we extend their lifespan, reducing the burden on landfills and mitigating the demand for incessant production.

In our exploration of sustainable fashion, we embark on a journey to unveil the layers of meaning beneath the term. It is not merely a label but a commitment to a new way of engaging with fashion – one that is deeply rooted in environmental consciousness, social responsibility, and a redefined concept of style. As we delve into the subsequent chapters, the multifaceted dimensions of sustainable fashion will unfold, revealing the transformative potential woven into the fabric of our collective choices.

0.2. THE URGENCY FOR CHANGE IN THE FASHION INDUSTRY

In the intricate dance between fashion and the environment, the current moment emerges as a pivotal crossroads where the urgent need for change within the industry becomes an undeniable imperative. The prevailing “take,

make, dispose” paradigm, which has long fueled the fashion juggernaut, now stands exposed as a chief contributor to the planet’s environmental woes. From the water-intensive cultivation of cotton to the far-reaching carbon footprint left by transportation networks, the fashion industry’s impact stretches beyond the realm of style, reaching into the heart of ecological stability.

0.2.1. Environmental Consequences: Unraveling the Threads of Degradation

Within the framework of conventional fashion production, environmental degradation has become an unsettling hallmark (Fletcher & Grose, 2012). The exhaustive consumption of water in cotton farming, often in regions already grappling with scarcity, raises questions about sustainability. Additionally, the carbon footprint incurred through global transportation networks, as garments traverse continents from factory to retail, casts a looming shadow on the industry’s environmental responsibility. The urgency for change lies in recognizing these consequences, understanding the interconnectedness of our choices, and acknowledging the imminent need for a more sustainable trajectory.

0.2.2. Resource Depletion: The Toll of “Fast” Fashion (Fletcher & Grose, 2012)

The fast-paced nature of fashion, characterized by rapid turnover in styles and trends, exacts a toll on finite resources. The relentless demand for new clothing items propels an unrelenting consumption of raw materials, contributing to resource depletion and perpetuating a linear model of production that is inherently unsustainable. This cycle of resource extraction and disposal is not only ecologically harmful but also economically shortsighted, as it jeopardizes the industry’s long-term viability.

0.2.3. Social Justice: Illuminating the Shadows of Exploitation

Beyond the ecological consequences, the urgency for change extends to the social fabric of the industry. Exploitative labor practices, often concealed behind the glamor of fashion showcases, demand our collective attention. The call for sustainability resonates not just in terms of environmental stewardship but also as a clarion call for ethical treatment of the workers who

form the backbone of the fashion supply chain. It compels us to confront the shadows cast by unfair wages, unsafe working conditions, and the broader implications of a global industry built on the exploitation of labor.

0.2.4. The Imperative for a Paradigm Shift: A Collective Awakening

In recognizing the urgency for change, we stand on the brink of a profound shift – an awakening to the imperative of sustainability in the fashion industry. This shift requires not just incremental adjustments but a radical transformation of the prevailing norms and practices. It beckons a collective consciousness that transcends individual choices, calling for a unified effort to redefine the purpose and impact of fashion.

As we delve deeper into the exploration of the “Urgency for Change,” we confront the stark realities that necessitate a departure from the established norms. Through understanding the environmental and social imperatives, we are poised to embark on a journey toward a more sustainable and conscientious future in fashion.

0.3. THE PHILOSOPHY OF *THREADED HARMONY*

Threaded Harmony is not just a title; it encapsulates the underlying philosophy that guides our exploration. It represents the delicate interplay between the threads of environmental responsibility, ethical considerations, and the pursuit of esthetic excellence. This philosophy envisions a fashion landscape where each choice contributes to a harmonious and sustainable tapestry, weaving together the diverse elements of the industry into a cohesive whole.

Threaded Harmony is a call to reimagine fashion as a force for positive change, where style is not compromised for sustainability, but rather, the two are intricately woven together. The philosophy encompasses a holistic approach – one that recognizes the interconnectedness of environmental, social, and economic factors within the fabric of fashion.

In this introduction, we embark on a journey to unravel the layers of sustainable fashion, exploring its definition, recognizing the urgency for change, and embracing the guiding philosophy of *Threaded Harmony* (Fletcher & Grose, 2012). As we navigate the chapters ahead, we invite you to join us in this transformative exploration, where fashion becomes a conduit for positive change, one thread at a time.

THE ENVIRONMENTAL IMPACT OF FASHION

1.1. THE ECOLOGICAL FOOTPRINT OF FAST FASHION

In the frenetic world of fast fashion, where trends come and go at a breakneck pace, a darker reality lurks beneath the allure of affordable and swiftly changing clothing. This section aims to unravel the ecological footprint left by the fast fashion industry, exposing the environmental consequences that are often hidden behind the sheen of low prices and rapid turnovers.

1.1.1. The Accelerated Life Cycle: A Symphony of Unsustainable Practices

At the heart of the ecological conundrum posed by fast fashion lies the accelerated life cycle of garments. The relentless push for new styles and constant turnover in clothing collections results in an astronomical consumption of resources. A glaring example is the overproduction of clothing items, often manufactured in quantities exceeding demand. These surplus garments, destined for disposal or markdowns, contribute to an unnecessary strain on raw materials and energy.

Consider the vast cotton fields cultivated solely for the demand of fast fashion, where water-intensive practices prevail. The paradox of cheap fashion comes at the expense of water-scarce regions, exemplified by the Aral Sea disaster in Central Asia, where excessive cotton farming contributed to the near-collapse of an entire ecosystem.

1.1.2. The Synthetic Predicament: From Petrochemicals to Microplastics

Synthetic fibers, widely used in fast fashion for their cost-effectiveness, present a significant environmental challenge. The production of polyester, nylon, and other synthetics is heavily reliant on petrochemicals, contributing to greenhouse gas emissions and dependence on non-renewable resources. Moreover, these synthetic fabrics pose a persistent threat even after their use, shedding microplastics into waterways when washed.

A poignant example is the prevalence of microplastics in oceans, where studies reveal alarming concentrations in marine life. The fashion industry's contribution to this crisis underscores the far-reaching consequences of material choices, urging us to reconsider the environmental impact of our clothing beyond its immediate esthetic appeal.

1.1.3. Transportation Networks: A Global Carbon Footprint

The globalized nature of fast fashion necessitates the extensive transportation of goods across continents. From manufacturing plants in one corner of the world to retail stores in another, the carbon footprint left by transportation networks is a significant contributor to environmental degradation.

Consider the journey of a single garment, stitched in one country, shipped to another for distribution, and finally reaching consumers across the globe. The carbon emissions incurred in this process amplify the ecological toll of each item, highlighting the interconnectedness of the fashion industry with climate change.

1.1.4. Landfill Overflow: The Afterlife of "Disposable" Fashion

The disposable nature of fast fashion, designed to be discarded after a few wears, exacerbates the issue of overflowing landfills. The garments, often made from non-biodegradable materials, contribute to the mounting crisis of textile waste. According to the Ellen MacArthur Foundation, the equivalent of one garbage truck of textiles is landfilled or incinerated every second globally.

An illustrative case is the synthetic textile waste that clutters landfills, persisting for centuries without decomposing. The scale of this challenge prompts us to question the sustainability of a model that treats clothing as ephemeral and disposable, leading to irreversible consequences for the environment.

1.1.5. The Paradox of “Cheap” Fashion: Hidden Environmental Costs

While the allure of inexpensive garments defines fast fashion, the true cost emerges when we account for its hidden environmental toll. The low price tags often mask the extensive ecological damage wrought by unsustainable practices. Inexpensive fashion comes at a high cost to the planet, and understanding this paradox is crucial for fostering a more conscientious consumer mindset.

In conclusion, the ecological footprint of fast fashion is a complex tapestry woven from overconsumption, synthetic material choices, global transportation networks, and the disposability of garments. By unraveling these threads, we gain a deeper understanding of the environmental consequences that demand urgent attention and systemic change. As we navigate the chapters ahead, we will explore sustainable alternatives and actionable steps toward mitigating the ecological impact of our clothing choices.

1.2. POLLUTION AND WASTE IN THE FASHION SUPPLY CHAIN

As we delve into the intricate layers of the fashion supply chain, a stark reality emerges – the pervasive issue of pollution and waste. This section aims to provide a detailed and informative exploration of the environmental degradation that occurs at various stages of the fashion production process.

1.2.1. Raw Material Production: A Prelude to Pollution

The journey of a garment begins with the cultivation of raw materials, and in the context of pollution, the spotlight falls on conventional cotton farming. Considered one of the most pesticide-intensive crops globally, conventional cotton cultivation contributes to soil degradation and water contamination. The use of synthetic fertilizers and pesticides not only jeopardizes the health of agricultural ecosystems but also seeps into water sources, posing threats to aquatic life and downstream communities.

Illustrative Example:

The Aral Sea disaster serves as a haunting illustration. Excessive irrigation for cotton cultivation led to the diversion and depletion of the Aral Sea, once one of the world’s largest inland bodies of water. This environmental

catastrophe underscores the far-reaching consequences of unsustainable agricultural practices within the fashion supply chain.

1.2.2. Textile Production: Dyeing, Chemicals, and Water Contamination

The transformation of raw materials into textiles involves various chemical processes, notably dyeing. Traditional dyeing methods often employ a myriad of toxic chemicals, contributing to water pollution. Wastewater discharged from textile mills carries with it residual dyes, heavy metals, and chemicals, contaminating local water sources.

Case Study:

The Citarum River in Indonesia, dubbed one of the most polluted rivers globally, is a poignant example. The textile industry along the riverbanks, with its discharge of untreated wastewater, has led to severe ecological degradation and adverse impacts on the health of communities relying on the river. Every day, no less than 20,000 tons of waste and 340,000 tons of wastewater, mostly from 2,000 textile factories, are disposed directly into the once clear and pristine waterways of the Citarum River (Greenpeace, 2013). No wonder the fish are largely gone in the third-biggest river in Java. To illustrate how dirty the Citarum River is, at some places we cannot even see the water. Its surface is completely covered by the unimaginable amount of waste, trash, and dead animals floating on it. If we are lucky enough to glimpse the water, we will see it is colored due to the excessive amount of toxic chemicals being dumped into the river by industries. Not surprisingly, since 2008, nearly 60% of the river's fish species have been destroyed (Greenpeace, 2013).

Yet despite those very poor conditions, the Citarum River is vital for the 25 million people who daily depend on it for agriculture, water, and electricity.

1.2.3. Manufacturing: Energy Consumption and Emissions

The manufacturing phase introduces another dimension of environmental impact, primarily through energy consumption and greenhouse gas emissions. Factories powered by non-renewable energy sources contribute to carbon emissions, further exacerbating climate change.