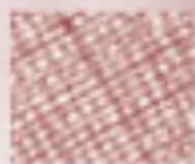


Environmental impact of textiles

Production, processes and protection

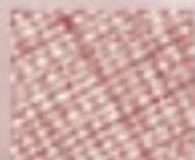
Keith Slater



Microscopic view of a brown woven textile structure.



Microscopic view of a blue woven textile structure.



Microscopic view of a brown woven textile structure.



Microscopic view of a blue woven textile structure.



Microscopic view of a red woven textile structure.



The Textile Institute

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CRC Press

Boca Raton Boston New York Washington, DC

WOODHEAD PUBLISHING LIMITED

Cambridge England

Published by Woodhead Publishing Limited in association with The Textile Institute
Woodhead Publishing Ltd
Abington Hall, Abington
Cambridge CB1 6AH, England
www.woodhead-publishing.com

Published in North America by CRC Press LLC
2000 Corporate Blvd, NW
Boca Raton FL 33431, USA

First published 2003, Woodhead Publishing Ltd and CRC Press LLC

© 2003, Woodhead Publishing Ltd

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library.

Library of Congress Cataloging in Publication Data

A catalog record for this book is available from the Library of Congress.

Woodhead Publishing ISBN 1 85573 541 5

CRC Press ISBN 0-8493-1778-9

CRC Press order number: WP1778

Typeset by Ann Buchan (Typesetters), Shepperton, Middlesex

Printed by TJ International, Padstow, Cornwall, England

Contents

	<i>Preface</i>	ix
1	Structure and stability of the ecosystem	1
1.1	The ecosystem	1
1.2	Life	1
1.3	Necessities of life	2
1.4	Other species	4
1.5	Land hazards	6
1.6	Dust	6
1.7	Atomic radiation	7
1.8	The Earth's environment	7
1.9	Environmental balance	7
1.10	The textile industry	8
	References	8
2	The health of our planet	9
2.1	Planetary stability	9
2.2	Natural factors	9
2.3	Human interference	10
2.4	Changes occurring	14
3	The nature of textiles	17
3.1	Properties	17
3.2	Textiles as engineering materials	17
3.3	Principles of textile manufacture	18
3.4	Energy	18
4	Textile fibre production	23
4.1	Scope of the industry	23
4.2	Natural fibre production	23
4.3	Artificial fibre production	31
4.4	Alternative fibre sources	34

vi	Contents	
4.5	Inorganic fibres	34
4.6	Microbiologically stable fibres	37
4.7	Effects on the planet	37
	References	37
5	Yarn production	40
5.1	Starting material state	40
5.2	Washing	42
5.3	Scouring	42
5.4	Bleaching	44
5.5	Carbonising	46
5.6	Drying needs	48
5.7	Baling	48
5.8	Transportation	49
5.9	Opening	52
5.10	Carding	53
5.11	Blending	53
5.12	Combing and gilling	53
5.13	Drawing	54
5.14	Spinning	54
5.15	Noise and dust	55
	References	59
6	Fabric production	61
6.1	Traditional fabric production methods	61
6.2	Other methods	63
	References	68
7	Fabric treatment processes	69
7.1	Starting material	69
7.2	Finishing categories	69
7.3	Mechanical finishing	70
7.4	Chemical treatments	71
7.5	Other finishes	74
7.6	Colouration	81
7.7	Pollution aspects	82
7.8	Printing	85
7.9	Drying and shipping	87
	References	88
8	Use of textiles	90
8.1	Primary and secondary production	90
8.2	Types of use	90

8.3	Normal uses	91
8.4	Environmental aspects	92
8.5	Household textiles	93
8.6	Industrial and medical uses	94
	References	97
9	Environmental protection	98
9.1	Commitment	98
9.2	Protective applications	99
9.3	Legislation	100
9.4	Future prospects	101
9.5	Financial benefits	101
9.6	Costs	102
9.7	Drawbacks	102
9.8	Recycling	107
9.9	Pollution measurement problems	109
9.10	Environmental auditing	109
	References	112
10	Effects on textiles of natural exposure	115
10.1	Influences	115
10.2	Degradation	115
10.3	Atmospheric influences	117
10.4	Radiation	119
10.5	Changes occurring	121
10.6	Infrared radiation	122
10.7	Other types of radiation	122
10.8	Mechanical action	123
10.9	Mechanical stress in manufacture	126
10.10	Mechanical stress in use	127
10.11	Prediction of effects	128
10.12	Degradative combinations	130
10.13	Magnitude of textile environmental damage contributions	134
	References	138
11	Thermal exposure	139
11.1	Intensity	139
11.2	Static drying	140
11.3	Stenters	141
11.4	New equipment	144
11.5	Problems	144
11.6	Novel approaches	145
11.7	Flammability	146
	References	151

12	Chemical and microbiological attack	152
12.1	Reagents	152
12.2	Fibre type	153
12.3	Planned attack	154
12.4	Microbiological attack	155
	References	160
13	Protection of, or by, textiles from environmental damage	161
13.1	Aspects	161
13.2	Maintenance	162
13.3	Degradation during use	162
13.4	Chemical treatments	163
13.5	Protection of humans	163
13.6	Modern developments	166
13.7	Non-clothing protective needs	169
13.8	Protection for the environment	171
13.9	Desirable properties	174
	References	175
14	Conclusions	178
	Appendix	183
Section 1	Cotton scouring with enzymes	183
Section 2	Wool scouring with enzymes	187
Section 3	Bleaching with peroxide	189
Section 4	Sizing and desizing	190
Section 5	Pollution reduction in dyeing	191
Section 6	Medical applications of textiles	194
Section 7	Textile filters	196
Section 8	Sporting goods and other uses	196
Section 9	Effluent treatment	197
Section 10	Recycling	201
	References	203
	<i>Index</i>	207

A piece of clothing, or any other textile article, is a very difficult and expensive product to manufacture. But not only does it cost a lot of money – our usual way of estimating how much inherent value should be placed on an item – it is expensive in another, more important, way, one which might conceivably make even money ultimately redundant. It harms the environment, the protective envelope under which we all live. If the environment is destroyed, then so are we.

Let me hasten to add that the manufacture of textile goods does not provide the only, or even the most severe, stress to which our planet is subjected. There are many other products that can damage the Earth's well-being, but the textile industry is often blamed (perhaps unfairly) far more than it deserves. The reasons are, I believe, two-fold. First, textiles are a widespread, virtually universal product, familiar to practically the entire population of the world. Second, the kind of undesirable effect that textile manufacture has on the planet is often very tangible. We see dyestuffs colouring rivers or black clouds of smoke rising from the chimney over a finishing plant. We hear the cacophony emerging from a weaving shed, twisting room or spinning mill as machines shriek noisily at us. We see the remnants of discarded clothing littering a street or rubbish dump. We see diesel trucks belching fumes as they are driven into or out of a textile plant to deliver raw materials or shipped goods.

So we need to investigate the actual relationship between textiles and the environment. It is important to note from the beginning that this investigation has a double-edged meaning. The manufacture and use of textile goods can have an adverse effect on the environment, but the environment can also have, in an ironic twist, an adverse effect on textile goods. The former of these effects we normally lump together under the term 'pollution' and the latter we describe as 'degradation' of the materials.

Before we can start our investigation, though, we need to be clear about what we mean by the environment. All the evidence that I have observed on the subject leads me to believe that there is not really any widespread understanding of what is actually meant by this nebulous term. We hear references to the social environment, or to the physical one, or to other such differentiations of the word into a range of individual aspects. At the outset, then, I intend to define what aspects of the environment I shall be including in this book.

In simple terms, what I hope to do is to examine what effects all phases of textile production and use have on the Earth around us, from growing or making fibres to discarding a product after its useful life has ended. I shall look at the physical environment, including the air, the water and the land. I shall also look briefly at the biological environment by considering what happens, as a result of manufacture, to other species on the planet, as well as to human beings. The effects I will be considering are not only those on our bodies, but also on our minds. The social environment as it impinges on our psychological, physical and physiological comfort will be part of the discussion, as also will our financial well-being. In short, I regard the environment as encompassing all aspects of every part of our lives. To the best of my knowledge, this comprehensive approach has not been undertaken before and has never previously been associated with textile production and use.

In a sense, then, this book is a pioneering one, yet it is not strictly a new one. All it does is pull together a wide range of examples drawn from a diverse collection of sources and integrate them to form a new and coherent set of ideas. If it informs, educates or amuses you in the process, I shall be delighted.

My approach might seem odd for a book that is supposed to be about textiles. I intend to deal first with the environment itself in some detail, to ensure that my starting position is understood. In this way I hope to persuade you to accept the truth, as I believe it, of the situation we, as a species, find ourselves in today and what the textile industry has contributed to this position. I intend to be entirely honest so that, if I feel that the industry is to blame for some harmful aspect or condition, I shall lay the blame squarely. Conversely, if I feel that the textile community is the victim of accusations that are giving it an undeserved reputation, or if some of its practices are not receiving the praise that is due to it, I will be equally conscientious in pointing out these facts.

For this reason, I shall begin the book with chapters dealing with our fragile environment and our dependence, together with that of all the other species occupying the Earth, on its well-being. I shall examine the conditions needed to ensure a healthy, stable planet and look at what any deviation from these conditions can do to a range of species. I shall then take a closer look at how the human race, in general, has brought about undesirable changes in the planet's health. Aspects of resource depletion, pollution and energy use will be covered. In all of these areas, to keep the focus on textiles, I shall try to find suitable examples of where the industry fits into the overall picture.

Then, in the rest of the book, I shall focus more directly on textile matters. I hope first to provide a complete survey of how developments in the industry and consumers of its products have affected the planet's health in the past. Then I will look at modern solutions that have often been proposed by 'experts' in areas other than textiles but adopted by the industry in the hope that some alleviation of problems can be achieved without sacrificing high textile production targets. After showing that this aim is unrealistic, I shall discuss the real ways in which the

industry is responding to the challenge of keeping our planet healthy and conclude with my view of the future. In this, I hope to persuade readers that the planet can indeed be saved without abandoning all our cherished lifestyle, but that we need to be vigilant in every step we take, as individuals as well as representatives of a great and essential industry, to ensure that unfair blame is not allocated to us by outside observers.

Each chapter will be divided into sections allowing subjects to be kept separate and cross-references to a specific topic to remain simple. I hope to engage both the general reader who is interested in the subject as a whole and the specialist reader who would like to follow in more detail the particular points on which I focus. With this in mind, in some chapters, I will only deal with the highlights of a topic, but will make reference to further relevant work in the Appendix, where the more technical aspects are summarised. There, I will provide references, to enable readers interested in each specific point to obtain more detailed information. Categories of pollution production, as listed in Table 1.1, will be identified by an asterisk, in parentheses and bold, italic type.

My ultimate aim is to address and correct some of the fallacies shared by many people, both within and outside the industry, about the real effects of textile manufacture and use on the environment. If I am successful, we should see a more caring, clean and respected industry (which will also, almost certainly, be a more profitable one) emerging in the future.

