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**REINIER
DE MAN**

GLOBAL COTTON AND TEXTILE CHAIN: SUBSTANCE FLOWS, ACTORS AND CO-OPERATION FOR SUSTAINABILITY

A STUDY IN THE FRAMEWORK OF WWF'S
FRESHWATER AND COTTON PROGRAMME

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PREFACE 2006

THE 2001 STUDY

Five years ago, I was approached by WWF Switzerland with the request to carry out a so-called business study on the cotton supply chain.

The study was an attempt at finding an answer on two questions:

- What actor types should play an important role in organising the envisaged transparency in the cotton and textile chain from 'cotton field' to 'T-shirt'? The question applies both business actors in the cotton and textile chain and actors that have a significant outside influence, e.g. banks. What will be their roles and task in the coming process?
- What specific business actors in specific countries should be asked to play a role in the next phase of WWF's freshwater and cotton project?

The study very much confirmed the idea that cotton and textile chains are complex, rapidly changing and, as a result, systematically lack transparency. As a rule, the retailer at the end of the supply chain does not have a clue of where the cotton in his end product comes from. In most cases, he does not have any interest in knowing more about the source of his cotton, as long as his suppliers can guarantee the right price and quality.

For building more sustainable supply chains for cotton, a higher degree of transparency is needed. In my 2001 report, I emphasised the central role of two players in the chain: the retailer (the link between the emotional consumer market and the technical textile chain) and the cotton trader (the link between the highly variable world of cotton growing, e.g. caused by continuous fluctuations in weather, pests, etc., and the standardised world of the textile chain).

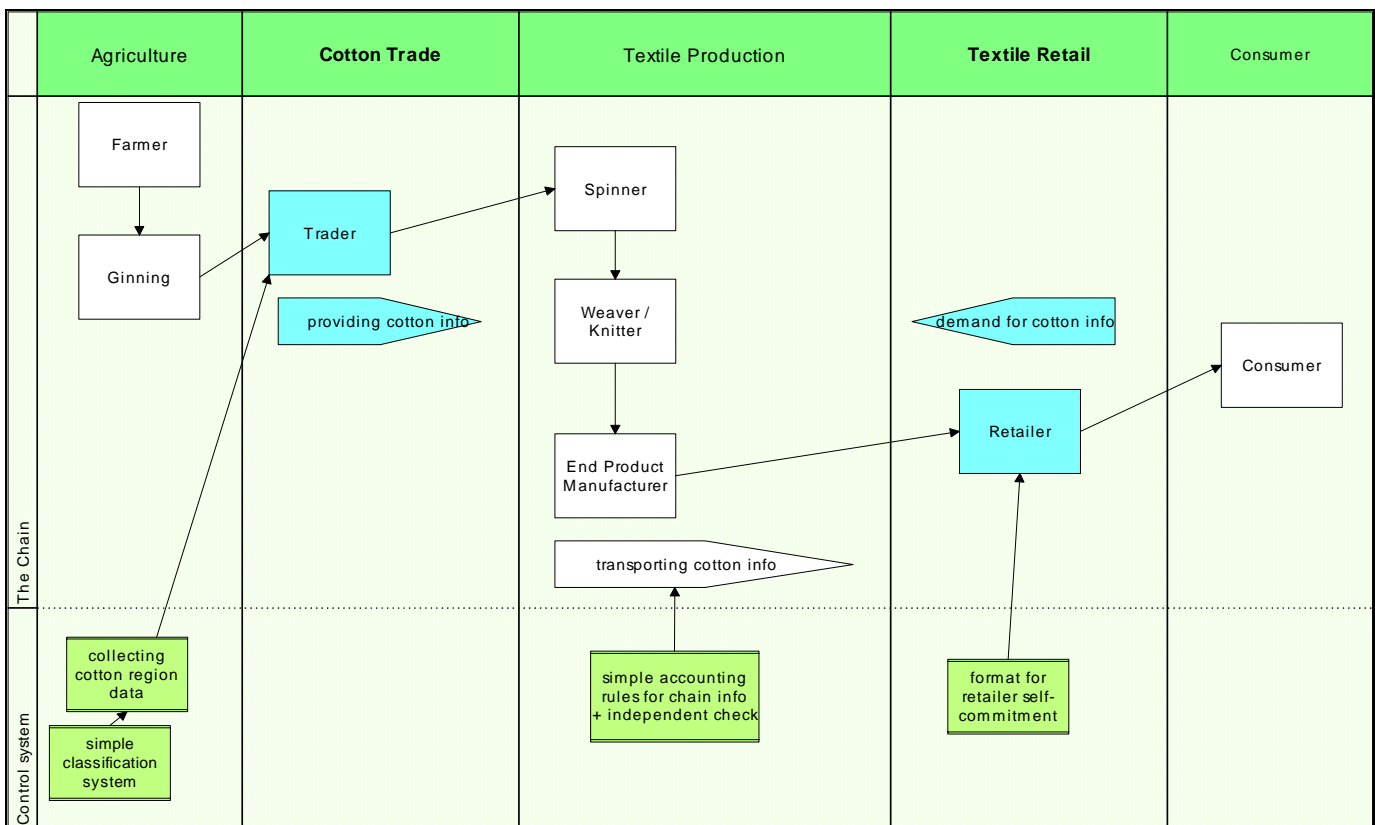
From the 2001 report:

There are two important gate-keepers:

Between agriculture and textile industry is the cotton trader, who is the only player who knows both worlds very well. He is an adviser to both parties and his role is to minimise risks both for the farmer and the textile producer.

Between the industrial world of textile production and the emotional world of the consumer, the textile retailer (or: brand clothing producer) is the second important gate-keeper, the only player who knows both end markets and industrial production well.

I advised to concentrate on those gate-keepers in building coalitions between the WWF initiative and business players, see also the diagram below. Retailers should require information about cotton growing and, in a later phase, commit themselves to certain sustainability standards. Traders would then have the responsibility to feed this information into the supply chain.



For several reasons, there was little progress in WWF’s cotton supply chain initiatives after I produced my study. WWF appeared to concentrate more on field work in a number of countries. No doubt, the most important reason for this lack of progress was the complexity of the supply chain and the apparent lack of an immediate business risk associated to non-sustainable cotton.

SUSTAINABLE PALM OIL

Between January 2002 and May 2004, I was involved in designing and setting up the Roundtable on Sustainable Palm Oil, on behalf of WWF and a group of business players.

In the initial phase (2002-2003), an Organising Committee was set up, which became responsible for organising the first Roundtable on Sustainable Palm Oil (Kuala Lumpur, August 2003). After this Roundtable, the still informal Organising Committee was transformed into a legal entity, an association registered in Switzerland and its office in Kuala Lumpur. Once the association had been formed, I stepped back as organiser and facilitator. A process of standard setting followed. At the third Roundtable (Singapore 2005), a stakeholder agreement about the standards was reached. ProForest, an Oxford based consultancy, played a central role in the standard setting process.

There are many 'lessons learned' from the palm oil experience. One lesson is that there is a need for a simple global (minimum) standard that can be easily understood and implemented. Before such a standard is there, only scattered niche initiatives will succeed, but there will be no effective initiatives for the bulk market. Other lessons relate to the dynamics of organising such an international commodity initiative.

For cotton, the only well-defined ecological standard is the organic standard. The organic cotton market, however, is a niche market and will remain a niche market for a long time to come. As with palm oil, there is a need for a global standard. The WWF 'better cotton' initiative, which started in 2004, can provide the mechanism for formulating such a standard. From the palm oil experience, we know the importance and the risks of involving producers in the standard setting process. It will be interesting to see how BC is going to deal with cotton producer involvement.

COTTON FROM AFRICA

At the moment (January 2006), I am involved in two projects relating to African cotton.

The Roundtable on Sustainable Palm Oil has adopted a number of principles and criteria.

The principles are:

Principle 1: Commitment to transparency

Principle 2: Compliance with applicable laws and regulations

Principle 3: Commitment to long-term economic and financial viability

Principle 4: Use of appropriate best practices by growers and millers

Principle 5: Environmental responsibility and conservation of natural resources and biodiversity

Principle 6: Responsible consideration of employees and of individuals and communities affected by growers and mills

Principle 7: Responsible development of new plantings

Principle 8: Commitment to continuous improvement in key areas of activity

For each principle, a number of criteria have been agreed.

see www.sustainable-palmoil.org and www.rdeman.nl

The first project is a German business initiative, called ‘Cotton Made in Africa’. It wants to create a substantial demand for cotton from African countries, contribute to improvements of sustainability of cotton growing in those countries and deliver high quality products to the end consumer. In principle, ‘Cotton Made in Africa’ will be a B2B label and not a consumer label, at least not in the short run.

The second project is the development of supply chains for sustainable cotton from West Africa. The project is funded by UNEP and FAO. On the basis of a ‘scoping study’, UNEP and FAO will develop projects in West Africa (focus: Burkina Faso and Mali), in which they envisage to engage private players from the cotton supply chain.

The central issue in these Africa projects is to discover or to create a clear business case for private sector involvement. The business case is not obvious: African cotton is usually mixed as a relatively low fraction of the cotton inputs during spinning. Huge quantities of African cotton are shipped to China and other Asian countries, where it ‘disappears’ anonymously into all sorts of yarn and garments. Many manufacturers and retailers are not even aware that they use African cotton and if they are aware, they know that it is a small fraction only. For business as usual, African cotton is not an issue. For most retailers, there are no convincing business reasons to spend resources on African cotton projects.

The Africa issue may become relevant for vulnerable brands in the retail market, however. They cannot afford to become associated with child slave labour in West Africa, for example. These are the same brands that had to change their behaviour after the discovery of serious problems with child labour and human rights in the textile chain. The fact that African cotton is only a small fraction does not prevent them from being exposed. Also small quantities may create major risks.

Cotton Made in Africa: project philosophy

- Think ‘move’
 - o a project of **DOERS and MOVERS**
- Think ‘partnership’
 - o horizontal: multi-stakeholder / PPP
 - o vertical: coordinated partnership along the value chain
- Think ‘international’
 - o Commercial Partners from Africa, Europe and the US
 - o Development Partners ...
- Think ‘big’
 - o broad alliances, large quantities

THE BUSINESS AGENDA:

The above remarks on African cotton point again to the larger issue of transparency in the cotton and textile chain. As long as retailers at the end of the chain do not have any idea where their cotton comes from, they cannot even calculate their potential business risk. At this moment, the larger retailers are only beginning to explore the issue.

In that sense, my 2001 analysis is still valid. Since 2001, many things have changed. Companies have grown or have disappeared. China's role has become more dominant in many areas. The detailed data are therefore not valid anymore. However, the need of organising transparency in the cotton supply chain, without creating unnecessary costs, is still at the top of today's agenda.

The Roundtable on Sustainable Palm Oil has created an important precedent. For the first time in history, a global private multi-stakeholder standard setting initiative for an agricultural commodity has managed to reach agreement on a set of principles and criteria. Cotton may be the second test case.

Reinier de Man
Leiden, 10 January 2006

THE BUSINESS AGENDA

- 1) creating transparency in the cotton and yarn supply chain, without going into full certification
- 2) agreeing on global (minimum) standards for (sustainable) cotton (with the help of BC)
- 3) agreeing on regional implementation of the global standard
- 4) evaluating business opportunities and risks related to cotton supply chains
- 5) commitment of retailers to prescribe the standard to their suppliers

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1. Introduction

1.1 Goal of this Research

This study has been carried out in the framework of the WWF Freshwater & Cotton Project, that is being developed by WWF Switzerland and WWF International.

The project idea starts from the conclusion that present cotton growing practices are generally not sustainable: they do not only damage soil, water and associated eco-systems, they also contribute to unacceptably high social costs and, in the long run, they tend to threaten regional economies that are dependent on cotton growing and associated textile industries (see Soth 1999, Soth & de Man 2000, Reller 1997).

Private business has a role to play in stimulating more sustainable cotton growing practices.

To reverse the non-sustainable trends in cotton growing, many different actors should give their specific contribution. In the first place, regional, national and international policy actors should revise their policies and regulation in order to minimise the non-sustainable use of agro-chemicals and to contribute to better irrigation practices. In addition to such policy incentives, there is a role for private business, i.e. industry, trade and financial players and consumers.

A positive example for consumers and business influencing the ecological quality of a raw material is the growing demand for products from FSC-certified forests. The FSC-system - the combination of FSC principles, national FSC standards, FSC certification systems and FSC user groups - links products based on forestry (furniture, paper, etc.) to the forest. As a result end-users of the forestry based products exert a positive influence on the ecological quality of the forests.

FSC could be a model for cotton

The Freshwater & Cotton project intends to do something comparable for the raw material 'cotton': link the cotton end product to the ecological quality of cotton growing. A major challenge in this project is to find a practically feasible way to link the 'T-shirt' with the 'cotton field' in such a way that the consumer's purchasing behaviour may positively influence the ecological quality of cotton growing regions, in this project more specifically the ecological quality of freshwater ecosystems. Not unlike the forestry example, the major tasks here are finding principles and standards for sustainable cotton growing and something that is equivalent to the FSC certification procedures and the FSC user groups.

Differences between cotton and forestry are considerable

There are huge differences between the forestry and the cotton case. FSC certification of products is not simple, especially the ‘chain of custody’ part of it. The cotton case is much more complicated for a number of reasons:

- There is only one well-defined international standard available, the organic standard. One problem with this standard is that it does not yet contain all relevant indicators (water issues are not being considered systematically). A much more serious problem is that less than 0,06% of world cotton production is grown organically. Using the organic standard would not produce a market segment that is sufficiently large. Moreover it would not contribute to making relevant ecological improvements below the organic standard visible at all. In the cotton & freshwater project, there should be an incentive to improve cotton growing in heavily contaminated cotton growing areas that do not have a realistic perspective to convert to organic in the foreseeable future.
- The production chain of cotton products (in majority clothing and household textiles) is far more complex than production chains of furniture and paper. Even in FSC-certification there are problems with the furniture chain’s complexity. The complexity with cotton is an order of magnitude higher. Between cotton growing and the textile production chain, communication links are virtually being broken as a result of a world-wide operating system of cotton traders. The textile production chain, from spinning until apparel manufacture consists of many parts that are often geographically dispersed. Again the information link between the textile production chain and the end-user is broken by the dynamics of trade in which much of the product’s history is lost. Organising an information link between the end product and the cotton field is more difficult than in the FSC furniture case.

In this study, we do not address the standards issue. We concentrate on the second issue: how to organise the link between ‘cotton field’ and ‘T-shirt’. We are well aware that technical details should be left to the industry and trade players themselves. We can only ask: what actors in the chain can take on the responsibility to do the job? With that purpose we present in this study a broad overview of the cotton and textile chain both on the level of materials (mainly the flow of the cotton fibre through the system) and on the level of actors who are responsible for organising the flow of materials and information through the chain.

On the basis of this analysis, we try to find an answer on two questions:

- What actor types should play an important role in organising the envisaged transparency in the cotton and textile chain from ‘cotton field’ to ‘T-shirt’? The question applies both business actors in the cotton and textile chain and actors that have a significant outside influence, e.g. banks¹. What will be their roles and task in the coming process?
- What specific business actors in specific countries should be asked to play a role in the next phase of WWF’s freshwater and cotton project?

1.2 Data and Data Quality

For analysing material flows and the position of different actors, we have used existing publicly available statistical data. Our main sources:

- Cotton data are widely available:
 - ◆ The *International Cotton Advisory Committee* (ICAC) publishes regularly rather detailed reports on cotton acreages, yields, prices, etc. Internet reports can be downloaded (paid).
 - ◆ *Cotlook International* publishes even more detailed data on the cotton market, some of which on a daily basis and against payment. The publication “*Cotton Outlook*” contains very detailed price information both for cotton and yarn along with financial data that are relevant in cotton and yarn trade.
- Data on weaving and knitting were mainly found from two sources:
 - ◆ Publications of the *International Textile Manufacturers Federation* ITMF contain rather detailed data on spinning capacities, cotton consumption, yarn production (cotton and non-cotton), knitting and weaving. Important countries, such as China, have not been included into their statistics however. Many tables show many gaps and it is difficult to combine data in metric tons and data in square meters or square yards.
 - ◆ The *Euratex Bulletin 2000/1* contains a list of the largest textile and clothing companies (more than 1000) with indications of main activities and turnover. More precise company data were collected by linking the

¹ In this study, we have not been able to go systematically into these actors.

company data to company descriptions found in public company databases. In most cases, this did not result in particularly precise or complete data. The textile industry is not characterised by a high degree of transparency.

- ◆ For Germany, there is excellent information on internet, made available by *TWnetwork*. It contains lists of companies in the textile industry, clothing industry and retail with detailed descriptions of almost every company listed.
- Data on apparel (clothing) and other textile products are more difficult to find and more difficult to interpret.
 - ◆ The *ITMF* tables contain some data on apparel imports and exports (both in value and volume) but data on production are missing. Therefore it is difficult to get a good overall picture for the different countries. Moreover, important countries have not been included.
 - ◆ Again the German situation is better because of the *TWnetwork's* systematic database.
- Data on cotton traders are difficult to obtain. This reflects the character of the sector. ICAC's publication "*Cotton: Review of the World Situation*" has given some rough data on Cotton Trade and main private and public organisations dealing with cotton trade in 1994, 1998, 1999 and 2000. Open presentation of business information by the cotton traders themselves is an exception, not the rule. Although cotton trade between different countries is rather easy to calculate from existing statistics, it is extremely difficult to see what traders are responsible for what volumes.
- Data on actors at the end of the textile chain (retail chains, textile brands) are of varying quality. We used the following sources:
 - ◆ For Germany, excellent financial data and specific data on textile turnover are being made available by *TWnetwork*.
 - ◆ Some worldwide data can be found in *Euratex* statistics but they lack detail.
 - ◆ An additional source of information were the reports and web-sites of Clean Clothes Campaign (CCC), who focus their activities both on international brands and strategically important retail chains. We do not feel, however, that CCC's data are of a very high quality.
- Financial company data could be found on various publicly available databases. Evidently most information can be found on companies that are quoted on the stock market. More difficult, or even impossible, is it to find

information on family-owned companies that do not have the obligation to publish their results. We used the following internet services:

- ◆ Hoover's online - the business network: www.hoovers.com
- ◆ Corporate Information: www.corporateinformation.com/
- ◆ Wright's Investors' Service: <http://profiles.wisi.com/>
- ◆ Kompas - the business to business search engine: www.kompass.com
- ◆ Market research companies, such as www.IBSResearch.com (paid).

The result is

- a relatively detailed picture of the cotton growing sector and yarn production;
- a less detailed picture of the following steps in the textile chain (fabric production, clothing production);
- information on actors at the end of the textile chain of varying quality, depending on the quality of reporting of the individual companies;
- a break between cotton and yarn volume figures and textile trade figures in monetary units that cannot easily be converted to volumes.

We do not have the data to make a substance chain analysis from cotton to end product

On the basis of our figures it is possible to identify important markets, countries and players but impossible to calculate a cotton material flow model from field to end-user. It could be interesting, however, to link data on end markets to data on cotton growing. In that case, we would be able to show the link between (for example) C & A's textile sales to the size of the cotton growing area needed for the cotton used in the products sold. We could then, in WWF's terminology, calculate C & A's ecological footprint with respect to cotton. This could be a next step in the project for which we need active support from the actors involved.

PART I: SUBSTANCE FLOWS AND ACTORS

2. The Cotton and Textile Chain: an overview

2.1 Cotton Flow and Main Actors

Cotton's main use is for private consumer end products

In Diagram 2 the flow from raw cotton to end products is represented. Total input of cotton is about 20 million tons. More than 50% ends up in clothing, more than 25% as home textiles. Industrial products are a minority. These figures are a first estimate based on US data only. On a global scale, the ratios between the different substance flows could be somewhat different. The overall picture, however, will remain the same: cotton mainly flows from the cotton field to private consumers and clothing represents the major segment.

Technically, the cotton and textile chain is relatively simple. After harvesting the seed-cotton, the seeds are being removed in the ginning process yielding raw cotton. Raw cotton is converted to yarn in the spinning process. Yarn is either woven (major part) or knitted (some 20%). The resulting fabrics are mainly used in the manufacturing of clothing and household products. The process is rather resource-efficient regarding cotton with only a minor fraction of non-usable waste. Diagram 2 does not contain the many non-cotton material and energy flows connected to dyeing and other processing steps.

The cotton and textile chain is very complex. Transparency is extremely low.

Organisationally, however, the cotton and textile chain is rather complex and far from transparent. It consists of many different types of business enterprises from big brands and retailers at the end of the chain to a multitude of medium-sized and small clothing manufacturers, both big and small companies that produce woven and knitted fabrics, medium-sized and large spinning companies to cotton traders that individually are responsible for up to a million tons (5 %) of cotton trade. To a great extent, the first parts of the chain, spinning and fabric production, are localised in the main cotton producing countries (such as China, USA, India, Pakistan and Turkey), whereas major parts of clothing manufacturing take place in low-wage countries that are dependent on imported yarn and cloth. Optimisation of labour costs in the textile chain has the result that (parts of) one single clothing item has travelled one or more times around the world. Changing economic circumstances lead to continual changes in the textile chain. As a result, transparency with regard to the production history of the end products is extremely low.

In Diagram 3, we have indicated the main actors in the cotton and textile chain and their relationships with the technical process. Cotton farmers or their organisations (collectives etc.) are responsible for cotton growing. In many cases, they also own the ginning installations. In other cases, ginnings are owned by others, such as traders or even spinners. Traders are responsible for cotton trade. After ginning, cotton has become a commodity with a number of standard parameters and grades. During cotton trade, the information link between specific cotton supplies and the fields they come from are being cut. More than often, the cotton that reaches the spinner does not have a clearly documented origin anymore, only a technically defined grade. Spinning, weaving/knitting and clothing production may be done by different business actors or they may be vertically integrated. Many combinations occur: spinners who are also fabric producers, clothing producers who have their own knitting, etc. Clothing brands and retailers at the end of the chain often minimise their involvement in production to design and outsourcing all or most production steps.

The cotton and textile chain connects three entirely different worlds: agriculture, industry and consumer markets. These worlds have each their own logic, culture and rhythm, see the diagram below.

- agricultural products have a varying quality, due to variations in soil, climate, etc. Agriculture is linked to local economies and communities. Changes in agriculture often have long lead times;
- In contrast to agriculture, the textile industry works with standardised, fixed qualities. The art of textile production is to make standardised products from variable cotton inputs. This is done by selecting qualities and mixing. Here cotton trade, the actor between the two worlds, plays an important role. The textile industry allows for much faster change than agriculture: companies are closed, moved and entire industries change geographical regions. The industry is increasingly globalised.
- The emotional world of the consumer market is again completely different from the industrial world. Here the time dimension becomes very short: fashion is extremely volatile. Retailer companies and brand owners are the link between the industrial world and the consumer: they translate the emotionally defined wishes of the consumer into technical concepts for materials and their use in fashion. These actors are often very big and increasingly globalised.

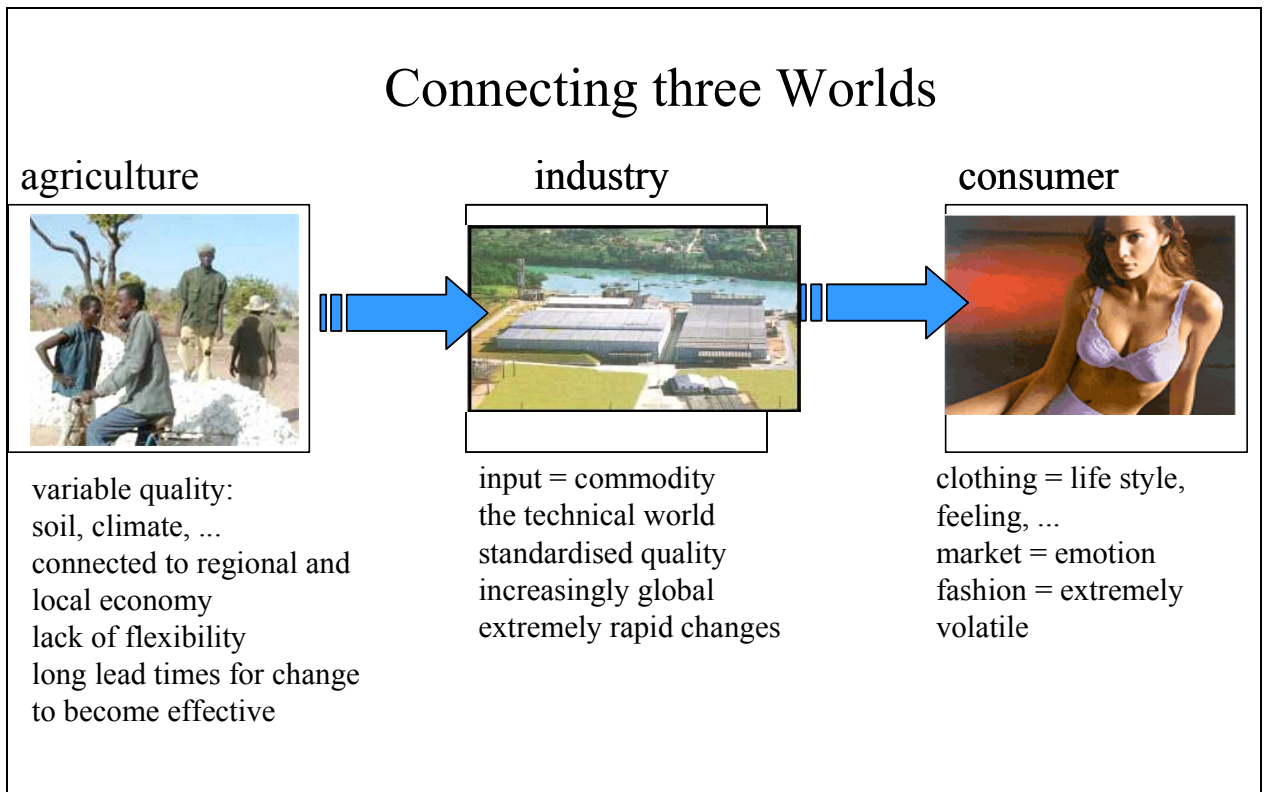


Diagram 1: Connecting three worlds

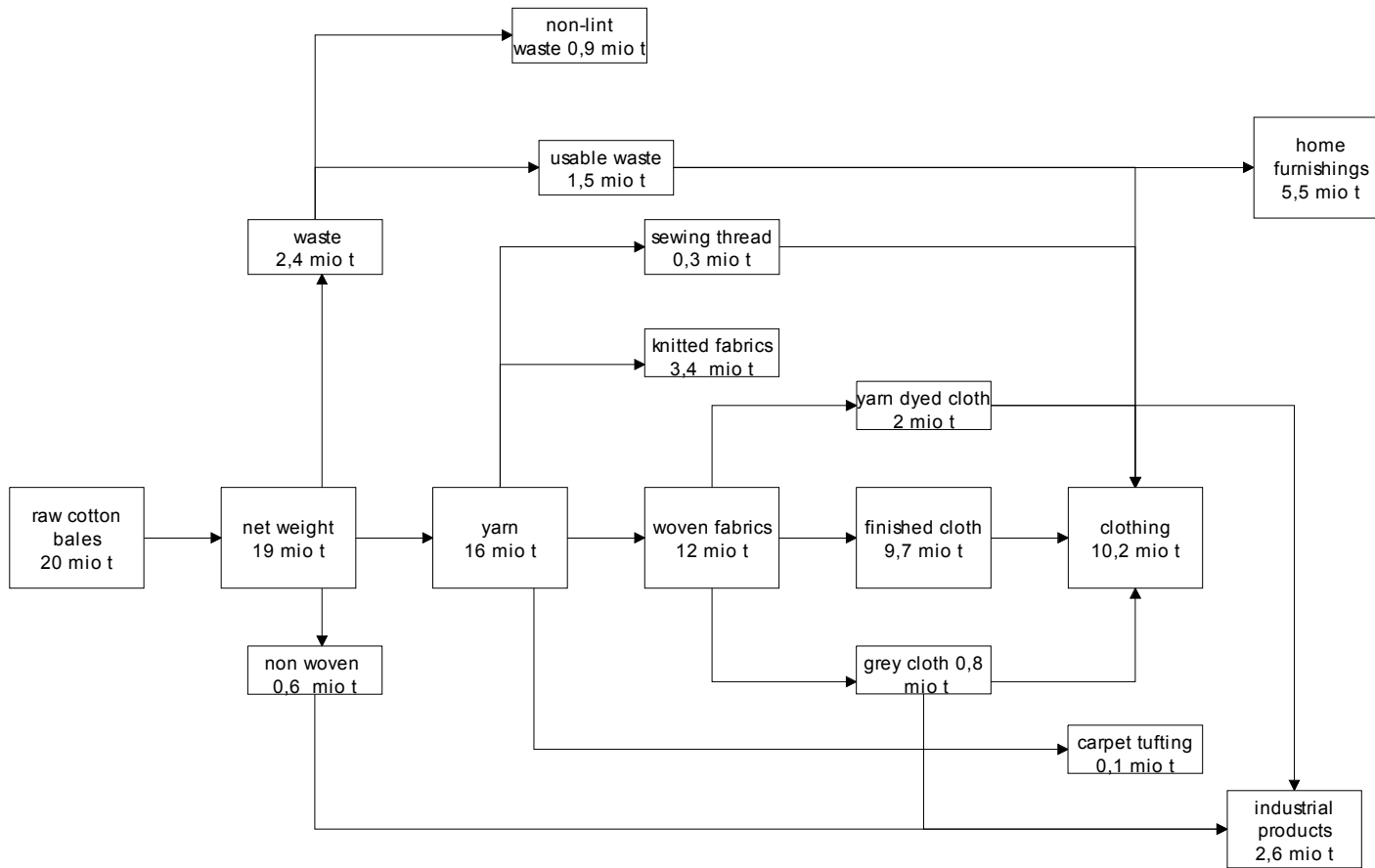


Diagram 2: Cotton, a rough estimate of substance flows

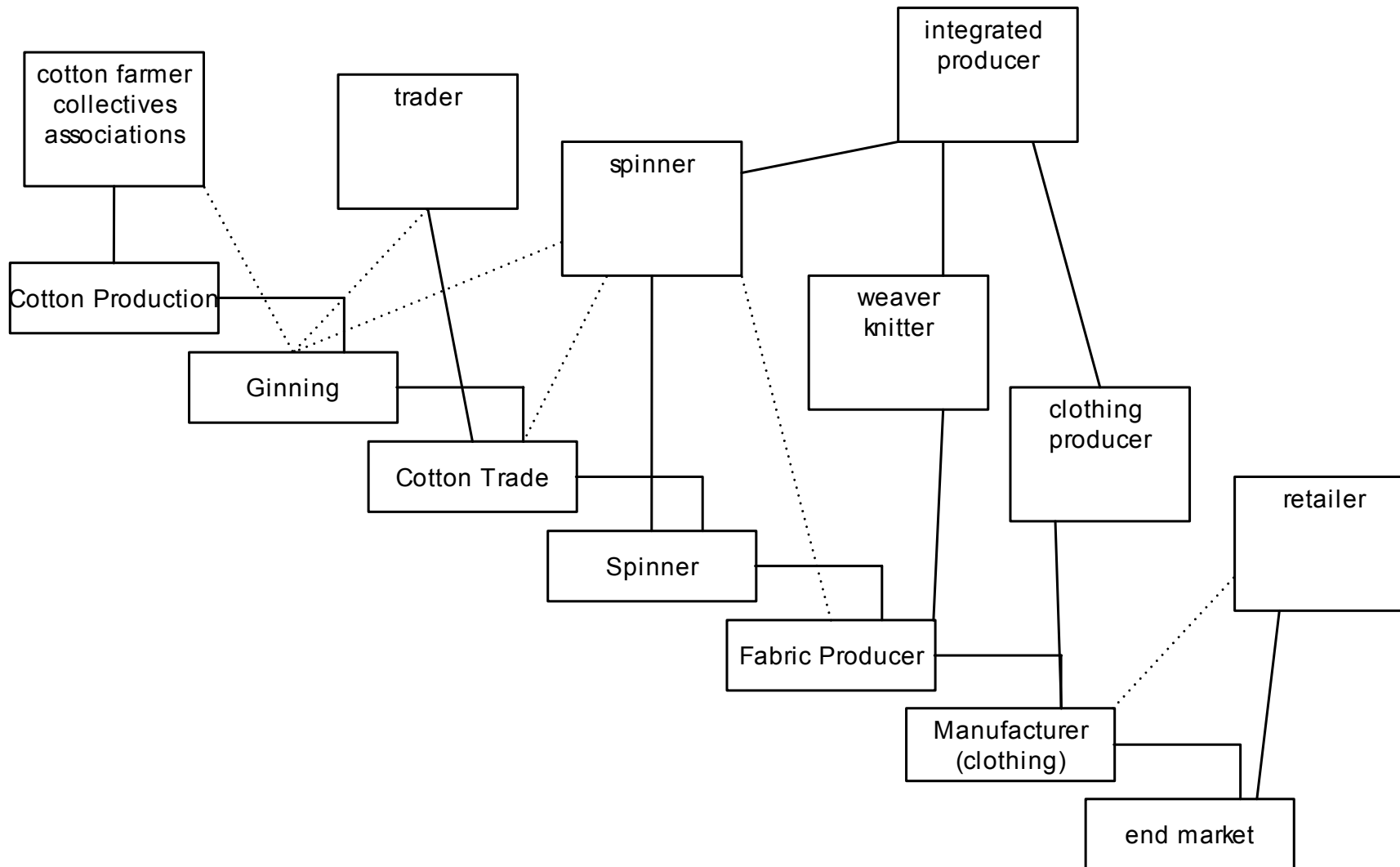


Diagram 3: Actors in the Cotton and Textile Chain

Table 1: Country Data on Cotton, Cotton Yarn and Cotton Fabric

1998 data where 1998 data are not available: 1997 or 1996	COTTON (1998/1999)		YARN					FABRIC			
	cotton prod	cotton cons.	mill use	yarn prod	yarn import	yarn export	calc. yarn use	fabric prod	fabric import	fabric export	calc. fabric use
China	4.100	4.600	4.642	5.420 ²	380	153	5.647	2.461	195	723	1.934
USA	2.830	2.300	2.351	1.995	207	89	2.114	2.011	423	224	2.211
India	2.800	2.700	2.734	2.016		473	1.543	1.625	9	270	1.365
Pakistan	1.600	1.550	1.536	1.154		420	734	679		186	494
Turkey	1.340	1.370	1.115	456	60	13	503	305	85	51	340
Uzbekistan	1.000	125	123	104							
Australia	758	40	40	38	15	14	39	3			
Brazil	400	700	827	621		11	610	637	6	40	603
Greece	360	125	127	96	23	36	83	30	20	7	43
Argentina	325	95	96	93	4	5	93	61			
Egypt	232	240	208	255 ³	20	76	198	80	9	8	81
Mexico	223	490	466	399		89	311	188	38	69	157
Mali	210	2									
Turkmenistan	200	45	37	32							
Burkina Faso	168	2		0							
Benin	155	2									
Côte d'Ivoire	140	30	24	23							
Zimbabwe	130	38	35	8							
Tajikistan	120	18	19	17							
Spain	95	122	116	85	45	71	60	90	43	53	80
Kazakhstan	55	4	4	4							
Thailand	21	320	294	267	6	35	239	261	19	50	231

² Probably not correct. ITMF Country Statements 1999: 3.190 (for 1998)

³ ITMF Country Statements 1999: 155 (for 1998)

Indonesia	4	460	457	371	7	14	364	365	22	56	331
Russia	1	175	209	168			168	150			150
Taiwan	0	275	286	364 ⁴	82	130	316	197	22	50	169
Korea	0	290	315	233	134	40	326	49	35	39	46
Italy	0	357	347	225	119	98	246	170	145	135	180
Japan	0	270	284	173	134	82	225	159	93	49	203
Germany	0	140	127	131	93	59	164	157	99	123	133
<i>EU + Norway + Switzerland</i>	<i>455</i>	<i>1.195</i>	<i>1.141</i>	<i>863</i>	<i>659</i>	<i>418</i>	<i>1.104</i>	<i>742</i>	<i>781</i>	<i>658</i>	<i>865</i>
<i>World</i>			<i>19.113</i>	<i>16.822</i>	<i>2.509</i>	<i>2.109</i>	<i>17.222</i>	<i>10.040</i>	<i>2.559</i>	<i>2.776</i>	<i>9.823</i>

⁴ ITMF Country Statements 1999: 164 (for 1998)

2.2 Cotton, Cotton Yarn and Cotton Fabric: Country Data

2.2.1 Three Types of Countries

In Table 1, we have listed production and consumption data of cotton and production, import and export data for both cotton yarn and cotton fabric. Table 1 gives a clear picture on how cotton production and use is distributed over a great number of countries.

For the first two data columns (cotton production and cotton consumption), we used ICAC's Review of the World Situation of November/December 1998 (1998/1999 data). For the other data columns, we used ICAC's World Textile Demand of November 2000 (1998 data where available, also some 1997 data).

Table 1 is sorted on the basis of cotton production, with China, USA, India, Pakistan, Turkey, Uzbekistan and Australia being the countries with highest production. If we would sort the table on cotton consumption, there would be a different picture. Uzbekistan and Australia export most of their cotton and do not have substantial spinning capacities, whereas Turkey, China and Brazil (for example) must import cotton to support their textile industry.

Some countries that do not have substantial cotton production still have an important (partly) cotton-based textile industry. Indonesia, with only 4.000 tons of indigenous cotton production, has a cotton use of 460.000 tons yearly. Taiwan, Korea, Thailand, Japan and Italy are major cotton yarn producers that have to import all their cotton.

Most yarn producing countries use their own yarn in their textile industry or import some additional yarn. Pakistan, from the data we have, appears to be an exception: it exports 420.000 tons of its 1.154.000 tons yarn production.

Summarising, we can say that there are basically three types of countries:

- Countries with a high cotton production but without an important textile industry: cotton countries in Central Asia (Uzbekistan, Kazakhstan, etc.), Australia, many African countries.
- Countries with a high cotton production and an important cotton industry. They often have to import additional cotton: China, USA, India, Pakistan, Turkey, etc.

Three types of countries:
exporting cotton producers,
producers with cotton industry,
countries with import based
cotton industry

- Countries with an important textile industry that import most or all of their cotton needs: Indonesia, Taiwan, Thailand, Korea, Japan, European countries.

In the next chapters, we go in more detail into the different parts of the cotton and textile chain.

2.2.2 Plausibility of the Data

Not all data in Table 1 appear to be plausible:

- The yarn production data for China seem to imply a physical impossibility. From 4.600.000 t of cotton, it is impossible to produce 5.420.000 t of yarn. The data for Chinese fabric production, however, appear to be rather low. One would expect some 3.500.000 t of cotton fabric at least. In ITMF Country Statements 1999, we find the following figures for 1998: total yarn 5.247.000 t, of which cotton yarn 3.190.000 t.
- The same holds for Egypt: we would have expected the double of the indicated fabric production.
- According to ICAC, Korea uses more than 300.000 t of yarn. Therefore the figure for fabric production cannot be correct.

2.3 Structure of the Next Chapters

In chapters 3, 4 and 5, we will go through the main steps of the cotton and textile chain and will address the following issues for each step:

1. A short technical characterisation of the process and its conversion efficiency with regard to cotton. We do not go into resource efficiency questions relating to other materials, energy, water and chemicals here.
2. An indication of the typical size of the process: how many tons per year are typically being converted from A to B in a spinning mill, knitting installation, etc.?
3. Statistical data that indicate where and in what proportion the activity takes place.
4. Important players in the specific step of the cotton and textile chain. Here we define 'important' primarily in terms of volume produced or traded.

3. World Cotton Production

3.1 Introduction⁵

Together with flax and wool, cotton is one of the three natural fibres that have been in use by humankind for 5,000 years. Up until the 18th century, the share of these fibres used in textiles was 78% wool, 18% flax and only 4% cotton. Due to technical innovations however this has now changed and today cotton takes up 48% of textile production, while 45% is taken up by synthetics and the rest accounted for by other fibres.

cotton growing area

Cotton production occurs between 36° South latitude and 46° North latitude and is located in tropical and subtropical regions (Reller, 1997). The broad belt of irrigated cotton lays in Mediterranean and desert climate. It stretches from Spain to central Asia and contains those regions with similar climates in the west of North and South America and Australia (Gillham, 1995).

river catchment

Many cotton regions are located in important river catchments. The Indus River valley in Pakistan for example incorporates one of the greatest irrigation systems in the world. In Table 2 the major river catchments are listed which can be affected by cotton production.

Table 2: River catchments in cotton producing areas

Country	River catchment
Brazil	e.g. Parana
China	Yellow River Valley (30.6%) Yangtse River (61.3%)
Egypt	Nile Valley
India	e.g. Narmada

⁵ taken from Soth & de Man 2000: p. 2-3.

Mali	Niger
Pakistan	Indus Valley (largest irrigation system world-wide; continues to India)
Turkey	Menderez, Gediz GAP Scheme A (Euphrat and Tigris)
Uzbekistan	Amu-Dar, Syr-Dar

irrigated cotton and rain-fed cotton

About 73% of cotton is produced in irrigated fields and only 27% under rain-fed conditions (freshwater is provided mainly by rain). The average yield of cotton is 854 kg per hectare for irrigated cotton and 391 kg per hectare for rain-fed cotton.

Table 3: Basic Data on Cotton Cultivation⁶

Conventional Cultivation	32,38 million ha		99,94%
Organic Cultivation	0,019 million ha		0,06 %
Irrigated	17,2 million ha		53%
Rain-fed	15,2 million ha		47%
Harvest from irrigated		14,0 million tons	73%
Harvest from rain-fed		5,2 million tons	277%

world production of cotton

In 1998 the world production of cotton amounted to 18,3 Mio tonnes of cotton lint and today, 33 Mio hectares of land are given over to cotton plantations. Whereas the area of cotton plantations has remained more or less constant since 1930, cotton production has tripled in the last 70 years.

⁶ Not in original Text of Soth & de Man 2000.

major cotton producing countries

The cotton production is unequally distributed over the world. Over 71% of the total cotton harvest occurs north of latitude 30° N where the major cotton producing countries are located (Gillham, 1995). Over 70 countries are involved in cotton production but the six major ones (China, USA, India, Pakistan, Uzbekistan and Turkey) account for over 75% of total world production (ICAC, 1995, Figures on cotton production by country are listed in appendix A3)

economy

Cotton plays a major role in the economy of many cotton producing countries. Cotton production however, is only one element in the multi-sectoral processing of cotton that has a high economical relevance. The cotton sub-sector in Mali for example represents 50% of the exports. In Pakistan over two thirds of the export earnings are derived by cotton and textiles and in Uzbekistan the sale of cotton lint accounts for even 75% of the export earnings. Besides, in many developing countries in Asia, Africa and Latin America cotton is the cash crop of smallholders.

3.2 Global Statistics: Regions, Quantities and Qualities

The seven top producers of cotton, China, India, Pakistan, Uzbekistan, Turkey and Australia, are responsible for about 15 million of about 20 million tons of global cotton production⁷. Diagram 4 shows that overall production is, apart from some yearly variation, rather stable on the average.

⁷ A very good overview of the world cotton situation, including trade and productivity figures, can be found at Rabobank and ICAC's World Cotton Map: Rabobank 2000.

Table 4: Top Cotton Producers (2000-2001)

Country/Region	Production 2000-2001 1000 t	Area 2000-2001 1000 ha
China	4350	4032
USA	3824	5385
India	2350	8148
Pakistan	1700	2985
Uzbekistan	930	1441
Turkey	750	667
Australia	750	500

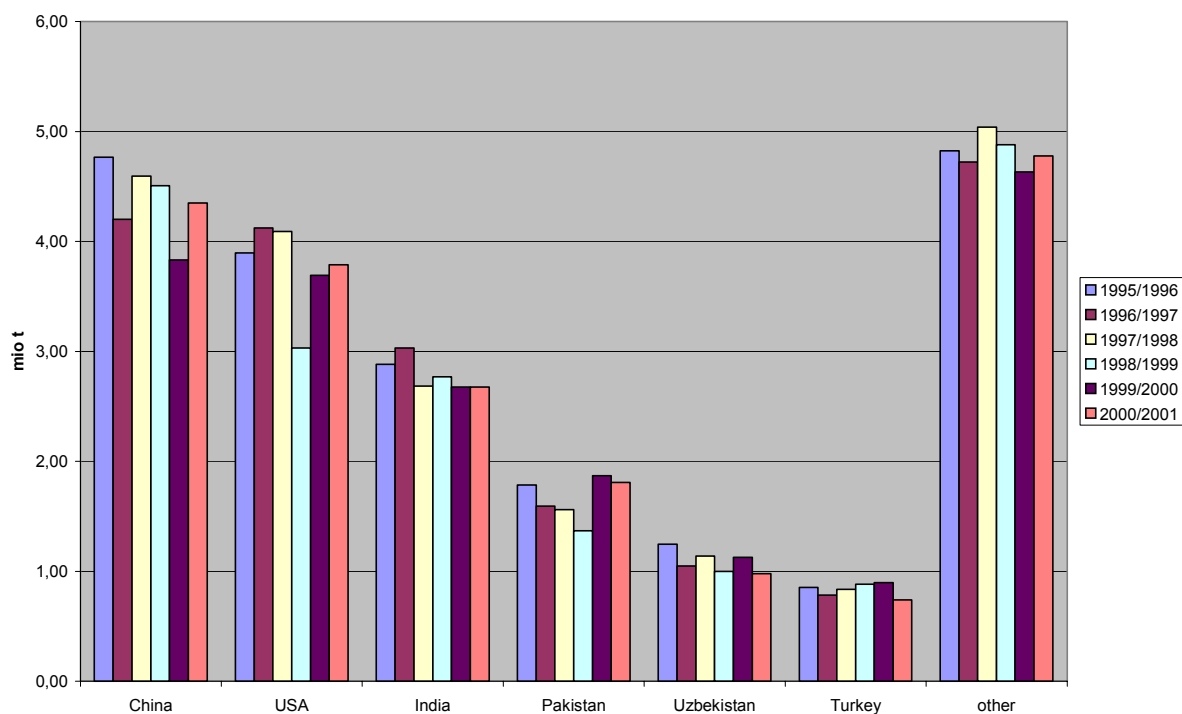


Diagram 4: Cotton Production in Main Regions

Productivity

Since 1960 the area under cultivation has not increased substantially, whereas production nearly tripled. This result had been achieved through the intensive use of irrigation, fertilizers and pesticides.

If we sort the countries not by production but by cotton area, India would be at the first place with its 8 million hectare. Low productivity per hectare, however, puts India only at the third place of the producer list. Differences in productivity are shown in Diagram 5. China and Turkey appear to have a relative high productivity per hectare, whereas India is very low. World-wide average productivity is only 587 kg/ha. This figure includes countries such as Mali with a productivity of 223 kg per ha.

Factors that influence productivity are climate, irrigation conditions, soil quality and the level of technological development in agriculture.

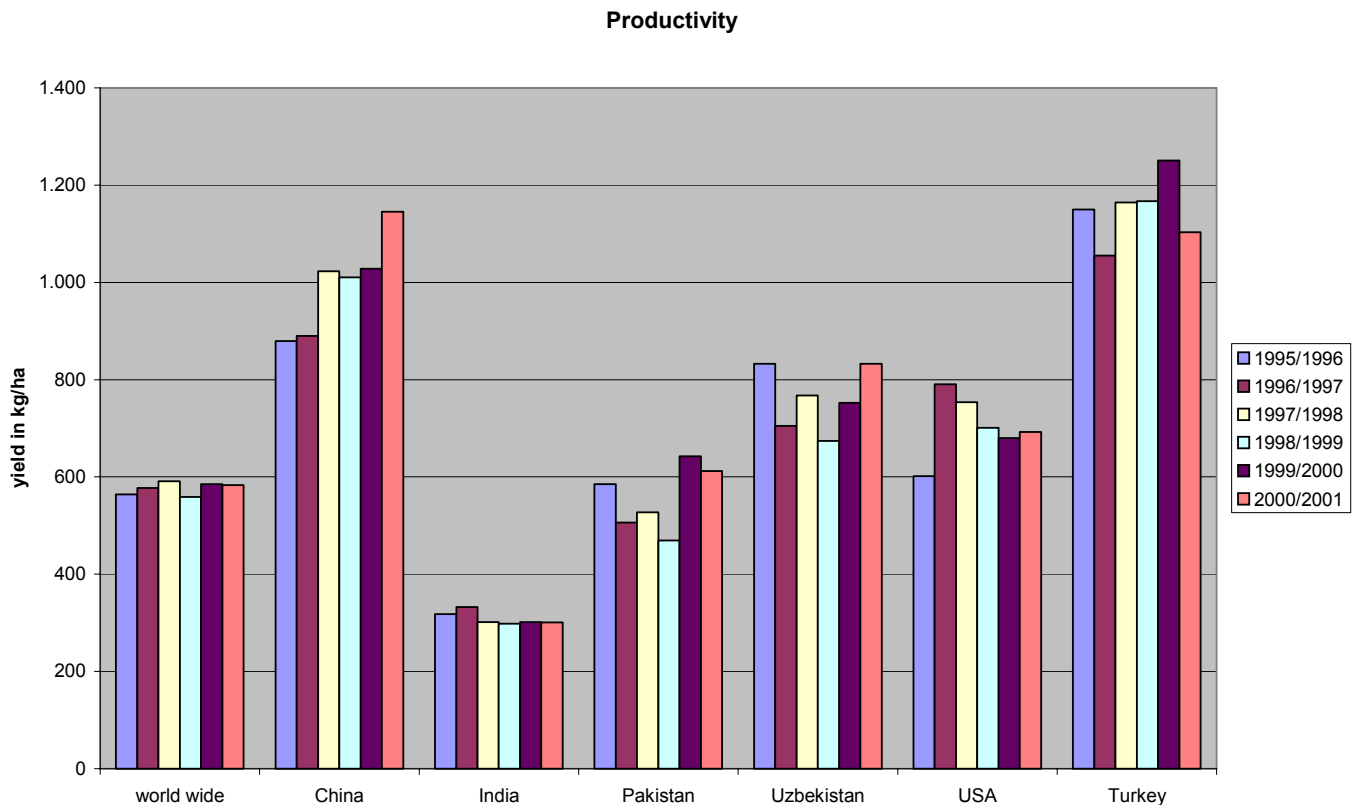


Diagram 5: Productivity for top cotton producers

3.3 Cotton Qualities

There is a great variety in cotton types and qualities. In cotton trade, cotton is usually named after the country of origin and a certain grade⁸. The countries of

⁸ This section and following sections on cotton & textile technology are based on inputs provided by Otto's consulting bureau Systain (Hamburg).

origin have a great variety of classified grades that are specific for different countries. Thus, the description is usually done by region and grade. (E.g. in Turkey there are 4 regions, namely EGE and Cukurova with 5 different types of cotton, 7 types in Güneydogu Anadolu region and 4 types in Antalya region.)

Cotton has many variations

In Turkey, for example, there are four regions: EGE, Cukurova, Güneydogu Anadolu and Antalya. EGE and Cukurova have 5 different grades, Güneydogu Anadolu has 7 grades and there are 4 grades in the Antalya region.

The actual (seasonal) quality of the fibres of one region is determined by classifying the fibres according to different parameters:

- staple length: this is the most important qualification and is found between 15 mm and 50 mm: short (<23mm); middle (24-27mm); middle to long (28-30mm); long (31 – 34mm) and extra long (35-45 mm). Generally a distinction is made between short staple, medium staple (upland cotton), long staple (Mako, Pima) and extra-long staple (sea-island cotton).
- micronaire: the size of an individual cotton fibre taken in cross-section;
- fineness, feeling: fibrous fineness for cotton lies between 1 and 4 decitex, which compares to 1000 m equalling 0,1 – 0,4 gram.
- utility and cleanliness: it measures the contamination by parts of capsules and leaves, fibres with too short staple, content of unripe as well as dead fibres.
- strength: cotton enjoys in relation to the fineness of the material based on a good and high quality grade a very good strength.
- colour and shine: based on origin of the cotton the colour is white (Sea Island), cream coloured (Mako), slightly yellowish or brownish.

3.4 Ginning

In this report, we do not go into any details of cotton growing, as we only concentrate on the use of cotton in the textile chain. Here we concentrate on outputs, not on inputs into cotton growing.

The cotton that is harvested by the farmer is called 'seed cotton' as it still contains cotton seeds. The first processing step after harvesting is 'ginning': separating the seeds from the cotton fibre. Cotton seed is used for producing cotton oil.

There are two types of fibres: lint and linters. Lint, or 'raw cotton', is used for spinning. Linters are fibres that are too short for spinning. They are being used for other purposes, e.g. in cellulose chemical fibres.

Only one third of the seed cotton is raw cotton

Approximately three tons of seed cottons are needed to produce one ton of cotton lint. There are two ginning technologies⁹: saw ginning and roller ginning¹⁰.

saw ginning

The saw gin grabs the fibres and breaks them away from the seed. An advantage is its relatively high speed. A disadvantage is that the process leads to a relatively high damage to the cotton fibres.

roller ginning

With roller ginning, the seed cotton passes between two rollers that squeeze the seeds out from the fibres. It is used for cotton types in which the fibres are less attached to the seeds, as for instance Pima long/extra long staple cotton.¹¹ The major advantage is that the process is more gentle to the cotton than a saw gin but, on the other hand, the process is much slower.

cotton gin,
 machine for separating cotton fibers from the seeds. The charkha, used in India from antiquity, consists of two revolving wooden rollers through which the fibers are drawn, leaving the seeds. A similar gin was early used in the S United States for long-staple cotton. In the modern roller gin, rollers covered with rough leather draw out the fibers, which are cut off by a fixed knife pressed against the rollers. This type of gin cleans only about two bales per day, but it does not snarl or break the fibers. The saw gin, invented by the American inventor Eli Whitney in 1793 and patented in 1794, consisted of a toothed cylinder revolving against a grate that enclosed the seed cotton. The teeth caught the fibers, pulling them from the seeds; the fibers were then removed from the cylinder by a revolving brush. This device, especially suited to short- and medium-staple cotton, has been mechanized and is used in commercial plants that are also called gins, where the fiber is conveyed from farm wagon to baler by air suction. Such plants have one or more gin stands, each with a series of from 70 to 80 circular saws set on a shaft. The fibers, freed from dirt and hulls, are pulled through a grid by the saw teeth to remove the seeds. The fibers are removed from the saw teeth by a revolving brush or by a blast of air (in more modern plants) and are then carried by air blast or suction to a condenser and finally to the baling apparatus. (from www.encyclopedia.com (2001))

¹⁰ Source: Southwestern Cotton Ginning Research Laboratory (USDA)

¹¹ See also "Cotton Gin," Microsoft® Encarta® Online Encyclopedia 2000 <http://encarta.msn.com>

In Table 5, we have listed the number of gins in important cotton growing countries and calculated the average capacity per year. We doubt whether the resulting figure for Uzbekistan is correct. Maybe groups of gins have been counted as single gins.

Table 5: Gins and Average Capacity

	Type of Ginning Mainly used	Number of Gins	Average Capacity [t/gin per year] ¹
China	Roller and Saw Gin	2.300	1.666
USA	Roller and Saw Gin	1.348	2.740
India	Mainly Saw Gin	2.311	1.158
Pakistan	Mainly Saw Gin	1.140	1.642
Uzbekistan	Mainly Saw Gin	130	8.677
Turkey	Roller and Saw Gin	827	1.037

¹calculated by using number of gins and total raw cotton per year

Although only about one third of the seed cotton consists of cotton lint, the main value for the farmer comes from the lint, not from the seed, see Diagram 7.

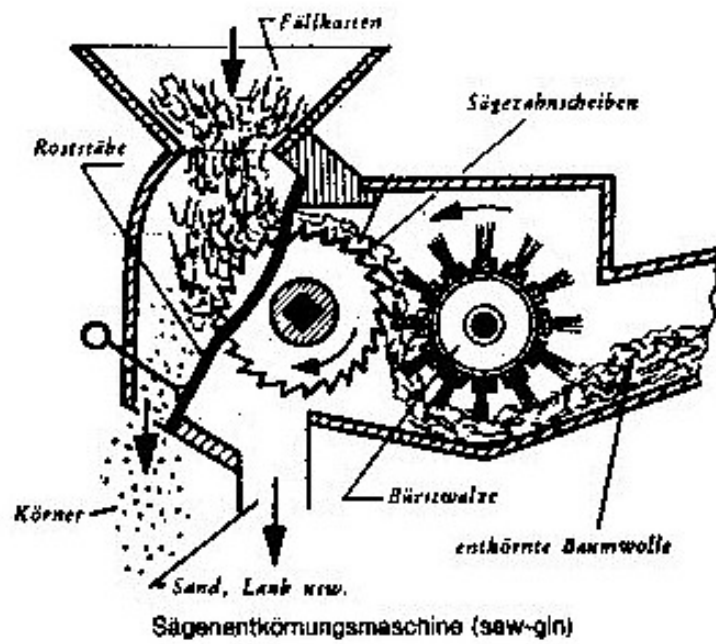
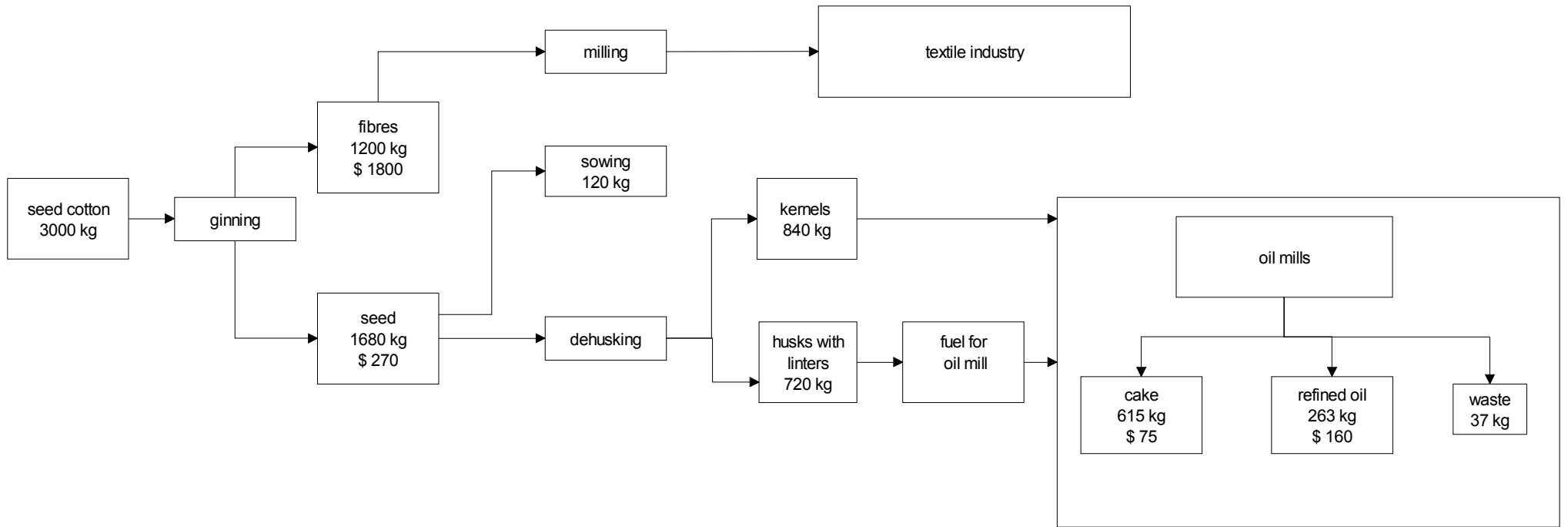


Diagram 6: Saw Gin



Source: Rabobank/ICAC, World Cotton Map, Utrecht, 2000.

Diagram 7: The Use of Cotton

3.5 Cotton Seed

Cotton seed is, as has been mentioned already, a by-product in the production of cotton fibre. Main producers are China (about 8 million tons), USA (about 7 million tons) and India (between 5 and 6 million tons).

Cotton seed is used in the crushing industry to make cottonseed oil and in the cattle feed industry. Cotton seed oil is mainly used as cooking oil and baking and frying fat with the remainder consumed in products such as margarine.

Cotton seed and cotton are traded on different markets

Cotton seed is traded on markets that are very different from cotton markets. As a result, cotton seed prices are not related to cotton prices but follow their own pattern. Only 2,5 % of cotton seed is traded internationally. In the US, nine companies crush about half of all cotton seed. The rest is used by cattle farms.

In the US, there is one Exchange that offers cottonseed futures, similar to the cotton futures that are traded at the New York Exchange: the Minneapolis Grain Exchange¹².

3.6 Cotton Prices

Cotton prices vary substantially over time. In Diagram 8, the cotton price development between 1997 and 2001 is shown on the basis of the Cotlook A index and New York Cotton Exchange futures. The Cotlook A index is intended to be representative of the level of offering prices on the international raw cotton market. It is an average of the cheapest five quotations from a selection (at present numbering fifteen) of the principal upland cottons traded internationally¹³.

In Diagram 8, we see that within a short period of time the Cotlook A index varied between DM 1,85 and DM 3,40. Strong and rapid price fluctuations present risks to all parties involved: cotton farmers, cotton traders, spinners and other actors in the textile production chain.

¹² ICAC, *Cotton - Review of the World Situation*, May-June 2000: "Cotton seed futures and options contracts in Minneapolis".

¹³ Source: <http://www.cotlook.com> .

At present (October 2001), cotton prices are dramatically low. On October 19, 2001, the Cotlook A index was 36,70 cts/lb.

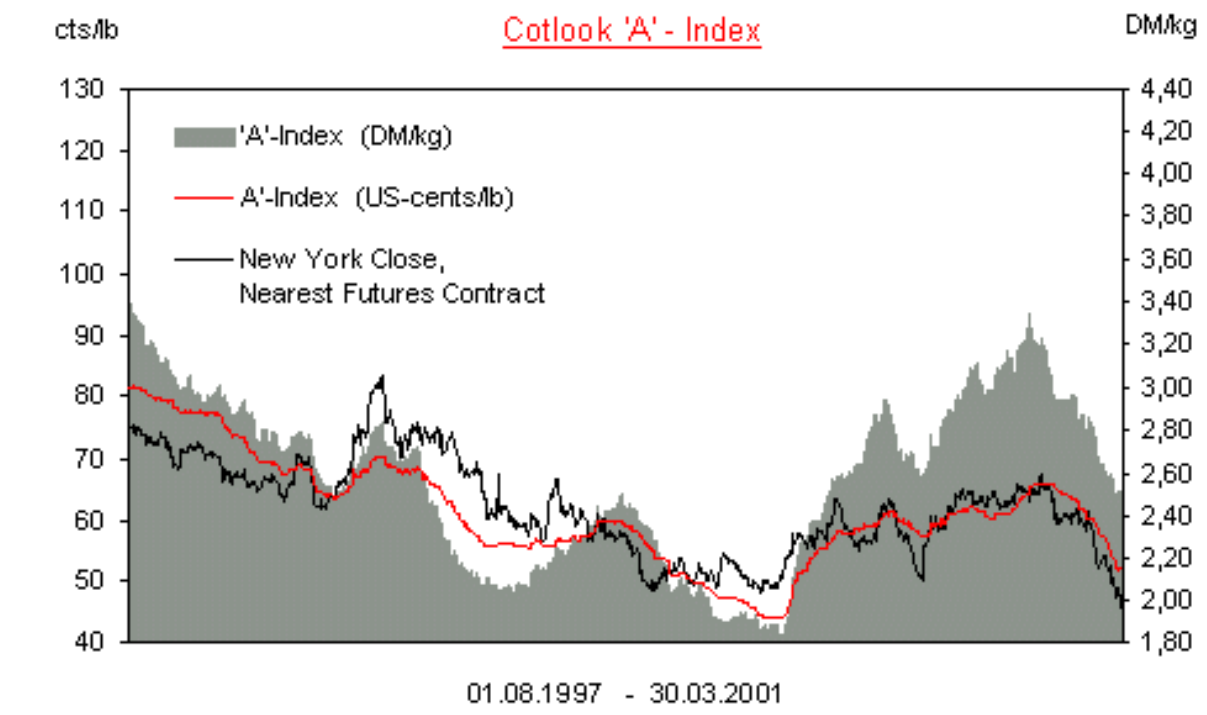


Diagram 8: Cotton Price Development 1997-2001

3.7 Organic Cotton

At present, world production of organically grown cotton is almost negligible: some 12 to 14 thousand tons only. It is primarily grown in the United States, Turkey, India and Egypt. Total acreage is between 12 and 15 thousand ha.

With world cotton production of some 20 million tons, organic cotton has a share of 0,06% only.

Organic cotton is hardly traded on the cotton market

There is not a real market for organic cotton. It is mainly grown and sold on the basis of contracts. In order to compensate the farmer for his additional work,

organic cotton is bought at cotton market prices + an organic price premium between 20 and 30%.¹⁴

¹⁴ Statistics on organic cotton are not easy to obtain and their quality is often questionable. Somewhat outdated already is Meyers/Stolton 1999 (data are much older). At the moment, the market study contained in that book is being updated by Peter Ton for the Pesticide Action Network. No results are publicly available yet.

4. World Cotton Trade

4.1 Global Cotton Trade and Cotton Consumption Statistics

In Table 6 and Table 8, we have listed main cotton exporting and cotton importing countries. Not all major cotton producing countries are also cotton exporters. Cotton producer no. 1, China, does not show in the exporter list, neither do India and Turkey. Turkey is a net cotton importer. Most of the big cotton exporters do not have a well developed textile industry. This is specially true for Central Asian and French African countries that are pure commodity exporters, but also Australia follows this pattern. The 'Australian' textile industry is located in Indonesia, Japan and Thailand.

Table 6: Top Cotton Exporters

Country/Region	Export	Cotton Prod
USA	900	2830
Fr. Africa	877	983
Uzbekistan	875	1000
Australia	662	758
EU	233	455
Syria	130	303
Turkmenistan	122	200

Source ICAC

The USA, Uzbekistan, Australia and French Africa are the top cotton exporting countries / regions. The USA export somewhat less than half of their productions. They have an important cotton-based industry. Australia virtually exports all its cotton, mainly to Asian countries. Uzbekistan exports its entire cotton production, for a large part to Europe. French Africa high cotton exports point at a still underdeveloped cotton-based textile industry in the region.

The USA are said to dominate the worldwide cotton market by heavily subsidising their cotton producers whereas forcing other countries to liberalisation.¹⁵

¹⁵ Professor Armin Reller at a conference of Evangelische Akademie Tutzing, September 2001.

In Table 7, we have listed the main destinations of exports from the US, Central Asia and Australia. The US exports mainly to a number of Asian countries that do not have cotton themselves. Cotton from Central Asia (Uzbekistan, etc.) is exported to Russia, Korea and a substantial part goes to European countries. The Indonesian textile industry would not be viable without Australia as a nearby cotton supplier. Australia exports also large quantities to Japan and other Asian countries.

Table 7: Exports from US, Central Asia and Australia

The US exports a great part to the far East. Europe is very important for central Asian exports, whereas Australia exports its bulk to Indonesia and Japan.

exporter	importer	
US	Japan	91,7
	Korea	83,2
	Taiwan	54,7
	Hong Kong	53,4
	Indonesia	52,5
	Thailand	17,9
	China	15,5
Central Asia	Russia	173,0
	Korea	111,5
	Italy	105,8
	France	65,9
	Germany	64,3
	Brazil	34,9
	Taiwan	32,8
Australia	Indonesia	214,6
	Japan	132,9
	Thailand	74,7
	Korea	45,3
	Taiwan	33,0
	Italy	24,2
	China	15,2

If we take the EU-countries as one geographical entity, then the EU is the biggest cotton importer in the World, followed by Indonesia, Mexico, Thailand, Brazil and Korea.

Table 8: Top Cotton Importers

Country/Region	Import 1000 t
EU	1046
Indonesia	456
Mexico	330
Thailand	303
Brazil	300
Korea	290
Taiwan	275
Japan	270
Turkey	253
Russia	182
Bangladesh	144

In Table 9, we have listed the main imports to Italy, Germany and Japan. For European countries (such as Germany and Italy), imports from Central Asia are dominant. For Japan, the United States and Australia are the most important sources of cotton.

Table 9: Cotton Imports to Italy, Germany and Japan

Central Asian imports are dominant in Europe, whereas Japan imports a high percentages from Australia.

importer	exporter	
Italy	Central Asia	105,8
	Australia	32,4
	Syria	31,0
	US	10,0
	other	177,8
	total	
Germany	Central Asia	64,3
	Sudan	8,3
	Syria	6,5
	Zimbabwe	5,0
	US	2,7
	Turkey	2,4
	Argentina	2,3
	Australia	0,3

importer	exporter	
	other	37,2
	<i>total</i>	<i>129,1</i>
Japan	Australia	128,0
	US	91,1
	Syria	10,8
	other	40,1
	<i>total</i>	<i>270,0</i>

In Table 10, the main cotton consuming countries have been listed. Among them are China, USA, India, Pakistan and Turkey, all major cotton producers. Other countries/regions are mainly dependent on imports for their cotton consumption: EU, Brazil, Mexico, Indonesia, Thailand and Korea. Cotton consumption is an immediate indication of the importance of the cotton spinning sector in a country, as cotton is not being used significantly for other products than yarn (cotton yarn and blends, see section 5. In Table 1 (on page 17), we have listed cotton consumption for 1998/99 and mill cotton use for 1998, in the second and third data column, respectively. In principle, there may not be any big difference between those data, although there are some inconsistencies due to questionable data quality.

Table 10: Top Cotton Consumers

The biggest consumers are produce their own cotton. But there are a number of countries with high cotton consumption that are exclusively dependent on imports.

<i>Country/Region</i>	<i>consumption</i>
China	4600
India	2700
USA	2300
Pakistan	1550
Turkey	1370
EU	1195
Brazil	700
Mexico	490
Indonesia	460
Thailand	320
Korea	290
Taiwan	275
Japan	270
Russia	175

4.2 The Cotton Trade Sector: Main Players

4.2.1 Cotton Trade and Cotton Traders

Cotton trade is not only required to move cotton from cotton producing countries to cotton consuming countries. It is also necessary for obtaining the right mix of cotton qualities, staple lengths etc. As a result, there is a lively trade also between cotton traders. Therefore the global quantity of cotton traded equals some 150% of global cotton production (ICAC 1994).

Cotton trade is not very concentrated.

Measured by industrial standards, cotton trade is not yet very concentrated. The largest six traders traded only one sixth of the global cotton trade volume in 1994. 142 firms were handling 15 million tons of approximately 30 million tons, that is 50% of world trade. Hundreds of additional, rather small, firms handled the remaining 15 million tons (ICAC 1994).

There are three important categories of cotton traders:

- In many countries, there are government-run trade agencies, in some cases with monopoly rights. Examples: The Cotton Corporation of India, Uzagroimpex (Uzbekistan), Chinatex (China).
- Farmer co-operatives have their own trading organisations. Some of them belong to the biggest cotton trading organisations, such as Plains Cotton Cooperative Association (USA) and Namoi Cotton Cooperative (Australia).
- Many of the big cotton traders are private companies, the most important being Dunavanant (USA), Allenberg & Dreyfus (USA), Hohenberg & Ralli (USA), Reinhard (Switzerland), Queensland (Australia).

Privatisation is the trend

Also in the Cotton trade sector, we see a trend towards privatisation. In the list of top traders published by ICAC for the years 1994 and 2000, we see that the number of private traders in the list increased from 9 to 17, whereas the number of government traders decreased from 11 to 4, see Table 13

The cotton trader connects two entirely different worlds(see also Diagram 1 on page 14): the world of agriculture and the world of the textile industry. Cotton growing is a process under variable conditions that cannot be entirely controlled. Because of weather conditions, varying soil qualities and so on, the farmer's output is variable and cannot be planned entirely on beforehand, neither quantitatively nor qualitatively. Variations in crops of 40% are not an exception. Cotton qualities also vary considerably in time and space.

The world of cotton industry follows the rules of industrial production. As any industry, textile industry is based on standardisation. The most important first step is the production of standardised yarns. Not unlike the problems we have in other industries that are based on agricultural outputs, such as the paper industry, the problem is to find ways to deal with variations in the input materials. The standard solutions to this problem are:

- classifying the variable outputs according to well-defined standards;
- mixing different qualities at the input side of the process for obtaining a highly stable input quality.

Cotton trade is much more than moving cotton from A to B. Cotton trade makes it possible for industry to have their well-classified stable inputs, whereas the farmer is able to sell their outputs that vary in quantity and quality. Cotton trade is very much dependent on the existence of well-defined standards for cotton and on generally accepted rules for trade. This is the function of the cotton associations, which will be discussed later. The cotton trader produces certainty to both the farmer and the spinner: the farmer knows that he can sell, even if he does not know exactly on beforehand what quantities and qualities he will be able to produce. The spinner gets the certainty that he will get exactly the amounts and qualities that he needs for planning his yarn production.

The Cotton Trader as a bridge between Cotton Producer and Spinner

In a book on the Volkart company (Rambousek 1990; Trachsel 1990), a good description of the “cotton trader as a bridge between cotton producer and spinner” has been given. We have reproduced Diagram 9 from that book. According to this diagram, the cotton trader bridges culture, language, space and time and reduces the risk for the parties involved by giving production and market information and offering systems for financing and storage facilities. In many cases, this means that the cotton trader himself is involved in cotton projects, warehousing and even in the cotton-based industry itself. Needless to say that a cotton trader does not only need superior knowledge on the two markets he is bridging - the raw cotton market and the textile markets - and thorough knowledge on how to deal with the risks of a commodity market but also financial strength to deal with the remaining risks involved.

Cotton trade is a risky business

That cotton trading is not a risk-free activity was shown in the late 1990s and when three of the largest private cotton companies, Stahel Hardmeyer of Switzerland, Conticotton of the USA and Meredith Jones & Co. in the UK were forced to close shop.

cotton trader as a bridge between cotton producer and spinner¹⁶		
Service to cotton producer	bridging	service to spinner
up-to-date market information	languages	up-to-date market information
competitive prices	space	competitive prices
buy when producer wants to sell	time	sell when spinner wants to buy
buy all qualities produced	finance	supply those qualities that are needed
buy against local conditions	currency risks	sell against local conditions
contract guarantees buying	market price risks	guaranteed contract
minimum price guarantee	exchange operations, hedging	maximum price guarantee
non-fixed buying with option for seller	quality requirements	non-fixed selling with option for buyer
quick payment	counter trade	logistics and timely delivery
pre-financing		broker service
broker service		training and technical support

Diagram 9 : Cotton Trader as a Bridge between Cotton Producer and Spinner

Meredith Jones & Co. was a respectable cotton trader since 1760 with business in 40 countries. It had been investing heavily in Uzbekistan in a demonstration farm with the newest agricultural technologies. Disputes with customers and suppliers in the former Soviet Union resulted in losses it did not recover from.

Rapid price fluctuations present a risk

For a cotton trader, the rapid cotton price fluctuations potentially present a big risk. If a trader buys large amounts of cotton that is to be delivered some months ahead and if the cotton price goes down in that period, the result can be a substantial loss. Of course, if the cotton trader has a selling contract for the same amount of cotton to be delivered at the same time, he knows exactly what the result of the transaction will be and he does not have any risk. However, the very essence of commodity trading is to sell cotton that you have not yet bought or to buy cotton that has not yet been sold. As a result, a cotton trader works with a mix of 'long' (not sold) and 'short' (not bought) positions.

¹⁶ based on Trachsel 1990.

Table 11 : A Simplified Example of Cotton Trading

<i>Date</i>	<i>Transaction</i>	<i>physical contract</i>	<i>NY exchange contract</i>
10-7-1989	buys 100 bales from producer, Mexico SM 1.1/16, shipping September, 62 cents/lb fob Guaymas	-\$31.000	
10-7-1989	sells to NY Exchange one contract of 100 bales, October, 60 cents/lb <i>Now he has hedged his market risk. Risk has been reduced to a differential of 2 cents/lb</i>		\$30.000
25-8-1989	sells to spinner 100 bales Mexico SM 1.1/16, shipping September, 61 cents/lb	\$30.500	
	Costs: 6 cents/lb	-\$3.000	
25-8-1989	buys NY Exchange 1 contract of 100 bales, October, 55 cents/lb <i>This ends the "hedge"</i>		-\$26.000
	profit/loss	-\$3.500	\$4.000
	<i>net profit</i>	\$500	
	<i>trade margin per lb</i>	\$0,010	

Cotton trade is managing risks.
One instrument is trading cotton futures

A cotton trader, as a rule, will not go into mere speculation. He needs to compensate for the risks that are caused by his 'long' and 'short' positions that are the result of decreasing or increasing prices, respectively. This is where the New York Cotton Exchange comes in. At the New York Cotton Exchange, the cotton trader does not trade physical cotton but cotton futures contracts. With trading these futures, he minimises the risks that are the result of his 'short' or 'long' positions. By trading futures, he is 'hedging' his physical cotton contracts. In the example in Table 11 (taken from Trachsel 1990), we see how a cotton trader buys cotton in July that is to be shipped in September. By September, however, the cotton price has fallen considerably. In the example, he loses \$ 3.500 on the physical contract. By selling a future contract to the New York Cotton Exchange (also in July) he minimises his risk considerably. In September, the date that he has to deliver the cotton to the New York cotton exchange, he buys a contract for the same amount of cotton, thereby ending his 'hedge'. As the cotton price has fallen considerably, he makes a considerable profit on his hedge operation, \$ 4.000 in the example case. In a falling market

- the producer has sold for an attractive price;
- the spinner has been able to maintain a competitive position;
- the trader has been able to get a reasonable profit margin.

At the New York Cotton Exchange there is no physical cotton trade

Evidently, not all transactions are that straightforward. The financial constructions to deal with price risks can be much more complicated but the principle remains the same: risks of physical contracts are ‘hedged’ by trading ‘virtual cotton’ on the New York Cotton Exchange in exactly the other direction. On the New York Cotton Exchange there is, in principle, not real cotton trade. In the example given, before the trader has to deliver the cotton, according to the contract with the New York Cotton Exchange, he ends the hedge by making a contract with the New York Cotton Exchange to buy the same amount of cotton as he has to deliver. The result is no real transaction whatsoever.

4.2.2 Cooperatives Traders and Pool Marketing

The co-operative trader represents the interests of the grower in the cotton market. He provides a number of services to his members including warehousing and online electronic trading in some cases.¹⁷

Cooperatives are often integrated textile and cotton companies

The US Plains Cotton Cooperative Association (PCCA), for example, maintains warehousing operations in Texas and Oklahoma and even has their own denim manufacturing facility. PCCA runs electronic marketing systems that allow producers to trade their cotton on-line. PCCA also offers the possibility of pool marketing, which protect the cotton farmers against the risks of too strong price fluctuations. Farmers enter their cotton into a pool and they get the average price that is realised during the whole season. Pool sales are being spread throughout the year. In the US, about 40% of the cotton is marketed through pools.

4.2.3 Cotton Associations

An orderly cotton trade is only feasible as long as there are clear standards for cotton qualities and clear rules for the process of trading, including mechanisms of arbitration and conflict resolutions. This cotton trade self-regulation is the task of a

¹⁷ See also text on Turkish co-operatives on page 47.

Cotton Associations have a self-regulatory function. The Liverpool Rules are of global importance

number of national cotton associations. Some of them have their origin in organisations that were a cotton exchange where cotton was actually traded. The German cotton association is still called “Bremer Baumwollbörse”, although it is not an actual trading place for cotton.

The most important cotton association that plays a dominant role in the industry’s self-regulation is the Liverpool Cotton Association. Although England lost most of its textile industry, it is still the centre of industrial standard setting in the textile industry (Manchester) and cotton trade (Liverpool). The so-called Liverpool Rules present a framework in which the majority of cotton trading takes place:

“The majority of contracts for international trade are agreed subject to the Liverpool Rules and are therefore dependant upon Liverpool arbitration in the event of dispute.”¹⁸

The American Cotton Shippers Association plays a similar role for American Cotton trade. According to its internet presentation:

“ACSA’s member firms handle over 80% of the U.S. cotton sold in domestic and foreign markets. The significant market involvement of ACSA members requires that the Association take an active part in promoting the increased use of cotton in the U.S. and throughout the world; establishing with other cotton trade organizations national and international standards for trade; collaborating with producer organizations throughout the cotton belt in formulating farm programs; and cooperating with government agencies in the administration of such programs.”¹⁹

Both ACSA’s members and LCA’s members traded 3,8 million tons of cotton. Other cotton associations are much less important in terms of cotton traded by their members. The members of the Bremer Baumwollbörse only trade 300.000 tons, for example. As cotton traders may be members of more than one association there are double countings in Table 12.

¹⁸ see <http://www.lca.org.uk/publications.html>

¹⁹ see <http://www.acsa-cotton.org/>

Table 12: Cotton Associations

Name	country	Volume traded by members
American Cotton Shippers Association	US	3800
The Liverpool Cotton Association	United Kingdom	3800
Bolsa de Mercaderia & Futuros	Brazil	400
Japan Cotton Traders Association	Japan	350
The Karachi Cotton Association	Pakistan	350
Bremer Baumwollbörse	Germany	300
Associazione Cotoniera Italiana	Italy	250
Taiwan Cotton Traders Association	Taiwan	250
Centro Algodonero Nacional	Spain	150
Association Française Cottonière	France	120
Alexandria Cotton Exporters Association	Egypt	100
Gdynia Cotton Association	Poland	80
The East India Cotton Association	India	55
Association Cottonière de Belgique	Belgium	30

The national cotton associations are united in CICCA, “Committee for International Cooperation between Cotton Associations”²⁰.

4.2.4 Main Cotton Traders in selected countries

Table 13 lists the top cotton traders according to the analyses made by ICAC in 1994, 1998 and 2000. The ICAC publications do not reveal any precise volume or turnover figures for most companies but give an estimate of their position in the list of top traders. For 1994 there was a classification in different classes of magnitude (see the table).

²⁰ see http://www.lca.org.uk/cicca_pages/cicca_index.html

Traders in the main cotton exporting countries

United States

The largest private traders are based in the USA: Allenberg & Dreyfus, Hohenberg & Ralli and Dunavant. Louis Dreyfus is a major international merchant in many commodities, whereas Hohenberg and Ralli are owned by Cargill (not by Dreyfus as erroneously mentioned in the table). These top traders have a turnover that exceeds one billion US\$. According to public information sources²¹, Dunavant's turnover in 2000 was 1022 million US\$. We may therefore assume that the top companies traded cotton quantities of some 750.000 tons each.

Other important US Cotton traders are Reinhart (also Switzerland), Weil Brothers, Ecom and Volcot America.

In the USA, there are a number of very large co-operative traders as well. Staple Cotton Cooperative Association, Plains Cotton Cooperative Association and Calcot belong to the biggest cotton traders in the world (630, 600, 350 thousand tons in 2000).

Uzbekistan

Cotton trade in Uzbekistan is in the hands of two government organisations: Uzagroimpex and Uzkhlopkoprorm. Uzagroimpex is responsible for international trade. It is one of the world's largest cotton trade organisations.

Australia

Colly Cotton belongs to the top cotton traders of the world. It is active in farming, ginning, warehousing and trade. It trades more than 20% of the total Australian cotton crop. Our estimate is that they trade some 160 thousand tons annually.

Queensland Cotton Corporation has an even bigger size of operations, some 200.000 tons annually or one third of Australian cotton exports. It is active in many cotton-related activities: cotton growing, ginning, warehousing and a range of technical and financial services. Queensland owns Anderson Clayton in the USA. As a result, Queensland is the largest non-government ginner in the world.

²¹ www.hoovers.com

About equal in size is Namoi Cotton that is responsible for 27% of Australian ginning and markets about 220 thousand tons, 30% of Australian cotton crop.

Pakistan

The Cotton Export Corporation of Pakistan is a large government organisation for cotton trading. The 1994 ICAC review of cotton traders mentions another 8 private traders, all based in Karachi. At the time Sura Cott Ltd appeared to have an office in Switzerland as well.

Traders in other cotton producing countries

China

The government organisation Chinatex is an important international cotton trader. Provincial cotton trading organisations traditionally have a monopoly over the procurement of cotton in their provinces, although more and more cotton is being traded outside the system.

The development in China is away from the centralised government controlled system towards a system of more liberal trade, allowing private traders to become more active in China.

India

The Cotton corporation of India is a major government cotton trader. ICAC signals a decrease in traded volume, however. This may be a sign of increasing privatisation in the cotton sector. In addition, there are three State Cooperatives (Gujarat, Punjab, Maharashtra). The Maharashtra Cooperative is very large. A number of large private traders have their operations in Bombay (according to ICAC 1994: C.A. Galiakotwala & Co. Ltd., Gill & Co. Private Ltd., Khimji Visram & Sons, Kotak & Co.).

Turkey

In Turkey, there are two important regional co-operatives: Tariş in the İzmir region and Cukobırlık in the Adana region. In addition, there are some smaller private traders. Tariş and Cukobırlık are large integrated organisations with ginning, warehousing, spinning, weaving and oil seed processing facilities. Most sales are domestic.

These organisations combine the functions of a farmer co-operative with regulatory functions:

“The main function of “Taris” is to act as a cooperative union through which the rights of producing members are protected. Thus, their products could be evaluated in the most beneficial ways. The other important function is to act as a government agent since it has become essential in the implementation of the “Price Support System” in which the commodities of member growers are bought at pre-determined prices that might not be same as the market prices.”²²

Cotton traders in non-producing countries

Important cotton traders are located in countries cotton importing countries that do not have a significant production of their own, such as COPACO in France, Baumann-Hinde and Plexus Cotton in the UK, Albrecht, Muller-Pearse & Co. in Germany, Société d’Importation et de Commission in France, Toyo Cotton Co. and Toyoshima and Co. Ltd. in Japan.

An important cotton trading country is Switzerland. The most important trader is Reinhart (Switzerland and US). A medium-sized cotton trader is Volkart Cotton Ltd. / Volcot Switzerland.

- **Reinhart**

Reinhart's headquarters are located in Winterthur, Switzerland where all European, Middle Eastern, Central Asian, Asian, African and South American growths are handled. Its major subsidiary in Dallas, Texas, is responsible for the trading of all U.S., Australian and Mexican cottons worldwide, as well as for the company's pima ginning operation in California.

On Reinhart’s homepage^{23]}, we read that Reinhard realised considerable expansion during the 1990s:

1. The collapse of the Soviet Union in the years following 1989 gave Reinhart direct access to cotton produced in Central Asia. Although buying became more complicated and risky, it did offer great opportunities to the firm as it moved in ahead of its competitors and established local representations. Today, Reinhart employs a large staff in Uzbekistan, Turkmenistan and Tajikistan who ensure that the company's substantial volume is properly handled.

²² <http://www.taris.com.tr/>

²³ <http://www.paulreinhartinc.com>

2. Reinhart acquired Volkart Inc., Dallas, in 1992. Under the name of Paul Reinhart, Inc., this acquisition has made Reinhart a major participant in the U.S. domestic and export markets.
 3. During this decade, Reinhart has been continuously strengthening its position in Africa, an area that shows a growing potential for cotton exports. The company has built a gin in Tanzania and has joint-venture interests in gins in Ivory Coast and Uganda.
 4. The changes in China's cotton policy are presenting new challenges and opportunities. Reinhart is actively establishing and maintaining direct relations with reliable parties in the major producing and consuming areas, as well as in Beijing.
- Volcot
We do not have any detailed information on Volcot. Mr. Behling of Volcot participated in a group on cotton and sustainability that came together in 1998-1999 on the initiative of Boller & Winkler. He should be invited to co-operate in the Cotton & Freshwater project.

Table 13: Main Cotton Traders

trader	country	type	1994		1998		1999		2000	
			volume	nr on list	volume	nr on list	volume	nr on list	volume	nr on list
Allenberg & Dreyfus (owned by Dreyfus)	USA	private	XL	2		2		2		1
Hohenberg & Ralli, owned by Dreyfus	USA	private	XL	3		3		3		2
Dunavant incl. Australia	USA	private	XL	1		1		1		3
Staple Cotton Cooperative Association	USA	cooperative	L	14	425	7		6	630	4
Plains Cotton Cooperative Association	USA	cooperative	L	21	550	5		5	600	5
Uzagroimpex	Uzbekistan	government	XL	4		4		4		6
Reinhart, incl. US	Switzerland	private	XL	7	380	9		8		7
Calcot Ltd.	USA	cooperative	XL	9		8		7	350	8
Queensland Cotton Cooperation Ltd.	Australia	private	L		200	10		9	200	9
Weil-Brothers-Cotton Inc.	USA	private	L	11		12		11		10
COPACO	France	private	XL	6		11		10		11
Namoi Cotton Cooperative Ltd.	Australia	cooperative	L	19		20		21	220	12
Aiglon Ltd. (Dublin)	Switzerland	private				13		12		13
Ecom USA	USA	private						13		14
Colly Cotton Australia	Australia	private	L			18		14		15
Plexus Cotton (founded 1990)	UK	private						15		16
The Cotton Marketing Organization	Syria	government	L	16		16		16		17
Toyo Cotton Co	Japan	private	L	22		17		17		18
Chinatex	China	government	XL	5		6		18		19
The Cotton Corporation of India Ltd.	India	government	XL	12		15		19		20
Toyoshima & Co.	Japan	private				19		20		21
Albrecht, Muller-Pearse & Co.	Germany	private								22
Société d'Importation et de Commission	France	private	L	17		21		22		23
Baumann Hinde	UK	private				22		23		24
Volcot US	USA	private						25		25
Cotton Export Corporation	Pakistan	government	L	13						
SONAPRA	Benin	government	L	15						
Conticotton	USA	private	XL			closed				
Stahel, incl. Stadtlander and US	Switzerland	private	XL	8		closed				
Agro-Plus K&M AG	Switzerland	private				14				
Volkart, incl. US	Switzerland	private	M	18		23				
Meredith Jones	UK	private						24		closed
Boswell, incl. Australia	USA	private	L	20						

Total volume

7000

7600

7500

8100

XL > 200 thousand tons

X= between 50 and 200

M = between 15 and 50

5. The Textile Industry

5.1 Introduction

Internationalisation and hard competition

The textile industry is characterised by “internationalisation of production²⁴, the increasingly more complex diversification of supply sources and the growing resiting of production, prompted by more or less coherent free-trade areas.” (Euratex 2001, p. 2). In Europe, we see an unprecedented growth in mergers and acquisitions: a quadrupling of mergers and acquisitions in a period of four years. Trends observed by Euratex are: “resiting of the upstream sector, regionalisation, increased size and return to the major activity.”

decreasing demand and
aggressive competition

The textile industry is characterised by heavy competition and high pressure on costs. Respectable companies that are in the market for ages or even centuries are in the danger zone through a combination of decreasing textile demand and aggressive competition.

For the WWF Freshwater & Cotton project, this is not a simple environment. It will not be able to win textile companies that are almost exclusively cost and shareholder driven. Even companies that are well-known for their ecological commitment need good arguments to engage in a ecological projects. WWF should therefore present the arguments for sustainable cotton convincingly.

The global chain

In the context of this report, we cannot go systematically into social issues. Therefore we spend only a few words on an issue that would need a large study in itself. Looking at the global textile and clothing chains, it becomes obvious that a major part of consumption takes place in the more developed part of the world whereas the centres of production can be found in less developed countries. Textile

²⁴ An important factor in the internationalisation of the textile industry and the increasingly important role of developing countries in production is the gradual abolition of quota that existed in the multi fibre agreement (MFA). In 1995 the MFA was changed and obliged all WTO countries to abolish all quota within a period of 10 years. In the framework of this study, we cannot go into this matter in any detail. WWF should work on WTO related issues in the framework of the policy part of the Freshwater & Cotton project.

industry is typical for developing countries and so is a larger part of the production of the major resource cotton. Low wage country production, to a large extent, is being controlled from companies with their basis in developed countries: through ownership of companies or through controlling the supplier chain.

Vertical integration or total withdrawal from production

Both models can be found in the textile and clothing chain. There are many companies with a high degree of vertical integration. Other companies, the type of companies Naomi Klein writes about (Klein 1999), have virtually withdrawn from the business 'making' clothes. What they mainly do is 'sourcing', advertising and organising the design process. It was not a surprise to us that we could hardly find any useful information on companies in the textile chain (spinners, weavers, knitters and clothing manufacturers). They are largely anonymous. We have been able to find names and, with great effort, many addresses and phone numbers. We have asked all major companies for corporate information such as annual reports. We have not been able to collect more than a handful reports after weeks of phoning, e-mailing and surfing the internet.

Transparency is an exception

The textile and closing chain connects the emotional world of fashion with the hard realities in producing countries. For fashion companies, it is hardly attractive to communicate about these realities, unless they are forced to do so by NGOs such as Clean Clothes Campaign²⁵. Indeed, many companies have installed codes of conduct on social issues and implemented SA8000 systems. Many of them do communicate on the social and environmental aspects of the supply chain, but they are an exception. The rule is restricted communication or no transparency at all.

²⁵ See information on internet sites of Clean Clothes Campaign (www.cleanclothes.org, www.cleanclothes.ch) and Südwind publications (Südwind 1997, 2000).

5.2 Spinning

5.2.1 Technical Aspects of Yarn Production²⁶

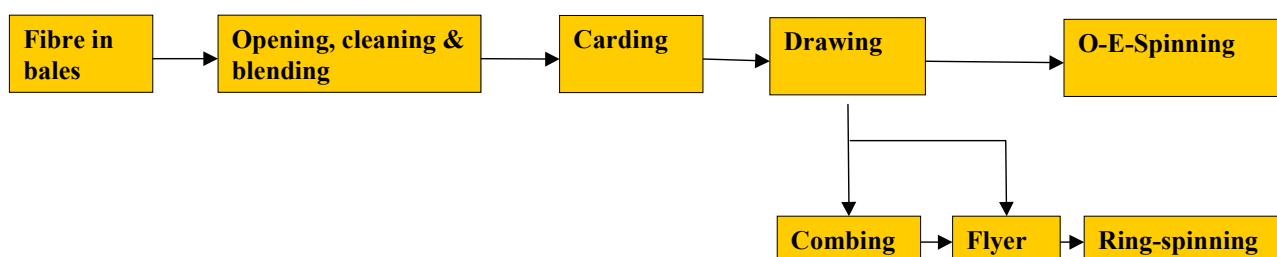


Diagram 10: The Spinning Process

There are two systems on the market for spinning cotton, the ring-spinning system and the open-end rotor spinning system. The main spinning system for cotton yarn is the three-cylinder-system. This name derives from the fact that the drafting section in ring spinning machines takes place by three pairs of cylinders laying above each other, see Diagram 11.

So called Open-End yarns are produced on the open-end-spinning system where the feed sliver is separated into individual fibres for collection on the inner surface of a high-speed rotor, see Diagram 12.

Ring-spun yarn can be combed or carded. Therefore there are three main types of yarn: ring-spin carded, ring-spin combed and open-end carded. The material loss during spinning depends on the process: it may be some 10-15% for carded yarns or 30% for combed yarns.

²⁶ Major inputs to this section and other sections on technical aspects of textile production have been given by Otto's consulting bureau Systain (Hamburg)

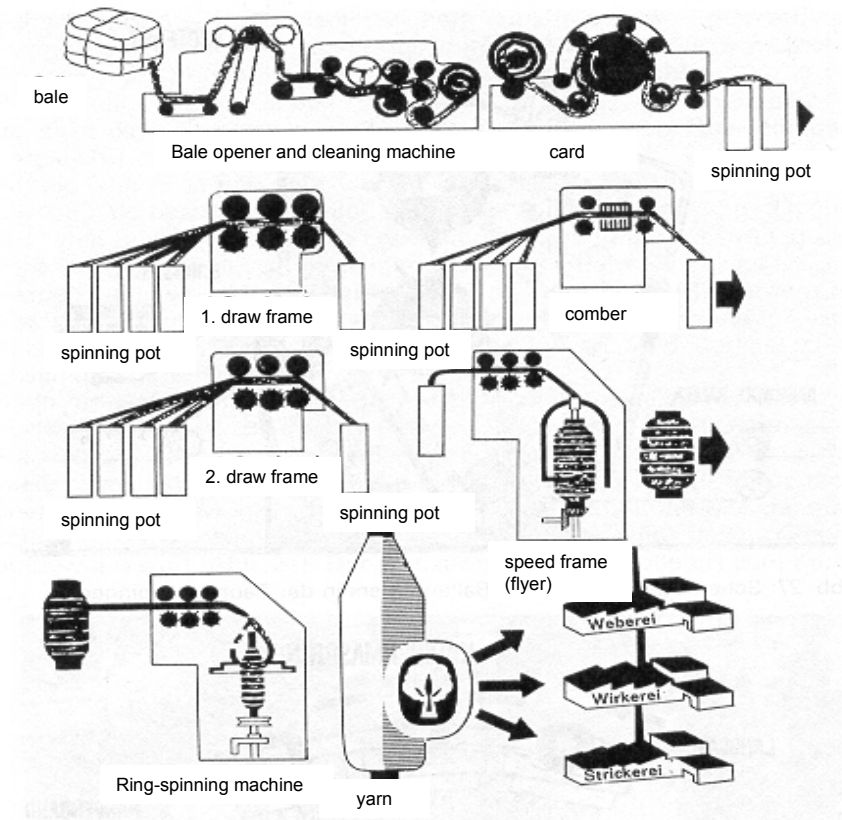


Diagram 11: Ring Spinning

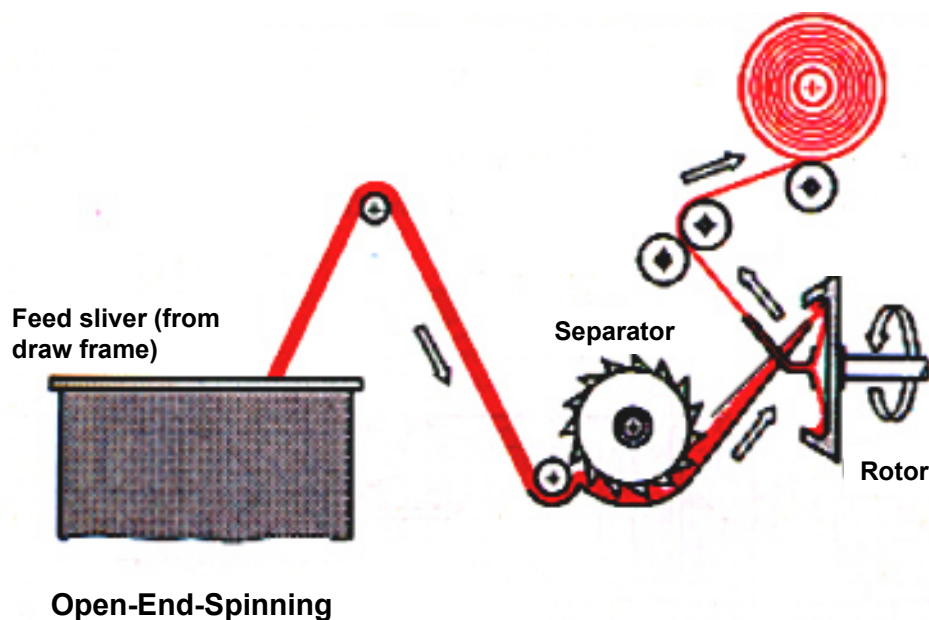


Diagram 12: Open End Spinning

5.2.2 Global Statistics: Regions, Quantities and Qualities

In Table 14, we have listed yarn production data for a number of countries, based on ITMF statistics. ITMF unfortunately does not list yarn production for the following relevant yarn producers: China, Mexico, Indonesia and Thailand. On the basis of their cotton consumption Mexico, Indonesia and Thailand must produce some between 300 and 500 thousand tons of cotton yarn. Non-cotton yarn should be added.

According to the Proceedings of 1999 China Cotton Conference, China produced 5247 thousand tons of yarn in 1998, with a 60,8 % cotton share. On that basis we calculate some 3 million tons of cotton yarn production, which makes China not only number 1 in cotton production but also number one in yarn production. China's cotton exports are almost negligible as compared to inland production. China converts almost 100% of its cotton to yarn and textile products.

Top Yarn producers: China,
India, USA, Pakistan, Turkey

The top yarn producer countries are China, India, USA, Pakistan and Turkey, in order of decreasing importance. If we count Europe as one country, it comes after Turkey on the 6th place. The most important Western European yarn

producing countries are Italy, Germany, Portugal and Spain. In Table 14, we have included ICAC statistics on yarn production for comparison. Unfortunately, there are some major inconsistencies for Turkey, Taiwan and Egypt. They may be caused by different definitions of 'cotton yarn'.

Table 14: Yarn Production Data

yarn production	(ITMF countries only)					
	1000 t					
country	producer/importer/exporter	cotton yarn (ITMF)	cotton yarn (ICAC)	blends	other	total
India	P	2016	2016	25	881	2922
United States	P	1806	1995	190	1588	3584
Pakistan	P	1154	1154	371		1525
Turkey	P+I	898	456			898
Brazil	P+I	791	621	79	242	1112
Italy	I	222	225	3	38	263
Korea Rep.	I	169	233	58		227
Taiwan	I	165	364	172	478	815
Japan	I	160	173	13	258	431
Egypt	P	155	255	14	30	199
Russia	I	135	168	10	79	224
Germany	I	118	131	12	170	300
Portugal	I	117	109		28	145

In Table 15, we have compared ICAC cotton consumption data to ITMF data on yarn production. As we may assume that virtually all cotton consumption in a country is being used for spinning, there should be some fixed ratio between the two data sets with some variation reflection the efficiency of the spinning process. In a number of countries this efficiency appears to be some 70%. The figure is much higher for USA. Assuming an efficiency of 75% for China, we would expect yarn production of 3,75 million tons, somewhat higher than our estimate we made above.

Table 15: Mill Cotton Consumption and Yarn Production

Country	Mill Cotton consumption (ICAC data) 1000 t	Cotton yarn production (ITMF data) 1000 t	blends (ITMF data) 1000 t	Number of ring spindles (1000)
China	4642	(own estimate 3750)		2.900
India	2734	2016	25	2.157
USA	2351	1806	190	1.713
Pakistan	1536	1154	371	1.200
Turkey	1115	898		913
EU	1141	695		--

In Table 16, we have listed spinning and weaving capacities for a number of countries that ITMF includes in their statistics. Comparing Table 16 to Table 14, it becomes obvious that more industrialised countries produce more yarn per ring spindle than less industrialised countries. The US are number 2 on the yarn producers list but only number 5 on the list of spindle capacities. The differences between production per spindle may be caused by differences in technology and differences in capacity use. To show the difference in productivity per spindle, we compare India to the United States:

- In India, there were, according to ITMF, 35,5 million ring spindles (short staple). According to the same source, total short staple yarn output (cotton + blends + others) was 2,77 million tons. Per spindle a yearly output of 78 kg yarn only.
- In the USA, there were, according to ITMF, 4,28 million ring spindles (short staple). According to the same source, total short staple yarn output was 2,85 million tons. Per spindle a yearly output of almost 666 kg, more than 8 times the Indian number.

Table 16: Spinning and Weaving Capacities in ITMF countries (1998)

Country	Installed Capacities 1998 (short staple)			
	Spinning		Weaving	
	Ring Spindles (x1000)	OE-Rotors (x1000)	Shuttleless Looms	Shuttle Looms
Brazil	6.250	285	35.800	92.000
Egypt	2.600	41	2.600	12.000
India	35.499	351	7.443	116.320
Italy	1.626	101	12.775	1.710
Japan	3.670	86	24.410	48.140
Korea	1.934	17	2.454	704
Pakistan	8.340	147	15.000	7.385
Phillippines	967	48	2.500	6.935
Portugal	1.040	43	10.200	2.200
Russia	3.390	1.685	106.200	9.990
Spain	1.077	84	7.055	2.109
Taiwan			20.050	3.040
Turkey	5.679	418	20.000	
United States	4.282	949	58.596	4.631

5.2.3 The Spinning Industry, Key Players

In Table 17, we have listed the top spinners from Euratex statistics (Euratex 2001). The companies listed here are remarkable small as compared to big players in the clothing and retail sector.

Not all companies in the list are actually engaged in cotton spinning. We have tried to collect more specific information on the companies. The information we found does not yet give any clarity as to the companies' suitability as a WWF partner. In Table 18, we have listed all top spinners that Euratex explicitly lists as "Cotton Spinning". There are only two big players in this category: Tainan in Taiwan and Hof (see also text on page 76) in Germany.

We have asked Otto Versand's consulting bureau Systain to produce a list of important spinners in a number of countries. Their result is shown in Table 19. We have completed this result by asking one player in the textile business to give us his personal opinion on relevant European players. His results are shown in Table 20.

One reason for finding so many small players and hardly any big player may be that large spinners may be part of integrated companies that have not been listed as spinners in the statistics we have used.

Table 17: Top Spinners from Euratex Statistics

Name	Country	turnover mio. Euro
Fuji Spinning	Japan	430
Südwolle + TG Hof	Germany	422
Ruentex Industries	Taiwan	286
Tainan Spinning (C)	Taiwan	282
Nortex Yarns USA	USA	235
Tuntex Thailand	Thailand	213
Coats Deutschland	Germany	125
Franzoni Filati	Italy	123
Fillatura Tollegno	Italy	106
Niggeler & Kupfer	Italy	102
Schaeffer - Dufour	France	100
Güterman AG	Germany	94
Hof, Vogtl.Bw.-Spin.	Germany	88
Ak-Al Tekstil	Turkey	88
Polyfil	Belgium	85
Schoeller Textil	Germany	78
Naoussa Spinning Mills	Greece	72
Borkenstein	Austria	65
Berry Yarns	Belgium	53
Filartex	Italy	52
Caulliez Frères	France	48
Mouzakis El.D.S.A.	Greece	46
Mossley-Badin	France	46
Micromedia Britannia S.A.	Greece	45
Filature Chenimenil	France	43
Coats Türkiye	Turkey	39
Standardtela	Italy	33
Uco Yarns	Belgium	31
Filatura di Pollone	Italy	26
Trikolan Franko S.A.	Greece	25
Prevesa Mills S.A.	Greece	25

Table 18: Top Cotton Spinners according to Euratex

Name	Country	turnover mio. Euro
Tainan Spinning	Taiwan	282
Hof, Voigtl. Bw. Spin.	Germany	88
Naoussa Spinning Mills	Greece	72
Calliez Frères	France	48
Standardtela	Italy	33
Uco Yarns	Belgium	31
Bhanero Textile Mills	Pakistan	19
Mohammad Farooq	Pakistan	13

Table 19: Selected Spinners in Selected Countries

Country	Spinner	turnover	technical details
China	Kabool Yanji Textiles		10.000 t / 50.352 spindles
	Kabool Nantong Textiles Co., Ltd		4.000 t / 31.824 spindles
India	SRINATH SPINNING MILLS LTD		
	Pratibha Syntex Ltd. Yarn division		10.800 t / 49.000 spindles
	Malwa Cotton spinning mills ltd.		140.000 spindles cotton yarn 45 t/d other 35 t/d
Pakistan	Sapphire Textile Mills		60.000 ton, 175.000 spindles
	Nishat Mills Ltd.	292 mio DM	59.040 spindles
	Mayfair Group		28.800 spindles
	Bhanero Textile Mill Ltd.	38 mio DM	
	Ali Akbar spinning Mills LTD.		15.360 spindles
Uzbekistan	Kabool Uzbek Co., Ltd. 1 Factory		103.968 spindles
	Kabool Uzbek Co., Ltd. 2 Factory		112.904 spindles
USA	Parkdale Mills	1000 mio USD	largest independent yarn spinner in the US.
	Avondale	881 mio USD	integrated textile company
	The Dixie Group Inc	568 mio USD	carpet yarns and carpets

Country	Spinner	turnover	technical details
	National Textiles L.L.C.	728 mio USD	open-end and ring-spun cotton, cotton-polyester blend yarns, knit fabrics
	R.L. Stowe Mills, Inc.		8 spinning factories: Chronicle: 13 t/d, National: 21 t/d, Stowe: 11 t/d, Helms: 8 t/d, Mebane: 4 t/d, Majestic: 6 t/d, Lupton: 19 t/d, Chattanooga: 16 t/d
	TNS Mills		20 manufacturing plants: 17 yarn, 2 weaving, 1 non-woven
Turkey	Ak-Al Tekstil	172 mio DM	AK-AL' s total capacity of worsted yarn is 26.000 tons/year, while its capacity of semi-worsted yarn is 3.000 tons/year and open-end yarns 2.500 tons/year
	Sanko Yarn Producing and Trade Inc	378 mio DM	They claim to produce 100.000 t of yarns on 500.000 spindles
Switzerland / USA	Hermann Bühler AG	41 mio CHF + 23 mio USD	ring spindles 54.000 / 32.000 also organic yarns

Table 20: Relevant European and Turkish Spinners

Country	Spinner
Germany	Spinnerei Deutschland Bierbaum KG 46325 Borken Nordrhein-Westfalen
	Spinnerei Neuhof GmbH & Co. KG 95030 Hof Bayern
	Kulmbacher Spinnerei GmbH 95336 Mainleus Bayern
	Ettlin Gesellschaft für Spinnerei und Weberei AG 76275 Ettlingen Baden-Württemberg
Italy	Legnano

Country	Spinner
	Niggeler und K�pfer Tessiture Niggeler & K�pfer SpA. 25032 Chiari (BS)
Turkey (co-operative)	Antbirlik
	Tariř
	Cukobirlik
Turkey (private)	Topkapi
	Trakya

5.2.4 Yarn Prices

The Yarn Index is derived by calculating an average from Cotlook's published FOB prices for 20's and 30's count yarns from Brazil, Pakistan, India, South Korea, Taiwan, Greece and Turkey, each weighted to reflect the exports of all yarn from the individual country concerned, and expressing that as a percentage of the comparable value for July 1982. In determining the weightings, an average of the exports in the two most recent calendar years for which complete data are available has been used.²⁷

From Diagram 13 it becomes evident that yarn prices are somewhat more stable than cotton prices, but they clearly show a decreasing trend.

²⁷ Source: <http://www.cotlook.com/public/public.htm>

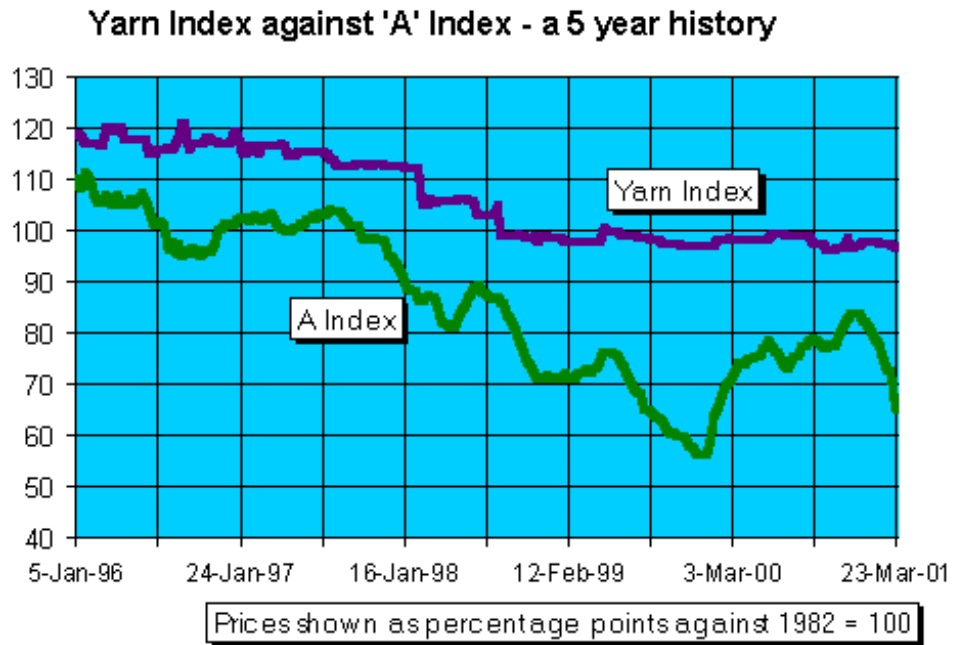


Diagram 13: Yarn Prices

5.3 Cotton Cloth Production: Weaving and Knitting

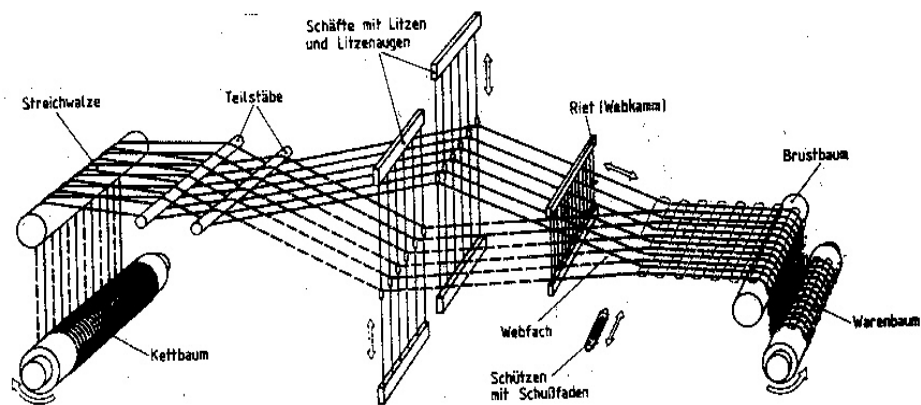
5.3.1 Technical Aspects of Weaving and Knitting

There are basically two techniques for making cloth from yarn: weaving and knitting²⁸.

Weaving

In Diagram 14, we present a simple diagram of the weaving process. For technical details, we refer to professional literature.

Main woven products are : Trousers incl. jeans, blouses, bathrobes, bed-linen, shirts, night clothing.



Weaving scheme

²⁸ Based on inputs from Systain, Otto's sustainability consulting bureau (Hamburg)

Diagram 14: The Elements of Weaving

Knitting²⁹

Knitting is a method of fabric manufacture by which yarn is converted into a series of intermeshing loops by means of knitting elements called needles. Generally knitting fabrics are more flexible and more elastic than woven fabrics and can be extensible in both length and width directions.

There are two distinctly different methods of making knitted fabrics: Weft and Warp knitting. For clothing, weft knitting is mainly used. Weft knitted fabrics can be made on either circular or flat bed machines using one or two sets of needles. Depending on the design of the machines, it is possible to produce long lengths of either tubular or flat fabrics. From these garment shapes can be cut out. It is also possible to produce readily shaped garment pieces or indeed complete garments such as pullovers.

There are three basic weft structures:

- Single jersey which is made on one set of needles;
- Double jersey which is made on two sets of needles;
- Purl where the needles have hooks at both ends and can be transferred between two horizontally or vertically opposed needle-beds.

Main products that are made from knitted materials are T-shirts; sweatshirts; pullovers and underwear.

5.3.2 Cotton Cloth Production Statistics

Weaving capacities for a number of countries were given in Table 16.

Production statistics for woven and knitted fabrics are available from ITMF (Country Statements) and from ICAC (World Textile Demand). ITMF data are somewhat more disaggregated (cotton, blended and other woven fabrics, knitted fabrics) but they are a mixture of different unities (metric tons, square meters or yards, meters) that make them difficult to interpret. ICAC's data are all in metric tons but they do not show any detail. We have listed them earlier in this report:

²⁹ Based on inputs from Systain (Hamburg)

Table 1 on page 17. A comparison of ICAC and ITMF data is given in Table 21. From this table, we see that top producers for knitted fabrics are USA, India, Brazil and Taiwan. Most certainly, China, Pakistan, Indonesia and Turkey also belong in this country selection but we do not have any reliable data on knitting in those countries.

Table 21: Woven and Knitted Fabric Production in a number of Countries

Country	fabric prod (ICAC data) 1000 t	fabric production woven (ITMF data)				knitted fabrics (ITMF data)	
		cotton	blends	others	unit		unit
China	2.461	-	-	-		-	
USA	2.011	5.057			mio sq yd	826	1000 t
India	1.625	1.087	25	1.348	1000 t	544	1000 t
Pakistan	679	297	59		mio m2	?	
Brazil	637	469	77	234	1000 t	450	1000t
Indonesia	365	-	-	-		-	
Turkey	305	440	included		1000t	?	
Thailand	261	-	-	-		-	
Taiwan	197	377	460	3.806	mio m2	261	1000t
Mexico	188	-	-	-		-	
Italy	170	161	8	39	1000 t	?	
Japan	159	842		2.390	mio m2	136	1000t
Germany	157	158		177	1000 t	66	1000t
Russia	150	-	-	-		-	
Spain	90	102	36	included			

5.3.3 The Weaving and Knitting Industry: Main Players

In Table 22, we have listed the Top 20 Cotton Weavers according to the Euratex statistics.

Table 22: Top 20 Cotton Weavers from Euratex Statistics

Weaver	Country	turnover 1000 EUR
Cone Mills	USA	703.225
Shikibo	Japan	449.940
Tongkook Spinning	Korea (south)	569.585
Swift USA	USA	335.390
Quaker Fabric Group	USA	286.191
Arvind Mills	India	235.710
Sanko Tekstil	Turkey	235.710
D.M.C. Tissus	France	234.160
Frame Gruppe	South Africa	214.740
Toho Rayon	Japan	189.180
Ilshin Spinning Co. Ltd.	Korea (south)	188.160
Devaux	France	169.690
Taris Pamuk	Turkey	168.270
Uco Textiles SA	Belgium	166.160
SAIC Velcorex	France	165.730
Guney Sanayi	Turkey	158.900
Thomaston Mills	USA	156.460
Tai Yuen Textile	Taiwan	151.850
Teka Tecelagem Kuehnrich	Brazil	145.290
Tavex Grupo	Spain	137.450

- Cone Mills, no. 1 on the Euratex list, is, according to its web-site³⁰, committed to water ecology. It claims to be an active participant in the “Water Environment Federation.” This could be an opportunity for some form of participation in WWF’s project.
- We will give some further details on European weavers only, see below.

European Weavers and Knitters

Small big players

Comparing the size of weavers with this size of players in the clothing industry and textile retail business, it is remarkable how small the ‘big’ players actually are. The

³⁰ <http://www.cone.com/us/corporate/corpenv.html>

biggest player D.M.C. Tissus has a turnover of 234 million € only. The main reason is that weaving is generally a specialised activity: weavers work for very specific segments for specific clients. There are no real global players.

Information is not accessible

We have not been able to find out any details about the weavers in Table 23. The only thing we know, is that Linz Textil (Austria) has been involved in some preliminary talks about cotton and ecology organised by the Swiss company Boller & Winkler and the Swiss professor Armin Reller in 1998-1999. Linz could be interested to participate in WWF's project.

Table 23: Top 10 European Cotton Weavers from Euratex statistics

Weaver	Country	turnover 1000 EUR
D.M.C. Tissus	France	234.160
Uco Textiles SA	Belgium	166.160
SAIC Velcorex	France	165.730
Tavex Grupo	Spain	137.450
Linz Textil	Austria	134.450
Brennet Gruppe	Germany	127.820
TMG-Manuel Gonçalves	Portugal	127.800
Ploucquet	Germany	110.440
Bekaert Textiles	Belgium	107.540
Santes Group	Belgium	107.370

In this research project, we have not been able to gather any detailed information on knitters, despite considerable effort: we have phoned most companies and consulted every available website. Only on Germany could we find somewhat more valuable information: its is on the excellent TWnetwork websites.

Table 24: Top Knitters from Euratex Statistics

company name	Country + Telephone + Adress	turnover 1999 1000 Eur
Warnaco Group-Textile	USA	2.418.583
Fruit of the Loom USA	USA	2.093.859
Triumph Int. Spiesshofen	Switzerland	1.490.600
VF Corp.Knitting	USA	1.342.200
Wacoal	Japan	1.333.800

company name	Country + Telephone + Adress	turnover 1999 1000 Eur
Gunze knitwear	Japan	1.135.600
Russel Corp.-Textile	USA	1.071.700
Sahinler Holding - Textile	Turkey	920.330
Guilford Mills	USA	803.530
William Baird	UK	755.330
Multiline Syria	Syria	669.790
Fukusuke	Japan	561.190
Jockey International	USA	537.370
Avond Products	USA	521.520
Tultex Knitw. Corp.	USA	439.560
Damart T	France	394.360
Dim - Rosy	France	338.850
Delta Galil	Israel	333.110
Schiesser Gruppe - Hesta	Switzerland	319.060
Saint John Knits	USA	275.910

In Table 25, we have listed the 15 top European knitters according to Euratex. We have not been able to gather any detailed information on these companies. Some companies have been included in other parts of this report (see footnotes in the table).

We know that the Austrian Huber Tricot company was involved in an earlier attempt at discussing solutions for problems in the cotton and textile chain that was undertaken by the Swiss Boller & Winkler company in co-operation with professor Reller in 1998-1999..

Table 25: Top 15 European Knitters from Euratex Statistics

Company name	Country	turnover 1999 1000 Eur
Triumph Int. Spiesshofen ³¹	Switzerland	1.490.600
William Baird	UK	755.330
Damart T	France	394.360

³¹ See also text on page 75.

Dim - Rosy	France	338.850
Schiesser Gruppe - Hesta ³²	Switzerland	319.060
Stefanel	Italy	247.680
Schiesser Text ³³	Germany	245.420
Falke Gruppe	Germany	227.010
Carvico - Gruppo	Italy	195.440
Chantelle S.A.	France	193.780
Martin International	UK	187.090
Arena Holding	Switzerland	128.850
Huber Tricot Gruppe	Austria	125.730
Dawson International	UK	124.240
Calida ³⁴	Switzerland	122.060

5.4 Germany's Top 20 Textile Companies according to TWnetwork

In Table 26, we have listed the top 20 German textile companies, according to TWnetwork. TWnetwork publishes three lists: one on textile companies, one on clothing companies and one on retailers. This table contains the first 20 companies of the textile company list.

³² See also text on page 102.

³³ We will go into Schiesser on page 102, but we conclude that we do not know anything valuable about the company.

³⁴ See also text on page 82.

Table 26: Top20 German Textile Companies 1999 (TWnetwork)

Rang	Unternehmensgruppe	Umsatz 1999 in Mill. DM	Umsatz 1998 in Mill. DM
1	Daun & Cie.	1900	1650
2	Hartmann-Gruppe	1623	1475
3	Freudenberg Non Wovens Group	1438	1437
4	Kap-Konzern	1045	829
5	Südwolle (inkl. TG Hof)	826	1013
6	Textilwerke Deggendorf	750	850
7	Borgers-Gruppe	710	660
8	DLW (Textilumsatz)	638	1267**
9	BWK-Gruppe	507	677
10	Triumph International-Gruppe Deutschland	493	477
11	Textilgruppe Hof	491	585
12	Schiesser	480	470
13	Falke-Gruppe	444	451
14	Sara Lee Pers. Products (ehem. Vatter-Gruppe)	420	430
15	Tuchfabrik Wilhelm Becker	391	507
16	Schaeffler	372	402
17	Kunert-Gruppe	367	409

Rang	Unternehmensgruppe	Umsatz 1999 in Mill. DM	Umsatz 1998 in Mill. DM
18	Girmes	362	406
19	Wirth-Fulda-Gruppe	362	397
20	Amann & Söhne	360	350

Information on selected companies

Not many candidates

Below we have given some additional information on most companies in the list. Not many of them appear to be relevant to WWF in the framework of the Cotton and Freshwater project. Either they do not process cotton or cotton yarn for the consumer market or their company philosophies and structures appear to be unattractive. Only two or three companies could be a candidate.

- Daun & Cie.
Daun is a huge holding (turnover about 1,85 billion DM) with interests in South-African mills, and (a.o.) a number of German spinners, knitters and weavers. It also has a strong participation in the Kap group, see below. Nothing points into the direction of a potential partnership with WWF.
- Hartmann-Gruppe
Hartman is mainly active in the sector of medical textiles and does not seem of interest to the WWF project.
- Freudenberg Non Wovens Group
No products of interest for WWF project.
- Kap-Konzern
A holding company (mother company = Daun) with South African and German textile companies (mainly spinners), active in technical textiles. Not relevant to our project.
- Südwolle (inkl. TG Hof)
produces woollen yarns: not relevant to this project.

- Textilwerke Deggendorf (TWD)
produces synthetic yarns: not relevant to this project.
- Borgers-Gruppe
makes products for the automobile industry: not relevant to this project.
- DLW
makes products for home furnishing, not only textiles: not relevant to this project.
- BWK-Gruppe
BWK = Bremer Wollkämmerei, one of the biggest wool processing companies in the world: not relevant to this project.
- Triumph International-Gruppe Deutschland
Triumph international is a global textile player, with only 20% turnover in Germany. Total group turnover is 1,68 billion €. It has a leading position in underwear, nightwear. It produces in the far East, Eastern Europe, Northern Africa, etc. The company's communication is not an example of a good corporate transparency. On the web-site³⁵, for example, there is product information only, no information on the company. Triumph international, as a good example of a cost-optimising global player with production in countries with low wages, was in the spotlight of the Clean Clothes Campaign. Triumph would produce under the Burma military dictatorship and labour union freedom would not be respected in a production company, for example. We assume that Triumph, under public pressure, is correcting its social policies and their implementation now. Triumph presented a more positive image in its co-operation with Ökoinstitut in a study on managing the substance flows inside and outside the company. The result is an impressive study, which makes the substance flows of this company visible as a tool for management decisions (Öko-Institut 2000). As far as we know, Triumph is the only company that has quantified the use of raw cotton and the environmental impacts of its production and its use in the production chain. Triumph uses 1091 tons of raw cotton for which 26 million m³ of water is needed, for example. Triumph published an environmental report that does not carry a date, however (Triumph 1998(?)).

Triumph International: a very relevant global player. A potential partner for WWF?

³⁵ www.cleanclothes.ch

Whether Triumph could be a partner in a WWF project is uncertain. Nevertheless, this is the type of key player that is needed.

Hof: a potential partner?

- Textilgruppe Hof
Hof is an important player in the spinning business. Its spinning capacity is 33.000 tons of yarn. Technical textiles is an important strategic product field. Hof could be an interesting partner in the WWF project. It is important to recognise, however, that Hof has been in bad economic shape for some years and that all activity is directed towards cost reduction and economic performance.
- Schiesser
Schiesser is market leader for underwear in Germany. We have not been able to find any detailed information about this company.
- Falke-Gruppe
German's market leader for 'legwear': socks, panties, etc.
- Vatter (Sarah Lee)
Leading 'legwear' producer.

Kunert: the ecological innovator

- Kunert-Gruppe
Leading European 'legwear' producer (100 million items yearly) produces 60% of all items self. Brands are Kunert, Burlington, Hudson. Kunert is well-known for its innovative environmental management. Kunert was the first company to produce a group-wide eco-balance and its environmental reports were many times in the top of environmental report rankings. Kunert developed an environmental cost accounting system. Kunert could be a very attractive partner for WWF. A question is, how much cotton is used by this company that produces products where we expect synthetics and wool to be more important.

5.5 Textile-Clothing Companies

In Table 27, we have listed the world's largest textile and clothing companies, as listed by Euratex.

Table 27: Top 10 Textile and Clothing Companies from Euratex Statistics

company name	Country	turnover in Euro x 1000.000
		1999
Sara Lee Crp. Brand. Appar	USA	7.129
Coats Viyella Group	UK	2.383
Coats Viyella Textiles	UK	1.612
Gruppo Marzotto	Italy	1.407
Chargeurs Textile Intern.	France	1.063
Gruppo Miroglio	Italy	690
Zegna Ermenegildo Gruppo	Italy	501
Indian Rayon and Ind.	India	409
Vinatex	Vietnam	398
Devanley Groupe	France	357

6. Clothing

6.1 Main Players Worldwide

In Table 28, we have listed the major clothing companies as listed by Euratex. In the framework of this research, it has not been possible to go into all the top companies listed here. We concentrate on some German players, of which detailed descriptions will be given in section 6.2.

Table 28: Major Clothing Companies in Industrialised Countries according to Euratex

company name	Country	Activity	turnover in Euro x 1000.000
			1999
VF Corporation	USA	Jeanswear	5.207
Calvin Klein	USA	Multiproduct Clothing	4.877
<i>Levi Strauss Associates</i> ³⁶	USA	Jeanswear	4.820
Holding Partecipaz. Ind.	Italy	Multiproduct Clothing	3.111
Jones apparel Group	USA	Womenswear	2.935
Liz Clairbone Inc	USA	Multiproduct Clothing	2.630
<i>Nike Garment</i> ³⁷	USA	Activewear	2.544
LVMH-Gruppe Clothing	France	Prêt-à-Porter	2.301
<i>Adidas Konzern Clothing</i> ³⁸	Germany	Activewear	2.199
Zara-Ind. Dis Text.	Spain	Menswear	2.026
Kellwood Company	USA	Multiproduct Clothing	2.017
Warnaco Group	USA	Underwear	1.983
Benetton Clothing	Italy	Knitwear	1.982
Onward Kashiya	Japan	Menswear	1.835
Fruit of the Loom Inc.	USA	Knitwear	1.722
Cintas Corp.	USA	Clothing	1.643

³⁶ See text on organic product retailers and producers on page 117.

³⁷ See text on organic product retailers and producer on page 116.

³⁸ See text on German companies on page 82.

company name	Country	Activity	turnover in Euro x 1000.000
Ralph Lauren - Polo	USA	Multiproduct Clothing	1.620
Tommy Hilfinger Corp.	USA	Menswear	1.535
Triumph-Gr. International	Switzerland	Multiproduct Clothing	1.491
Wacoal Clothing	Japan	Underwear	1334
Renown	Japan	Womenswear	1330
Aramark Uniform	USA	Clothing	1267
World	Japan	Womenswear	1229
Phillips Van Heusen	USA	Shirt-Blouses	1192
Sanyo Shokai	Japan	Multiproduct Clothing	1191
Gunze	Japan	Knitwear	1136
Mizuno	Japan	Activewear	1131
Russel Corp.	USA	Activewear	1072
Marzotte - Abbigliamento	Italy	Menswear	1032
<i>Nike Europe</i>	Germany	Activewear	925
Max Mara Fashion	Italy	Womenswear	879
Armani Giorgio SpA	Italy	Menswear	877
Gianfranco Ferré	Italy	Prêt-à-Porter	826
Oxford Industries	USA	Menswear	809
Coats Viyella Clothing	UK	Multiproduct Clothing	770
Groupe André	France	Womenswear	768
William Baird Plc	UK	Multiproduct Clothing	755
Boss Hugo World	Germany	Menswear	751
Levi-Strauss Europe	Belgium	Jeanswear	747
<i>Escada Konzern</i>	Germany	Womenswear	742
<i>Steilmann Gruppe</i>	Germany	Multiproduct Clothing	711
Descente	Japan	Sportswear	710
Hartmarx Corporation	USA	Menswear	682
Multiline	Syria	Knitwear	670
Trussardi Nicola	Italy	Multiproduct Clothing	647
Gruppo GFT	Italy	Multiproduct Clothing	639
Donna Karan International	USA	Womenswear	621
Cortefiel SA	Spain	Knitwear	599
Nautica Enterprise	USA	Menswear	583
Dewhirst L.J. Holding	UK	Menswear	577

company name	Country	Activity	turnover in Euro x 1000.000
Guess Inc.	USA	Jeanswear	562
Courtaulds Clothing	UK	Multiproduct Clothing	545
Esprit de Corp. - Europe	Germany	Sportswear	531
Tokyo Style	Japan	Womenswear	512
Fukusuke Clothing	Japan	Knitwear	509

6.2 German Clothing Companies

Top Companies

Table 29: Top 20 German Clothing Companies 1999 (TWnetwork)

	Unternehmen	Produktparte	Umsatz 1999 in Mill. DM	Umsatz 1998 in Mill. DM
1	Adidas-Salomon AG	Sportswear	4300	4300
2	Hugo Boss AG	HAKA	1472,5	1327
3	Escada AG	DOB	1450	1550
4	Steilmann-Gruppe	HAKA/DOB/KOB	1390	1440
5	Multiline	Shirts	1310,2 (Welt)	1237 (Welt)
6	Esprit Europe**	DOB/Young Fashion/KOB/HAKA	1039	860
7	S.Oliver-Group	DOB/Young Fashion/KOB/HAKA	878,3	780
8	Sahinler Group Europe	DOB/Young Fashion/KOB/HAKA	800	675

	Unternehmen	Produktparte	Umsatz 1999 in Mill. DM	Umsatz 1998 in Mill. DM
9	Hucke-Gruppe*	DOB/HAKA/KOB	784,7	878,5
10	Textilkontor Walter Seidensticker-Gruppe	DOB/HAKA/Wäsche/ Hemden/Blusen	626	651
11	Ahlers-Gruppe*	HAKA/Jeans- und Sportswear/ Berufsbekleidung	597,1	579,1
12	Gerry Weber International AG**	DOB	581,9	516,5
13	JCK Holding	DOB/HAKA/KOB/ Sport	576,4	558,0
14	Wünsche AG	DOB/HAKA/KOB	518	484
15	CBR Service Holding (Street One/Cecil)	Young Fashion/ DOB/HAKA	500	500
16	Betty Barclay	DOB	460	463
17	LE-GO Bekleidungswerke	DOB/HAKA	430	400
18	Tom Tailor Sportswear	Sportswear/Hemden/ Young Fashion/KOB	385	276
19	F.W. Brinkmann	HAKA/Sportswear/ Hemden	370	370
20	Brax-Leineweber	HAKA/DOB	362	344

(+)=Umsatz geschätzt - *Geschäftsjahr 98/99 - **Geschäftsjahr 99/00

Selected Companies

Adidas

The German Adidas company is no. 2 worldwide in sportswear. Group turnover was 4,3 billion DM in 1999. In its mission statement, Adidas says: “Business partners should aim for progressive improvement in their environmental performance, not only in their own operations, but also in their operations with partners, suppliers and sub contractors. This includes: integrating principles of sustainability into business decisions; responsible use of natural resources, adoption of cleaner production and pollution prevention measures, and designing and developing products, materials and technologies according to the principles of sustainability.”

Adidas has very specific ideas on sustainability, stakeholder dialogue and working with partners in the value chain. Adidas has become member of the WBCSD, World Business Council for Sustainable Development.

For a leading company, such as Adidas, involvement in the WWF project could be interesting. For WWF, Adidas could be a motivated partner. We do not know, however, how important the cotton issue, quantitatively and qualitatively, is for Adidas.

Steilmann

Steilmann had a turnover over 1,4 billion DM in 1999, some 4% less than in the preceding year (in a market that decreased 5,5%). 1,1 billion DM is in the women's wear. Steilmann is one of the few companies in this sector that has systematically thought about environmental issues. Klaus Steilmann, not long ago chairman of the Steilmann board, is personally motivated to work on environmental issues. He is member of the Club of Rome.

Steilmann's policy explicitly mentions the optimisation along the entire production chain.

“Erklärtes Ziel des Umweltschutzes der Steilmann-Gruppe ist es, im Rahmen der betriebswirtschaftlichen Anforderungen zur Existenz- und Rentabilitätssicherung die Umweltbelastungen in allen Stufen der textilen Kette sowie des Produktlebenszyklusses ihrer Erzeugnisse zu vermindern oder ganz zu vermeiden.” (from environmental report 1999)

Steilmann's commitment to sustainable development is clearly expressed in the 1999 environmental report:

„Die Verantwortung des Unternehmens erstreckt sich global auf den Abbau des Wohlstandsgefälles zwischen Industrie- und Entwicklungsländern durch Anstreben von weltweit gleichen Umwelt- und Sozialstandards für Produktion und Produkte sowie die Einbeziehung des Umweltschutzes in weltweite Handelsabkommen.“

In the early 1990s Steilmann introduced an eco-collection, which was not a success from an economic point of view. After that period, Steilmann did not introduce another ecologically optimised collection. This was an obvious decision against the background of the market development of the late 90s, which made it hard to survive, even in the core textile business.

Although Steilmann's commitment to environmental issues appears to have decreased somewhat after the 1990s, due to economic problems and change of leadership, Steilmann remains a potentially interesting partner for the Cotton and Freshwater project.

Other companies

- Hugo Boss is Germany's largest menswear company. It sells through different retail channels, such as 'shop-in shops'. From the available information, we do not get the impression that Hugo Boss is a forerunner in environmental and sustainability affairs.
- Escada is active in the luxury segment of ladies fashion, including accessories, perfumes, etc. 83% is fashion. It sells through own shops, franchises and shop-in-shops. Sales are in Germany (19%), North America (30%), Rest of Europe (35%) and other countries. From the information available, we do not see Escada as an attractive partner for WWF.
- Esprit is a worldwide operating company with European turnover of 1039 million DM (1999). Esprit Europe AG is based in Düsseldorf. Esprit Holdings is based in Hong Kong. Esprit sells both through own retail stores and as a brand in other shops. Although Esprit was one of the innovative companies in the early 90s that experimented with ecological products (Esprit's Ecollection,

which did not become a success³⁹), we do not see any sign that Esprit is still dealing seriously with environment and sustainability.

- s. Oliver has become an important player as an integrated textile company with a turnover of € 513 million (2000). We have not managed to find any information on s. Oliver's interest in ecological affairs. We could imagine, however, that s.Oliver, as an important supplier to Otto Versand, could play some role in a coming co-operation with WWF on Cotton & Freshwater.
- Sahinler Holder / Santex Group: this company produces low-cost clothing in Turkey and sells it on the German and European market. The holding's turnover is 1,5 billion DM. Santex produces mainly private labels for big clients. Via Adessa and other companies, Sanhinler acts as a retailer. We do not have any information on Sahinler's and Adessa's environmental commitment. We can imagine, however, that Sahinler could play a role in Turkish project with one of Sahinler's big clients.
- Hucke is a major clothing company with a turnover of DM 666 million (2000). Sales are decreasing and Hucke appears to be in a difficult phase of re-structuration. We do not see any special attention for environmental issues in this company. It is certainly not a natural partner in the WWF project.
- Gerry Weber, more than 600 million DM turnover, does not appear to be a company with a distinct ecological or social policy.

³⁹ The Ecollection was launched in 1992. Esprit's management was very innovative at the time. Esprit was involved in a number of Organic Cotton Conferences with all sectors of the cotton industry, it mad pre-harvesting commitments to farmers etc. The resulting prices, however, were much too high and the collection was not a success. See Ton 1999: p. 105.

7. Retailers

7.1 The Complex World of Textile Retailers

In this report, we only refer to consumer textiles: clothing and household textiles. We do not include textiles in technical applications.

Textiles are being sold through a multitude of retail channels. Although still a large part of all textiles are being sold through specialised textile shops, there is an increasing share of textiles sold through retail chains that are not specialised in textile in clothing, such as super-market chains.

The German Journal *Textilwirtschaft* distinguishes the following retail channels in their publication “Absatzwege 2000” (*Textilwirtschaft*, 2000).

- Smaller textile retailers (“Einzelhandel”) up to 100 mio DM turnover:
 - ◆ Specialist textile retailers (“Fachhandel”),
 - ◆ Non-textile retailers (“Branchenfremder Einzelhandel”);
- Large retailers:
 - ◆ Large textile chains,
 - ◆ Big department stores,
 - ◆ Mail order companies,
 - ◆ Non-textile retailers.

In Diagram 15, we have indicated the distribution of turnover between these categories in Germany. It is obvious that a considerable share of textiles is being sold by retailers that are not specialised in textiles. Smaller retailers, here defined as those having sales less than 100 mio DM, are still responsible for a substantial part of total sales, but department stores, large textile chains and mail order companies together have a much larger share.

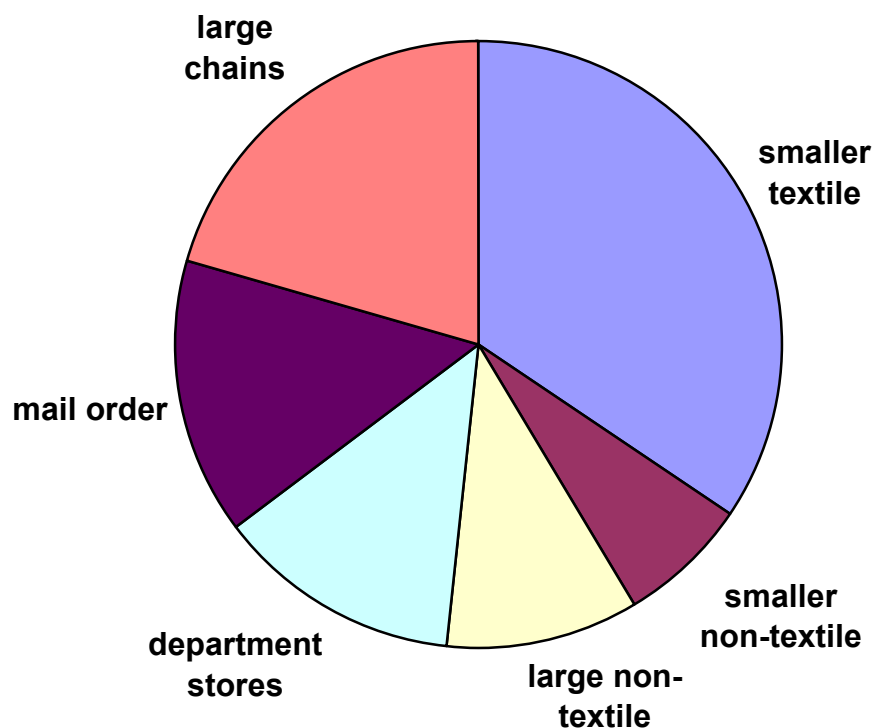


Diagram 15: Retail Channels in Germany (Textilwirtschaft)

Whereas bigger companies have largely their own sourcing structures, smaller players buy their textiles through many different purchasing channels: through fashion centres, trade fairs, purchasing associations, co-operations and wholesale traders.⁴⁰

With available statistics, it is impossible to make a link between financial sales data and the (indirect) use of cotton:

- We do not have any figures in tons available;
- We do not know any specific percentage of cotton in textiles;

⁴⁰ A concise overview of the different trade forms is given in *Textilwirtschaft* 2000.

- We do not have any specific figures on the amount of cotton needed per ton of end product.

In this report, we concentrate on retailers in Western Europe, with a Focus on Germany, Switzerland and the Benelux. These retailers will be the natural partners for WWF in Europe in the Cotton & Freshwater project. In a later stage, the United Kingdom should be included and possibly the United States. In the following sections, we first deal with Germany. For Germany there are very good data available from the Journal *Textilwirtschaft* and the associated website. For the other countries it is more difficult to obtain a good picture of the textile retail business.

7.2 Retailers in Selected Countries

7.2.1 Germany

Overview

According to *Textilwirtschaft* (2000), the 1998 volume of textile sales in Germany was 116 billion DM, of which 41,7 was sold through smaller retailers (“Einzelhandel”) and 58,3% through larger textile chains, department stores, etc.

In Table 30, we have listed the top retailers in different categories, based on 1998 data (*Textilwirtschaft* 2000). The biggest single textile retailer in 1998 was Otto Versand. In 1999 the combined figure for Karstadt and Quelle was much higher. Giant companies can be found in the large textile retailers (C&A, more than 6 billion DM), the department stores (Karstadt, more than 4 billion DM) and the mail order companies (Otto and Quelle, more than 7, 5 and 4 billion DM, respectively).

Table 30: Big German Retailers in Different Categories (1998)

Group	Top Companies	textile sales (million DM)
Large Textile Retailers	C&A	6106
	Peek & Cloppenburg	2664

Group	Top Companies	textile sales (million DM)
	SinnLeffers (belongs to Quelle)	1615
Specialised chains ("spezialisierte Systemfilialisten")	Hennes & Mauritz	1900
	New Yorker	639
Department Stores	Karstadt	4319
	Kaufhof-Gruppe	4000
	Hertie	1390
Low price textile retailers	Adler	1050
	Takko	980
	NKD	957
Mail Order Companies	Otto	7550
	Quelle Deutschland	4821
	Neckermann	1548
	Klingel	1450
	Heine	1250
Supermarket chains etc.	Aldi	1580
	Tchibo	1200
	Edeka/AVA	974
	Rewe	750

Top Companies

In Table 31 and Table 32 , we have listed the top 40 German textile retailers (*TWnetwork* 2000). After the merger of mail order company Quelle with Karstadt, Karstadt-Quelle is the absolute champion in the German textile retail business. But still it has only about 10% of the total German textile market: 12,5 billion DM of 116 billion DM (1998). Number 2 is Otto Versand, who would be No. 1 if we would list Karstadt and Quelle as separate companies and no. 3 is C&A. No. 4 is Metro (Kaufhof etc.).

Table 31: German Textile Retailers 1-21 (1999)

Rang	Unternehmensgruppe	Filialen	Textilumsatz 1999 in Mill. DM	Textilumsatz 1998 in Mill. DM
1	KarstadtQuelleAG, Essen	7334	12475	---
2	Otto, Hamburg	74	7860	7550
3	C & A Mode, Düsseldorf	192	5665	6106
4	Metro AG, Düsseldorf	1258	4584*	8029*
5	Peek & Cloppenburg, Düsseldorf	79	2686	2664
5	Hennes & Mauritz, Hamburg	167	2350	1900
7	Divaco, Frankfurt	257	2307*	----
8	Aldi, Mühlheim/Essen	3400	1820*	1580*
9	Klingel, Pforzheim	5	1500	1450
10	SinnLeffers, Hagen	43	1487	--
11	Tchibo, Hamburg	940	1215	1200

Rang	Unternehmensgruppe	Filialen	Textilumsatz 1999 in Mill. DM	Textilumsatz 1998 in Mill. DM
12	Takko, Telgte	509	1115	--
13	Woolworth, Frankfurt am Main	340	1020	876
14	Lidl & Schwarz, Neckarsulm	2105	1017*	232*
15	Edeka/AVA-Gruppe, Hamburg	2870	984*	974*
16	NKD, Bindlach	928	923*	957*
17	Tengelmann, Mülheim/Ruhr	3394	865*	1420*
18	Bader, Pforzheim	1	778	755*
19	K&L Ruppert, Weilheim	36	776*	690*
20	Rewe, Köln	4770	750	750
20	Ernsting's Family, Coesfeld-Lette	786	750	486

Table 32: German Textile Retailers 22-40 (1999)

Rang	Unternehmensgruppe	Filialen	Textilumsatz 1999 in Mio. DM	Textilumsatz 1998 in Mio. DM
22	Peek & Cloppenburg, Hamburg	27	733	727*
23	New Yorker, Kiel	224	721	639

Rang	Unternehmensgruppe	Filialen	Textilumsatz 1999 in Mio. DM	Textilumsatz 1998 in Mio. DM
24	Breuninger, Stuttgart	14	718	697
25	Douglas, Hagen	229	689	682
26	Wöhrl, Nürnberg	35	683	677
27	Orsay, Willstätt	227	626	615
28	Vögele, Sigmaringen	205	548	442
29	Boecker, Essen	21	460	488
30	IKEA, Hofheim-Wallau	25	418*	380*
31	Jean Pascale, Norderstedt	169	415	415
32	Wal-Mart, Wuppertal	95	410*	398*
33	Hettlage, Neuried	43	401	405
34	Bonita, Hamminkeln	307	393	385
35	Strauss Innovation, Langenfeld	55	380	336
36	Ulla Popken, Rastede	265	372	352
37	AWG, Köngen	90	352	--
38	Globus, St.Wendel	34	342	346
39	Pimkie, Willstätt	120	340	300
40	Adessa, Aachen	310	320	270

Selected Companies

For the top 20 companies we have collected more specific data in order to find out

- how these companies deal with environmental and social issues;
- how these companies have organised their environmental management;
- whether the issue of raw materials, especially cotton, is an issue in these companies.

We looked for information via Internet and tried to get (additional) information by phone calls. Although we phoned every single company, many of them several times, most companies did not give any information. The general impression is that (German) textile companies are not used to communicate on social and environmental issues, do not have a tradition in open communication with external stakeholders and, in many cases, have legal structures that do not even allow for openness on basic financial data such as capital, turnover and profits.

Only a few larger companies showed some signs of professional corporate communication with stakeholders: Karstad-Quelle, Otto Versand, Hennes & Mauritz and, to a certain extent, C&A. Most other companies did not give much relevant information. This is unfortunately also true for big companies such as Peek & Cloppenburg, Aldi, SinnLeffers and Tchibo.

Karstadt Quelle

main activities:	<p>Karstadt-Quelle is Germany's biggest department store company and consists a. o. of:</p> <ul style="list-style-type: none"> • Karstadt department stores • Hertie department stores • a number of special shops • Neckermann mail order • Quelle mail order
financial data:	<p>total turnover 33 billion DM, of which 14 billion DM in the textile business (1999)⁴¹.</p> <p>turnover of mail order companies: Quelle 8,6 and Neckermann 4,5 billion DM.</p>
environmental policy and sustainability	<p>In their 2000 annual report, Karstadt Quelle commits itself to the principle of "sustainable development":</p> <p style="padding-left: 40px;">“In our considerations of and plans for company- and product-related environmental protection we are guided by the principle of ‘sustainable development’. This means meeting the requirements of today, while guaranteeing the livelihood of the generations of tomorrow. We let thus economic reason decide our actions. When planned with foresight and implemented with determination, environmentally friendly business management means savings and higher operating profits.</p> <p style="padding-left: 40px;">We are aware that, as a trading company, we will always be caught between the demands of law, economics, society and ecology. At the same time, in consensus with all interest groups, we are looking for solutions which will enable us to be faithful to our</p>

⁴¹ data on TWnetwork 2000 (www.twnetwork.de): company descriptions. These data are not 100% consistent with the data from their top 20 list.

	<p>guiding principle”.</p> <p>Certification of environmental management according to ISO 14001 and EMAS.</p> <p>Karstadt’s environmental policy towards textiles appears to be focused on chemicals in the end product. According to the 1998 environmental report, criteria are similar to Ökotex-100.</p>
ecological products	<p>In the 2000 annual report: about € 500 million sales with ecologically improved products. “Quelle is thus the leading supplier of ecologically oriented articles in Germany.”</p> <p>The company is active on the issue of organic agriculture, in some cases in co-operation with BUND. In the environmental report 1999 we read:</p> <p>“Kooperation statt Konfrontation - das ist mittlerweile die Devise vieler Wirtschaftsunternehmen, wenn es um die Kontakte zu Umweltverbänden in Deutschland geht. Die Karstadt Warenhaus AG ist hier allerdings einen Schritt weitergegangen und arbeitet an handfesten Projekten mit dem Bund für Naturschutz Deutschland (BUND) im Sinne des Umweltschutzes zusammen.” (Karstadt 2000, p. 52)</p> <p>The projects, which originated in Hertie before this company merged into Karstadt, deals with organic food products and ecological requirements for electronic products.</p>
the cotton issue	<p>As far as we know, there is no special attention to the cotton issue within Karstadt Quelle at this moment.</p>
social issues	<p>The company is active on social issues related to textile production: Rugmark-Initiative, fair trade, TransFair products.</p>

potential partner for WWF's Cotton & Freshwater	<p>Karstadt Quelle's commitment to "sustainable development", the open attitude towards co-operation with NGOs and the existing projects in the field of organic products could be a good basis. Before Karstadt Quelle can be gained as a partner, it should discover the relevance of the cotton issue.</p> <p>For WWF, having Karstadt-Quelle as a partner could give a strong positive impulse to the project.</p>
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Otto

main activities:	<p>The Otto Group is the biggest mail company in the world with a turnover of 40 billion DM, 19 billion DM in Germany (1999). It has 83 companies in 23 countries.</p> <p>It is one of the biggest family companies in the world. To the group belong: Otto Versand, Schwab Versand, Heine, Eddie Bauer, Sport-Scheck, Alba Moda, 3-Suisses (France, Belgium), Spiegel (USA), Grattan (UK), Otto Sumisho (Japan).</p>
financial data:	total turnover 40 billion DM, more than 7,5 billion DM in textile business (Germany).
environmental policy and sustainability	<p>Otto's 10 points environmental policy stresses the need for continuous improvement in environmental achievements. Although Otto is one of the first companies to publish a "sustainability report" (Otto 2000a), Otto's environmental policy does not mention the concept of sustainability explicitly.</p> <p>Otto has a well developed environmental management system conforming to ISO 14001.</p>
ecological products	<p><u>textiles</u></p> <p>A major goal is to increase the number of textile products that are ecologically optimised according to Otto's own standards (Future Collection). In addition, there is a small but growing quantity of products from organic cotton, see below.</p>

	<p><u>relevant other products</u></p> <p>Otto Versand's goal is to offer an increasing quantity of products from FSC certified wood.</p>
the cotton issue	<p>Otto Versand's strategy is to produce an increasing number of items from organic cotton. At the moment, the focus is on Turkey, where organic cotton is processed to yarn and textiles by integrated textile companies with active support by Otto Versand who also plays a role in purchasing cotton and producing yarn. In a recent brochure, we read:</p> <p>„Über 60.000 Produkte aus Bio-Baumwolle hat der Otto Versand 1999 angeboten. In diesem Jahr werden es bereits 250.000 sein. Bis zum Jahr 2005 sollen zehn Prozent des Katalog-Angebots aus kontrolliert biologisch angebauter Baumwolle bestehen“.</p>
social issues	<p>Otto's 7 point code of conduct for suppliers and subcontractors contain minimum standards on social issues such as child labour, wages, trade unions, forced labour and working conditions.</p> <p>Otto has built up a management system to systematically check their suppliers.</p>
potential partner for WWF's Cotton & Freshwater	<p>Otto is an attractive partner for WWF's Cotton and Freshwater project as it is one of the few larger players who are interested in the cotton issue and as Otto Versand has also a strong social interest.</p>

C&A

main activities:	<p>The C&A group is managed by an executive board in Carcovil/Vilcoorde in Belgium. The holding controls 438 C&A and 6 Clockhouse shops in 10 European countries.</p> <p>C&A is a family company. Information on its activities,</p>
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	economic data etc. is far from transparent.
financial data:	<p>In 1993, C&A had still 8,4 billion DM turnover which was reduced in 1999 to less than 5,9 billion DM. In 1998 there was a record loss of 259 million DM. Consequently C&A closed all British shops and many employees become redundant.</p> <p>C&A recently introduced a new business style, which is described in the latest environmental report as follows:</p> <p>“C&A hat eine lange Tradition und ein neues frisches Gesicht. Denn insbesondere in den letzten zwei Jahren hat sich bei C&A viel verändert. C&A ist offener geworden, auch moderner und natürlicher.”</p>
environmental policy and sustainability	<p>C&A has an up-to-date environmental management system (ISO 14001) that is located directly under the European Executive Board. In Germany, the Arbeitsgruppe Umwelt is responsible.</p> <p>In the 2000 environmental report, a great number of environmental actions is being discussed with the use of an ‘environmental portfolio analysis’ of which the two dimensions are ‘environmental relevance’ and ‘feasibility of improvement’. A special category of environmental measures that require close co-operation with suppliers, which include implementation of Ökotex 100, logistic optimisation, new packaging concepts, etc.</p>
ecological products	<p>C&A is not a forerunner with respect to ecological products. In an interview, Dominic Brenninkmeyer, CEO of C&A Germany states:</p> <p>“Viele reine ‘Öko-Kollektionen’ sind für den durchschnittlichen Konsumenten kaum bezahlbar und werden auch schlichtweg nicht angenommen. Es wird also wie bisher ein Entwicklungsprozess bleiben. Und wir denken, dass wir mit konsequenter Vorbildfunktion und Bewusstseinsbildung einen wichtigen Gedanken weitertragen. zur Zeit [sind] einige Projektgruppen</p>

	<p>bei uns damit beschäftigt ... , Modelle für eine durchgängige Betreuung der Ware über die komplette Herstellungskette zu erarbeiten. Wenn das Erfolgreich sein sollte, kann ich mir für die Zukunft gut vorstellen, dass wir dann auch mehr Einfluss auf die Auswahl und die Quellen der Rohstoffe haben werden.” (C&A 2000, p. 6)</p> <p>On the question, whether C&A will go into organic textiles, Brenninkmeyer answers:</p> <p>“... wir denken in jedem Fall darüber nach. Auch wollen wir nicht nur ein, zwei Prestigeobjekte, sondern uns schrittweise in allen Bereichen verbessern. Die Devise bei uns lautet: Erst erfüllen, dann darüber reden.” (C&A 2000, p. 6.)</p>
the cotton issue	At least in public communication, cotton is not yet an issue.
social issues	After strong pressures from NGOs, C&A is very active in implementing social standards.
potential partner for WWF's Cotton & Freshwater	At first sight, C&A's relatively conservative environmental policy and the economic problems of the organisation do not speak for a role in WWF's Cotton and Freshwater project. However, it would be useful to know what the results of the working groups, mentioned in the interview text above, are. C&A's knowledge on “durchgängige Betreuung der Ware” could be a useful input into WWF's project.

Metro

main activities:	<p>Metro is world-wide trade group no. 4 after Walmart (US), Carrefour (F) and Ahold (NL). Only recently (1998) Metro was one of Germany's top textile sellers, but through a restructuring it lost that position: it sold 125 Kaufhalle and 25 Kaufhof stores to the Divaco investment company.</p> <p>After restructuring, Metro AG has five core business areas: cash & carry (Metro/Makro), “SB-</p>
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	Warenhäuser/Verbrauchermärkte” (Real, Extra), do-it-yourself and electronic stores (Media/Saturn, Praktiker) and department stores (Kaufhof).
financial data:	total turnover 43,9 billion € (1999) of which only 2,34 billion € in the textile business. The figure for textile sales was still 4,11 billion € in 1998.
environmental policy and sustainability	The metro-companies have the environmental management systems that can be expected of a company of this size.
ecological products	<p>One of the goals is the further expansion of organic products: own brand “Grünes Land” according to Demeter and Bioland.</p> <p>“Die 1996 eingeführten Bioprodukte erzielen heute einen Absatz von 16,5 Millionen Mark” (Metro 2000, p. 19)</p> <p>Praktiker (do-it-yourself) markets have engaged themselves in FSC certified products, also in close co-operation with ENGOS.</p>
the cotton issue	Cotton is, as far as we know, not an issue.
social issues	Metro is an active member of AVE (Außenhandelsvereinigung des deutschen Einzelhandels), which has formulated rules (Code of Conduct) against child labour, discrimination etc.
potential partner for WWF’s Cotton & Freshwater	With the decreased turnover in textiles, Metro does not seem an obvious partner for WWF. Nevertheless, their engagement in organic food might be a starting point for an interest in (organic) cotton.

P&C

main activities:	P&C consists of two groups: “Gruppe West” (Düsseldorf) with 79 P&C stores, and 16 Anson’s shops, “Gruppe Nord” (Hamburg) 27 stores.
financial data:	turnover 2,66 billion DM (all textile sales).
environmental policy and sustainability	<i>no information available</i>
ecological products	<i>no information available</i>
the cotton issue	<i>no information available</i>
social issues	<i>no information available</i>
potential partner for WWF’s Cotton & Freshwater	P&C does not make the impression of a company that is innovative and open to stakeholder dialogue. There does not appear to be any opportunity for WWF here.

H&M

main activities:	H&M is a Swedish based textile company specialising in relatively low-cost clothing due to optimised , design, sourcing and lean organisation. H&M is active in many European countries and the US.
financial data:	<p>“At end of 2000,H&M had 682 stores in 14 markets and mail-order businesses in Sweden, Norway,Denmark and Finland.Sales during the year amounted to SEK 35,876 M, a 9 percent increase on the previous year (12 per cent with comparable exchange rates). 90 new stores were opened during the year and 21 were closed.The share of sales outside Sweden was 85 per cent.” (H&M 2001)</p> <p>Total sales (2000) were 35,9 billion SEK = approx 3,6 billion €. German sales were 2,4 billion DM (1999). Germany accounts for about one third of H&M’s sales. In Germany, there are 167 stores (1999). Sales have been rapidly growing.</p>

	In 1995, sales were only 825 million DM.
environmental policy and sustainability	<p>H&M has the usual environmental management systems in place and works on items such as environmental impact of stores, restricted chemicals list, environmental work with suppliers, transport optimisation, etc.</p> <p>H&M says to be committed to the principle of “sustainability”. In 2000, it joined the “Global Responsibility” internet platform.</p> <p>About co-operation with suppliers the 2001 web-site states:</p> <p>“Cooperation with Suppliers All of our merchandise suppliers have signed agreements to abide by established chemical restrictions. In this way, we can contribute to the reduction of environmental harm during the production of our merchandise as well as the burning and recycling of worn out clothing.</p> <p>The most substantial environmental effects occur in the dyeing of fabrics and processing of fibers - stages of production that take place before the assembly of H&M’s clothing begins. We have initiated a pilot project to increase environmental consciousness in the early stages of production as well. Our experiences with this project will lay the groundwork for future plans to reduce our suppliers’ effects on the environment.”</p>
ecological products	As far as we know, H&M does not plan to sell any ecologically optimised products.
the cotton issue	We do not have any information on special attention to cotton issues.
social issues	Suppliers must observe H&M Code of Conduct, which includes items such as child labour, working hours, discrimination, etc.

	Since 1999 H&M has been running a project in Bangladesh, which aims to improve the prospects of young people who want to work in the textiles industry.
potential partner for WWF's Cotton & Freshwater	Although H&M has not worked specifically on ecologically optimised products or cotton issues, it appears to be a very attractive partner for WWF as it has the knowledge to optimise information management in the supply chain cost-effectively and is committed to sustainability issues.

7.2.2 Switzerland

Top Companies

In Table 33, a list of the most important Swiss textile retail companies is given. It is based on a market study performed by the Swiss Journalist Christian Campiche for the Green Clothes Campaign. It was downloaded from the Campaign's internet site. Although we cannot judge the quality of the data used, we assume that at least the most important companies have been represented.

Switzerland's market leader for textiles, according to this table⁴², is Migros (with some 1,4 billion CHF sales) followed by a number of companies with some 0,5 billion CHF. C&A does not have the same market position in Switzerland as it has in Germany and the Netherlands, but the Swiss Vögele is rather high on the list. We do not quite understand why Rhône-Poulenc, a chemical company, is on this list at all. About Schiesser (Hestatex), we could not find any useful information, apart from some very general information from the German Schiesser company. We do not understand why Schiesser, a producer rather than a retailer, was included in Campiche's list as no. 2.

Below, we give some details on a number of company. We do not go into C&A, H&M and Otto Versand, which have been discussed under "Germany" already.

⁴² In Migros' annual report 2000, we read that Migros is nr. 2.

Table 33: Swiss Textile Companies (1997)

	Unternehmen	Umsatz (Mio SFr)	Marktanteil in %	Tendenz
1.	Migros (1)	1400	14.0	stabil
2.	Hesta Tex (2)	573	5.7	sinkend
3.	Manor	530	5.3	steigend
4.	Charles Vögele	500	5.0	sinkend
5.	H&M	350	3.5	steigend
6.	Spengler (3)	330	3.3	stabil
7.	Rhône-Poul.	324	3.2	sinkend
8.	C&A	200	3.0	stabil
9.	Otto Versand	270	2.7	stabil
10.	Coop	270	2.7	stabil
11.	Schoeller	210	2.1	?
12.	Calida	200	2.0	steigend
13.	Veillon	193	1.9	stabil
14.	Ackermann	190	1.9	sinkend
15.	Brunschwig	160	1.6	steigend
16.	Schild	155	1.6	steigend
17.	Big Star	152	1.5	steigend
18.	PKZ	150	1.5	steigend
19.	Setila	140	1.4	?

	Unternehmen	Umsatz (Mio SFr)	Marktanteil in %	Tendenz
20.	Spengler (4)	130	1.3	sinkend
21.	Benetton	120	1.2	steigend
22.	Fisba	100	1.0	?
23.	Lantal	97	1.0	steigend
24.	Beldona	70	0.7	stabil
25.	Bischof	58	0.6	stabil
26.	Levi Strauss	55	0.6	sinkend
27.	Adidas	40	0.4	steigend
28.	Boller	40	0.4	?
29.	Nike	30	0.3	sinkend
30.	Switcher	25	0.3	steigend

(1) einschliesslich Globus und ABM

(2) = Schiesser, Nummer 1 Lingerie europaweit

(3) Läden (200)+ Versandgeschäfte (130)

(4) nur Versandgeschäfte

Quellen: Association suisse des détaillants en textile (ASDT), IHA, Handelszeitung, Interviews.

Selected Companies

Migros

main activities:	Migros-Genossenschafts-Bund. Migros is the #1 retailer and the largest employer in Switzerland. Its empire comprises almost 600 stores (retailing accounts for two-thirds of the group's activity), including supermarkets and convenience and department stores (Globus), as well as banking and insurance operations, a printing and publishing concern, restaurants, and music and computer software retailing, along with endeavors throughout Europe. Migros runs supermarkets in France and Germany and exports products to Austria, the UK, and the US. Online shopping is available in Switzerland (Hoovers 2001)
financial data:	turnover 12,2 billion US\$ (Hoovers 2000)., 19,7 billion CHF (Migros 2001). Food: 9 billion CHF = 23,9% market share, non-food 4,1 billion CHF = 9,4% market share (2000). Textile business about 1,5 billion CHF.
environmental policy and sustainability	<p>Migros has an advanced environmental policy, including far-reaching goals for energy and resource efficiency. In the product area, Migros' environmental policy is strongly focused on 'labeled' products, see below.</p> <p>“sustainability” in Migros is strongly coupled to ‘environmental/ethical’ marketing:</p> <p>“Die Sensibilität der Menschen bewegt sich weg vom blossen Umweltschutz hin zu einer Haltung, welche die drei "e" des nachhaltigen Handelns verknüpft: ecology (respektvoll zur Umwelt, lebenswert), economy (wirtschaftlich tragbar, lebensfähig) und equity (fair gegenüber Mitmenschen und Nachkommen, gerecht). Immer mehr suchen Konsumentinnen und Konsumenten danach zu leben. Die Migros antwortet auf dieses Bedürfnis mit Waren, die allen drei Kriterien gerecht werden.” (from Miosphere internet page 2001).</p>

ecological products	<p>Migros sells products with additional ecological and ethical value (“Produkte mit ökologischem und/oder ethischem Zusatznutzen”):</p> <p>“Zunehmend werden neben ökologischen auch ethische Aspekte in die Marketingpolitik einbezogen. Nachhaltigkeit im Umgang mit den Ressourcen und Sozialverträglichkeit, insbesondere im Hinblick auf die Arbeitsbedingungen in Drittweltländern. Die Migros nimmt in diesen Bereichen den Konsumentinnen und Konsumenten einen Teil der Verantwortung ab, indem wir Sorge tragen.” (From 2000 annual report)</p> <p>It is interesting that Migros combines ecological and ethical aspects here in the sense of ‘sustainable’ products. Migros is one of the scarce companies that give detailed numbers of their ‘ecological and ethical’ sales:</p> <ul style="list-style-type: none"> • food (Migros Bio): CHF 179 million • fish (Marine Stewardship Council): CHF 2,8 million • meat (7-Punkte Fleischgarantie): CHF 450 million • Max Havelaar: CHF 23 million • FSC: CHF 11,5 million • “Mioplant Natura”: CHF 116 million • Clothing (“eco”): CHF 312 million (50% of total). • Clean Clothes Campaign: CHF 23 million. <p>“eco” is a guarantee for “ecologically produced” clothing. It is focussed on toxic and allergenic substances. Although the annual report states that “eco” is a guarantee for ecological optimisation of the products in the entire production chain, there is no attention to the sustainability of raw materials such as cotton yet.</p>
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the cotton issue	In the cotton issue, Coop is the market leader, see below. Migros' activities in the cotton area are rather modest, almost symbolic. At the moment, Migros and Switcher co-operate with Helvetas in a organic cotton project in Mali. Migros and Switcher guarantee the purchase of 60 tons of organic cotton each. (Information on www.miosphere.ch 2001)
social issues	see under ecology.
potential partner for WWF's Cotton & Freshwater	As Switzerland's top seller of textiles, Migros is potentially a very important partner. That Migros is not as far with cotton issues as Coop can only be an advantage: Migros has a market-driven motivation to develop this issue rather quickly. A potential problem is Migros' strong focus on labels and the resulting interpretation of 'sustainability'.

Manor

Manor has 70 department stores in Switzerland. We have not been able to find any detailed financial, organisational and policy information on this company that appears to be a family company without a tradition of open communication with the outer world. We have not been able to find any financial figure for sales or profit, for example.

Manor (= Maus & Nordmann) is a daughter of the Maus Frères Holding in Geneva. The Placette department stores appear to belong to the same group.

Manor has published a detailed Code of Conduct for Manor suppliers containing ethical and social standards.

Manor does not appear to be a partner for the Cotton & Freshwater project.

Vögele

main activities:	Vögele is a Swiss-based chain of textile retail stores with activities in a number of countries outside Switzerland (Germany, Austria, Belgium, the Netherlands).
financial data:	Total sales were 1.41 billion CHF in 2000, of which CHF 600 million in Switzerland.
environmental policy and sustainability	Vögele has formulated requirements relating to the production process. From the information available, we do not conclude that Vögele is a forerunner in environmental matters.
ecological products	Vögele does not sell specific ecologically optimised products.
the cotton issue	Vögele does not appear to have shown any interest in the ecological problems of cotton.
social issues	Vögele's suppliers have to conform to SA8000.
potential partner for WWF's Cotton & Freshwater	Vögele does not appear to be a natural partner for WWF.

Coop

main activities:	Coop is Switzerland's leading department store/supermarket chain with 1649 shops. It is active both in food and non-food markets.
financial data:	Total group turnover 12,7 billion CHF (1999): non-food 4,2 and food 7,5 billion CHF. Market share food: 20,3%, non-food 8,2%. 7% of non-food is textile + shoes: about 300 million CHF (annual report 1999). In the textile business, Migros is a factor 5 bigger.
environmental policy and sustainability	Coop has an advanced environmental management. There is a strong commitment to energy saving in production, transport and in the shops.
ecological products	Ecologically and ethically optimised products belong to Coop's core image markets: NATURAplan, NATURA Line, OECOplan, Cooperación/Max Havelaar. With a turnover in these segments of about 560 million CHF (292 million CHF organic products), Coop is a leading company in Europe with respect to environment/sustainability. Coop is Switzerland's market leader for this kind of products.
the cotton issue	Coop is most probably the company with the highest percentage of organic cotton in its products world-wide. „Coop NATURA Line, die ökologische Textillinie von Coop, macht bereits 30% des gesamten Coop-Baumwollangebotes aus. Dies bedeutet einen Umsatz von 34 Millionen Franken. Ausschlaggebend für das Umsatzwachstum von 13 Millionen Franken war die bedeutende Sortimentserweiterung sowie das starke Wachstum im Bereich der Unterwäsche“
social issues	We do not have detailed information on Coop's social commitment.

potential partner for WWF's Cotton & Freshwater	As Coop is a market leader for organic cotton, Coop's participation in the Freshwater & Cotton project is a must. If participation of Migros poses problems of competition, these problems have to be solved.
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Calida

Calida is a Swiss textile manufacturer that developed in a brand producer with own retail structures, basically on the basis of a 'shop-in-shop' concept. Calida is specialised in underwear and night clothing. Turnover is about CHF 200 million. In Switzerland, Calida is, in its specific segment, a market leader: some 20% market share. 37% if sales are in Switzerland, 38% in Germany.

Calida appears to have a rather innovative environmental management system. In the Calida annual report, Calida's improvements in environmental performance are evaluated on the basis of systematic eco-balance in terms of 'eco-points'. The performance of Calida's Indian production sites, for example, is reflected in the overall environmental performance. Calida has certified its Indian sites according to SA8000 with respect to social standards.

From the information available, it cannot be judged whether Calida could play a role in WWF's Cotton and Freshwater project, but there may be some interesting potentials: Calida has high environmental and social standards and has a presence in India. It might be a partner for linking textile production with field projects in India.

7.2.3 Belgium and the Netherlands

In Table 34, we have listed some relevant textile retailers in Belgium and the Netherlands. Some of the international players have already been discussed in the section on Germany (C&A, P&C, H&M).

Table 34: Some Textile Retailers in the Netherlands and Belgium

<i>The Netherlands:</i>	<i>Remarks</i>
C&A	see Germany
Vendex International	turnover all products 4,46 billion US\$
Kon. Bijenkorf Beheer (KBB)	
P&C	see Germany
Hij en Zij	no reports available
Miss Etam	belongs to KBB
H&M	see Germany
Superconfex (Macintosh)	
M&S Mode	belongs to KBB
Perry Sport	
Zeeman	
Wibra	
<i>Belgium</i>	<i>Remarks</i>
C&A	see Germany
Superconfex (Macintosh)	
3 Suisses (OTTO)	see Otto, Germany
Gedimo (SCF)	
Wibra België	

La Redoute (Pinault-Printemps)	
Modet (Vendex)	see Netherlands
Bartan JBC	
Hanes International (Saralee)	

Vendex International including Koninklijke Bijenkorfbeheer

main activities:	<p>Vendex is active in a wide range of consumer products, with main activities in the Netherlands, but also in Belgium, Germany, France and the US. It has 70 Vroom & Dreesman department stores. After acquiring Koninklijke Bijenkorf Beheer KBB, it is the largest non-food chain in the Netherlands.</p> <p>Many leading Dutch chains belong to this group. For the textile issue, the following are important:</p> <ul style="list-style-type: none"> • de Bijenkorf with 10 department stores in 10 cities • Claudia Sträter (women's wear) • HEMA, Netherland's biggest non-food retailer with 252 shops in the Netherlands, 24 in Belgium. Moderately priced, reasonable quality products, incl. textile/clothing. • Hunkemöller, lingerie shops in the Netherlands, Belgium, Germany, Denmark and France. Turnover 200 million €. • M&S mode, low-priced ladies fashion . 350 shops in the Netherlands, Belgium, Germany and France. M&S is vertically integrated with its own production company Max Abram B.V. that organises production in Turkey, North Africa and Eastern Europes. Turnover about 270 million €. • Perry Sport: 40 sport stores. • Scapino: 200 clothing + shoe stores in the Netherlands.' • Vroom en Dreesman (V&D)
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financial data:	<p>Turnover 4,5 billion US\$ (Hoovers).</p> <ul style="list-style-type: none"> • Vroom en Dreesman 893 million € • HEMA 872 million € • Bijenkorff 384 million € • Fashion specialty stores 476 million €.
environmental policy and sustainability	<p>The 2000 annual report states some general policies on environment without going into any detail.</p> <p>De Bijenkorf: no information</p> <p>Vroom & Dreesman: no information</p> <p>HEMA: no information</p>
ecological products	no information available
the cotton issue	no information available
social issues	<p>There is a code of conduct which is the basis for 'socially responsible entrepreneurship'. The group is against child labour and ask suppliers to comply with his requirement. The group is co-operating with Karstadt-Quelle on this issue.</p>
potential partner for WWF's Cotton & Freshwater	<p>Although especially the three department stor chains (V&D, HEMA and Bijenkorf) have considerable textile turnover, they do not appear to be the proactive and innovative partners WWF needs.</p>

La Redoute

The Belgian stores are part of the huge international Pinault Printemps-Redoute group. Within the framework of this research, we have not been able to collect specific data on this group's textile business and their potential interest in cotton issues.

Macintosh - Superconfex

Macintosh NV is a chain of retail shops which specialises in fashion wear, home furnishing & decoration and automotive accessories. The group operates through 278 shops in the Netherlands, Belgium, Luxembourg & recently through pilot shops in Germany, France & Denmark. Turnover (1999) € 803 million.

Fashion (Superconfex) accounts for some 30% of turnover (about € 240 million).

7.3 Some Big Retailers worth Considering

In this limited research, we have not been able to do any systematic work covering the entire European market. In the list below, we have mentioned some larger retailers that need to be evaluated at a later point of time.

Table 35: Some Additional Large Retailers

Retailer	Turnover
Gruppe Coin SPA, Italy	1,2 billion €
Debenhams plc, UK	1,4 billion pound sterling
Groupe André, France	1,8 billion €
Pinault Printemps-Redoute	24,8 billion € (of which 50% consumer goods)
Carrefour, France	64,8 billion €, all business, worldwide
Groupe André SA, France	1,8 billion € (incl. footwear)

7.4 Retailers/Producers of Organic Cotton Products

In August 2000, Arnt Meyer (University St. Gallen, Switzerland) made a presentation on “Die Zukunft des Bio-Marktes”, in which he referred to organic cotton⁴³. He described the 1999 situation and made an optimistic forecast for the year 2010. We derived the figures from a graph and may therefore not be exactly the same figures as were used in Meyer’s research. The 2010 figures were based on expectations given by the respective companies.

Arnt Meyer’s figures appear to be overly optimistic, although some of the trends may be basically correct. Otto Versand has already more than doubled the 1999 figure but it cannot be expected that this will happen often in the years to come.

Table 36: Organic Cotton Products according to Arnt Meyer

Company	Organic cotton 1999 (tons)	Organic cotton 2010 (projected)
Patagonia	725	1000
Coop	500	2000
Otto	350	3500-6500
Nike	350	5000-7500
Hess	300	
Levi	180	5000-7500

Some more details on the listed companies

Coop and Otto have already been discussed (see Switzerland and Germany, respectively). Here we pay some attention to Patagonia (the 1999 market leader), Nike and Levi.

⁴³ Somewhat outdated figures can be found in Ton 1996 and Ton 1999.

Patagonia

Patagonia is a sportswear company that claims to be committed to “the soul of the sport” and to “grassroots environmental activism”. In line with its basic culture, it decided to switch to organic cotton.⁴⁴ The website (2001) states:

“In 1996, we converted our entire sportswear line to 100% organically grown cotton. We decided never to go back to conventional cotton, regardless of the outcome.”

We have not been able to find out, what quantity of organic cotton Patagonia is using at the moment. As Patagonia has already switched 100% to organic, we do not expect any revolutionary increase.

As a pioneer company, Patagonia could be an interesting partner for WWF, but not for making the bulk of cotton products more sustainable.

Nike⁴⁵

Nike has a different approach to organic cotton from Coop for example. Nike has formulated minimum levels of organic cotton content in its cotton. At the moment, the goal is a minimum of 3%, whereas for some yarns this figure is 5%.

Nike reports that in 2000, it used 952.000 pounds (= 517 metric tons) in its products which indeed indicates an increase from the 350 tons stated by Arnt Meyer. In an internet message, Nike says that it “is actively exploring the integration of 100% organic cotton products”.

For WWF, some form of co-operation with Nike on cotton could be interesting, although it remains a topic of serious discussion whether this ‘mixing philosophy’ is the right thing to do.

⁴⁴ The Patagonia story is well documented in Peter Ton’s analysis of the organic cotton market: Ton 1999, p. 106-109.

⁴⁵ Nike is extensively being discussed in Naomi Klein’s *No Logo*, the book on “the negative effects of the 90s uberbrand marketing.

Levi

Unfortunately, we have not been able to find any relevant information on Levi. Peter Ton (Ton 1999, p. 109) mentions that Levi has a blending strategy, similar to Nike.

8. The Role of other Actors

In this report we have not paid any attention to actors that indirectly influence the behaviour of the economic actors in the cotton and textile chain. Particularly important are:

- Banks:
Rabobank, as the leading bank for agriculture, is an important actor and could be a valuable partner for WWF.
- Financial institutions:
Most important here is the World Bank.
- Institutions that deal with international trade and trade liberalisation:
the central institution here is WTO.

We propose to contact Rabobank as a potential business partner. The policy institutions should be dealt with in the framework of a policy forum on sustainable cotton, to be organised by WWF at the international level.

PART II: PARTNERSHIPS FOR SUSTAINABLE COTTON

9. The Business Platform

In executing the project, WWF will closely co-operate with a ‘Cotton Business Platform’⁴⁶. Members of this platform are leading companies who commit themselves to the project goal, i.e. realising transparency in the cotton & textile production chain and realising an increase in the demand for more sustainable cotton.

Together with WWF, these companies take up the task of developing a concrete model for self-commitment to sustainable cotton, including the design of a suitable structure.

Projects

During the execution of the Freshwater & Cotton Program, a small number of projects should be carried out. These projects will be set up to answer specific technical questions and to gather essential information. There will be projects on the level of the cotton field and projects with companies in the textile business.

Field projects help identify key factors in converting to more sustainable cotton growing practices:

- agronomic factors, organisation of conversion projects and extension services, irrigation related issues, etc.;
- economic and social factors that define the attractiveness of sustainable cotton growing;
- relationships between alternative cotton growing methods and ecological gains.

They will show the textile industry what real options are there to use (more) sustainable cotton.

⁴⁶ Major parts of this text are taken from an earlier report to the Freshwater & Cotton project management : Reinier de Man, *Freshwater & Cotton WWF Partnerships for Sustainable Cotton*, report to WWF Zürich, Leiden, November 2000

Field projects have been planned for India and Pakistan. Field projects in Turkey are being considered.

Business projects

should be initiated to answer questions on

- *organising transparency in the chain*
The question to be answered here is how precise back-tracing ‘from product to field’ may be in practice without leading to prohibitively high costs and without losing information value.
- *measuring/reporting improvements in sustainability*
The question here is what simple parameters can be used to show essential improvements in the sustainability of cotton growing that can be used for setting goals for continuous improvement.
- *increasing the volume of sustainable cotton*
Projects should be carried out to show what strategies are and what strategies are not effective in promoting the use of sustainable cotton in a large company.

These projects will be needed to guarantee that the ideas developed in the Cotton & Freshwater program by WWF and the Cotton Business Platform are working in practice and to correct them if and when necessary.

The projects will be carried out at the level of individual companies in co-operation with their supply chain partners. WWF will be present as a consultant and an observer. Results of the projects (unless subject to competition) and their consequences for the system of self-commitment will be discussed in the so-called Cotton Business Platform.

Members of this platform will be a number of innovative companies from the cotton and textile chain. They will be WWF’s business partners in the project. We will discuss potential business partners below.

10. Creating a Transparent Cotton & Textile Chain

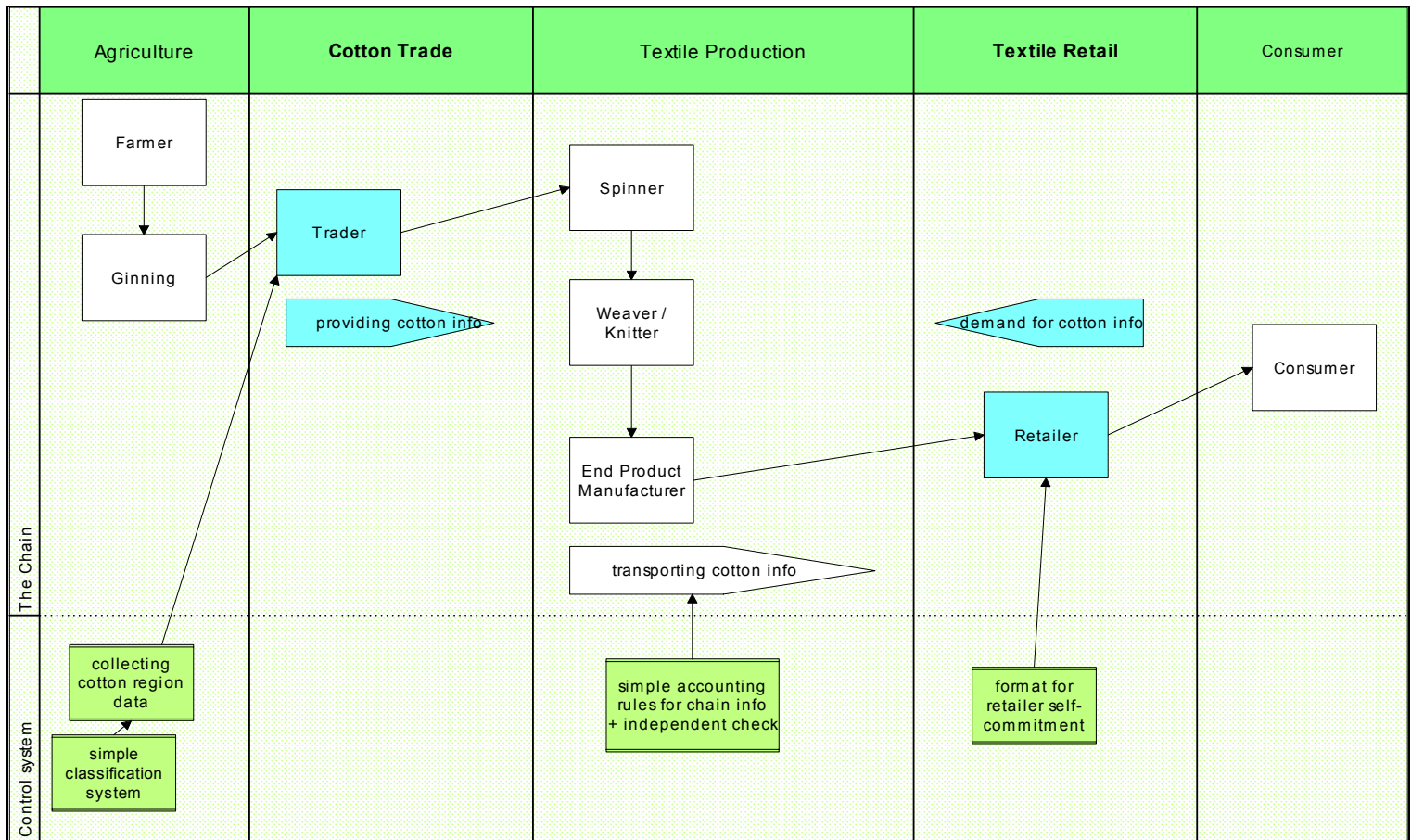


Diagram 16: Creating Transparency

10.1 Transparency in the Chain

In Diagram 16, we have indicated the most important parts of the cotton/textile chain. In fact, the chain is connecting three essentially different worlds: the world

of agriculture, the industrial world of textile production and the emotional world of the consumer⁴⁷.

There are two important gate-keepers:

1. Between agriculture and textile industry is the cotton trader, who is the only player who knows both worlds very well. He is an adviser to both parties and his role is to minimise risks both for the farmer and the textile producer.
2. Between the industrial world of textile production and the emotional world of the consumer, the textile retailer (or: brand clothing producer) is the second important gate-keeper, the only player who knows both end markets and industrial production well.

The cotton trader should make information on cotton available. The retailer should put pressure on the textile production chain

In the transfer of information “from field to T-shirt”, these two gate-keepers play central roles. These roles have been indicated by the blue elements in the diagram.

1. The cotton trader will have to trade his cotton + additional information on the cotton’s sustainability. This is a rather logical extension of his already existing tasks. The cotton trader is already responsible for delivering information and guarantees on quality items. Information on sustainability could just be another item.
2. The retailer is the player in the chain who should explicitly ask for information on the sustainability of cotton used in the end products and help the textile production chain to organise themselves accordingly. This is not an entirely new sort of activity. In the context of quality management and logistic optimisation, retailers already play similar roles in the chain.

In the green boxes in the diagram, we have indicated important elements of a system for creating transparency.

- A. In the different cotton growing areas (most probably a number of regions in a country, not every single field) there should be a systematic collection

⁴⁷ See also Diagram 1 on page 14.

of indicator data that allow to classify the cotton from that area on the basis of a simple classification system.

- B. The information on cotton sustainability is then transported through the textile chain. As textile products are usually made of different parts, different raw materials, etc., there is a need for simple accounting rules for classifying cotton products and products made from cotton and other raw materials. The system can be similar to the FSC rules for wood fibre products. As the textile chain is even more complicated than the production chain of fibre board or paper, the rules should even be more simple.
- C. Retailers should commit themselves to increasing the sustainability of the cotton used in their end products. The commitment should have the character of an obligation to continuous improvement. As long as the classification system and the accounting rules are still under development, the precise form of this commitment cannot be discussed yet.

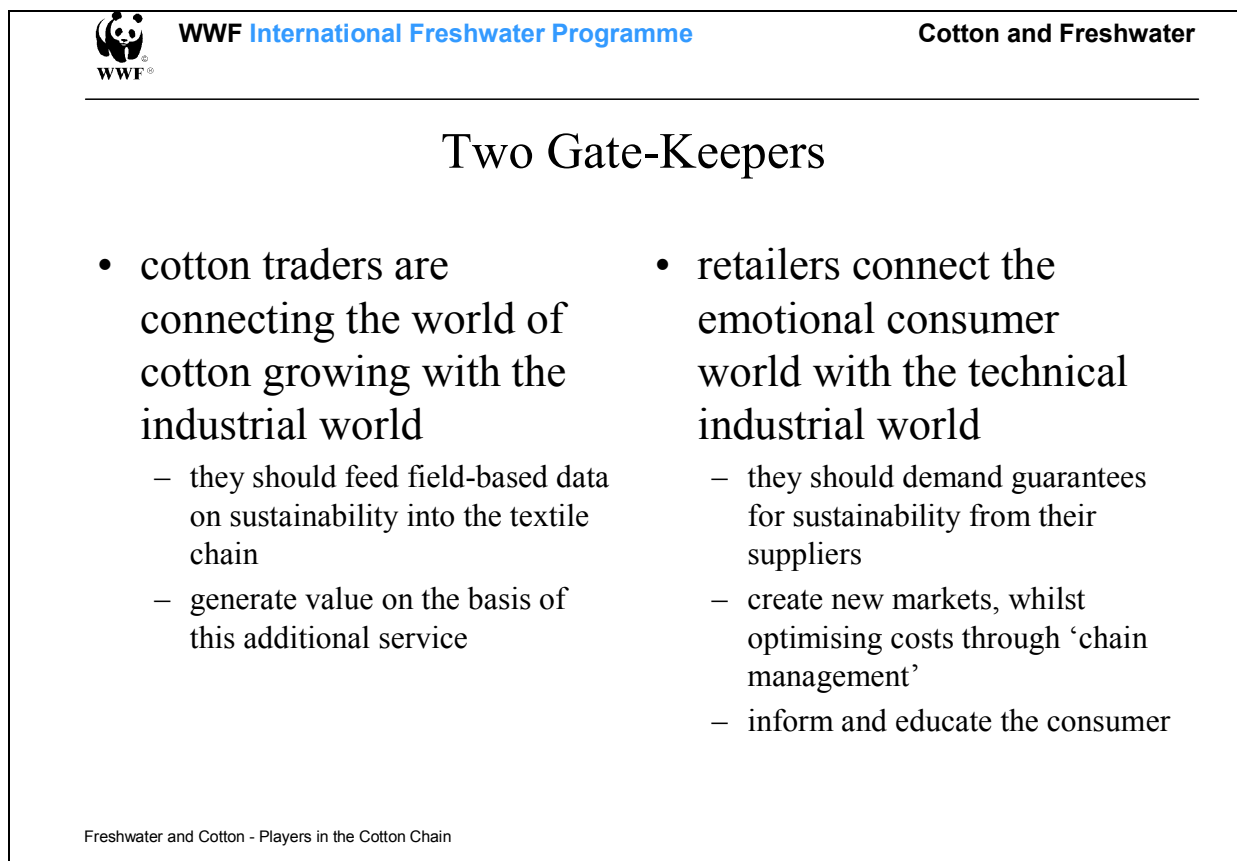


Diagram 17: Two Gate-Keepers

10.2 The Agenda for WWF’s Cooperation with Business Partners

In the following, we have indicated the agenda for the WWF-Business Cooperation on Cotton. It should be emphasised that the outcome of the discussions is still very much open. The discussion items can be defined, not yet the solutions.

Table 37: The Agenda for WWF's Cooperation with Business

Issue 1: Transparency	<ul style="list-style-type: none"> • Classify Cotton and Cotton mixtures. • Create an information link from end-product to cotton without creating high additional costs or compromise product quality. • System of percentage-based claims for production periods <ul style="list-style-type: none"> ◆ many inputs at all production stages ◆ not based on costly logistic separation
Issue 2: Market & Communication	<ul style="list-style-type: none"> • Marketing strategies <ul style="list-style-type: none"> ◆ communicating through the labelled product <ul style="list-style-type: none"> ▪ easy to communicate but ▪ disproportionately high costs ◆ communicating through the company's sustainability <ul style="list-style-type: none"> ▪ sustainability of total cotton input: lower costs but ▪ possible less easy to communicate • Companies in Business Group should propose a good mix that is practically feasible.

Some notes with Table 37:

Transparency

Creating transparency in the cotton and textile chain should by no means lead to building up a complicated and bureaucratic information system. The system should be based on the way modern textile industry works. It should not be necessary to change the organisation of the production process in ways that create high additional costs.

Therefore a logistic separation of different production processes should be avoided. There should not be different production lines for 'sustainable' or 'eco-' products and 'standard' products. This mistake has been made by the early 'eco-' collections,

which resulted not only in high costs (because of small production numbers and high transaction costs) but also in quality problems.⁴⁸

In order to reduce complexity, there should not be a need to follow every single production item through the complex production chain. It would be sufficient to base the sustainability information system on distinct production periods of, say, one month, a quarter or half a year.

Marketing

By simplifying the information system through the cotton and textile chain, the possibility to give specific 'sustainability guarantees' for a single production item is severely reduced. But for giving such guarantees, extremely costly processes are required, such as the complete logistic separation of product lines.

Companies in the business group should think creatively on combining cost reduction with optimal marketing strategies.

Maybe the textile sector can learn something from the 'green electricity' business here. Although no electricity company has the slightest possibility of separating 'green' and 'black' electricity physically, the buyer of green electricity has the guarantee that the electricity company cannot sell more green electricity than it has produced or bought.

⁴⁸ See in this report the experiences made by Esprit and Steilmann, for example (page 83 and 82, respectively)

11. Proposed Partners

A list

On the basis of this study, we propose to contact at least the companies in Table 38. We do not repeat our arguments here but refer to earlier parts of this report.

Table 38: Proposed Partners

Sector	Company	See page:
Cotton Traders	Volcot, Winterthur, Switzerland	49
	Reinhart, Switzerland	82
Spinners, weavers, knitters	<i>we do not propose to contact these partners directly, only via cotton traders and clothing producers / retailers</i>	
Textile/Clothing producers	Triumph International	75
	Kunert (?)	76
	Adidas	82
	Steilmann	82
	Nike	116
Retailers	Karstadt-Quelle	93
	Otto Versand	95
	H&M	100
	Migros	105
	Coop	109

Sector	Company	See page:
Other	Rabobank	118

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