

WHERE FARMER AND FASHION DESIGNER MEET

**GLOBALISATION WITH A HUMAN FACE
IN AN ORGANIC COTTON VALUE CHAIN**

BY URS HEIERLI



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◀ helvetas ▶



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The essence of an organic cotton value chain is that everyone on it is known – some have even met and know each other. This heightens everyone's involvement and motivation and gives the textile industry a human face.

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EXECUTIVE SUMMARY

Cotton is grown in more than 80 countries, and belongs to the most important commodities in world trade. It employs over 100 million farming units globally and provides an income source for many small farmers and for millions of textile workers along the entire value chain.

COTTON BRINGS WEALTH AND MISERY

The history of cotton is almost identical with the economic history of trade and globalisation: cotton has led to wealth and prosperity, but it is also linked to colonialism, slavery, to the industrial revolution with its bright and its dark sides, to ecological disasters through excessive pesticide use, and to the drying up of the Aral Sea, and other large lakes, because of over-consumption of water. Cotton has played an important role in all these historic events and it lost innocence long ago. Since the book 'Uncle Tom's Cabin' was published in 1852, every school child in the United States, and far beyond, has known that cotton picking and slavery have been two sides of the same coin.

Due to heavy pest attacks and ever higher pesticide and fertiliser applications, soils have become depleted and in some cases totally intoxicated. The case of Nicaragua is the most notorious, where the cultivated area peaked in 1977 at 220,000 hectares. Farmers became locked into the 'pesticide treadmill' to the extent that, in the late

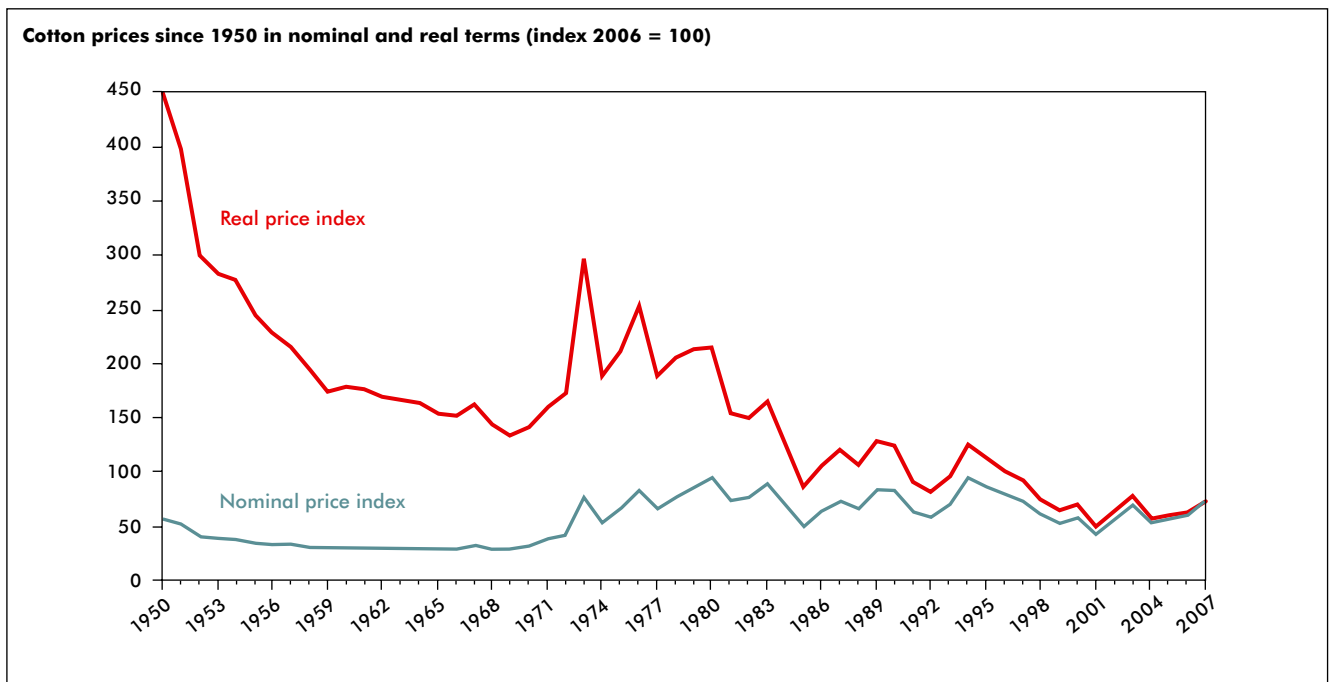
1980s, pesticides accounted for half of their production costs, making cultivation no longer economically viable. The cultivated area today stands at around 2,000 hectares, less than one percent of what it was at its best.¹

The pesticide treadmill is also a reason for the indebtedness of many cotton farmers in India and Africa: cotton is a very risky crop and farmers may lose quite significant investments in case of crop failures. In their desperation, many farmers in India are using the last bottle of pesticides to commit suicide and avoid losing face in front of the entire village if it is known that they are bankrupt.

Another key problem is the secular decline of commodity prices in real terms. The following graph shows cotton prices since 1950 in nominal and in real terms (index 2006=100) and clearly shows that cotton prices have declined by almost a factor 10 in real terms². It is thus a real challenge for farmers to make a decent living from cotton under today's conditions.

THE BIORE ORGANIC COTTON PROJECT IN INDIA AND TANZANIA

Organic cotton was initiated as a large-scale alternative to conventional cotton growing in the then called Maikaal-bioRe project in 1991 as a private venture by Patrick Hohmann, president of Remei AG, Switzerland,



a relatively small yarn trading house. What began as a mere experiment, soon turned into a successful enterprise. Some 17 years later, in 2008, almost 8,000 farmers in India – and more than 2,000 farmers in Tanzania – are cultivating organic cotton and participating in an integrated value chain from fibre to fabric. A worldwide pioneer, although since copied by many, Hohmann still runs the largest organic cotton programme in the world, selling more than 3,000 tons of cotton yarn per year.

During these 17 years – and overcoming many setbacks which sometimes threatened the survival of the company – he is firmly convinced that a fully integrated organic cotton value chain is a much-needed option: "We have chosen biodynamic agriculture because we are convinced that it leads to the understanding of the farm as an 'organism' whose main characteristic is an effort to increase the soil's life."

This statement sounds more like an idealistic green vision manifesto than an innovative yet reliable business model. Could the same system not work with conventional cotton or genetically-modified cotton too? This case study shows that conventional or GM cotton cultivation, with high input costs and high risks, is not suitable to harmonise livelihoods and productivity in the same way as organically grown cotton does. Organic cotton and the link to an integrated value chain provides the best chances for small cotton farmers to step out of poverty.

BENEFITS FOR THE FARMERS: LESS RISK AND DEBTS

The cultivation of organic cotton has led, in all cases in India and Tanzania and in Helvetas projects in West Africa and Kyrgyzstan, to better incomes for the farmers. Admittedly, during the conversion phase from conventional to organic farming, yields may decrease and lead to lower incomes temporarily. However, after the third year, organic growers usually have better incomes than conventional farmers, mainly due to lower input costs. This in turn reduces the risks inherent in crop failures. One clear overall impact of organic cultivation is that farmers have put an end to their indebtedness with the money-lenders.

The income effects cannot be determined quite so clearly, as there may be wide price variations and fluctuations over the years. One gain, though, comes from one special feature of organic cotton cultivation, in that farmers must rotate their crops. Their total income is thus determined not only by cotton – usually not more than 50% of total income – but also from their rotation crops such as wheat, sesame, pulses and chillies.

GLOBALISATION WITH A HUMAN FACE, FROM FIBRE TO FABRIC

What started as organic cotton cultivation, linked to a spinning mill, soon required the establishment of a fully integrated value chain, from fibre to fabric. It is not viable to produce certified organic cotton, unless the products can be traced from the seed to the final product in the shop. Such an integrated value chain is a complex undertaking and it presents a demanding management challenge.

The case study seeks to examine and explain some of the intricacies of the entire value chain. Actually, the key feature of such an integrated chain is very obvious and simple: it is not anonymous. It is a chain composed of, and connecting, people who otherwise would not normally meet or cooperate.

Alongside the remarkable economic and social benefits of the COOP Naturaline chain (involving the Swiss COOP retailer) is another great achievement, in overcoming such anonymity. Now, the people working along this chain and their human faces and features are visible to all. Dreamlike perhaps, but a productive relationship too: people of such diverse backgrounds as the chairman of the board of COOP, the fashion designer of COOP Naturaline and farming families can meet and try to understand each other. In this sense, linking farmers and fashion-designers and all the other members in the value chain is like re-writing 'Uncle Tom's Cabin': if people know who has grown, dyed, knitted, stitched, packed and put their cotton shirt on the shelf, our globalised world may become a little more human. This idea, and business proposition, all this may just cost a tiny little bit more, as we shall see.

THE CHALLENGES OF MANAGING AN INTEGRATED ORGANIC TEXTILE CHAIN

Managing an integrated organic textile value chain is totally different from the normal textile business. In a larger retail shop or chain, the main concerns of a procurement manager for textiles are probably about getting the next collection of textiles on time, at a good price and in the right sizes, qualities and – above all – fashionable designs. Should he – on top of that – also be bothered with the worries and sorrows of a few thousand farmers? This would probably be a little too much, for the average manager. Yet that concern is inevitable in an organic textile value chain, from seed to fabric, involving a time-span of up to two years from when the farmer ploughs the soil to harvesting, ginning, spinning, knitting or weaving, dyeing and stitching the textiles.

Some years ago, organic textiles were a short-lived fashion, but this faddish market soon collapsed when the fashion changed again. Today's organic textiles have to be as fashionable as all the other textiles and the consumer makes no compromise, either on quality or on price. Organic textiles have to be 'cool' – even in the case of children's and baby clothing – and should neither shrink while washing, fade in the light nor de-colour while sweating.

Marketing organic textiles in the mainstream market has thus been quite an effort over more than 10 years. Throughout, an exceptional degree of cooperation between the COOP cooperative and Remei in the development of the brand 'Naturaline' has contributed much to a breakthrough. Today, the Naturaline collection comprises over 8,400 different products and has a turnover of CHF 56 million (Swiss Francs), or US\$ 54 million, per year.

Astonishingly, the increase in market share is not only a question of demand; the main bottleneck and challenge was – and still is – to produce a broad range of products. Initially, in 1995, socks were only available in the colour beige and the market was, obviously, very narrow. A breakthrough came when cooperation the Cibacron dyes were developed by the then Ciba specialty chemicals company (now Huntsman) resulted in producing dyes that conform with the European organic standards and can produce all colour tones imaginable. Furthermore, for each tone, Huntsman is producing a detailed recipe on how to dye the textile, be it the yarn, the cloth or even a printed piece.

BEING COMPETITIVE WITH HIGHER COSTS

Organic cotton is more expensive, for two key reasons. One reason is the payment of a premium of 15%. The major factor is in the cost of a sizeable extension service to support the farmers. Because the entire value chain has to be traceable, in particular at the farmer's end, a sophisticated internal control system has to be set up and maintained, so that the organic production can be inspected externally and certified.

This leads to significantly higher costs than for conventional cotton. The cost of one kg of cotton lint (after the seeds are extracted) is easily 40% to 50% higher than world market prices. This makes little difference in principle, a shirt or t-shirt containing only some 350 grams of cotton yarn – for which some 1,350 grams of cotton seeds need to be harvested and the farmer will get some US\$ 0.80. The difference on the world market price is not more than US\$ 0.20 to US\$ 0.40. However,

the issue is the classical one in many value chains: margins on margins, and multipliers. In the textile chain, the normal calculation practice is to add the value added percentage-wise for each step. The additional costs will be added with a multiplier over the entire chain, and increase the final price noticeably.

In the conventional textile markets, a target costing is aimed for and retailers will always try to reduce the purchase cost in order to increase their margins. For this reason, there is a considerable squeezing effect on the prices in the entire value chain and the farmer's share, small as it is, is always under enormous pressure.

The key – and the challenge – to competing in the mainstream textile market, despite higher costs for the raw materials, is thus to add these costs without the standard multiplier effect. This is only possible if a company is in control of the entire value chain. Over the years, therefore, Remei has increased their value added by shifting from yarn trading to entire finished fabrics.

THE HELVETAS / SECO ORGANIC COTTON PROJECT

The Swiss NGO Helvetas has also started a significant organic cotton programme in Benin, Burkina Faso, Kyrgyzstan, Mali and Senegal. Altogether, this project already involves some 8,000 farmers producing a total of 1,000 tons of yarn in 2007 – about one third of bioRe's production. High growth projections are planned in the future and the yarn is subject to a minimum price set by the international mechanism of the Fairtrade **Labeling** Organization International (FLO) and certified with the Max Havelaar label. The costs of the yarn are still higher than in the case of production sourced by Remei; an additional difficulty is that West Africa does not have any processing industry.

This value chain is less integrated and Helvetas, as an NGO, operates mainly as a facilitator. The key players in the chain are yarn trading house Reinhart as the key intermediary, and Marks and Spencer, Switcher, Hess Natur and Migros as garment producers and retailers. An evaluation has confirmed that the programme has a high social and economic impact for the farmers but it raised doubts about whether sustainability is attainable, even in the long run. The project has until 2011 to prove this. A key issue is that the buyers at the end are little involved in the value chain, not always show adequate ownership. This is addressed with regular stakeholder meetings, with the aim of enabling the buyers to identify with the farmers and to convert the textile value chain – as in the case of bioRe – from an anonymous trade to a personal commitment where buyers and farmers will

see a human face behind each transaction. The results are remarkable, especially in view of the great needs to improve the cotton economy in West Africa.

MARKET TO FARMER APPROACHES AND NEW FAIR TRADE MODELS

A textile value chain is extremely complex and demanding: it can only be managed by professional textile specialists. To involve farmers in an organic cotton textile chain will also require public support as the mainstream textile industry cannot be expected to bother directly with organising and supporting farmers and certifying them. The additional cost associated with organic cultivation, and allied certification, can only be borne if it is added at the level of pricing the end-products; it would be prohibitive if it was added to the raw materials.

It is becoming more evident that organic cotton textiles will need a market-to-farmer approach, working as a backward linkage programme. The market will demand a broad range of products, and this will require different yarn qualities. Some products, such as fine underwear or shirts, will need long-staple yarns that can only be produced in certain climatic conditions.

It may also be necessary to revise the Fair Trade labelling models that were originally developed for simple products such as bananas and coffee, both with much less complex value chains with fewer processing steps. Fair trade schemes should, in particular, be able to reward textile chains that absorb higher raw material costs without passing them on through a multiplier in conventional mark-up cost calculations.

There is an important, strategic, role here for donors, especially in the form of public-private partnerships: it is to organise, train and support farmers until they are empowered enough to become suppliers of certified organic cotton for integrated textile chains.

INTRODUCTION: IF THE ACTORS IN A TEXTILE CHAIN KNOW EACH OTHER

1

1.1. COTTON STANDS FOR WEALTH AND MISERY

Cotton is grown in 35 countries and is one of the most important commodities in world trade: it employs over 100 million farming units globally and provides a source of income for many millions of small farmers and textile workers along the entire value chain. In 2008, the world production of cotton amounted to some 120 million bales³ with the main producer, China, alone having an output of 36 million bales⁴, more than 30% of the world's production. India has become the second largest producer with 25 million bales whilst US production declined from 19 million bales to 16 million bales. These three leading producers, plus Pakistan and Uzbekistan⁵ account for more than 75% of world production. Taken together, all West African countries accounted for only 4.7% of the world market, but the sector employs some 11 million people; in some countries (Benin, Burkina Faso, Chad and Mali) around 40% of export earnings derive from cotton.

The history of cotton is almost identical with the economic history of trade and globalisation: cotton has led to wealth and prosperity, but it is also linked to colonialism, slavery, to the industrial revolution with its bright and its dark sides, to ecological disasters through excessive pesticide use, and to the drying up of the Aral Sea, and other large lakes, because of over-consumption of water. Cotton has played an important role in all these historic events and it lost innocence long ago. Since the book 'Uncle Tom's Cabin' was published in 1852, every school child in the United States, and far beyond, has known that cotton picking and slavery have been two sides of the same coin.

Even today conventional cotton cultivation still brings wealth to some, and death to others. On the one hand, it provides income for over one hundred million farmers on the other hand, it is a risky crop, with high investments for inputs and high price fluctuations: one major pest attack can ruin a farmer. Such desperate situations have driven Indian farmers to suicide: realising they were caught in a debt trap forever; some of them drink poisonous pesticides in their desperation and kill themselves. Many farmers also have little choice other than growing cotton; even if they also grow other such crops as wheat, barley or soybean, cotton remains the backbone of the livelihood of millions of farmers.

Heavy pest attacks and ever more intensive application of pesticide and fertiliser have led to soil depletion and, in some cases, total intoxication. The case of Nicaragua is the most notorious, where the cultivated area peaked in 1977 at 220,000 hectares. Farmers became locked into the 'pesticide treadmill' to the extent that, in the late 1980s, pesticides accounted for half of their production costs, making cultivation no longer economically viable. The cultivated area today stands at around 2,000 hectares, less than one percent of what it was in its heyday⁵.

1.2. A GLIMMER OF HOPE: DOING BUSINESS WITH A HUMAN FACE

Organic cultivation of cotton as a large-scale alternative to conventional growing was initiated in the Maikaal project in 1991 as a private venture by Patrick Hohmann, president of Remei pvt. Ltd., Switzerland, a relatively small yarn trading house. What began as a mere experiment soon became a successful enterprise: 17 years later, in 2008, nearly 8,000 farmers in India – and over 2,000 farmers in Tanzania – are growing organic cotton and participate in an integrated value chain, from fibre to fabric. Patrick Hohmann is a global pioneer: although – in the meantime – he has been copied by many, he still runs the largest organic cotton programme in the world and sells more than 3,000 tons of cotton yarn per year. The programme has expanded impressively over these 17 years and is now a sizeable operation, ready for a further scaling-up. Despite its fast growth, the volumes are still below the critical mass which would allow a reduction in transaction costs and the entire operation – especially the extension services to farmers – to break even.

1.2.1. THE BIORE ORGANIC COTTON VALUE CHAIN

During these 17 years – and overcoming many setbacks which sometimes threatened the survival of the company – Hohmann has remained firmly convinced that a fully integrated organic cotton value chain is a much needed option for this world: "We have chosen biodynamic agriculture because we are convinced that it leads to the understanding of the farm as an 'organism' whose main characteristic is an effort to increase the soils life."

Development of the organic cotton value chain in India and in Tanzania:

Year	Farmers India	Farmers Tanzania	Total farmers	Yarn in tons
92-93	Pilot project			
93-94	223	-	223	42
94-95	568	43	611	155
95-96	649	110	759	433
96-97	688	135	823	616
97-98	699	302	1,001	501
98-99	888	284	1,172	624
99-00	1,061	320	1,381	710
00-01	1,123	450	1,573	653
01-02	1,000	750	1,750	823
02-03	1,025	700	1,725	761
03-04	1,419	950	2,369	1,067
04-05	1,502	1,258	2,760	1,434
05-06	2,139	1,137	3,276	1,324
06-07	4,991	1,528	6,519	2,349
07-08	7,890	2,060	9,950	3,381

This statement sounds like an idealistic green vision and not like an innovative business model. Why could the same system not work with conventional cotton or genetically modified cotton as well? We shall see later in this publication that conventional or GMO cotton cultivation with its high input costs and high risks is not suitable for harmonising livelihoods and productivity in the same way as organically grown cotton does. We shall see further that organic cotton and the link to an integrated value chain provide the best chances for small cotton farmers to put an end to their poverty.

What started as a cotton growing operation, linked to a spinning mill, soon required setting up a fully integrated value chain from fibre to fabric. The production of certified organic cotton is not viable unless the products can

be traced from the seed to the final product in the shop. Such an integrated value chain is a complex undertaking and a demanding management challenge.

This publication tries to understand and examine some of the intricacies of the entire value chain. But the key feature of such an integrated chain is very obvious and simple: it is not an anonymous chain and it connects people who do not usually meet, who do not know each other and who, in no direct way, also do not care for each other.

1.2.2. BRINGING FARMERS AND FASHION DESIGNER TOGETHER

One of the great achievements of the COOP Naturaline chain, next to the remarkable economic and social benefits, has been to overcome this anonymity. Now, the people working all along this chain and their human faces become visible. It sounds like a dream that such different people as the chairman of the board of COOP, the fashion designer of COOP Naturaline and farming families can meet and try to understand each other. In this sense, linking farmers and fashion-designers and all the other members in the value chain is like re-writing 'Uncle Tom's Cabin': if people know who has grown, dyed, knitted, stitched, packed and put their cotton shirt on the shelf, our globalised world might become a little more human.

1.2.3. THE WORLD OF KIRAN YADAV

Mrs. Kiran Yadav is a mother of five children, four daughters and one son. Her husband Rameshwar grows organic cotton on 15 acres (6 hectares); they joined the bioRe programme 10 years ago. Since joining the programme and going organic, their soil has considerably improved and yields have gone up. The family also feels healthier since they do not use toxic pesticides anymore: earlier, the hands of the women got red from the pesticides while picking the cotton. Their annual income from cotton is now considerably higher: as certified organic farmers they get a premium of at least 15% over the market price, depending mainly on the quality (fibre length).

For her family, the major gain from joining the organic cotton value chain is that they are no longer indebted anymore: before, they had debts of over 15,000 Rupees with a money lender. Since the bioRe programme provides the inputs – which are in any case much less costly than for conventional farming – on a credit base, they do not need to get loans from the money-enders. Indeed,



Kiran Yadav and her four daughters and one son joined the bioRe programme more than 10 years ago. Their soils and yields have improved and they have cleared all their debts.



Mrs. Kiran speaks to over 1,000 people attending the annual Maikaal 'Open House Day': she remembers the days when they could not buy a school satchel for their children



Cultivating organic cotton has brought them a modest degree of wealth: two years ago, they bought a TV, and last year a refrigerator – a clear indicator of prosperity



Sakina Katares' family joined the programme just a year ago. She could not go to school and had to do day labour work to boost the family income.



Sakina's parents have a 2 hectare farm and earn some 220 US\$ per year from cotton and some 120 US \$ from day labour work: barely a dollar a day.



Best of all is that the family has no more debts, even if their income is still very modest, with them eating eggs just once or twice per month



Eliane Kobler, the fashion designer of COOP Naturaline, presents a saree to Mrs. Kiran after her speech at the Open House Day



The day is an opportunity for farmers and textile specialists to meet each other, bringing alive the links in the value chain



Eliane Kobler designing the summer collection for next year. Customers are very demanding and unforgiving on style, quality and price.



Even children are more and more fashion conscious, wanting to look 'cool' like their classmates.



In this fashion show, the summer collection is presented to the COOP sales staff. It is important that they stand behind the collection.



The fashion of Naturaline does not aim to be haute couture but what adults and children like to wear every day

the premium money paid by the organic cotton programme is invested with the aim of making farmers free of debt.

Joining the organic cotton value chain has been very beneficial for the family: all the children could go to school and have a very good education. Although the family still lives in a simple house and the entire family of six sleeps in one room, they could attain a modest form of comfort: two years ago, they bought a biogas stove which makes cooking much faster and healthier, as there is no smoke in the kitchen; last year they purchased a television set, and for Diwali (the most important Indian festival) they bought themselves a refrigerator.

It is touching to see that a solid partnership in an integrated organic cotton value chain can bring stability and a modest prosperity to a family. That this is not a unique case will be discussed further in this publication while presenting the research findings of socio- and agro-economic studies.

1.2.4. THE WORLD OF SAKINA

Sakina Katare is 17 years old and her parents have a 5-acre farm (2 hectares). Sakina's family consist of her father, her mother, one younger and one older sister with her child and her husband. They have a small house where the whole family sleeps: one room for 10 people. Fortunately, the family has also four cows and two chicken, but they eat eggs only once or twice a month.

Having switched to organic farming only in 2004, Sakina's family grows some 10 quintals (1 ton) of cotton seed on their five acres, generating a net income of some 10,000 Rupees (US\$ 230). Sakina and her mother work for six months in a year as day labourers, mostly in cotton picking and other farm labour in the fields of neighbouring farmers. They each earn 25 Rupees a day (US\$ 0.50) and make an additional income of some 5,000 Rupees. Altogether, the family income is thus around 15,000 Rupees per annum (US\$ 340), or roughly one dollar a day. Since joining the bioRe programme, the family has got rid of their debts of over 10,000 Rupees with a money lender – for them, remarkable progress.

Although Sakina has never gone to school, she can read and write: her elder sister Sunita is a primary school teacher. She teaches 56 children from class 1 to 5 in the same modest house with the children just sitting on the floor. Her income as a school teacher is more than what her father, mother and sister earn with cotton and day labour work.

Here, at the lower end of the organic cotton value chain, we see really poor families, although by far not the poorest of the poor. Being part of this chain is very beneficial for the families: they get access to excellent agricultural extension services and achieve good yields. The premium of 15% on the average market price of the past five years is paid for organic cotton once their farms have been certified after two years. The farmers are part of a large group of over 8,000 families linked to a dynamic value chain: One of the most important benefits for them has been to get out of the debt trap, in which many conventional fellow farmers are caught, as in a treadmill.

1.2.5. THE WORLD OF ELIANE KOBLER, FASHION DESIGNER

Eliane Kobler is the fashion designer of the COOP Naturaline collection; she lives with her husband in a nice apartment overlooking the city of Zürich and has a small design workshop attached to her flat. The worlds in which Kiran, Sakina and Eliane are living could hardly be more different, at the ends of the organic cotton value chain. Nevertheless, it is this chain that closely links them: the fashion designer's role is an absolutely crucial one – as key as cultivation itself – at the other end of this chain. If she chooses the wrong colour, the clothes will remain in the shelves and Kiran and Sakina cannot sell their cotton.

The collection of organic cotton textiles has to be designed far in advance: at least twice a year, a collection needs to be designed and for the summer collection, for example, that work starts at least one and half years in advance. The design process usually starts with the famous yarn exhibition 'pitti filati' in Florence where the key colouring trends are presented. However, as the collection has to be made for a distant future, the advice of a trend forecaster like Li Edelkoort is an absolute must: She is a solid designer and former teacher at the University of Eindhoven, publishes three magazines and has created two research institutions. Trend-forecasting is both a science, based on design principles and observation of lifestyles, but it also requires a lot of intuition.

Before making her first sketches for a new collection, Eliane Kobler studies a great many information sources. She browses fashion magazines, attends fashion shows, studies the collections of competitors, observes what pop- and film-stars are wearing and looks at many other events which may influence forthcoming trends. All her travel and reading is just to gather the necessary information on what may become trendy, one and a half years from now. In addition, the designs have to be



A collection meets different needs, ranging from beachware through school clothing to leisure, from work through sport to bed attire. All this – as here in the 2006 summer collection – should have its own coherence, with matching colors, be it a bath towel, t-shirt, jacket or pyjama.



Organic cotton textiles cannot and must not be marketed as eco-fashion: the aim is to sell organic textiles in the mainstream markets and to produce fashionable, everyday wear



Another secret is to design fashion products for all potential age groups. Kids' wear and baby wear are an important market segment. Fashion for adults is crucial in getting organic cotton out of the niche markets.



Selecting next year's colours starts at the pitti filati fair in Florence, which introduces and establishes trends for the coming year



A call, akin to a pilgrimage, to Li Edelkoort is an essential second step. As the trend forecaster for most fashion houses, her advice is a be-all and end-all.



Visits to fashion shows in Paris will confirm the trends and selections of colour and fabric



Children's fashion shows provide more intelligence before the final designs are made.



The final designs may present a challenge to the production process: the desirable fabric must be in tune with ecological production, such as avoiding PVC buttons



Science is part of design considerations, but in the end a lot comes down to creative intuition

Keep it simple, pyjama: even a simple baby pyjama is complicated to make. Three parts must have matching colours, the stripes need pink yarn, the pink part is dyed as cloth and the Snoopy symbol is printed on the cloth. Any collection needs different colour sets.



compatible with the production processes and the high ecological standards: for instance, it is not possible to use PVC buttons or decorations, nor should the zippers and fittings contain toxic substances or heavy metals such as nickel which can produce allergies.

Once the basic designs have been made, drawn and selected, the technical work starts: yarn has to be ordered, dyeing processes for each colour have to be determined and the overall production has to be planned far in advance so that the collection will arrive just in time. The deadline for finalising a summer collection is a good year ahead – for example, the deadline for the 2009 summer collection – was in August 2008 and the deadline to start its production in September 2008. There is no respite: Eliane Kobler has to run around, focused on fashion, and have all the design specifications ready by those dates.

1.3. THE STRUCTURE AND ESSENCE OF AN ORGANIC COTTON VALUE CHAIN

The cotton value chain is a complex mechanism and involves many highly specialised tasks. Usually, such a cotton value chain is not integrated and not traceable from seed to fabric. Already at the first industrial steps, ginning and spinning, which normally process cotton in bales, anonymity sets in. Cotton is an anonymous commodity and what counts is the fibre length, the strength and other regional characteristics. Normally, nobody would bother who has produced the fibres and how. The differences between an integrated organic cotton value chain and conventional textile ones are immense, as the picture below shows in the simplified structure of a textile value chain:

The arrows show the link to the next level. In an integrated value chain, these links are all maintained while in

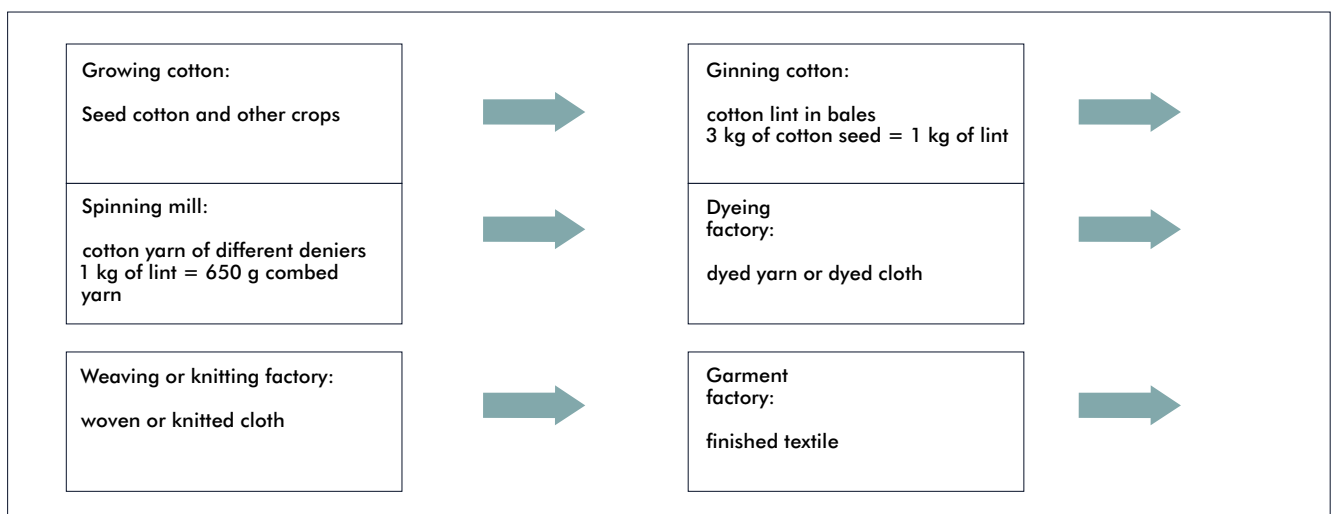
a non-integrated value chain, they are interrupted. See also the photo-page on the textile value chain.

1.3.1. CHARACTERISTICS OF A NON-INTEGRATED TEXTILE CHAIN

It is these interruptions which define the differences between an integrated and a non-integrated value chain. This means for example:

1. The farmer sells the seed cotton on a market to an intermediary with a link to the ginning factory. At this stage, up to 2/3 of the weight is lost, as the cotton seeds represent the bulk of the weight and the fibres only one third⁶. The seeds can be used for oil processing and as animal feed.
2. The ginning factory then sells cotton in bales to the spinning mill and the side-products, such as oil and animal feed, through other channels.
3. The spinning factory usually buys cotton in bales and is not interested in its origin; what counts is only the quality in terms of the fibre length, strength and other regional characteristics. For a spinning mill to process organic cotton is a challenge as it must process this cotton separately. Again, some 350 grams of weight are lost from lint to combed yarn.
4. The yarn is then either directly sent to the dyeing factory if yarn-dyed fabrics are produced, or it is first woven or knitted and then sent to the dyeing factory.
5. In the garment factory, the woven or knitted cloth is stitched, printed and finished. Even a simple baby pyjama may have separate parts that are yarn-dyed, cloth-dyed and/or printed and all parts have to match (see the pictures on "The making of a pyjama")

In conventional textile value chains, each step is adding its value added based on the raw materials or semi-processed goods they buy. They usually add their



From plough to reel, the organic cotton value chain



ploughing



cotton seeds



harvesting



ginning



spinning

From picture to point-of-sale, the organic cotton value chain



dyeing



printing



stitching



finishing



marketing

margins percentage wise, and this is – as we shall see – an important factor in adding additional costs with a multiplier to the end product. As there are usually many steps in such a chain, the traceability gets lost and the chain becomes anonymous. In the end, nobody knows where the products from the previous level have come from and often there are significant transport steps in between as well.

This complex set of interdependent, time-specific events is one of the reasons why the textile trade does usually not operate in integrated traceable chains. It is even more unusual for a textile company to be bothering with tens of thousands of farmers and their many problems. We shall now look at this textile chain (described in the previous photopages) step by step in the following chapters, starting with the farmers.

1.3.2. AN INTEGRATED ORGANIC COTTON VALUE CHAIN IN A NUTSHELL

In an integrated organic cotton value chain, there is a fundamental difference. Here is where relationships are not anonymous but similar to contractual relationship during all the steps, from the farmers up to the retailers and consumers of the finished garment product. In the case of bioRe, farmers do not have a direct contract with Remei pvt. Ltd, but they are all members of bioRe India or bioRe Tanzania. They are still free – in theory – to sell their cotton to other buyers but they will not be certified and cannot thus sell the cotton as organically certified cotton with a premium. Certification takes place on the basis of a group and not individually.

In fact, the chain works backwards, starting from the finished garment back to the place and mode of production. The garment collection determines all the way back down the line what needs to be produced, how it needs to be processed and finished and when it needs to be delivered. Usually, the deadlines for delivery are quite short and no textile retailer can place an order longer than six months in advance. The 2009 summer collection may be ordered in September 2008, leaving some three to four months to produce the garments. By the end of January 2009 at the latest they must be shipped in order to reach the shops before March 2009.

Obviously, these deadlines can only be met if buffer stocks are maintained. When a retailer places an order for some 5,000 baby pyjamas (see the picture on the delivery schedule), it may take these three to four months to make the garment, plus another two months to dispatch and send it to Europe. Without having a ready made stock of yarn, it would never be possible to deliver in time. In order to be able to start production in September 2008, the farmer must seed in July 2007; he must harvest the cotton from November 2007 to March 2008. The cotton will be ginned after the harvest and the yarn spun from December 2007 to August 2008. Remei must therefore have two stocks of at least 300 tons of yarn ready at all times of the year, one in India and one in Europe.

HOW FARMERS CAN JOIN AN INTEGRATED ORGANIC COTTON VALUE CHAIN

2

Let us imagine the manager in charge of textile purchases in a large retail company. What is his first concern? For the coming season, he needs to order a new collection of baby dresses, from pyjamas to t-shirts, from trousers and jeans to jumpers and dresses, all six months in advance: all in all, this means a vast order of at least 100 models, just for baby girls alone in at least eight different sizes and as many colour sets. He has come under pressure from management because margins have been falling and he should produce better results. Would he still have the mental capacity and predilection to think of the farmers down the line who produce the cotton? Not very likely, but some people do, in fact, do just this.

2.1. HOW IT ALL STARTED: THE PIONEERING IDEA OF PATRICK HOHMANN

The idea to start an organic cotton project in India was more an accident than a plan. In 1992, Morgan Jalan, a tea estate owner in Assam, wanted to diversify the family's business and founded a large spinning mill amidst the cotton fields along the Narmada river in Madhya Pradesh. As he did not know anything about cotton, he asked Patrick Hohmann, born into a cotton trading family with several generations of experience, to become the technical advisor for the spinning mill. Hohmann was the owner of Remei Ltd. in Switzerland, a yarn trading company.

When the two were driving home from the Narmada river one day, Hohmann launched the idea of growing organic cotton, and to his surprise, the idea fell on a fertile ground. As Morgan Jalan had already been involved in the production of organic tea, he did not find the idea at all crazy. The venture began and led to a pioneering success story which included also painful failures. The original idea was that the spinning mill would be the procurement agent for organic cotton and also run the extension service for the farmers. It was not viable: a spinning mill usually processes cotton in bales. Procuring the cotton directly from the farmers, financing an extension service and in addition tying up working capital for almost a whole year instead of only one to two months, was just not possible. By the year 2000, the spinning mill faced severe financial difficulties, and a new mechanism was required: the creation of a separate company just to deal with the farmers. But before we discuss these institutional issues, let us look at the intricacies of organic cotton farming.

2.2. ORGANIC VERSUS CONVENTIONAL COTTON FARMING – BENEFITS AND ISSUES

If one really wants to understand organic cotton farmers, it is crucial to look at their entire farm output. A closer look would reveal that there is not a single farmer growing cotton exclusively: in fact the rotation crops are often much more important as a source of income.⁷

Crop rotation – rotation crops

Rotation Type	1st year	2nd year	3rd year
Pulses & cereals	Cotton (winter crop: wheat or pulses)	pulses (soya, moong beans, cow pea, black gram, pigeon pea), maize or sorghum	Cotton (winter crop: wheat or pulses)
Vegetable	Cotton (winter crop: wheat or pulses)	Chilli, onion or other intensive vegetable crop	Cotton (winter crop: wheat or pulses)
Sugar cane	Cotton	sugar cane	sugar cane
Diverse rotation (from Tanzania)	Cotton	Sesame, safflower, sorghum or maize	Pulses (moong, chick pea, cow pea, pigeon pea, groundnut)
Rotation with herbal plants (from Egypt)	Cotton (winter crop: wheat or pulses)	Herbs (anise, basil, fennel, etc.)	Maize with clover intercrop

An organic cotton farmer is thus a producer of different crops, partly for subsistence consumption and partly as cash crops – though to much lesser extent than conventional farmers. Cotton usually does not account for more than half of the net income of farmers.⁸ The net income of a farm family therefore not only depends on cotton yields and prices but on the sales and in-kind value of the totality of crops. Some of the diversification crops are especially suitable for generating cash – especially the vegetables like onion, chilli or tomatoes – while others may also contribute to the family's own consumption. This is especially the case for wheat and pulses.

Moreover, small farmers in particular consider cotton cultivation as a livelihood strategy and not only as a simple attempt at income maximisation. Security issues and risk distribution are also very important criteria, especially because of the high risks in growing cotton. This risk is a little lower for organic cotton growers than for conventional ones as input costs are lower in organic cotton. If a farmer has taken loans for seeds, fertilisers and/or pesticides and if a crop is lost due to bad weather or a pest attack, he can easily be ruined and frequent farmer suicides in India show that this is indeed no negligible risk.

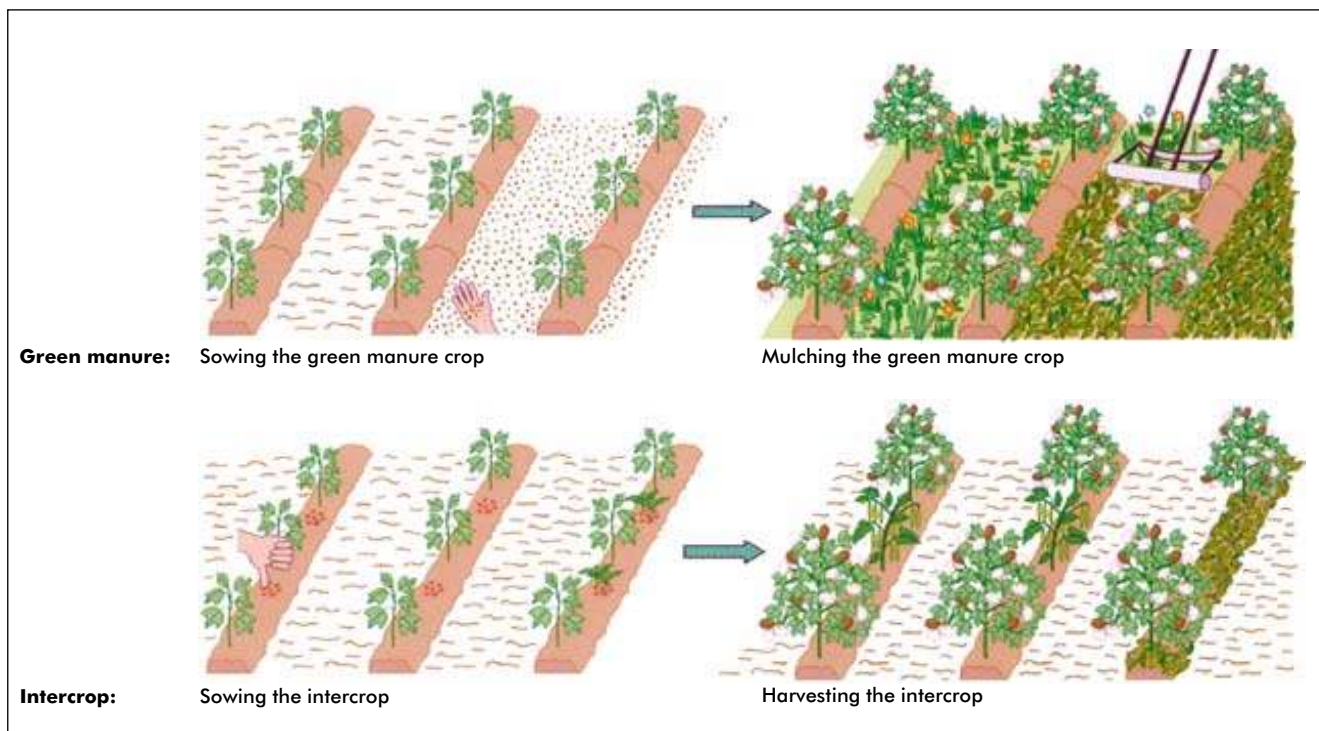
Frank Eyhorn and others undertook an impact study of organic cotton farming⁹ in India and also made a qualitative assessment of farmers' perceptions of organic cotton. He initially concluded that farmers are very heterogeneous and differ in terms of landholdings, attitude and, most of all, their livelihood situation.

It is still too early to reach definitive conclusions on whether organic, conventional or even genetically modified methods are more beneficial to the farmer, but some tentative lessons can nevertheless be drawn:

1. Whereas organic farming reduces the costs for inputs and tends to replace cash-inputs with in-kind inputs, small farmers may benefit more from organic farming than larger farmers.
2. However, during the conversion period of two years, yields and incomes can decline and this is often a burden for smallholders.
3. Whereas initially organic cotton tended to be adopted by larger farmers – the classical early adopters who could bear the risk of innovation – today it is more attractive for small farmers to adopt organic methods.
4. Many conventional farmers expressed concerns about the future of farming and decreasing returns due to stagnating and instable yields.
5. In the perception of most organic farmers, the quality of life and the family health situation had improved thanks to adopting the organic system.¹⁰

It can thus be concluded that organic farming is especially important for smallholders from a risk reduction point of view, and that crop diversification and reduced cost of inputs can lead to better long-term prospects. One of the striking features of the farmers participating in the Maikaal bioRe project is that many of them have shaken off their indebtedness.

An unquestionable advantage of organic cotton growing is improved soil fertility; the application of natural



fertilisers and compost is certainly an important long-term benefit to the farms.

In recent years, genetically modified 'Bt cotton' has become available all over India: this cotton contains genes of the 'bacillus thuringiensis', a biological pesticide which is widely used – also by organic farmers – against certain pests, mainly the dangerous bollworm. These seeds thus have a self-defence mechanism against the bollworm. In the bioRe area in India, these seeds have become very popular especially with progressive and wealthy farmers: it has become a kind of a status symbol as 'GM' is associated with a 'modern' farming method. Genetically modified cotton seeds are not permitted under organic agricultural standards, and it is a much-debated issue whether GM cotton will lead to higher yields and/or less pesticides. Some farmers have adopted Bt-cotton because their varieties are fast-growing and leave space for planting wheat after harvesting.

The debate on whether Bt-cotton is a blessing or a threat is still going on and neither side has conclusive evidence for one or the other thesis. What is certain is that Bt-cotton leads to higher seed costs, not necessarily lower pesticide applications and also to higher incomes – in a good year. Obviously, risks are also higher and one severe danger is that the winds may carry Bt cotton seeds into organic farms and thus 'pollute' their crops.

2.3. BIORE INDIA LTD – A SERVICE COMPANY WITH FARMERS AS SHAREHOLDERS

At the basic level, the bioRe project assists farmers with a very elaborate extension service in which the farmers can buy inputs (seeds, natural pesticides) and get advisory services. For a long time, this extension service has also undertaken a wide range of R&D and experimentation with different varieties of cotton seeds. It has also worked on organic farming techniques such as mulching, composting, biogas plants in order to increase the volume of cow-dung, production and with the use of natural pesticides. When their two year conversion period years is over, farmers can become certified bioRe farmers.

To institutionalise the extension services, bioRe created the bioRe (India) Ltd. (BRI), an Indian service and trading company located close to the river Narmada in Madhya Pradesh. Farmers have a contractual arrangement with BRI. Actually, the farmers are minority shareholders in this company; it also owns a ginning plant where the cotton seeds are removed – seeds account for almost two-thirds of the weight of the cotton harvest. The seeds are partly used for growing new plants, but a

high percentage can be used as cattle feed, compost and fertiliser.

The company has four main tasks:

1. Providing farmers with support (training, consulting, crop monitoring, inputs) to ensure that they succeed in converting from conventional to biodynamic farming and have good harvests;
2. Verifying compliance with the biodynamic certification requirements;
3. Purchasing the cotton directly from the farmers;
4. Ginning the cotton in its own ginnery plant.

Currently, the bioRe Foundation in Switzerland (supported by Remei AG and COOP) holds the majority of shares in BRI but there is a plan to gradually put the company into the hands of Indian stakeholders including the bioRe farmers. Those farmers who are entitled to a full premium of minimum 15% because they have reached the 'full organic status' can become shareholders. The shares are bought with the organic cotton premiums; this means that of the 15% premium, three-quarters is paid in cash and one-quarter by issuing preference shares. However, the plan for handing over power to the farmers still needs to overcome some bureaucratic and institutional hurdles.

It is also not an easy task to convince farmers to become shareholders: they were very sceptical initially, some of them having had very bad experiences with shares before. It required a good deal of explanation and trust building. However, after the first two years, this sense of ownership among the farmers has drastically improved. The board of directors consists of Patrick Hohmann, Managing Director and President of Remei Ltd., Rajeev Barua, MD of bioRe (India) Ltd., two farmers, two women farmers and P. V. Rajgopal, a social activist, national convenor of the NGO 'Ekta Parishad' and Vice-President of the Gandhi Peace Foundation.

The operations of BRI are governed by the bioRe 'Organic Farming Operating Manual' which follows the requirements of the European Regulation on organic production of agricultural products (EEC) Nr. 2092/9,1 as applicable in India. This manual describes the procedures of internal inspection and gives a detailed overview of bioRe's functioning.

Extension and inspection are carried out by specially trained personnel in 10 centres, each centre catering to several villages.

The company started with only 223 farmers in 1993 and 206 tons of raw cotton. Its goal for 2007–08 is to involve 1,700 farmers and to process almost 5,000 tons of cotton

seed. As the following graph shows, these targets have been exceeded by far: almost 8,000 farmers have joined and 8,000 tons of raw cotton had been produced in India alone.

Production experience and expansion plans for BRI¹¹:

Year	Nr. of farmers	Area (acres)	Raw cotton (t)	Ginned cotton (t)	Yarn (t)
92-93	Pilot project				
93-94	223	467	206	68	42
94-95	568	1,340	516	185	135
95-96	649	3,000	1,366	468	336
96-97	688	4,585	2,096	713	500
97-98	699	5,204	1,870	627	436
98-99	888	6,195	2,043	705	507
99-00	1,061	7,425	2,584	835	585
00-01	1,123	8,067	2,362	760	532
01-02	1,000	7,956	2,080	683	478
02-03	1,025	7,956	2,085	798	519
03-04	1,419	10,402	3,285	1,112	723
04-05*	1,502	9,987	3,127	1,028	668
05-06*	2,193	11,102	4,284	1,472	957
06-07*	4,991	17,303	5,930	2,016	1,310
07-08*	7,890	25,731	7,945	2,700	1,755

*Incl. farmers from satellite projects: since 2003/04 bioRe supports satellite projects in Madhya Pradesh and Maharashtra.

A closer look at these figures shows that the progress is not simply linear; in 2001-02 in particular, the number of farmers dropped significantly and even in subsequent years, this number stagnated. The main reason was a heavy drop-out of defaulters in these two years, as explained in the following sections.

2.4. EXTENSION SERVICES: THE BACKBONE OF AN ORGANIC COTTON VALUE CHAIN

The bioRe India assists farmers with suitable seed varieties. "There are a large number of different cotton varieties available on the seed market, and research stations and seed companies continually release new varieties. Most of them are bred for producing high-yields under high-input conditions: fertilisers, pesticides, and irrigation. Organic farmers, however, are more interested in robust varieties that are resistant to or tolerant of pests and produce satisfying yields with medium manure supply."¹²

Farmers therefore need to select those varieties that give them the highest overall net benefit within given

soil and water conditions. It is not in their interest just to maximise, but rather to optimise yields and take into account the inputs required. Moreover, organic farmers need to rotate their crops more than conventional farmers, and cotton usually accounts for less than 50% of their overall income: as a principle, cotton should not be planted in the same field twice consecutively ("no cotton after cotton") because this would deplete the soil fertility. Rotation crops are pulses (soya, moong beans, cow pea), maize or sorghum, chilli, onion, sugar cane, sesame or certain herbs. The selection of the right varieties of alternative crops may contribute more to the overall profit of a farm than choosing a cotton seed with a very high yield. Moreover, varieties with very high yields may also have a higher vulnerability in case of pest attacks, drought or water stress.

bioRe India maintains a very strong extension service of around 30 people for almost 8,000 farmers on some 25,000 acres (10,000 hectares). In all, 10 extension offices provide a comprehensive package of support services¹³:

- "Informing and training the farmers on organic farming;
- Providing technical advice on production issues;
- Facilitating farmer-to-farmer exchange;
- Purchasing the cotton with an organic premium;
- Operating the internal control system (ICS);
- Supporting the farmers in maintaining farm documents for certification;
- Organising (and financing) the external certification".

In order to make the extension services more integral and more viable, additional support may be provided:

- Organizing or supplying farm inputs like organic manures (e.g. de-oiled cake of castor, sugar cane press mud, bone meal), natural mineral fertilisers (rock phosphate, muriate of potash, lime etc.), organic pesticides (e.g. neem preparations, Bt-sprays, NPV-sprays) and untreated cotton seeds of suitable varieties;
- Providing or facilitating credit for purchasing inputs and infrastructure;
- Financial or in-kind contributions to building compost-heaps, bio-gas plants, cow sheds, etc.
- Organizing markets for the rotation crops;
- Support in participatory technology development and research;
- Networking with other farmer groups and projects.¹⁴

Some of these functions sound more like tasks for a Government or an NGO programme, and it is indeed very difficult to draw a line about where and when the

support should end. However, there is not the slightest doubt that an effective extension service is the backbone of an integrated organic cotton chain. Farmers will just not produce organic cotton – and even less apply organic rotation crops – unless they get sound advice, good inputs and a process which leads to the certification of the farm after three years of conversion. Until 2007, bioRe India Ltd. paid a premium of 20% on the purchase price for organic cotton, once the conversion has been successful and the farm is certified, and 10% or 15% respectively in the first two years of conversion. In 2008, a new pricing system was introduced: the premium is now 15% based on the average price of the past five years. This gives more stability to the prices and – in the case of falling prices – the premium is considerably more than 15%. Obviously, in the case of rising prices, the contrary applies, but the main issue is to safeguard the farmers in case of falling prices. bioRe India Ltd. employs three procurement officers and another 13 people are occupied with general management and support tasks; the ginnery employs a staff of five persons.

The calendar of activities of BioRe India Ltd. is as follows:

One key issue is how to make an extension service and a research farm viable. The cost of such an operation amounted to approximately US\$ 500,000 in the case of India or 18 cents per kg cotton lint; this amounts to more than 15% of the world market price of US\$ 1.40. These additional costs are a heavy burden: they will be reflected in the cost calculation of the entire value chain with a multiplier, as we shall see later on. A detailed discussion on how to make these services viable will be presented in section 2.7.

2.5. GROWING ORGANIC COTTON: COMPLEX BUT HIGHLY BENEFICIAL FOR SMALLHOLDERS

The cultivation of organic cotton implies fundamentally distinct practices to those changes of conventional farming and a holistic approach, according to Eyhorn: "Converting a farm to organic production does not simply mean replacing chemical fertilisers and pesticides with organic ones. Organic cotton must be grown in a diverse and balanced farming system that also includes rotation crops. Instead of troubleshooting, organic farmers should try to prevent problems and avoid substitutes to conventional inputs as far as possible. This requires a thorough understanding of nutrient and pest management and the ability to continuously observe and learn.

To get satisfactory yields and incomes with organic cotton farming it is necessary to adopt a number of integrated measures in a system approach, ensuring that the interaction among soil, plants, environment and people is well balanced. The 'ingredients for success' all need to be applied together:

1. Suitable measures to improve and maintain soil fertility;
2. Establishment of crop rotation and crop diversity; fostering natural balance;
3. Selection of varieties suitable to the conditions (soil, availability of irrigation, market requirements);
4. Appropriate types and amounts of manures at the right time;
5. Timely crop management such as intercultural operations, weeding and irrigation;

Activity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Farmers registration														
Farmers training and input distribution														
Crop monitoring and advising														
Internal inspection														
Raw cotton purchase														
Ginning														
Cotton lint and cotton seed sales														
External inspection (at various times of the year)														

Extension service for organic cotton farmers



An extension service is the backbone of an organic cotton value chain



Organic pesticides such as neem-based product are sold in the extension agencies of BioRe



The quality of the soil enriched with organic fertiliser and compost is crucial for a good harvest



Pesticides and fungicides are produced from natural products such as garlic and neem extracts



Earlier, the extension service provided these services free-of-charge but now farmers are willing to pay

6. Careful monitoring of the crop and sufficient protection against pests according to the concept of economic threshold level;
7. Timely and proper picking of the cotton;
8. Sufficient documentation for needs of inspection and certification;
9. Capacity building and experimenting for continuous improvement."¹⁵

This systemic approach is illustrated in the graph. It looks rather complex and it indeed is: an in-depth-study by FIBL, the Swiss research institute of organic agriculture shows the surprising fact that organic cotton growing performs better than conventional methods:

1. "It is a striking result that cotton yields in organic farms are not lower"¹⁶ but even 4% to 6% higher than in conventional farms.
2. This result is even more surprising "when considering the fact that organic farms achieve these yields with about half the amount of nitrogen and phosphorous applied to the crop"
3. While it is assumed that organic farms replace purchased inputs with on-farm produced inputs (e.g. cow dung instead of chemical fertiliser), astonishingly, "average labour inputs in the monitored organic cotton fields were not significantly higher than in conventional fields"
4. "Considering lower fertiliser inputs and similar labour inputs it is not surprising that total variable production

costs in organic cotton cultivation are 13–20% lower than in conventional farming. In addition, organic farms spend considerably less on pest management."

5. It is, therefore, not surprising that the "average gross margins from the cotton crop as well as from the cotton field were up to 43% higher in organic farming. Organic cotton farming performed 30% better even in 2004, despite significantly lower cotton rates (in 2004, the price for cotton has fallen by 26% compared to 2003).

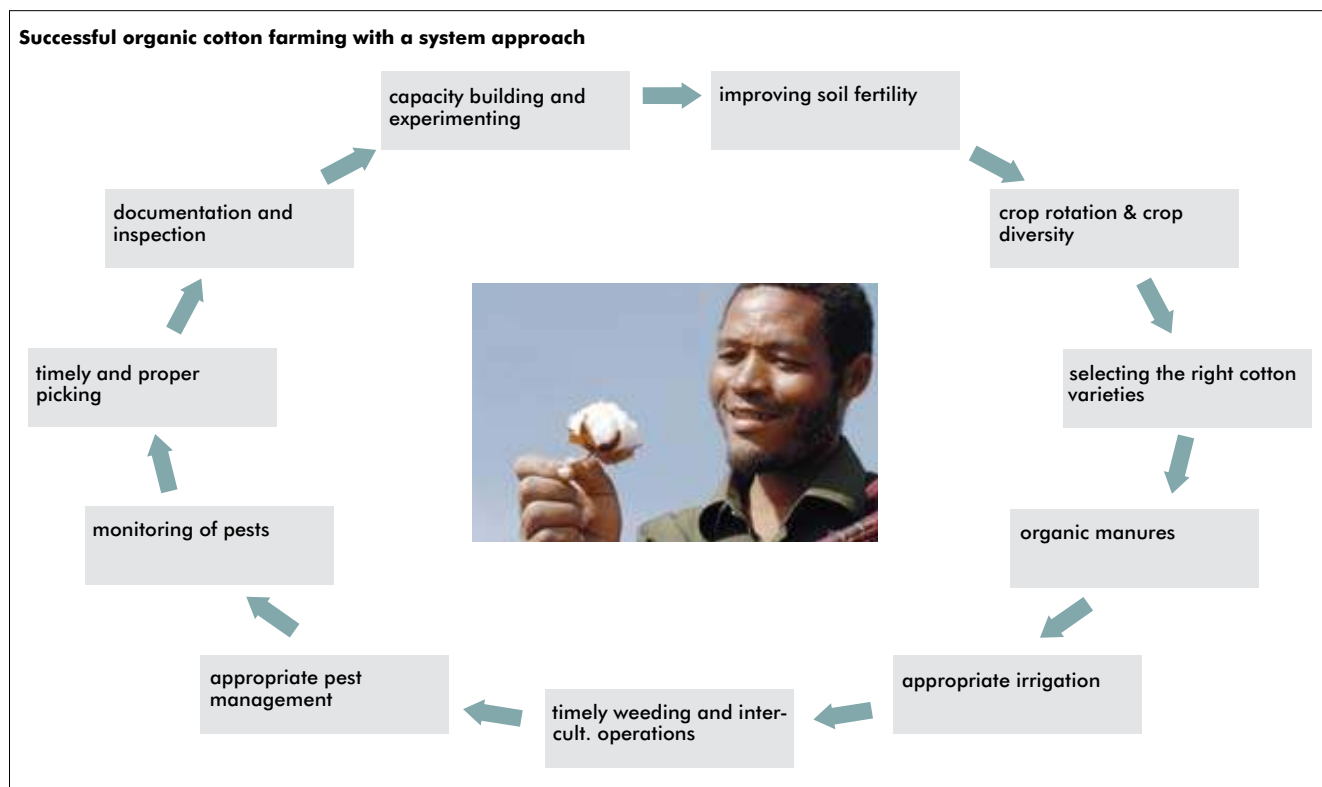
6. While organic farmers in the bioRe project "have managed to design their cotton production system in a way that they achieve the same or even higher yields than their conventional colleagues, this is not so in the rotation crops." For instance the yields for chillies are much lower than in conventional farming.

7. There is, thus a lot of scope to improve the results in the rotation crops, and bioRe India Ltd. has decided to also take care of marketing of some of the rotation crops. These are also certified organic products that could benefit from premium prices.

8. The study concludes nevertheless that organic cotton growing is highly beneficial for smallholders and can contribute significantly to poverty reduction.

9. However, there is a high entry hurdle during the conversion phase of the first two years where farmers reported 10–50% lower yields; during these two years the premium paid is only 10% and only after the third year it is minimum 15% calculated on the average purchase price of the past five years.

10. Finally, after the conversion phase, organic cotton



Opting for organic farming depends on many factors: some farmers are innovators, wanting to experiment with new systems while others are more reluctant.



This farmer, clearly an innovator, joined bioRe long ago



His brother farmer is more conventional and cautious, eagerly watching outcomes before being convinced



Frank Eyhorn (right) has conducted a substantive study on organic cotton farming and its impact on livelihoods



The study was also accompanied by extensive soil and yield research by FIBL, the Swiss research institute of organic agriculture



Another important aspect of cotton cultivation is that it generates work for pluckers like this elderly woman

farming bears less risk than conventional cotton. This is partly because of the security to sell to the bioRe India Ltd., partly due to the good extension service which reduces crop losses and finally, in case of a partial crop loss, the monetary loss is much less due to lower input costs.

All in all: organic cotton growing is a very beneficial opportunity for smallholders and being linked to an integrated organic cotton value chain is very relevant for ending poverty and reducing the risks of becoming indebted.

2.6. CONTRACT FARMING AND LOYALTIES-CHALLENGING FARMERS' REALITIES

Despite the bioRe project having been in operation for more than 10 years, farmer participation had not stabilised at all until around 2005. A study by Tushaar Shah came to the conclusion that "many farmers' adoption of organic farming is driven by opportunism rather than intrinsic faith in its virtuosity"¹⁷:

In 2002 and 2003 in particular, the project faced a heavy percentage of defaulters, farmers who had added prohibited inputs. When the internal inspection discovered the cheating, these farmers were dropped from the programme. A detailed analysis of those defaulters in the FIBL study¹⁸ showed that they were rather wealthy farmers who adopted organic methods more out of opportunism than out of desperation. What they lost in premium money was more than what they gained by higher yields. These reactions had shown, however, that even after more than 10 years, the loyalty of the farmers was not very strong, and for an integrated organic cotton value chain, such dropouts are a heavy drain of resources. Defaulters are especially problematic for a company like bioRe India which invests considerable amounts in training and supporting farmers during the three year conversion phase and these inputs are absolutely necessary in order to secure the integrity of the organic operation.

Now, what are the reasons for this poor sense of loyalty? Three main reasons – and also remedies – are mentioned below:

1. Risk mitigation: Cotton growing is – and will remain – a "risk prone, low-yielding, small-scale farming system"; the market price fluctuations (–26% in 2004 compared to 2003) make cotton farming a risky business, even for organic farmers. This will naturally lead to a certain 'gambling' attitude of the farmers. It is, thus, an important strategy to reduce these risks, and bioRe

India has reduced these risks considerably through good extension, reduced indebtedness and lower input costs (less losses in case of a crop failure). It is an interesting aspect that poorer farmers tend to be more loyal to the programme than wealthier farmers. Given that high-value crops such as chillies are an important cash crop, the extension services will focus especially on increasing the yields and returns of chillies. These yields have, however, been very poor so far, as chillies require high fertiliser inputs.

2. Holistic marketing: Recognising that farm income derives only in part from cotton and that rotation crops usually account for more than 50% of the total income, bioRe India had decided to market organic non-cotton crops in local markets. However, no original plan has materialised for becoming a more diversified trading company for organic products as marketing crops such as sesame, moong beans, wheat and chillies would go a very far way indeed away from the core business of a textile company.

3. Involve women: another special effort has to be made to involve not only the male farmers but entire families, and to involve women and children in decision-making, or at least the scope of decisions. Women are usually more security-oriented than men, and have less of a tendency towards 'gambling' attitudes and behaviour.

2.7. THE ECONOMICS OF AN EXTENSION AND SERVICE ORGANISATION

To make an extension and service organisation economically sustainable is always a massive challenge and a very demanding organisational task. It is quite unusual for a textile firm like Remei to have managed to provide such services successfully in both India and in Tanzania. In India, it was thanks to its hiring Rajeev Baruah, a former tea plantation agronomist, that the extension, procurement and organisation of farmers has worked. In Tanzania, Remei was able to hire Niranjana Pattni who has now worked for eight years with the farmers.

We should now sit back for a moment and imagine how far away such tasks as building up a farmers' organisation are from the daily worries of getting a new collection of baby clothes into the shops, as the purchase manager of the retail chain has to do. Some of those tasks may be part of an integrated organic cotton value chain, but indeed the bulk of it is the job of a development organisation.

At the start of an organic cotton project, the task is huge: just as with building up a supply chain for a milk processing plant, it means organising many farmers – patience is of the order here, as it takes at least two years until the

first farmers can be certified. Initially, the interaction is typically that of a seller's market where the buyer needs to get the cotton from the farmer. It is only once farmers are really organised and supply is abundant that the situation will change and turn into a situation where the farmers bring the cotton to the buyer.

Let us explain this with the example of Remei's Meatu project in Tanzania. The two pictures on the following page show the situation in 2008 and an ideal projection for 2013.

Today, Remei pvt. Ltd. is at the centre of the stage and is performing all tasks directly as a network manager, namely:

- 1. Contract farming:** all farmers are enrolled in the programme and produce under a contract with the local bioRe company – and backed up by Remei AG – which guarantees them the sale. Unlike other schemes where farmers' groups or cooperatives are the main contracting partners – as in the FLO Fair Trade scheme – the farmers have individual contracts with bioRe Tanzania;
- 2. Extension:** the farmers get consultancy advice from the bioRe extension centre;
- Research & Development (R&D), know-how:** the R&D efforts for applied organic farming and the selection of local varieties is done by bioRe India; in Tanzania there is only one variety;
- 4. Infrastructure:** bioRe invests in a large warehouse to store and process the seed cotton in the ginnery;
- 5. Farmer-field schools:** bioRe maintains farmer-field schools for training and extension where farmers can learn best practices;

6. Purchase operation: bioRe purchases directly from all the farmers by collecting the cotton in the villages, assessing the quality and making the payments.

7. Quality control: bioRe maintains an extensive internal control system (ICS) with a farmer's book for each farmer. This is important as a data base for the inspection by the organic certification agency.

8. Administration of farmers: Moreover, bioRe Tanzania performs many administrative tasks such as organising training events for the farmers.

The different functions which make up an extension system work should thus ideally be distributed as follows:

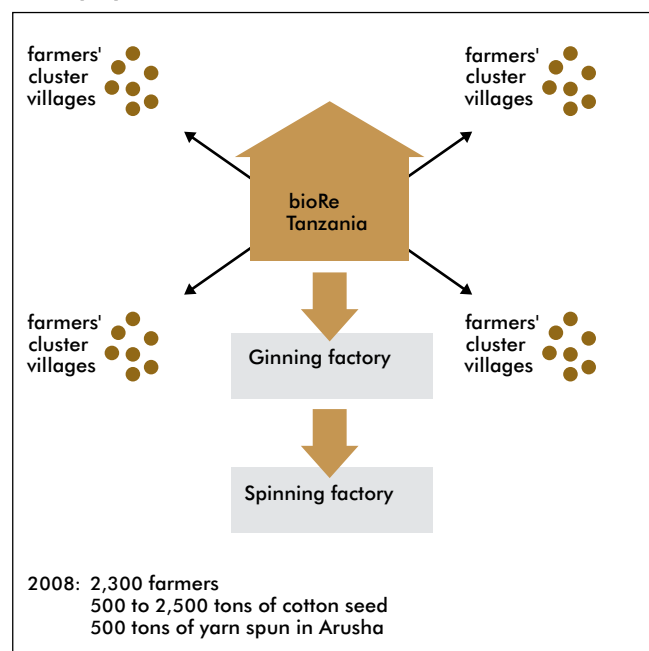
Tasks of bioRe Tanzania:

1. Extension services and inputs to be sold to farmers, not any more on an individual basis but to entire satellites; farmers will not pay for these services in cash but in embedded services added, for example, to agro-inputs such as seeds, fertilisers and bio-pesticides.
2. Know-how transfer to satellite farmers' organisations
3. Purchase of raw cotton is an essential task of the organic textile chain (in a conventional chain, the cotton would be purchased from intermediaries)
4. External control and certification.

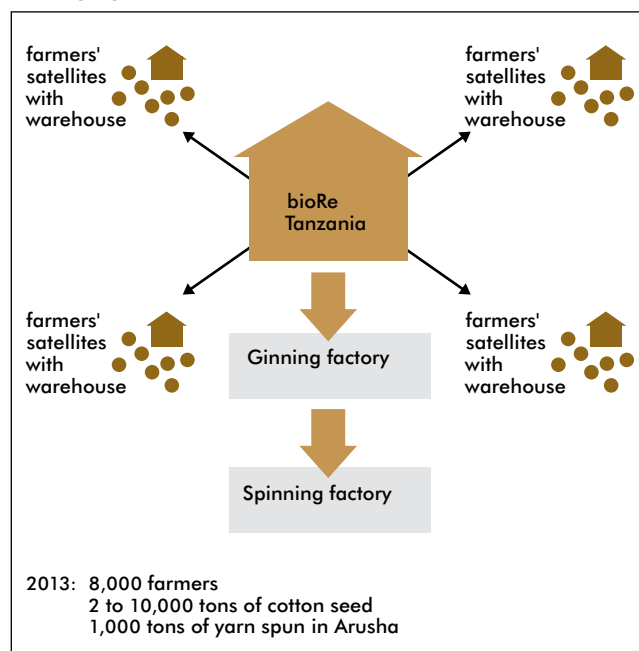
Tasks of satellites:

1. The satellite would have its own administration, for example to organise trainings.
2. The satellites would have their own internal control systems (ICS): farmers and satellites would be enabled and empowered to maintain their own ICS

Meatu project of Remei in Tanzania 2008



Meatu project of Remei in Tanzania 2013





Threshing on the bioRe demo farm in Meatu, Tanzania



bioRe staff at the training centre



Farmers receive training on quality characteristics of organic cotton



Cotton picking at the bioRe demo farm in Meatu



Members of the Massai tribe help to protect crops from thieves during harvest time



bioRe extension staff on their advisory work in the field



The cotton is picked by hand and will be brought to a bioRe collection centre



Organic cotton in Tanzania is of good quality with a fine white colour



Justina Sampson, a member of the internal control system (ICS) team explains the essentials of organic cotton to a farmer



As farmers are not certified individually, it is the ICS that provides the basis for sample inspection. Justina Sampson of the ICS is at the bioRe village office in Mwamishali, Tanzania.

3. The satellite would be able to organise its own farmers-field schools;
4. The satellite would have its own infrastructure: mainly warehouses for storage are needed.

The entire cost of the extension service is thus:

In Tanzania in particular these costs are very high and as the volume is still low they are a heavy burden. The higher costs in Tanzania are partly due to the generally higher costs of services but also due to the defective infrastructure. About half of this cost is due to the extensive internal control system needed for the inspection. The external agency – in this case the Swiss bio.inspecta – does not control each farmer but evaluates the quality of the ICS and then takes random samples.

To make this extension more viable, one option would be to better organise farmers and empower them so that they can bring the cotton to bioRe rather than the other way round. The key task would be to convert the logic – and logistics – of organic cotton production from what is now – in Swiss-German notions – a 'Holschuld' (debt to be discharged at the domicile of the debtor) to a 'Bringschuld' (debt to be discharged at the creditor's domicile). For this, they would need to have their own infrastructure, especially a warehouse to store the seed cotton safely, to get organised as satellites with their own administration, their own internal controlling system and their own infrastructure. The investment in infrastructure is estimated at around US\$ 86,000 per satellite and US\$ 70,000 running costs per year for some five years to reach break-even. A satellite could have from 500 to 2,000 farmers. If African farmers are to remain competitive, they urgently need more infrastructure and organisational support.

It is obvious that this satellite creation is not a task of a textile value chain; it is a public task of development cooperation – and a highly effective one in terms of poverty alleviation.

The key to making such extension systems viable is to reduce the transaction costs and to shift some responsibility – the one of organising the farmers – towards public development activities. But the most important strategy is to increase the volumes. The more farmers participate and the more cotton is produced and processed, the

lower will be the transaction costs. Finally, it is crucial to process as much cotton as possible locally: making the yarn and, ultimately, entire garments as close to production centres as possible will also reduce transaction costs. Moreover, it becomes easier to absorb the transaction cost with increasing value added. The break-even point for an extension service is estimated to be at volumes of at least 1,000 to 1,400 tons of seed cotton per year. Another key figure is that the cost of the organic cotton should not exceed 10 to 20% of the world market prices. With present (2007) extension costs of 29% in India and 71% in Tanzania, there is still a long way to go, especially in Tanzania, but Patrick Hohmann is confident that it can be done.

Fortunately, there is a textile processing centre in Arusha, relatively close to the Meatu bioRe project. This makes an organic cotton value chain viable in Tanzania too – in the long run. But all costs are much higher in Tanzania, mostly due to the appalling state of infrastructure: bad roads and irregular supply of expensive electricity. The regular power cuts in the Meatu region make it impossible to operate neither a ginning nor a spinning factory at competitive costs.

2.8. A NEW CHALLENGE: CO² NEUTRAL T-SHIRTS?

There are new challenges have to be faced, given ever-increasing environmental awareness around the world. It was probably Al Gore's 2004 film 'An inconvenient truth' that influenced COOP and Remei to look into the CO² emissions of the entire textile chain.

An analysis of the entire textile value chain for t-shirts made in India revealed that the planting, growing and ginning produces some 2.2 kg of CO² emissions per kilogram of textile fabric. The bulk of these CO² emissions are produced during spinning, a highly energy-intensive process while the final processing and – surprisingly – the transport by sea freight contribute only modestly to carbon emissions. The following table and graph show the CO² emissions per kilogram of fabric and for one t-shirt of 300 grams.

COOP and Remei have together now undertaken a pilot project and have compensated 800,000 t-shirts by

Country	Cost per annum	Tons of cotton lint	Cost per kg of cotton lint	Extension cost in % of world market price
India	US\$ 499,975	2,750 tons	US\$ 0.18	+ 29.3%
Tanzania	US\$ 568,000	1,500 tons	US\$ 0.38	+ 71.4%



The the training centre in Mandleshwar is the heart of bioRe India social projects



Besides training courses for farmer in organic agriculture, the centre offers computer courses for youngsters ...



... and literacy classes for small children called "education through animation"



A mobile health clinic was set up by the foundation: its bus goes from village to village, with a doctor on board





Some 80,000 CO² neutral t-shirts have already been produced. CO² can be compensated by optimising the process and



.... by constructing 150 biogas plants. As a greenhouse gas, the impact of methane is 21 times higher than CO² .



Organic farming requires large amounts of cow dung – biogas has a dual value: as gas for cooking and lighting ...



... and as a fertiliser. This is much better than using cowdung cakes for cooking.



CO ² emissions	per kg of fabric	per t-shirt
Growing	2.2	0.660
Spinning	4.7	1.410
Processing	2.6	0.780
Transport	0.8	0.240
Total	10.3	3.090



making them CO² neutral. Remei has set itself the target of achieving CO² neutrality in its production by the year 2012. This could be achieved by a reduction of CO² emissions in the process by 22% and, for the rest, by investing in biogas plants with their farmers. The 800,000 t-shirts with a weight of 24 tons results in some 250 tons of CO² emissions. bioRe India Ltd. has set up 150 new biogas plants with their farmers, to neutralise the 250 tons of CO². Biogas plants are very effective in offsetting carbon emissions as they prevent the methane emissions from entering the atmosphere. In terms of greenhouse gas emissions, methane has a 21 times higher impact than CO². In 2008, bioRe plans to set up another 1,000 biogas plants – and from 2009 onwards another 2,000 biogas plants will be installed until 2012.

2.9. CAN THE POOREST OF THE POOR PARTICIPATE?

While growing organic cotton may help poor farmers to get out of their debt trap and improve their livelihoods, it is not the patented answer to all questions. How can the poorest of the poor be integrated and how can poverty significantly be reduced?

2.9.1. CAN ADIVASI FARMERS BE LINKED TO BIORE INDIA?

There is a high degree of affinity and friendship between Patrick Hohmann and P. V. Rajagopal, the chairman of Ekta Parishad, an advocacy NGO for adivasi (tribal) people in India. They are amongst the most discriminated

and poorest people in India. In November 2005, we went with Rajagopal to Karakda, an adivasi village some 80 kilometres away from the bioRe office. It is a very poor village, with a grave lack of water in the dry season, and most villagers have to migrate. Landholdings are not much smaller than in the bioRe core area but the lack of water makes the land much less fertile.

Can an organic cotton value chain integrate the poorest of the poor? Rajeev Baruah, the manager of bioRe, is still optimistic that this will, one day, be possible even though enormous efforts in organisation, training and infrastructure improvement are needed. So far, most families migrate to other Indian States for six to eight months in a year. The area is very dry and provides no income during the dry season. Yields are very low and a typical family does not harvest more than some 300 kg of cotton. The income from this harvest is only some 6,000 Rupees or US\$ 150, far below what is needed to make a decent living. Moreover, many farmers are heavily in debt. Being very keen to support this group, P. V. Rajagopal nonetheless sees major difficulties and a long process ahead in converting this village into one of viable organic cotton growers.

2.9.2. STRATEGIES TO DOUBLE THE PURCHASING POWER

Increasing purchasing power by organic cotton alone has its limitations too: the farmers have neither sufficient land nor adequate water to increase their crop volumes to the point where they attain comfortable and decent incomes. bioRe India would like to double the income of farmers from less than one dollar a day to at least one or two dollars a day and, with this goal, has started a new programme to create direct incomes in the villages by purchasing hand-spun textiles. Hand-woven shawls will be produced from hand-spun yarn and Remei Ltd. will market them to COOP Switzerland, Monoprix, COOP Italy and to the participants of the upcoming German Church Assembly (Kirchentag).

2.9.3. HOW CAN THE COMMUNITY BENEFIT FROM PROSPERITY

The income of the farmers is indeed the main target of bioRe India and Tanzania. If their income from cotton and other crops can be increased and if the farmers are not any more indebted, they can take care of most of their problems themselves. However, not everybody is a farmer and it makes sense to introduce projects that serve the entire community. At this level, such activities are funded through the bioRe foundation, a separate

Can the poorest be linked to an organic cotton value chain?



This lady is from an adivasi (low caste tribal family) in a very dry area. Her family has to migrate for 6 to 8 months in a year and can only produce some 300 kilograms of cotton seeds, earning some 6,000 Rupees (US\$ 150) each year.



Marginalised as tribal societies, these farmers are keen to get any support



V. P. Rajagopal, an activist NGO supporting tribal societies, meeting with Rajeev Baruah, manager of bioRe India Ltd.



A farmer's woman addresses the village assembly to explain their problems



The village lacks infrastructure and especially watershed development to maintain the water

non-profit entity supported by Remei, COOP Switzerland, COOP Italy, Monoprix and other clients of organic cotton textiles. Some of these activities are described on the photo page. In order to avoid these additional costs for social projects becoming subject to the cost multiplier (see later chapters on costing), they are funded separately as donations.

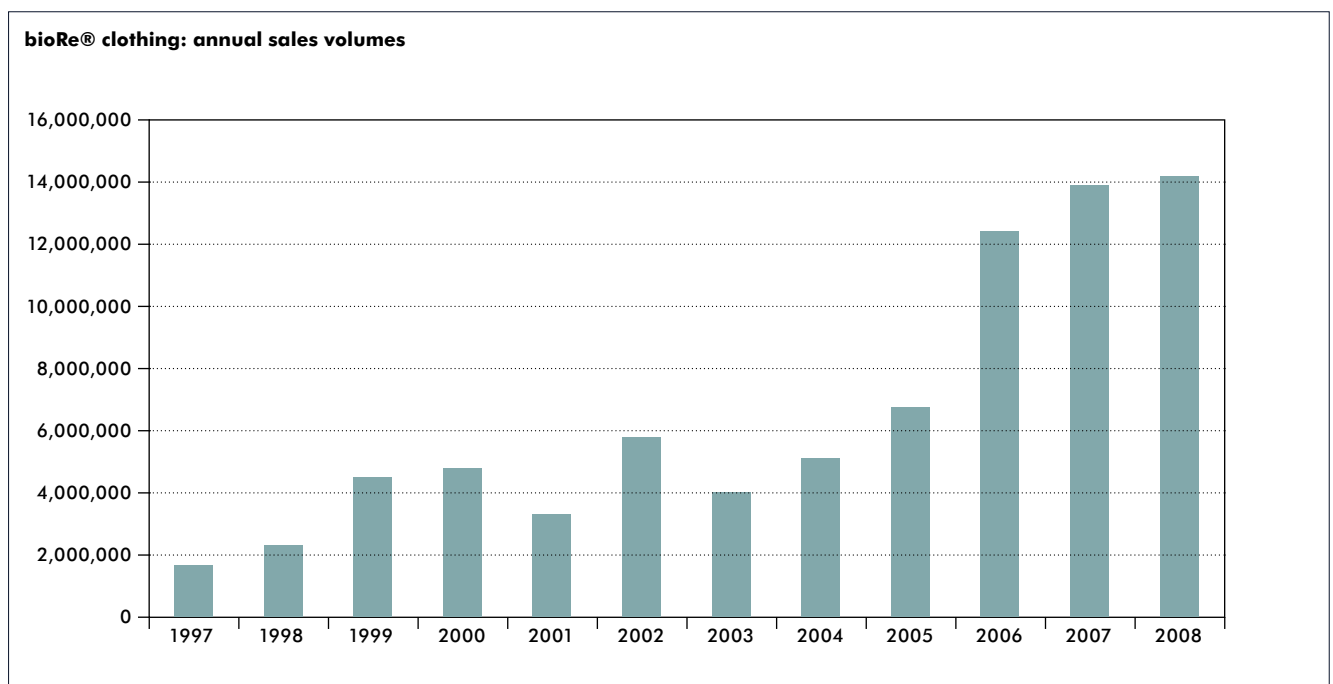
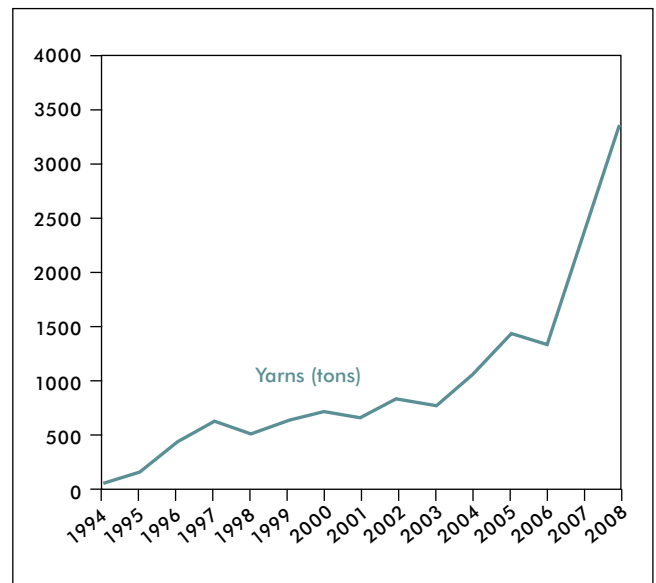
Overall, the consumption of organic cotton textiles has grown remarkably and one could easily say, with due optimism, that "the glass is half full". In Switzerland, France and Italy in particular, the prospects are really promising, thanks mainly to the pioneering efforts of Remei pvt. Ltd. and of the Swiss retail chain COOP.

3.1. GROWING THE MARKET OF ORGANIC COTTON TEXTILES

In the relatively short span of a decade and a half, as the graph illustrates, Remei has been able to increase the sales of cotton yarn from 42 tons in 1994 to over 3,000 tons in 2008. How has this been possible? Interestingly, this growth is less an issue on the demand side, but it is more revealing on the supply side: when COOP started to sell organic cotton textiles, the first product to come to the market available were socks, beige in colour. Gradually, new products were developed, the range of colours grew and, finally, an almost complete collection of organic textiles has become available. The entire collection now comprises 8,400 different products and it is this depth and width of the range that is the key to the growth of organic cotton. There are still some products that are not yet available, namely fine underwear or high quality 'business-style' cotton shirts and many woven textiles such as bed linen. Bras are a very

specialised niche product only and even if it was possible to make them from organic cotton, it would not really increase the volumes significantly.

In the development of bioRe sales volumes for clothing, the value of finished textiles has constantly increased over the last ten years. Behind these figures, there is a clear trend towards higher value added but also a diversification into many new products.



Direct purchases from farmers are a must in an organic cotton value chain



bioRe India Ltd. buys cotton directly from the farmer, their agents going from house to house to assess quality and determine the price



One key criteria is the staple length of the cotton. The longer the fibres, the higher the price.



The farmers usually agree to the price offered by bioRe India Ltd. as the quality parameters are transparent



All the important parameters are registered in a book kept by the farmer



The price offered is based on the average of the last five years, plus a premium of 15% (was 20% until 2007)

Conventional cotton is traded at the open market auction



Conventional farmers deliver their cotton for auction at the local cotton market in Mandleshwar (Madya Pradesh). Traders buy the cotton for selling on to ginning factories.



Cotton is by far the most important cash crop in the area



This trader buys cotton on his own account, and has connections in the ginning factory



Most cotton is transported by bullock cart, often quite a distance to the market



Most farmers give a handful of cotton to this handicapped lady begging at the market entrance

Yet it is still very disappointing to see the place of organic cotton in the world market: according to data from 'Organic Exchange'¹⁹ some 57,000 tons of organic cotton were traded in 2008. This is indeed a high growth rate, but it still represents only 0.2% of the total global market, estimated by ICAC at 25 million tons of cotton fibre. As a global market share this is not a very satisfying performance. However, when we analyse the reasons and look into the intricacies of managing an integrated organic cotton value chain, it will become easier to understand why growth has not been even faster.

3.2. START WITH THE FARMER, OR START WITH THE MARKET?

One can start an organic cotton value chain either from the market end, or from the farmers' end. Organic cotton projects can be set up on the basis of contract farming or as farmer-based systems²⁰; both forms have advantages and disadvantages. Whereas contract farming provides security but also dependence, farmer-based systems provide more independence but also severe risks.

Starting from the farmers' end means that a group of farmers establish a cooperative association; they will produce certified organic cotton and then market it to different buyers. This type of farmer-based organic projects without any contractual relationship with an integrated value chain, or there being at least a firm intention by a retailer to buy, is a non-starter from the very beginning. The main reason is that farmers have to invest for two to three years in farm conversion and become certified organic production units. If they produce and make this conversion first, they may be bankrupt by the time they have found a market.

An integrated organic cotton value chain should start from the marketing end and integrate those farmers who want to participate. During the conversion phase, the procurement company has to purchase cotton even if it is not certified, and it is only after three years that the real production process can get underway.

A much more valid argument for starting a value chain from market to farmer is to be found in the characteristic of the market: every product requires a different quality of yarn. For example, high quality shirts or finest women underwear would need an extra fine yarn quality. This yarn needs a longer staple length of the cotton and this cotton cannot be grown in the current bioRe area of India. The soil and climatic conditions are only suitable for medium staple lengths of 24–31 millimetres, whereas Extra Long Staple (ELS) is over 32 millimetres.

In order to produce high quality shirts, Remei Ltd. had to start working in a new cotton area, in Dhule in Gujarat. Moreover, to produce shirts, the yarn has to be woven and the minimal quantities are higher in setting up production on a loom than they are for knitted fabrics: the minimal quantity of woven fabrics is 5,000 metres, good for 43,100 shirts while the minimum quantity for knitted fabrics is some 90 kg, the equivalent of 300 t-shirts at a high per unit cost or 180 kg for about 600 t-shirts for a reasonable per unit cost. These minimum quantities are further determined by the limits of the dyeing process. However, woven textiles such as shirts require much higher minimum quantities compared to knitted products.

In order to offer a broad range of products to the market, it is therefore appropriate to apply a 'market to farmer' approach. It is a more demanding approach for managing the entire textile value chain as it may be needed to work in different climatic areas but it is more suitable to really make use of the best value of the raw materials. One single region – for example, West Africa – may produce only a certain range of qualities and this will not be sufficient to produce the entire range for a full fledged collection of textile fabrics.

We shall now present each transaction of an integrated organic textile value chain, step by step.

3.3. PURCHASING RAW COTTON, PRICING AND GINNING

Conventional cotton is traded at the 'mandi', the cotton market, where traders bid for each lot of cotton. bioRe Ltd. has a different system and sends their procurement agents from house to house. After checking the quality, especially the fibre length, they fix the price based on the prevailing market rates.

Certified organic cotton needs to be kept separately during the entire process from fibre to fabric; this is the only way to ensure the tracing of the product back to the farmer. According to a recent business plan, "farmers usually store the seed cotton in their houses, and if they are not short of cash, they can wait for better the prices. bioRe pays the farmers within five days of cotton collection. At the farmers' request, part of the premium is paid by end of April so that the farmers have liquidity for planning the next crop, while the rest is used for the purchase of inputs."²¹ It is an important feature that bioRe Ltd. provides such inputs as interest-free loans in the first year of conversion, and later adjusts input costs with part of the price premium of the previous year.



Farmers heading to the bioRe ginning factory with their cotton on oxcarts



The bioRe ginning factory is the property of bioRe India Ltd., a company where farmers are shareholders



The cotton quality is assessed by bioRe's procurement officer, the same person who goes from house to house. Cotton seeds – the name used before ginning – will lose two-thirds of its weight through extracting the seeds. The remaining fibres are called cotton lint.



Organic farmers linked to the bioRe project have thus better chances of avoiding the debt trap into which many of conventional cotton growers tumble and are caught due to the high risks associated with this crop.

bioRe does not pay – as in the FLO fair trade system – a minimum price but takes the average local market price and adds a premium – until 2007, it was fixed at 20%. In 2008, bioRe modified this system and now offers a premium of 15% on the average purchase price of the past five years. This system keeps prices on the world market in mind, but it evens out the price fluctuations and gives the farmer more stability. This increase is given even then when the minimum price is achieved; in a market with falling prices the farmers will have a premium that is higher than 15% since it is based on the average of the past five years, and the contrary is the case if market prices are rising. However, the main purpose is to shield the farmers from falling prices and to provide a maximum of stability and risk reduction. We shall discuss the pricing models of both Remei AG and FLO in detail later in this publication (see chapter 6).

The ginning factory separates the seeds from the fibres: the seeds account for over 60% of the weight of raw cotton, and only 33.5% is cotton lint which can be further processed into yarn. This means that one kg of cotton lint requires some 3 kg of raw cotton in India, while in other countries, this ratio may be lower (such as in Mali, where 2.4 kg are sufficient). Ginning factories must be available locally to avoid transporting 2/3 of non-productive weight and volumes. The cotton seeds can be processed into oil cakes as fertiliser, or used as seeds for future crops. Although the seeds represent over 60% of the weight of raw cotton, their economic value is only around 20%.²² One kilogram of oil seed is worth some 100 Tanzania Shillings or 10 US cents.

3.4. SPINNING, A HIGHLY INDUSTRIALISED PROCESSING STEP

Spinning mills are highly mechanised factories which convert cotton lint into different qualities of yarn. The ginned cotton fibres are first carded – and in most cases combed – and then converted by the spinning frames into different yarn qualities.

Typical yarn qualities are for example²³:

- Ne 16/1 English = Nm 28/1: this means that one gram of this yarn has a length of 28 metres; such yarns are used, for example, for bathing towels;
- Ne 30/1 English = Nm 50/1: this is a standard quality for t-shirts and similar knitted products and one gram of

this yarn has a length of 50 metres. Interestingly, preferences vary and the US-market, for example, prefers t-shirts with a yarn of Ne 18 with a yarn length of only some 35 metres per gram.

- Ne 40/1 = Nm 68/1: this is a typical yarn for sports shirts but is at the limit of sufficient breaking strength to have the power looms run at full speed. Ne 40/1 is the maximum that can be made from a medium staple length.
- Ne 60/1 = Nm 120/1: this is a typical yarn for finer fabrics such as business shirts and fine underwear. This yarn can only be made from Extra Long Staple fibres.

Usually, Remei stores standard yarn qualities and does not do specific customised spinning jobs after receiving an order. Most of the common products in the organic textile collection can be made with medium yarn sizes and medium staple lengths. However, those are also the textiles with the most competition in the mainstream markets.

3.5. DYEING OF YARNS OR TEXTILES

The dyeing process is one of the most demanding steps in an organic cotton value chain: customers do not compromise on dyeing quality, nor on absolute precision regarding matching and fashionable colour tones, neither on colour fastness with respect to light exposure or washing. Moreover, a simple baby pyjama may need up to three dyeing processes which have to match together (see pictures):

1. For the right side of the pyjama, the cloth (knitwear) has to be dyed in the right tone;
2. for the left part with stripes, the yarn must be dyed accordingly, and
3. finally, the picture with the mouse has to be printed with exactly the same tone.

On the other hand, the dyes have to comply with European or US standards for dyes and all the requirements of organic textiles: this means especially

- no use of heavy metals
- no use of formaldehydes
- no bleaching with chlorine

In order to comply with all these demands and standards, the bioRe organic cotton value chain applies 'Cibacron' dyes and recipes from Huntsman (formerly Ciba Specialty Chemicals). For any specific textile cloth dyeing, yarn dyeing or printing job, Huntsman prepares a processing sheet prescribing the right mix of colour swatches but also processing information: for instance, dye first for 15 minutes at x°C, then for y minutes at x°C.

Spinning the yarn



Spinning mills are large concerns and need economies of scale to be profitable. They must be able to produce a series of yarn qualities for different markets. The yarn also differs according to whether it is processed in a knitting, or in a weaving, process.



The first step in the spinning is the stretching of the fibres, followed by carding, or even carding and combing



A large typical spinning mill has over 100,000 spindles in operation



Finally, the yarn is put on larger bobbins for the processing in the knitting or weaving factory



The quality must be checked regularly in a laboratory, as here in an analysis of staple length variety

Dyeing the yarn is a high-tech process



The dyes storeroom in the dyeing factory in Mumbai. The dyes for Remei are kept separately as they have to comply with several bio-standards and should neither use chlorine for bleaching nor contain heavy metals or formaldehydes.



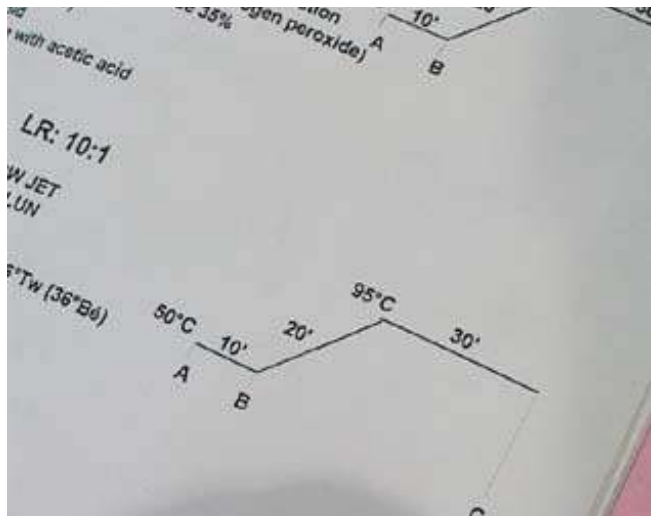
This pyjama needs to match colours of the cloth (left), the yarn of the stripes and the colour of the printed figure



For each tone the Ciba Geigy specialty chemicals prepares a recipe that is collected in a file



Samples of the colour tones are sent to Ciba Geigy, who provide a recipe to match the colour



The recipe give the boiling times and temperature for each dye product

The dyeing factory



The fabric is dyed in large drums. Temperature increases and timings have to strictly follow the recipes of the dye manufacturer.



Samples have to be taken regularly and sent to the lab for quality tests



Tons of different textiles are processed in a dyeing unit every day



Heavy machinery is used for dyeing and drying the fabrics



Remei organic cotton textiles must always be treated separately in order to allow for tracing its origin

It is thus not at all the case that organic textiles are dyed with natural dyes: these dyes would not comply with the standards of industrial production, fashion requirements and all the other quality standards which the customer demands today, and it is not evident that they are ecological. In short: dyeing of organic textiles is a high-tech job, and it is extremely demanding to bridge the gap between ecology and customer demand.

3.6. WEAVING, KNITTING, MAKING FABRICS AND FINISHING

While Remei AG started the organic cotton value chain as a yarn trader and selling yarn, over the years it has become more and more an integrated textile producer. Whereas in 1995 the collection of organic textiles comprised barely 70 different products, the COOP Naturaline collection alone comprises today 8,400 articles, from baby clothes to underwear, from socks to cosmetic cotton wool.

This broadening of the collection has posed many managerial and technical challenges. With the textile industry being a highly segmented and specialised industry, it is in itself really rather challenging to develop such a broad collection.

So far, most of the textiles are knitted fabrics. It is simpler to produce knitted fabrics and the minimum volumes required for a production are much less. To make woven fabrics needs larger minimum volumes: it is only viable to install a power loom if at least 5,000 metres of cloth can be woven. This means that at least 4,000 shirts need to be produced, and for each different colour, the same requirement will again apply. The minimum volume for knitted fabrics is 30 kg (90 t-shirts) for samples and 120 kg for the smallest production size.

The most important missing product categories so far are sheeting, shirting on a large scale and woven fabrics. These products have significant volumes and could increase the volumes significantly.

Whereas organic textiles faced a sympathy bonus in the early days, this is now gone and the qualities of organic textiles must meet all the normal quality requirement of the textile market: the clothes should neither shrink nor bleed while washing, nor should they fade in the light.

Remei AG has now different weaving, knitting and garment manufacturers in India and Eastern Europe and will soon also produce fabrics in Africa.

3.7. STANDARDS OF AN ORGANIC COTTON VALUE CHAIN AND INSPECTION

An integrated organic cotton value chain should comply with ecological, social and quality standards. Some of these standards are industry standards or they reflect, for example, the minimum import requirements of the European Union. What exactly are those standards for an integrated organic cotton value chain?

1. Cotton growing: promotion of organic and bio-dynamic agriculture, no toxic pesticides and fungicides, no synthetic fertiliser, no genetically manipulated seeds, but also social standards such as paying a fair price, no abusive child labour in, for instance, cotton picking. In ginning, these standards are monitored by regular inspections by the Swiss companies bio.inspecta and the Société Générale de Surveillance (SGS) of Geneva.

2. Ginning and yarn spinning: no toxic oils and other chemicals can be used; social standards and working conditions, no child labour, yarn qualities; these standards are monitored in the supplier's factories through regular inspections by SGS.

3. Dyeing: no dyes with toxic heavy metals and/or formaldehydes, quality in terms of light and wash fastness, social standards and working conditions, no child labour; these standards are also monitored through regular inspections by SGS.

4. Textile finishing and garment making: social standards and working conditions, no child labour, quality standards in terms of shrinkage and finishing, no toxic materials in bleaching and other finishing processes. Again, these standards are monitored and inspected by a third party auditing company.

It is desirable to apply commonly agreed industrial standards such as Eco-Tex or SA-8000. However, these standards are not always easily applicable. For instance, one key issue in industrial processing is the seasonality of work: as the textile market demands a summer and a winter collection, it is very difficult to employ people regularly throughout the whole year and the requirements of 'just-in-time' delivery demand very short delivery deadlines. This will necessarily lead to overtime work and seasonal employment patterns, unless the retailers are willing to order their collections in a more timely fashion and are also willing to invest in higher amounts of working capital.

The cost of inspection and certification is considerable, and it is somehow unjust – and a reversal of the onus of proof - that those who apply ecological and social standards also need to prove this, while those who do not respect any norms can even avoid these additional

Stitching and making the finished garment



Even a simple t-shirt is composed of various different parts that need to be stitched together. In this factory in Mumbai, garment making still employs many men.



For making a neck, two very different parts are stitched together



Here two parts for the neck are stitched together



With consumers insisting on high quality in the wash, all textiles have to be tested in the lab



A textile should not shrink nor de-colour. The sample (right) is tested with a fabric in a washing machine.

Printing the garments and cutting the cloth



Many textiles will also need printing. Even simple textiles such as t-shirts can have a printed logo, such as a number on the back, or children's clothes are decorated with animals and other items.



These printed items have also to meet the same quality requirements and should not de-colour while washing



Clothes being prepared for cutting. 20 to 50 pieces are joined together.



Depending on the cutting pattern, the different parts are marked with a white pen on the top cloth



Then the whole bunch of cloth is cut together with this kind of 'sawing' machine

costs of inspection and certification. It is therefore very important that consumers continue to insist on the full traceability for all textiles they are buying.

Organic textiles – unlike organic food – unfortunately do not provide an evident additional consumer value and consumers are not willing to make many compromises. There is still a wide gap between moral intent and action: when customers were interviewed in front of a retailer shop whether they would buy textiles made in 'sweatshops' or with child labour, they were outspokenly against it, but then they went into the shop and simply forgot what they had just said: the only criteria which counted inside were fashion and price.

3.8. INSPECTION, CERTIFICATION AND LABELLING

bioRe textiles are certified by bio.inspecta, a Swiss certification agency created by different stakeholders in 1998. It certifies over 80% of the Swiss organic agriculture products and in the case of bioRe it certifies that the cotton is produced according to the EU 2092/91 standards of organic agriculture, and complying with a set of ecological and social standards by SGS. These textiles are sold under the label COOP Naturaline label and by bioRe (if the whole chain is managed by Remei AG).

The following graph shows the entire internal and external control system of bioRe. Surprisingly, bioRe products

	Supplier	Cotton growing	Ginning Fibre	Spinning Yarn	Knitting	Dyeing	Garmenting	
bioRe Production		Organic agriculture bioRe Projects: • India (ca. 8000 farmers) • Tanzania (ca. 2200 farmers) Fairness criteria: • Training and advisory service • Bio-Premium Purchase guarantee • Infrastructure development • Social projects with bioRe Foundation	Humane working conditions for textile workers bioRe India Ltd. is operating the first ginning unit certified according to SA8000 social compliance standard	Humane working conditions for textile workers	Humane working conditions for textile workers	Humane working conditions for textile workers Profile of target requirements ZAP = environmental and sustainable process and technologies: • Non-chlorine bleaching, eco friendly oxygen bleach is being used instead • Fabric finishing without formaldehyde • Dyestuff compositions meet strictest ecological standards • Dye mills are connected to waste water treatment plants	Humane working conditions for textile workers	
	Certification	Control system	internal bioRe-Controlsystem bioRe Audit Social-Audit	internal bioRe-Controlsystem bioRe Audit	Quality: bioRe ZAP bioRe Audit Control of production and lab testing	Quality: bioRe ZAP bioRe Audit Control of production and lab testing	Quality: bioRe ZAP bioRe Audit Inputmanagement by using environmentally friendly dye colours and inputs	Quality: bioRe ZAP bioRe Audit Control of production and lab testing and inspections
		Aim of Certification	Certified organic cotton in accordance with European Council regulation 2092/91	Certified organic cotton in accordance with European Council regulation 2092/91 Social/Fairness: SA 8000	Certified organic cotton in accordance with European Council regulation 2092/91 Social/Fairness: SA 8000	Social/Fairness: SA 8000	Social/Fairness: SA 8000	Social/Fairness: SA 8000
	Supplier	Control institutes	bio. Inspecta Flo Cert	bio. Inspecta RINA	bio. Inspecta RINA	SGS, STR RINA, BVQI	SGS, STR RINA, BVQI	SGS, STR RINA, BVQI
		Production	Certification Bio-Baumwolle Fairness: pre audit with FLO CERT	Certificate Organic cotton Fairness: SA 8000	Certificate Organic cotton Fairness: SA 8000	Certificate bioRe Fairness: SA 8000 (or in process BSCI)	Certificate bioRe Fairness: SA 8000 (or in process BSCI)	Certificate bioRe Fairness: SA 8000 (or in process BSCI)
Overview of supply chain Coordinator Remei AG								

have not been granted an official fair trade label such as Max Havelaar despite the fact that the social dimensions in the entire textile chain are also certified. Negotiations with FLO are underway at present, but there are two larger hurdles to be overcome. One is the different pricing system: whereas bioRe applies a pricing system based on the average local price of the past five years, the FLO system works with minimum prices (this issue is discussed in a later chapter). The second hurdle was the relatively sizeable administration fee that was, in the beginning, asked for by Max Havelaar and fair trade labels. Apparently, this fee has now been lower, but the original fee would have been a considerable burden on the textile chain in view of the fact that the volume of the textiles traded is relatively low, now reaching a 'mere' 56 million Swiss francs in the case of the Swiss COOP Naturaline alone.

4.1. THE GLOBAL CONTEXT: COTTON AS A COMMODITY

4.1.1. DECREASING PRICES – A SECULAR TREND

Similar to other agricultural commodities, cotton is facing a secular decline in prices. The nominal world market price of one kilogram of cotton lint in 1950 was around US\$ 1.00, then between 1971 and 2000 it hovered between one and two dollars and in 2002 it fell to an all-time low of 80 cents; then it peaked again at US\$ 1.43 in 2003 and fell again to US\$ 0.93 in 2004. By June 2008, the price had recovered and was around US\$ 1.50 per kilogram. More important than these nominal prices, however, are the real prices: considering the adjustment for inflation one kilogram of cotton was almost worth US\$ 5 in 1950.

How can such an important commodity like cotton lose more than four-fifths of its value?

There are several main reasons for this trend²⁴:

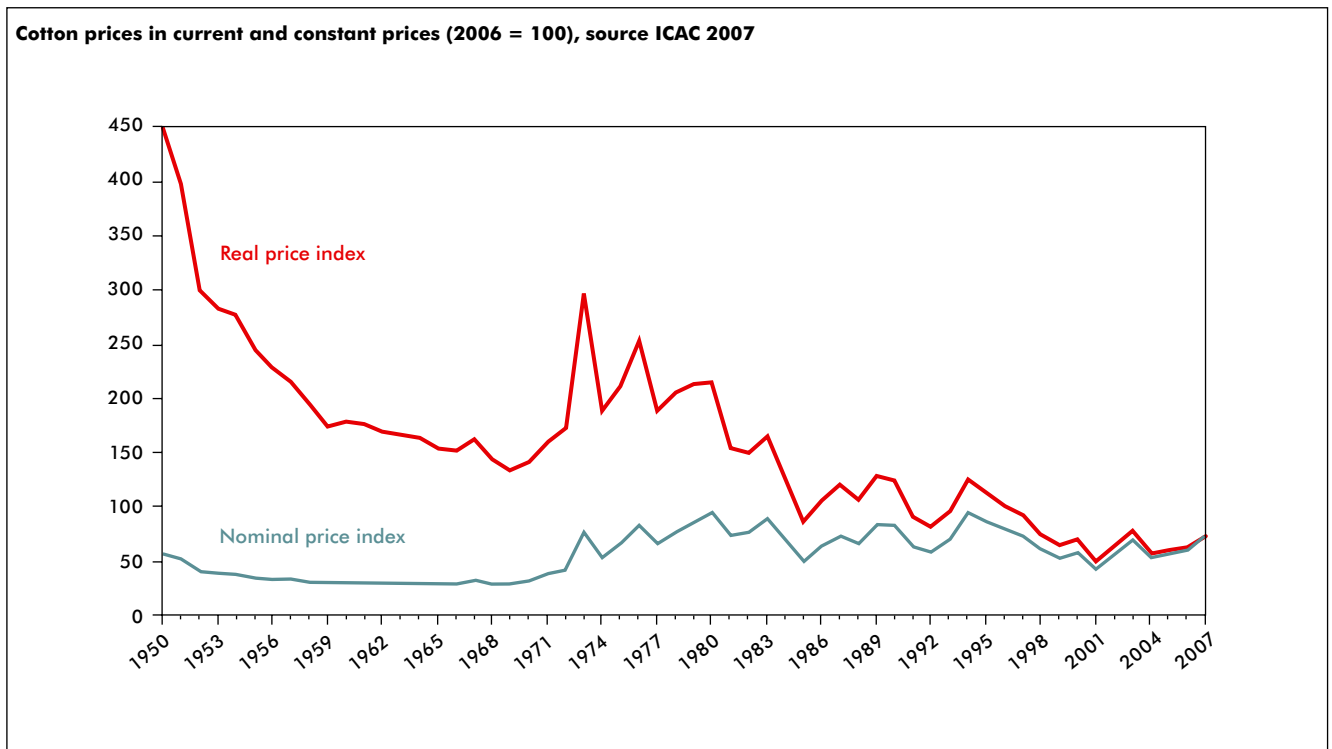
1. **Biological and technical progress** has led to significantly increased average yields from 300 kilograms in 1960 to over 600 kilograms in 2002.
2. **Inelastic demand** means that the demand for cotton does not increase even if prices are low due to relatively

saturated markets (see also substation).

3. Supplier constraints: many farmers, and indeed at the macro level, many developing countries especially in Africa, have few other choices than growing cotton; they are so dependent on cotton as a cash crop or as a foreign exchange earner that even extremely low prices do not reduce the supply; to the contrary, at such low prices many farmers increase their volumes. In addition, farmers in the US, Europe and China receive heavy subsidies (see next chapter) which also allow them to go on producing even if their costs are much above market prices.

4. Substitutes markets: chemical fibres like polyester have increased their market shares considerably.

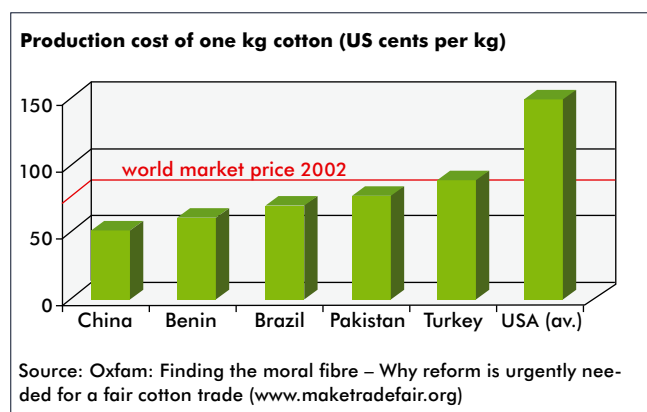
Very recently, however, cotton prices have seemed to recover in line with the overall trend of higher commodity prices. In 2007, the price of one pound has increased to 77 US cents or roughly US\$ 1.67 per kilogram. This is almost 70% higher than the all-time low in 2001. The high oil price has a direct impact on the price of the competing artificial fibres and it may also be that it will become more attractive for many farmers to produce food or energy crops. Nevertheless the cotton price has been disastrous for millions of smallholders, especially in West Africa where there are only little alternative crops that can be envisaged.



4.1.2. THE DISASTROUS EFFECTS OF US AND EUROPEAN SUBSIDIES

The low cotton prices at the turn of the century can only be understood if the severe market distortions caused by heavy subsidies, mainly of the US, of China and in Europe of Greece and Spain, are taken into account. Total cotton subsidies amounted to US\$ 4.7 billion in 1999/2000, equal to almost the entire GDP of Burkina Faso where more than one million cotton farmers live. They, however, do not get even a single cent of subsidies and structural adjustment programmes have even forbidden Burkina Faso from paying any subsidies to its farmers.

Production costs in the USA amount to some 73 cents per pound (or US\$ 1.62 per kg) and American farmers would have been out of business long ago had they not received between 60 and 90 cents as subsidies per kilogram of cotton. Spain paid in 2002 to its farmers US\$ 1.53 and Greece US\$ 1.39 per kg of cotton produced. These subsidies have a significant impact on, and are in fact one of the main reasons for, low world market prices, much to the detriment of millions of cotton farmers in West and East Africa. These countries have abolished subsidies to their cotton farmers – or had been forced to do so by the Bretton Woods institutions as a consequence of structural adjustment programmes. The market distortions of the world cotton market deprive Africa of rural incomes, and leads to substantial income and foreign exchange losses in West African countries. These losses are far higher than the development aid they receive from the US, and all this is happening despite the fact that African farmers are the most efficient cotton producers in the world.



Fortunately, the WTO panel ruled, in September 2004, in a legendary appeal case by Brazil against the US that the US had been applying "prohibited subsidies" on cotton that should be withdrawn "without delay". Now, in 2008, these subsidies are still in place albeit in a slightly lower dose and the number of American cotton farmers has

indeed declined. According to the ICAC, the US production will decline from 19.2 million bales in 2006/7 to about 16 million bales in 2008/9 and 2009/10. Whether the market distortions will disappear is thus still an open question; the US authorities claim that the subsidies are not distorting the market, as they are given as "direct payments" which are "decoupled from output". The fact, however, is that the US farmers continue to produce some 20% of the world market demand despite not being competitive.

4.2. COMPETITIVENESS WITH HIGHER PRODUCTION COSTS OF ORGANIC COTTON

Remei Ltd. would not be able to compete with such prices if their cotton was just traded as a commodity. The lower the world market price, the more difficult it is to compete; in 2004 the prices were especially low and in 2008 they have recovered slightly. Let us look at those two cases:

- **In 2004** the farmers were paid 19 Rs for a kilogram of seed cotton (in 2003 it was more than 22 Rs), this already amounted to 44 Rs or roughly one US\$ per kilogram of cotton lint (3 kilograms of seed cotton = 57 Rs minus 2 kilograms of seeds at 6.5 Rs/kg = 44 Rs/kg). With the premium payment of at least 15%, the cost for extension and procurement services and adding the ginning cost, one kilogram of lint amounted to some 81 Rupees or nearly US\$ 2.
- **In 2007/08**, the farmers are paid 23.68 Rs per kg of seed cotton plus the premium of minimum 20%, or Rs 28.41 per kg. As 3 kgs of seed cotton are needed to produce one kg of cotton lint, the farmer gets 85.25 Rs/kg per kg of cotton lint or US\$ 2.13. This is some 30% more than the present world market price of US\$ 1.65 per kg. The value of the cotton seeds – to be used for oil, fertiliser, fodder or seeds – is some 10 cents per kg and is owned by the ginning factory or the buyer of the seed cotton.

It would, not be possible, therefore to market the bioRe cotton as a commodity: only by distinguishing the product from a commodity and marketing it as a specialised yarn or converted into organic fabrics, can the entire organic cotton value chain become viable.

Remei has gradually increased the share of finished garments over the years. It is easier to absorb the additional costs of premium, extension and certification if it can be absorbed by the higher value added of the finished fabrics. Garment sales amounted already in 2007 to more than 40% of the annual turnover and it is planned to exceed the 50% mark soon. The trade in conventional yarns is now less than 8% and will be totally phased out in 2008.

4.3. THE TEXTILE CHAIN AND ITS VALUE ADDED

It is interesting to analyse the economics of the entire value chain and to understand how much each step adds value to the product.

4.3.1. HOW THE VALUE ADDED IS COMPOSED

Table: the value added for one t-shirt step by step:

(Remark: Example of one simple t-shirt sold at CHF 16.00 in Switzerland; such a t-shirt weighs 350 grams but needs 450 grams of lint, as 100 grams are lost during spinning; 1,350 grams of cotton seed are required to produce 450 grams of lint; the premium is calculated at 20% (as was the rule in recent years); exchange rates: 1.1155 Swiss Francs = US\$ 1; 40 Rupees = US\$ 1)

These margins sound astonishing, especially the high retail margin, but these costs are much below average and may apply for supermarkets and popular low-end

products. For branded products in high-end retail shops, these margins are much, much higher. Even a Lacoste t-shirt that may cost some 100 Swiss Francs contains only a few more grams of cotton than our example.

Now, there are many observations to be derived from this cost structure, among them:

1. A first observation is that even with these relatively low retail margins, the farmer's share of CHF 1.02 is a little more than 6% of the total value of the t-shirt, despite the fact that he gets a premium of minimum 15% for his cotton.
2. However, this is 35% more than the present world market price of 55 cents/kg in early 2008. At world market rates he would have received only 22 Rs/kg of seed cotton (US\$ 0.55) for his cotton or US\$ 0.71 for the equivalent of a t-shirt. This is 20 cents less than the US\$ 0.91 that bioRe India is paying. This difference of 20 US cents would amount to only 1.25% of the end price.

Processing step	Value added in US\$	Total Value added in US\$	Value added in Swiss Francs	Total value in Swiss Francs	% increase relative (compared to total value of last step)	% increase cumulative (compared to original cost of raw cotton)
Raw cotton (1,300 grams at 23.68 Rs/kg = 30.78 Rs per t-shirt)	\$ 0.76	\$ 0.76	CHF 0.85	CHF 0.85	0%	100%
Farmer's premium of 20% on Rs 30.78 = Rs 6.15 per t-shirt	\$ 0.15	\$0.91	CHF 0.17	CHF 1.02	20%	120%
Ginning and extension cost (1,300 grams at 8.12 Rs/kg = Rs 10.55 per t-shirt)	\$ 0.27	\$1.18	CHF 0.30	CHF 1.32	30%	155%
Spinning (430 grams of lint = 330 grams of yarn, 100 grams are wastes)	\$ 1.00	\$2.18	CHF 1.12	CHF 2.43	85%	287%
Knitting, garment making	\$0.33	\$2.51	CHF 0.37	CHF 2.80	15%	330%
Dyeing (average colour)	\$1.50	\$4.01	CHF 1.67	CHF 4.47	60%	528%
Exporting, transport, trading	\$1.30	\$5.31	CHF 1.45	CHF 5.92	32%	699%
Retailing, marketing selling	\$9.03	\$14.34	CHF 10.07	CHF 16.00	170%	1,887%

3. So, what makes a dramatic difference for the farmers makes only a very marginal difference in the entire value chain. In principle: who bothers if the T-shirt costs 20 cents more or less? For the farmer, these 20 cents make all the difference between misery and a modest prosperity allowing him to send his children to school and to eat a decent meal.

4.3.2. THE MULTIPLIER EFFECT AND THE MARK-UP COSTING OF THE TEXTILE CHAIN

Everybody would agree that it makes sense to get 20 cents more per t-shirt to the farmer, so that he may have a decent living, can send his children to school and thus get out of poverty and misery.

However, the reality is rather different:

1. Mark-up costing: if the value chain applies a mark-up costing system and calculates with percentage wise margins, then every 10% that the farmer is paid more will be added with a multiplication factor of 19 (1887%) at the end of the chain. That means that if the farmer gets 15 cents more as a premium (and the cost per t-shirt goes up from US\$ 0.76 to US\$ 0.91), then the end price will increase by US\$ 2.85. If he gets the double amount for his cotton, that means US\$ 1.80, then the t-shirt will cost more than US\$ 38.00 in the shop.

2. The paradox: how the farmers sacrifice and urban consumers benefit: Let us look at the other side of the coin and assume that the farmer is only paid the world market price; that means he gets 22 Rs/kg (US\$ 0.55/kg) instead of Rs 28.41/kg (with the premium). Then, the raw material cost would only be US\$ 0.71 instead of US\$ 0.91. The farmer would then get 20 US cents less than the bioRe farmer for one t-shirt. Now, what happens to the t-shirt, if the value chain keeps its margins percentage-wise? The t-shirt would now only cost US\$ 11.19 instead of US\$ 14.34. The urban consumer would thus be very happy and save US\$ 3.15 (22%) on the t-shirt price, while the farmer will get 20 cents less. This is also 22% less but is this a fair burden sharing? Isn't this a strange economy? Is it that what Adam Smith had in mind when he talked about the invisible hand of market forces?

3. The reality – target costing applied: We live in a competitive economy and nobody – except some very valuable brands – can just apply a mark-up calculation. The most commonly applied costing method is target costing: the purchase manager of the retailer will put their supply chain under pressure and decides that a t-shirts should sell for say US\$ 10.99 instead of CHF 14.34. Now, the entire chain will come under pressure and while the purchase manager will get a promotion, the

farmer will be squeezed most: he will now receive – as we have seen in the last point – the world market price of 22 Rs/kg of cotton seed and the end price drops by those 20 US cents (to CHF 0.71 for raw material of the t-shirt). This is – one may cynically say – a proportional burden passed on from the retailer down to the farmer. The benefit is for the retail chain and for the king customer, but this benefit has a high social cost for the cotton farmers.

Is this the reality? It sounds unbelievable, somehow. Yet it is exactly what is happening in the world economy and explains why the prices for raw materials – and partly also for other tasks in the value chain – have been squeezed in the past decades. This is why we have a secular decline of commodity prices. The farmer is at the very bottom of this pyramid and his margins are squeezed with a negative multiplier effect as if they were being compressed by a hydraulic jack.

I could not myself believe that this is really the case, but all people I talked to have confirmed that this is the way it works. Bo van Elzaker describes this phenomenon in the book on 'Organic Cotton' mentioned before.²⁵

These endeavours for price reductions in the retail markets, known as 'race to the bottom', are certainly one of the key reasons why cotton and other commodity prices are constantly under pressure. But are there ways to avoid this?

4.3.3. NEW COSTING MODELS: ADDING PREMIUMS AT THE END OF THE CHAIN ONLY

We can arrive at a first important conclusion: if farmers are to be paid even a modest premium price, it is important that this premium is not subject to the multiplier of the entire value chain. If the premium of the farmer (say the 20 US cents that bioRe pays over and above the world market price) is only added as an absolute figure at the end of the chain, then the t-shirt will cost almost the same and the fatal downward spiral pressure is gone. Such a new pricing structure may not fully comply with present marketing practices in the textile chain, but it is only fair and rational to do it this way: the cost of dyeing, knitting and selling a t-shirt is exactly the same, no matter whether the farmer gets a premium or not.

This is indeed what happens with the bioRe value chain, and this is the great advantage of an integrated organic cotton value chain. Thanks to positioning the products of COOP Naturaline as organic textiles but in the mainstream market at competitive prices, they face the kind of goodwill that can reverse the 'race to the bottom':

people can buy Naturaline products at more or less the same price as other textiles. By adding 20 US cents more per t-shirt in absolute figures at the end of the chain means that farmers can send their children to school and the customer has almost the same value for money. Remei is now even trying to send the premium as a fund 'upfront' to India so that it will not appear in the calculation anymore. It will be financed from the overall turnover of the operations and be deducted from the net profits.

Apparently, similar costing models have to be applied for other organic cotton projects. According to Helvetas, there are different ways to cope with the multiplier, at least in theory:

1. One of their retailers of organic textiles buys the ginned cotton with the premium cost and gives it then for spinning and further processing as a job-work, not as a normal business. The spinning mill and all other processors will get paid for the job done and do not use a mark-up calculation system.
2. Another of their retailers uses the following system: he lets the spinner buy the cotton at the world market price and pays the farmer the premium and the certification cost separately.

4.4. ABSORBING THE COST OF BEING HUMAN?

We would thus badly need new ways to absorb the cost of being human. We have found such ways for our own farmers in the West. There are plenty of ways to avoid Western farmers falling into misery. Indeed, this is exactly the crucial issue on which the Doha round of the WTO stranded when it again failed to reach conclusion in July 2008 despite everybody saying: "we never have been so close to reaching an agreement". Swiss farmers – and most likely the cotton farmers of the US and Europe even more – celebrated this failure, since it gave them some more time to continue their indefensible business as usual.

This raises some fairly damning questions:

1. Question: who pays a premium to the millions of farmers in Africa? Answer: Nobody.
2. Question: who pays the premium to the more or less wealthy farmers in the USA, Greece, Spain and Turkey? Answer: the taxpayer. It is amazing that taxpayers in these countries do exactly what bioRe does for farmers in India and Tanzania: they pay them a premium as a direct payment. It is not paid by the consumer, and it is not multiplied by the value chain. It helps these Western farmers to live well. In the case of the US farmers, the

subsidies benefit only 25,000 farmers, most of them very large and very rich farmers.

3. To call these subsidies 'fair' would be more than an exaggeration. It is indeed a scandalous act of unfairness: the subsidies keep prices artificially low on the world market: the weakest but most efficient farmers in Africa, India or Pakistan have to sell their products with a discount instead of getting a premium.

This would now really call for an intelligent action: if a coalition of far-sighted textile manufacturers and retailers would develop a strategy to scale-up organic cotton programmes along the bioRe – or as we shall see in the Helvetas model – and find ways to avoid the multiplier for the additional cost, could it then not be possible to make both sides of the market happy? The consumers would only have moderate and still absolutely affordable price increases to bear, and millions of smallholders would get a modest premium, just enough to eat decently and to send their kids to school. Would it also be possible to pay a decent price to farmers in West Africa and absorb the additional cost by adding the marginally higher raw material cost at the end? Peter Mandelson, the former EU negotiator of the Doha round has offered some 100 million € of unused European agricultural subsidies to farmers from the South? Would such an offer become more viable if we can find a smart way to add fair trade or organic premiums to the value chains at the end?

Organic cotton has seen an impressive growth in the last 18 years – from 335 tons in 1990²⁶ to some 57,000 tons in 2007/8. Yet it remains a marginal affair: its global market share was only 0.2% of world cotton consumption. Organic Exchange expects high growth rates: even the conservative scenario counts with a growth of 25% and the higher forecast scenario with 55% in the coming years. This would mean a production of over 100,000 tons in the coming years. A small step for market, maybe, but a large step for a mindset.

There are several initiatives and commitments to increase this tiny slice of market share:

1. Switzerland: at a conference in 2002 in Berne, Switzerland, with Helvetas as the initiator, several textile companies signed up as partners to a declaration to increase the market share of organic textiles in Switzerland to 5% by the year 2007²⁷. This goal has now been roundly achieved with consumption of organic cotton standing at around 3,000 tons, out of an overall total of some 60,000 tons. Almost half of this is accounted for by COOP Switzerland, with over 1,450 tons of organic textiles sold and by far still the largest retailer for organic textiles in Switzerland.
2. Globally: an even more ambitious goal was set by Organic Exchange, a non-profit business organisation focused on creating environmental and social benefits through the expansion of organic agriculture. At their conference of 2005, they declared: "Our first project focuses on transitioning 10% of the world's demand for and supply of cotton to organic cotton within 10 years".²⁸

Now, what specific problems standing in the way of scaling-up organic cotton, in a broader development context? Turkey, for example, simply does not need much pest control and could thus deliver organic cotton in large quantities. This is good for the environment and it mitigates the use of many thousands of litres of toxic pesticides. However, cultivation of this cotton does not have much to do with poverty reduction, and farmers in Turkey also profit a lot from subsidies: almost 40 US cents per kg comes from the taxpayer.

Could really poor farmers benefit from better prices, less input costs and more stability? How could integrated organic cotton chains become part of mainstream markets and get out of the 'niche trap'?

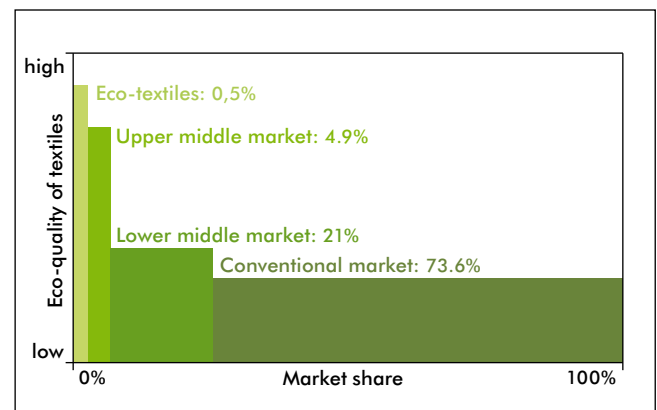
5.1. NICHE TRAPS AND MAINSTREAM MARKETS: THE ARNT MEYER STUDY

It was especially during the original – and modishly hyped – introduction of organic textiles in 1990, that organic textiles went through a short-lived boom period. It disappeared as fast as they had entered the market once the fashion changed to a new trend. Sustainable organic textile marketing surely needs a firmer positioning in the mainstream markets, than some ephemeral, trendy fashion.

For a decade or more, organic textiles in Switzerland occupied a niche market of some 0.5% – niche indeed! – and only in recent years has it been possible to raise this to 5%. One interesting pioneering study on how to strategically position organic cotton in mainstream markets was made – albeit a few years back – by Arnt Meyer of the Institute for Economy and the Environment at the University of St. Gallen²⁹ in eastern Switzerland. Meyer studied the intricacies of the textile market and pointed especially to the danger of being caught in the 'niche-market trap', unless specific strategies were developed to conquer the mainstream. He basically distinguishes between the two strategies of 'up-scaling Davids' or of 'greening Goliaths'.³⁰

The following graphs explain these mechanisms further:

The first graph explains the different market segments for textiles and their market share. It can be seen that the eco-textiles market – at the time of the Meyer study, in 2000 – was about 0.5%, the upper middle-class market 4.9% and the lower-middle market 21%. It is in particular this market that Remei and COOP have tackled so successfully.



In order to grow the market share further, other strategies are recommended by Arnt Meyer:

1. Eco-growth: It is evident that 'purist' eco-textiles with a very high ecological quality represent a compact niche market. At the time of his study, it was occupied by such 'Eco-Davids' as the now-defunct WWF Panda shops, Hess Natur and other high-end ecological brands. There is some modest scope to enlarge this segment, but not in any dramatically significant way, and it is also certainly possible – and probably necessary – to further develop the ecological and social quality of the niche product. This is a legitimate role of standard-setting pioneers.

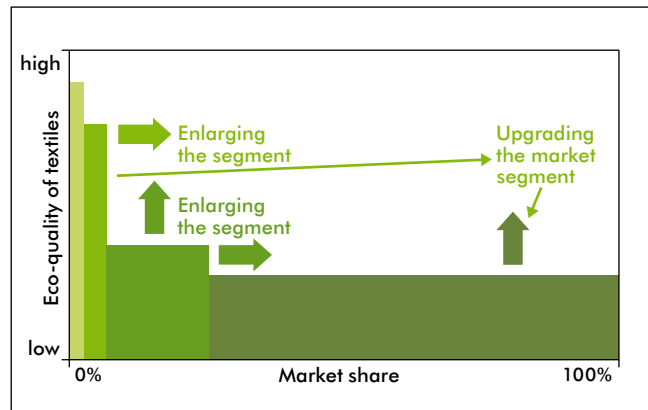
2. Upgrading conventional textiles: the totally opposite strategy is to influence the 'Goliaths' and make them greener or more social. Public pressure is certainly working gradually in this direction; however, there are large customer segments that are completely indifferent to both social or ecological quality. More pressure can be exercised if certain ecological standards become more compulsory, such as if the European Eco-Tex Standard 100 were to be universally applied. This standard is only marginally above the legal minimum standard. No doubt, the largest impact will come from any even modest progress in this segment: if mainstream industry respects at least the some minimum ecological and social standards, the greatest number of people will benefit.

3. Enlarging / upgrading the lower-middle segment: This market segment is more or less equal to the Eco-Tex 100 standard and is an important one to tackle, with market share exceeding 20%. It does indeed appear that Eco-Tex 100 is more and more an accepted norm in the European textile trade, and there are even some movement towards gradually upgrading the standards.

4. Enlarging / upgrading the upper-middle segment: The market share here has grown to a mere 5% so far, leaving much room for it to express a greater degree of good taste. COOP Naturaline is certainly one of the important pioneers in this category and as the first real player within the mainstream market, it is perhaps to them that hopeful eyes should first direct their gaze.

The following graph show these different growth strategies:

What is interesting here is how products in the mainstream markets are positioned: 'normal' or mainstream customers will not primarily buy ecological textiles out of environmental or social concerns; they will first look at the fashion, then the price and then at other attributes such as comfort, skin-friendliness and absence of any toxic substances. Successful positioning means, therefore, communicating the advantages of ecological textiles as an additional benefit. However, the customer



is seldom willing to pay an additional price for these additional benefits.

One of the greatest challenges in marketing organic textiles has been its low degree of differentiation. Compared to organic food, where the differentiation is much more visible and tangible, it is – superficially at least – very difficult to distinguish an organic t-shirt from a conventional one. Which leads us to the question of whether it makes much sense at all to market organic textiles as 'fully organic' products or if it is better to deploy a blending strategy.

5.2. BLENDED, OR PURE ORGANIC PRODUCTS?

Can a 'purist' organic textile become part of the mainstream market, or would a blending strategy provide a better option? A 100% organic textile will be more costly for several reasons: the premium paid, farmers maybe needing extension services, certification procedures and the separate, traceable product line and its lower quantities. It will inevitably end up at a much higher cost than a conventional textile, unless the whole textile chain is managed as efficiently as in the case of Remei/COOP:

Another consideration is that large players such as Nike would find it hard to convert their entire collection to fully organic cotton, for several reasons:

1. Size of operation: first of all, Nike alone consumes some 60,000 tons of cotton yarn per year, roughly the entire world production of organic cotton; it is unlikely – and even impossible – to switch to such huge amounts even over a period of several years.

2. Cost of operation: there may also be unbearable cost factors in converting entire production would to fully organic and certified cotton. Nike operates in fierce competition with at least two or three other very important players and conversion could well undermine their competitive advantage on the price front, at least if they apply conventional costing systems.

3. Quality requirements: Nike would have quality requirements for the entire collection that could not – or not yet – be entirely satisfied.

In summary: if such large players as Nike and Wal-Mart are to join the organic cotton movement – and many of them are very interested, at present – it would require a new set of strategies, with one of the most attractive strategies being blending. Nike would gradually add organic cotton to their product, starting, say, with one percent, then 5% and finally say some 20%. This phased conversion process would have more reasonable costs at any time. If the production cost of raw materials – including certification – is 50% higher than for conventional cotton, then in a scenario where blending reaches 20%, this adds only 10% to the entire cost.

Blending strategies were advocated not only by Arnt Meyer, but also in the work of Dorothy Myers and Sue Stolton³¹. However, a blending strategy also has its downsides, primarily the difficulty of communicating it and helping people to understand why the textile has only a blend with organic cotton and has not gone, as it were, the full thread. Many consumers are already confused by the prevailing mish-mash of the 'labelling salad' and blending strategies have indeed lost some appeal. Even Nike shows only shallow interest and does not perceive major advantages from a blending strategy.

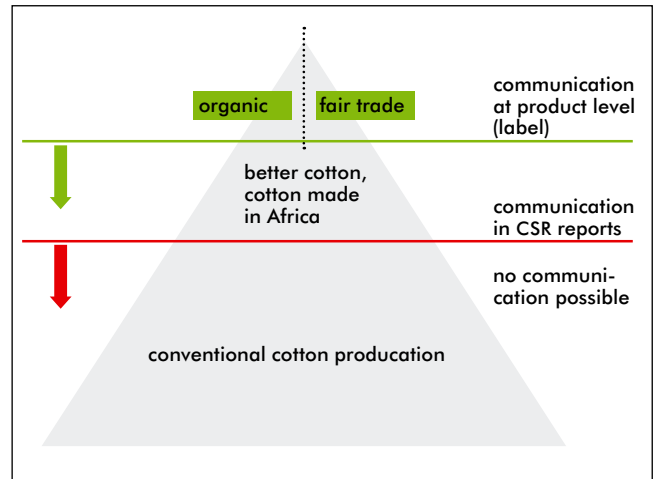
5.3. SO, HERE WE STAND – IN THE FOOTHILLS OF MAINSTREAM MARKETS

There is little doubt that the pioneering efforts of COOP and Remei have persuasively paved the way for large retailers to produce and sell organic textiles sourced from an integrated textile value chain in large quantities. In particular, the fact that the technologies for producing increasingly varied textile products has now been mastered. It can serve the markets in fashionable colours and meet all quality requirements – proof enough that even large players could follow suit.

Not so simple. Any large player would need a multi-dimensional strategy that differentiates across the entire collection. For example, a large company (see triangle graph below³²) could decide to improve the overall composition of their collection and then gradually move 'up the ladder' as suggested by Arnt Meyer over a certain time span.

The current segmentation of their collections may be as follows:

1. Premium: organic and fair trade 'premium' products at the top of the pyramid; this could well be communicated



through labels along each of the products;

2. Better cotton: for another segment it could commit itself to use 'better' cotton, for example the full or a certain blended amount of 'Cotton made in Africa'. This would help to increase the demand for African cotton and thus contribute to better incomes, but it would be more an element in the company's Corporate Social Responsibility (CSR) reporting than something worn – literally – on its sleeve, not necessarily being labelled as such on the product;

3. Conventional cotton: a part – or the bulk – of the collection would still be conventional cotton. This part could gradually be improved – for example by applying minimal social and ecological standards – and a deliberate decision could be made to phase out this segment, or reduce it significantly.

The company could then decide to improve the overall segment of their collection within a period of five to 10 years and set targets for having X% of premium organic and fair trade products, Y% of better cotton and gradually phase out the conventional products.

If, however, a large player were to adopt say a 10-year strategy to convert to 100% organic cotton, it could bring a boost to the entire industry and bring about sustainable change. However, there are considerably risks in such a strategy, mainly in the communication aspects:

1. Communication: First of all, how do people come to appreciate that only a part of the production is fair trade and organic? The lower segments cannot be directly communicated to the customer and would only be mentioned in the CSR reports of the company.

2. Credibility: The middle segment of 'better cotton' or 'Cotton made in Africa' is also heavily controversial as it does not follow strict certification standards and rules. Both initiatives were born out of an idea to improve the mainstream cotton production. On the one hand, WWF

created the 'better cotton initiative'³³ out of a motivation to improve the water efficiency of cotton production³⁴ and 'Cotton made in Africa'³⁵ was set up in 2005 by Michael Otto in order to do something to help African cotton farmers in view of the unfair competition by the cotton subsidies. Both these initiatives have many intrinsic credibility issues as there is not any clear and transparent certification process defined. Some critical voices claim that they have created confusion in the markets.

3. Management: The biggest bottleneck would probably be the management challenge of such an undertaking: it would require very long-term credible contracts with farmers and a commitment many times greater than that made by Remei.

This really challenging perspective will be discussed in the following chapters on how the bioRe experiences can be scaled-up and replicated.

How can organic cotton projects be replicated and scaled-up? We shall explore whether the bioRe model can be replicated and describe the organic cotton programmes of Helvetas. We shall then also discuss what development cooperation can do, what roles it has to play and how it can best support such initiatives.

6.1. CAN THE BIORE MODEL BE REPLICATED?

The bioRe model is indeed a unique experience, with some 17 rich years of learning behind it. Moreover, it was a unique constellation which depended mainly on the visions, skills and determination of some key people. Patrick Hohmann is a charismatic person and himself describes his leadership style himself as 'patriarchal'. This attribute is meant in the best sense of the word, playing the role of a 'pater familias', caring for the farmers and for all people in the supply chain. In this sense, the bioRe model is a truly unique experience and was very much influenced and dependent on his leadership.

He would also have failed without the strong long-term commitment of COOP as a retailer and especially without the personal commitment of its head of the procurement division, Juerg Perritz. The unique opportunity was that, as the second largest retailer in Switzerland, COOP had taken a high-level policy decision vis-à-vis their strongest competitor Migros: not to compete with lower prices but with better qualities and this was very strongly linked with a decision to promote natural organic products.

COOP had first started with Naturaplan, a very comprehensive programme in organic food, and the idea

of creating, in Naturaline, an organic textile collection fitted in very well with an overall policy of 'green products'. Without the close association between Remei AG and COOP as a demanding, ambitious and, at the same time, patient retailer it would not have been possible to develop an entire collection with more than 8,400 different Naturaline products.

The commitment of COOP towards a green product line was not one of lip-service; it was a deliberate policy of the core business strategy. The management was totally committed to the cause and for the 10th anniversary of Naturaline, the entire top cadre COOP went to India in January 2006 to visit the project. Moreover, special events were organised for the sales staff to understand the technical and social background of the COOP Naturaline. In such a large retail company, it would well be possible that a salesperson might say: "Oh no, these socks are organic cotton, this is not a good quality". This had happened to me once in the very early days, but now the entire staff of COOP is well-informed and totally convinced, and identifies closely with the product range.

It is also worth mentioning the importance of continuity: some key players have been faithfully involved for at least the last 12 years: Patrick Hohmann and Peter Tschannen at Remei, Rajiv Baruah and Ritu Baruah at bioRe India, Juerg Perritz from the senior management of COOP and many of their key textile and marketing specialists. Without this continuity, it would not have been possible to grow such an impressive project to its present size and carry it through all the difficult challenges and setbacks. A development organisation with a typical rotation system – where staff change every four years – would not have been in a position to nurture it.

In any case, those experiences are now there and they could be replicated with other companies as well. It will never be possible to manage an integrated organic cotton value chain as a 9- to-5 job without a strong personal involvement. It does offers a unique opportunity for people to do business not just as a job but with passion. It allows people to convert an anonymous value chain into a personalised one where people in the chain know each other. This is a challenge but also a unique opportunity to do business in a more humane way: by knowing the people in the entire supply chain, just as in an old-fashioned street market where the farmers come to sell their own products to the urban customers.



6.2. INTERVIEW WITH PATRICK HOHMANN

Urs Heierli: Patrick Hohmann, when you started an organic cotton project in 1992, what was your motivation?

PHohmann: *When we started in 1992 it was first of all a personal motivation and we wanted to try organic agriculture.*

UH: For what reason? How did you come to organic agriculture?

PH: *Well, at that time, there were many advertisements for hand-picked cotton and there was an advertisement for cotton not treated by defoliants.*

UH: So there were a lot of pesticides used in cotton?

PH: *Yes, but especially defoliants, and as the majority of cotton is still hand-picked we felt that if we want to be true we should go for organic to ensure that we are really free of chemicals and pesticides.*

UH: Patrick Hohmann, what would you define as the 'essence' of an organic cotton value chain?

PH: *What is interesting and especially motivating in an organic cotton value chain is that the farmer who has been working so far in anonymity suddenly reveals himself and is producing for a defined person or group of persons or even for a retailer who is interested to receive his cotton. His motivation is not on the money now; his motivation is to produce for somebody who has a face, whom he knows and with whom he has a relation.*

UH: Is your experience also the other way round that the sales person, fashion designer and all these people in the chain know the farmer better?

PH: *What we realise more and more is that by bringing these two ends together – whether it is the salesperson, fashion designer or the managers of the company – by interacting with the farmer they take high interest and they develop a type of responsibility which they want to live.*

UH: And this is one of the reasons why you organise every year the Maikaal Open House Days?

PH: *When we started with this Open House Days we did not know about all this. Today we realised that this Open House Day is the moment where all these people can come together, can take an impression and in a way they globalise their common vision. And this common vision carries everybody through the different cultures.*

UH: Now, I presume that in all those years you had good times and more difficult times. What was the most difficult challenge you were facing in those 17 years?

PH: *In every business entity you have good and bad times. There was a moment where the whole project was in difficulties and there had to be the strength to carry it through. We had the intuition to carry it through and we had indeed been forced to take it over. We took it over (from the spinning mill) and neutralised it by bringing it in and handing it over into a foundation that we are leading, with the aim of bringing it to the hands of the farmers in the long term.*

UH: What was the biggest threat? Was it that the farmers defaulted, that the costs were too high, the quality bad, or what?

PH: *The threat is still there and it is daily there. We have had the threat of the chemical industry, it could happen that the farmers would spray and not tell us and we had to exclude them. Today one of the biggest threats*



is the GMO production of cotton which is all around us and we really have to prove and to show that organic agriculture is better and brings a higher income than the conventional agriculture and GMO cotton. Moreover, and what is astonishing, organic agriculture is a key to less indebtedness. Whoever in a farming community has started organic agriculture managed to get out of his debt circle within three to four years.

UH: And nobody did commit suicide from your farmers?

PH: That I cannot say but definitively not because of debts.

UH: How much more costly is organic cotton and how can you remain competitive?

PH: Organic cotton is costly for two reasons: one reason is that we pay the farmer a premium which is minimum 15% of the average price of the past five years but also what is costly is this whole control system and the proof (certification) that what we are doing is effectively done. This carries us forward and is a heavy burden if it is only considered on the raw material cost of the cotton but it is an easy burden if it is considered on the final product.

UH: What was your most rewarding experience in all those years?

PH: Well, the most rewarding experience was probably when I understood from the farmer that this was not only a good idea but it was really improving their living conditions.

UH: And what was the most difficult setback?

PH: The most difficult setback was to feel that the opportunistic farmers had cheated us (by adding fertiliser) and we had to exclude them.

UH: These were poor farmers?

PH: Amazingly, these were the bigger and the richer farmers.

UH: Patrick Hohmann, tell me, are you a businessman, a dreamer or both?

PH: I am a realist. I am personally convinced that doing business alone is not the key and being social alone is also not the key. But to be interested in your partner has a value, and this is what I am looking for.

UH: And is this also paying?

PH: If you calculate properly, it is paying.

UH: And is your model now sustainable? Is it a business model that the textile community could adopt?

PH: Sustainability is only liveable if you work continuously toward sustainability. I believe that our project is sustainable for my company and for your people and the people for whom I work. For other people, I cannot judge but I am sure that if they work on the same direction they will manage sustainable projects.

UH: In order to scaling-up your programme, if you want to include many thousand more farmers, what support would you need from development cooperation?

PH: We need two things: we need support from the development cooperation and we also need some support from the market. Actually, the market is there and I therefore I can stress on the help of the development cooperation. What we need is support in order to develop the farming community in such a way that they are capable of managing themselves.

UH: So that farmers depend less on your inputs and your caring?

PH: They have to become more autonomous and this we can not realise as long as we are the direct partners for the farmers in all these questions.

UH: So you want to empower your farmers so that they can do on their own?

PH: We want to empower our farmers and we want that they can negotiate with us out of an empowered situation.

UH: Patrick Hohmann, after 17 years working for Remei and starting this project, would you do it again?

PH: Yes, I would.

THE HELVETAS AND SECO APPROACH IN WEST AFRICA AND KYRGYZSTAN

7

Back in 1997 Helvetas, the Swiss Association for International Cooperation, started an organic cotton project on a pilot base in Mali. Since 2002, these endeavours have been supported by seco, the Swiss State Secretariat for Economic Affairs, and the project covers now five countries: Mali, Burkina Faso, Senegal, Benin and Kyrgyzstan.

new policy commitment by Helvetas towards social and economic action, and this endeavour was strongly supported by seco, the Swiss State Secretariat for Economic Affairs.

A feasibility study was conducted in 1998 in order to assess the prospects of organic cotton cultivation. Helvetas then started a pilot project with 25 volunteer farmers who dared to try organic cotton growing.

7.1. SOME KEY FEATURES OF THE PROJECT

What has started as a small project has now evolved into a sizeable project as the following table shows:

The project had started in the late 1990s, mainly as an initiative of three Helvetas employees with the financial support of the 'Fund for targeted aid' of Migros, the Swiss retail chain. The driving force, however, was a

Over the ten years that have passed since then, several retailers taken to selling organic textiles from Mali, namely:

- Migros: absorbent cotton, Max Havelaar bio-textiles;
- Switcher: new t-shirt product line, Max Havelaar t-shirt collection, product line with Mali designer;
- Marks & Spencer: baby clothing, towels;
- Hess Natur: organic textiles from Burkina Faso;

Helvetas project figures	2002	2003	2004	2005	2006	2007	2008 (projection)
Producers	174	385	633	2539	5069	7547	16821
Mali	174	385	561	1748	3469	3847	5470
Burkina Faso			72	663	1133	2836	9910
Senegal			101	128	75	215	469
Benin							0
Kyrgyzstan			38	225	392	649	972
Area under cotton (ha)	118	170	418	1211	2585	4685	10679
Mali	118	170	298	740	1663	2331	3492
Burkina Faso			30	322	756	1996	6442
Senegal			51	51	26	86	208
Benin							0
Kyrgyzstan			39	98	140	273	537
Seed cotton production (t)	47	81	263	720	1250	2279	6335
Mali	47	81	169	386	613	798	2026
Burkina Faso			13	150	343	990	3216
Senegal			9	17	7	28	73
Benin							0
Kyrgyzstan			72	166	287	463	1020
Fibre production (t)	20	34	101	285	441	977	2574
Mali	20	34	68	160	260	335	831
Burkina Faso			5	61	143	436	1286
Senegal			4	5	3	12	29
Benin							0
Kyrgyzstan			24	60	35	194	428



Smallholders are also responsible for the production in the Helvetas organic cotton and fairtrade projects in West Africa. The average cultivation area is 0.6 hectares per farm and most of the work is done with simple tools and manual labour.





Thanks to the organic production method, women can now grow cotton and earn money, too. They never used to grow conventional cotton because they feared the hazardous chemicals. Women in the Helvetas project (35% of the producers) cultivate their fields in groups, assign the various tasks together and share income after harvest. The cotton is hand-picked.



- Manor: fair-trade organic underwear and diverse textiles;
- Leclerc: collection made by a Malian designer;
- Helvetas in its own fair trade shop is selling a large collection of organic textiles.

Some of the key features of the programme are:

1. Farmers: Generally, farmers linked to the programme are organised in associations or cooperatives, but the degree of organisation differs – for example, the farmers in Burkina Faso were already a strong farmers' group. These farmer groups are then supported by Helvetas and encouraged to organise themselves and adopt practices of organic agriculture.

2. Value chain: The value chain is orchestrated by Helvetas as a facilitator, but the actors are independent and the value chain is not totally integrated. Key actors in the chain are (as in the case of Mali): farmers' cooperatives, Mobiom (Mouvement Biologique Malien) an umbrella organisation of eleven producer cooperatives required by the certification agency; the Compagnie malienne pour le développement des textiles (CMDT), the state-owned monopoly for input purchase and responsible for ginning the cotton; Reinhart, the Swiss cotton trader in Winterthur who buys the certified cotton at a price 20%–30% above the going market rates for conventional cotton (in case the prices are very low the certified price may be up to 100% higher than world market prices); Switcher and Migros, the main Swiss retailers in the chain who process the cotton in their respective production units – Switcher being a company guided by a philosophy of sustainable development and producing t-shirts and similar products, Migros being the largest textile retailer in Switzerland and mainly producing cotton wool products.

3. Price: farmers are subject to fair trade rules and the cotton is certified by the Fairtrade Labelling Organization International (FLO). According to FLO, farmers in Mali were paid 70% more than for conventional cotton in the season 2005/06. Fair trade cotton is subject to a minimum price fixed by FLO that should allow farmers to achieve decent living wages. This price was fixed at € 0.36/kg in 2005/06³⁶. This price does not yet include a premium for organic cotton.

7.2. RESULTS OF THE HELVETAS PROGRAMME: IMPACT VERSUS SUSTAINABILITY

The entire Helvetas project is sizeable – although with 977 tons of yarn, it is not yet comparable to the more than 3,000 tons of the two bioRe programmes in India and Tanzania. Over 16,000 producers are involved in the five countries of operation and the projections

envisage a steep growth curve not only to reach over 50,000 farmers but also to attain a sizeable increase in production. Whether this growth can be achieved through management measures or from the pull of the market has yet to be seen.

An evaluation³⁷ in October 2005 showed very positive impacts on the families but raised some doubts about the sustainability of the programme:

1. The 'Organic cotton' programme is relevant for most partners at various levels of the vertical value chain. Organic cotton producers in the three countries achieve a clearly improved economic situation for their families and state a better health;

2. The sustainability of the projects is not assured so far, and it will remain a problem even at a longer term. 'Organic cotton' is a development programme with a focus towards markets; the beneficiaries of the projects in the three countries rely on the 'goodwill' of the central actors within the vertical value chain. It will probably not be possible to change this fact for the next future. It is essential that the producers association will be carefully prepared to assume their function as a local promoter and contact platform for relevant partners in the market.

This sustainability is partly affected by the weaknesses of the value chain, but significantly by the fact that West Africa does not have a processing industry. While cotton farmers in West Africa belong to the most efficient cotton farmers with the lowest production costs (see chapter 4.1), the competitiveness of West Africa is seriously hampered by the lack of spinning, dyeing, weaving and garment industries. In most cases, the cotton must therefore be shipped to Asia for processing and this adds significantly to the production costs of textiles. On the other hand, Burkina Faso alone has over one million small cotton farmers who have few alternative crop options. Moreover, the project has until 2011 to show that it is sustainable.

While the evaluation stresses the good and professional work done by Helvetas as a facilitator, it also points to the weaknesses inherent in this role: Helvetas has indeed not much to say and cannot exercise any decisive influence on the market players and as some of the retailers lack similar commitments as in the case of COOP, the market position is to some extent weaker, mainly depending on these commitments.



Cotton is brought to the collection point by donkey carts, where it is carried onwards by lorries to the ginnery of CMDT (Compagnie malienne du développement des textiles), the cotton trading and exporting company of Mali.





Helvetas organises "stakeholder meetings" every year, in the South or in the North, where the key players in the organic cotton value chain come together and discuss their concerns about prices, quality, volumes and transport, especially in view of purchase guarantees. These long-term partnerships allow the stakeholders to meet and understand each other's problems. Trust is thus created and human faces become visible and alive behind the invisible hands that normally guide the international markets.



A good combination of public and private entities in managing organic cotton value chains can be a significant contribution to sustainable development, and to shaping globalisation with a human face. This last chapter therefore discusses different management models, roles and modalities how private and public entities can cooperate and draw some important lessons.

8.1. DIFFERENT MANAGEMENT MODELS FOR BIORE AND HELVETAS

The role of Helvetas is purposely that of a facilitator: it is the objective of the project to make the value chain sustainably independent of their continued inputs. This can only be achieved if the facilitator does not become a direct part of the value chain.³⁸

This model differs significantly from the bioRe model. While Helvetas is a public entity acting – even as an NGO – with support of seco, the Swiss State Secretariat of Economic Affairs, Remei AG is a private company and acts as a 'core firm' in the management of the value chain. The two models differ insofar as the bioRe value chain is organised as an 'exclusive' private operation, whereas the Helvetas organic cotton programme is organised as an – inclusive – multi-stakeholder network, in which as many stakeholders as possible are welcome to join. The term 'core firm' was used in a study of the University of St. Gallen³⁹ that elaborated four different key characteristics of commodity chains involving different actors from the prevailing management theory:

- 1. Coordination mechanisms:** networks may use quite different coordination mechanisms and must not only operate on the "basis of command and control" mechanisms as in large firms. The prevailing literature has become quite liberal on different forms that can all lead to successful coordination.
- 2. Trust:** this is an absolutely crucial factor in building and maintaining networks. "In lieu of formal control mechanisms, trust is about dealing with uncertainty and about accepting vulnerability".
- 3. Strength of ties:** the strength of ties between the actors can vary in strength and "networks may succeed irrespective of the exact density of ties as long as partners continue to increase productivity and respond to market pressures".
- 4. Role of core firm:** this relates to the positions and power of partners within a network, and ultimately the

allocation of costs and benefits and is of great importance to the functioning of a commodity chain.

Based on these theoretical characteristics, the study compared the bioRe and the Helvetas models – as well as making reference to other commodity chains such as exporting fair trade mangoes from Mali and Burkina Faso – and has revealed significant differences in the management of the commodity chains:

These differences are shown in the following table:

While not all these characteristics may be fully evident, it is a fact that both models have their pro's and con's: whereas a stakeholder network may have a higher degree of autonomy, the lack of a core firm in the centre may be a key weakness. An NGO can never exercise a similar enforcing role as a core firm: its role must by definition – and as a finally public actor – remain a facilitator. The strength of the stakeholder network depends thus on the active involvement of the stakeholders and the more these take over real tasks and responsibility the stronger the value chain will emerge. On the other hand, if the private partners lack such a commitment – and this is the case with some of the partners while others have now really identified themselves – sustainability issues may prevail. It is then also the ultimate goal to create – as in the case of bioRe – more and more commitment by the stakeholders on both sides and one of the key instruments to achieve this are the regular stakeholder meetings.

It is a difficult balance, this combination of business and development issues: whether a stakeholder network or a privately managed value chain, it all depends on good and strongly committed retailers to make it work: all involved key persons need to be firm to pursue the business objectives and operate economically sound and strong; and all must also be interested for the social dimensions, create mutual understanding and create trust. This must be a two-way exchange from both sides: farmers must understand the needs, constraints and requirements of the textile chain, and the stakeholders must understand the situation of the farmers with empathy and compassion. While Remei and the Helvetas partners must act like an NGO, all members of the value chain must also strongly act as a business partnership.

Overall, one can say that the two models are exemplary achievements for public-private partnerships and many

Two competing models of promoting organic cotton (situation 2006)		
Example:	NGO-driven: Helvetas/Reinhart	Company-driven: Remei/COOP
Visionary behind	Helvetas	Remei
Organising principle	Cost-plus calculation	Network management
Push/pull strategy	More push	Pull
Decision-making hierarchy in chain	Lower	High
Democracy/public scrutiny in chain	Higher	Lower
Role NGOs	<ul style="list-style-type: none"> •Facilitate chain development •Manage interfaces •Lobby authorities •Publicly communicate vision •Certification 	Certification
Role Government	<ul style="list-style-type: none"> •(Co-)Finance NGOs •Enhance legitimacy 	None (other than reducing trade barriers)
Costs to enforce certification contracts	Substantial because trust needs to emerge and exit options remain real	Low if embedded in tight network, high if network is characterised by defections
Leanness	Not lean	Lean
Economic strengths of chain management	Positive consumer perceptions associated with NGOs doing good things	<ul style="list-style-type: none"> •Long-term partnership creates robust structure •Efficiency •Ability to reach consumers
Economic weaknesses in chain management	<ul style="list-style-type: none"> •Costs difficult to control •No spider in web means vision lacking •Potentially highly political 	Risk of rise of competing certification standards (and thus consumer confusion)

lessons can be learned from these two ways of doing business in a more sustainable way. The fact that – together – the set target of reaching 5% market share for organic cotton has been met by the end of 2007 speaks for itself.

8.2. ROLE OF DEVELOPMENT COOPERATION

It is a commonly accepted principle that public money should not be spent to subsidise individual private firms. What is however legitimate is to spend public money on investments that benefit groups of individuals or firms.

Investments in commonly used infrastructure such as a warehouse for a group of cotton farmers, better access

roads, and electricity connections are typically accepted as public investments in terms of 'hardware'.

With respect to 'software', trainings of groups of farmers – for example farmers-field schools – can be funded initially but not forever. Investments in the organisation of farmers and bearing the costs of the facilitator in a process of orchestrating an entire value chain are also possible for a certain time. The criteria of sustainability requests that such investments should gradually be taken over by the farmers or the supply chain. It may be easier to absorb such costs with increasing volumes and with higher value added.

All investments geared to reduce the transaction costs of a value chain may be borne by public funds, but it

should not be that the transactions itself are subsidised. Investments in making transactions cheaper – by standardising certain inputs and services, for example publishing a training manual – or increasing volumes can and should be borne by public funds.

This also applies on the marketing side: investments in creating the awareness and opening the markets for organic and fair trade textiles are thus legitimate. Public procurement, for example, could prescribe that only organic and fair trade textiles are used. Recently, Helvetas organised such a conference in order to promote organic and fair trade textiles and could quite successfully convince the Police corps of the City of Zurich to purchase uniform shirts with an organic and fair trade label (see box).

Such public investments by development agencies are to be encouraged and are a very effective way of poverty reduction in a sustainable way. Relatively slow complementary investments in form of public private partnerships are needed in order to have long-lasting impact: The private sector involvement will make those investments sustainable, as the consumers will pay the additional income of farmers and will also get a benefit in a higher value added. This is also the case for the whole retail chain: it is an instrument to make the higher incomes happen in the long run and the chain itself is benefiting of a better image. Public investments – observing the rules spelt out before – in organic cotton value chains can thus create strong win-win-win ('triple win') situations for the farmers, the employees of the entire value chain and for the consumers, despite the doubts expressed before about whether the Helvetas model is already sustainable.

8.3. FARMER TO MARKET OR MARKET TO FARMER APPROACH?

The rules for public investments spelt out in the last chapter would rather tend to support groups of farmers in a certain (poor) area with a territorial approach, rather than a 'core firm' that is looking for some farmers it can work with. Most development projects supporting value chains are therefore 'farmer to market' approaches, mainly because this approach is considered to be the most suitable for poverty reduction.

The 'farmer to market approach' is – in my personal view – problematic and leads to many problems and difficulties to achieve sustainability, and we may need a shift of paradigm, or at least a combination of the two approaches. The efforts – and the risks – for farmers to produce a certain product and then to market it are



The police corps of Zürich in organic cotton shirts

Public procurement policies can influence markets significantly and for this reason, Helvetas organised a workshop together with the Swiss IGöB (Interessengemeinschaft für ökologische Beschaffung Schweiz; interest group for ecological procurement) to promote organic cotton for public procurement. One of the pilot projects resulted in uniform shirts for the Zürich police corps. Those shirts are obviously heavy duty textiles and must match very high quality standards and washing and wearing characteristics. In all, 525 shirts were tested by 45 policemen and women and – despite the very demanding requirements – the tests were satisfactory. It is now likely that the entire police corps will procure these organic cotton shirts and other public entities such as the Swiss Post and the Swiss Railways have also shown interest. The special requirements of those heavy duty shirts demand – however – long-staple fibres and these cannot be procured from West Africa.

phenomenally high and markets are indeed extremely competitive. As we have seen, organic and fair trade cotton will almost inevitably have higher costs – be it production or transaction costs – and these can only be absorbed by the entire value chain. If added at the cost of the raw materials, the 70% that the farmer in Mali gets more for his cotton compared to conventional cotton will be an almost prohibitive burden if it is added to the raw material. As part of the entire value chain, it will only be a few cents more per piece of fabric and this is much more bearable.

A much more important argument for market-to-farmer approaches is the intricacy of the market itself: in order to be competitive with a broad range of products, it is often necessary to diversify the suppliers and get different qualities on board. Only by including long-staple cotton will it be possible to produce fine fabrics such as high-quality business shirts and fine women's underwear. Without a pragmatic market-to-farmer approach, Helvetas would not have succeeded in satisfying the demands of the Zürich police corps, and the shirts would not have met those extreme quality requirements.

This requires a paradigm shift of development cooperation: instead of choosing the farmers in a region as a target group and then try to finding a market for what

they can produce, it would be more suitable to identify the markets first and to determine the precise needs of this market. This does not rule out that certain farmers in a region are chosen as target groups but it would require making an assessment of their market potentials and a thorough market analysis as a first step. It would then require an established cooperation with private players from the outset and to opt for public private development partnerships with private firms that can and are willing to act as 'core firms' or facilitators in such value chains. The PPP programme of the German GTZ is a good example how to make 'market to farmer' approaches work.

8.4. DO WE NEED NEW FAIR TRADE MODELS FOR VALUE CHAINS?

In order to scale up integrated organic cotton textile chains, we may need new fair trade models which are suitable for complex integrated value chains. Fair trade labels such as Max Havelaar were originally developed for 'simple' products such as bananas, not for complex value chains and not for processed goods. A banana is a perfect but somehow misleading model product: it grows on the tree almost as a finished consumer good; the differences to complex value chains with several processing steps are striking.

Some modalities of the present fair trade models indeed invite harsh criticism, even from supporters. The fair trade movement has made considerable headway in the past ten years and it is to be hoped that some modalities can be adapted in order to allow further and much faster growth.

8.4.1. SOME ISSUES WITH THE PRESENT FAIR TRADE MODELS

As many modalities have been developed for the classical products such as bananas and coffee, it may be necessary to redesign these fair trade modalities to a significant extent. Fortunately, many reforms are already under way.

Among the new issues that would need adaptation, the following merit special attention:

1. Price multiplier: As things stand, there is a great risk that a premium price to the farmer will be multiplied by the entire value chain and increase the end-price more than proportionally; the same is true for extension services provided to small farmers and for the certification costs;

2. Contract farming only an exception: Again, as things stand, mostly independent farmers – organised in cooperatives – are eligible for fair trade labels,

whereas contract farming is rather an exception and only eligible temporarily. This requirement may be an important limitation if smallholders are to participate in dynamic and complex value added chains. The general guidelines of the Fairtrade Labelling Organization International (FLO) distinguish only between two target groups: namely small farmers and plantation workers⁴⁰. FLO has recently developed a special standard for contract farming, especially for cotton and Basmati rice producers in India. This standard is, however, only a transitional standard to help creating "democratic and participatory bodies" which will resemble the normal FT standards.

3. Mainstream markets: The fair trade movement has been very successful – especially in Switzerland – but in many other countries it has had difficulties in reaching mainstream markets. This seems to have changed recently as France and UK have fast growing fair trade markets. However, it is still rare for a fair trade label to reach beyond a 5% market share, and the high market shares for fair trade in Switzerland are not at all typical. Switzerland is known as the 'champion' of fair trade, and remarkable developments have been achieved, for example bananas have reached a market share of over 50%, fruit juice 9%, honey 15%, pineapple 12.5% and sugar 17%. Nevertheless, Switzerland became world champion relatively easily and the yardstick hangs very low: a typical Swiss consumes fair trade products for less than 20 Euro per capita and year⁴¹ while a typical German consumed them for less than 1 Euro and even the Danes 2.20 Euro per capita and year.

4. Cooperatives as ideal form: FLO has set high standards with respect to small farmers' organisations: the 'cooperative' is really the benchmark for most of the FT criteria, and values such as 'democracy' seem to be much more important than effective poverty reduction. It is, for instance, a must that the premium money is distributed in a 'democratic' decision process, and premiums paid directly to the producer are not part of the FT world so far.

5. Free farmer as romantic ideal: The image of an FT farmer is, for many people, a highly idealistic one: ideal is the 'free and autonomous' farmer who is able to decide whether or not he wants to sell his products. This looks as a romantic perception that is in contradiction with the extremely powerful market forces where the farmer has to accept a contractual relation with mutual rights and obligations, or else he will simply perish. These contracts, no doubt, should be fair and beneficial for the farmers and all measures which can improve the bargaining position of smallholders are welcome. It is a fact of today's world that the market share of supermarkets is increasing very fast, even in the South, and more and more value chains depend on the timely delivery of the exact quantity and quality at the right price. Farmers who want to participate in such marketing chains need

to have a contract with their buyers: they are producing what and when the buyer needs, but the buyer must also count on the farmer who meets his obligations and supplies what he needs.

6. Minimum prices: The FT criteria of applying minimum prices set by FLO based on country specific production costs is somehow an artificial market distortion. It is, of course, obvious and desirable that smallholders should get an income that allows living wages. Can this really be achieved – in the long run – by setting minimum prices? Minimum prices do neither vary with market fluctuations nor are they linked to quality criteria: bananas are essentially bananas and there are basically only two minimum prices mentioned for coffee: Arabica and Robusta. Instead of paying higher prices for high-quality products, the minimum prices tend to consider the products as simple commodities. It seems to be high time to introduce more price differentiation for quality. The latest trend shows much more differentiated minimum prices and a circular issued by FLO on 18 June 2008 mentions not less than 12 different minimum prices for cotton, six prices for conventional and six prices for organic cotton, depending on the region where the cotton is produced⁴². This is a progress but does not change the overall problematic, especially that minimum prices are fixed regardless of the quality. More price differentiation will be needed based upon quality variations and for this the present system seems to be too rigid. There is also never a guarantee that the farmer will find a buyer who is willing to pay this minimum price.

8.4.2. CRITERIA FOR FAIR TRADE SCHEMES FOR THE 21ST CENTURY

What may be required in the future is a modified FT scheme that comprises:

1. Fair prices along with quality: New concepts should be developed to ensure a fair price to the farmer for good quality; this price should be better than the market price, but not be fully disconnected from price fluctuations and should be associated with quality. Fair trade products should, in the long run, be disconnected from commodity prices and should allow for a strong differentiation for high-value products. Since any harvest will always produce different quality ranges, there should be much more flexibility to value the top quality differently from the second and third quality. It has to be noted as a fact that for example in Burkina Faso in every three kgs of cashew nuts one kg is broken and cannot be sold; it would help those farmers much more if they could sell those for at least half the price instead of throwing them away.

2. Individual premiums: A premium price should be paid for certified products; this premium may be used for

community purposes but also individually; the romantic vision that only cooperatives can defend the farmers from exploitation is not a realistic assumption. Also, the notion of the 'autonomous' farmer who chooses freely to whom and when he can sell is a misleading assumption which will further marginalise them. The real threat is that more and more agricultural products are traded through supermarkets and integrated value chains. The needs of the hour are schemes that integrate smallholders into these new marketing structures rather than opposing them. In other words: the real threat is not exploitation but marginalisation and exclusion of small farmers.

3. Encourage contract farming: Contract farming should not be discouraged but made fair – for both sides – and integrated value chains with transparent structures should be encouraged. The battle is not between farmers and the value chain. It is a win-win situation for the entire value chain if their products can be better positioned in the market and thus resist and perhaps reverse the usual 'race to the bottom' of those retail chains whose only criteria is pressure on the consumer price.

4. Quality production: This should be explicitly promoted and enable smallholders to participate in high-value products and overcome the secular trend of declining prices for commodities. This would mean that small farmers should be equipped to play in the high-value league and allowed to acquire the means to produce top quality premium products and not remain in the commodity markets where the only thing that count is quantity.

5. Technical assistance: The requirements for democratic distribution of premium money should not be abolished but complemented with much more effective schemes for direct producer support, organisational strengthening and technical assistance. While there is a need for community support and social improvements, there is also a dramatic need for technical support to organise small farmers and making them fit to play a role in high-value products. This will require major efforts in technical assistance, capacity building and will need public and private assistance. The issue of strengthening farmers' organisation is primordial here and demands long-term vision.

6. Avoid multiplier: The additional costs for premiums, producer support and certification should not be multiplied by the entire value chain but only added at the end to the retail price; those companies/ value chains which adjust their margins to accommodate these additional costs without heavy price increases should be especially benefit from FT labels.

In this sense, it is worthwhile to reconsider the existing fair trade schemes and adapt them for the new marketing challenges of the 21st century.

8.5. CONCLUSIONS: THERE IS A LOT TO LEARN FROM ORGANIC COTTON

When these two organic cotton value chain initiatives started in India and in Mali it was not at all evident whether they would ever succeed and become major initiatives: both initiatives were started as new ideas and attracted lots of attention. Many sceptical observers, however, would look at them as marginal efforts that would not be able to counter or change the mainstream trends of globalisation.

It is true that the overall impact of organic cotton is still very minor and 0.2% global market share is indeed an embarrassing and shameful achievement on the global level. If one sees it solely from this perspective, then one could easily fall into a resigned mood, and perhaps even a state of depression, whereas the 5% market share achievement in Switzerland can give hope.

However, the essence of an integrated organic cotton value chain is not measurable looking only at the tangible benefits: it is the human face that has re-appeared, the discovery is that it makes a difference when farmers, textile workers, salespeople and managers of retail stores and consumers know each other. This is the beginning of a better understanding of each other's role, the birth of respect for each other's work and performance.

I had the opportunity to have a glance on the entire value chain and I am beginning to understand it a little better now. It is terribly complex and I am deeply impressed by the contributions of each person involved in the entire chain. Next time I buy a pair of socks, it will be a different experience. I will not check if I like the colour and if they fit my foot: I will understand how many hands were involved, how many drops of sweat were shed during its making. I hope this publication will also help the readers – and it is especially addressed to development specialists – to understand all those intricacies better.

If more people understand the essence of such a fascinating organic cotton value chain, then – maybe – we shall arrive at, and succeed in maintaining a globalisation with more of a human face.

ENDNOTES

- 1 Dorothy Myers and Sue Stolton: *Organic cotton – from field to final product*, IT Publications, London 1999, page 14ff.
- 2 Source ICAC, International Cotton Advisory Committee
- 3 One bale is a physical measure for cotton and weighs 500 lbs or 226.8 kg.
- 4 Terry Townsend: *Outlook for world cotton supply and use*, 2008, www.icac.org
- 5 Dorothy Myers and Sue Stolton: *Organic cotton – from field to final product*, IT Publications, London, 1999, page 14ff.
- 6 This proportion seems to vary considerably depending on the varieties; in the case of Mali, 2.4 kg of seed cotton produces one kg of cotton lint
- 7 Patrick Schumacher comes to the conclusion that the share of the cotton income is only 33% in average compared to the total income; Frank Eyhorn et al. conclude (for their sample) that this share may be in the order of 50%. See Patrick Schumacher. Comparison of conventional and organic cotton production in India, Maikaal Area, Thesis Department of Geography, University of Zürich, page 123ff.; Frank Eyhorn et al: op. cit, page 37ff.
- 8 See Frank Eyhorn: *Organic farming for sustainable livelihoods in developing countries? The case of cotton in India*, Zürich 2007, page 108ff.
- 9 See Frank Eyhorn, Paul Mäder, Mahesh Ramakrishnan: *The impact of organic cotton farming on the livelihoods of smallholders – Evidence from the Maikaal bioRe project in India*, FIBL, October 2005, www.fibl.ch
- 10 Frank Eyhorn: *Organic farming...*, op. cit. (2007), page 159.
- 11 bioRe (India) Ltd.: Business Plan, Remei Ltd, January 2003
- 12 Frank Eyhorn et al. *Organic cotton crop guide – a manual for practitioners in the tropic*, page 12, FIBL, Switzerland, 2005, www.fibl.ch
- 13 Frank Eyhorn et al.: *Organic cotton project guide*, FIBL, 2005, www.fibl.ch
- 14 Op. Cit.
- 15 Frank Eyhorn et al: *Organic cotton crop guide*, op.cit. page 6f.
- 16 Frank Eyhorn et al: *The Impact of Organic Cotton Farming on the Livelihoods of Smallholders – Evidence from the Maikaal bioRe Project in Central India*, FIBL, 2005, www.fibl.org
- 17 Tushaar Shah et al.: *Social impact of technical innovations – Study of organic cotton and low cost drip irrigation in the agrarian economy of West Nimar region*, IMWI (India), 2005
- 18 See Frank Eyhorn et al: *The Impact of organic...* op. cit., page 57ff
- 19 Organic Exchange: 2007 organic farm and fiber report, www.organicexchange.org
- 20 See Frank Eyhorn et al: *Organic cotton project guide*, www.fibl.ch
- 21 Maikaal bioRe Ltd.: Business Plan, Remei Ltd. Switzerland, November 2004.
- 22 3 kg of raw cotton at 19 Rs/kg cost 57 Rs, of which the 2 kgs of cotton seeds cost 13 Rs and the kilogram of lint 42 Rs before processing (figures of 2005)
- 23 Ne is based on the English measures – a relationship of yards to pound – while Nm stands for the metric measure of metres per one gram.
- 24 See Simon Zbinden: *Preach free trade and practice protectionism – briefing paper on cotton in West Africa*, SDC Berne, April 2004 (unpublished paper)
- 25 Bo van Elzakker: *Comparing the costs of organic and conventional cotton*, in Dorothy Myers and Sue Stolton: op. cit, page 86ff.
- 26 Source ICAC: http://www.icac.org/cotton_info/tis/organic_cotton/documents/1996/e_december.pdf
- 27 See http://www.helvetas.ch/wEnglish/organic_cotton/welcome_page.asp?navid=36
- 28 See www.organicexchange.org
- 29 This institute has undertaken many pioneering

studies on mainstreaming ecological products such as organic food, sustainable electricity etc. See www.iwoe.unisg.ch

30 See Arnt Meyer: *Jenseits der Oeko-Nische in der Bekleidungsindustrie* in: Alex Villiger et al: *Jenseits der Oeko-Nische*, University of St. Gallen, Birkhäuser Basel, 2000, page 183ff.

31 Dorothy Myers and Sue Stolton: *Organic cotton – from field to final product*, op.cit. London 1999

32 This triangle graph is based on one of the Helvetas clients policies for their entire textile collection

33 See Better Cotton Initiative <http://www.bettercotton.org/site.php>

34 See WWF Switzerland (www.wwf.ch) and its initiatives for water efficiency

35 See <http://www.cotton-made-in-africa.com/Home/en>

36 see <http://www.fairtrade.net/cotton.html>

37 Joseph Guntern, Christof Dietler: *Evaluation externe du programme coton biologique Mali, Kirghizistan et Burkina Faso*, 2005, seco, Bern 2006.

38 Jens Soth, Tobias Meier, Frank Eyhorn, Andrea Bischof: *Organic and fair trade cotton value chain, paper presented for the Organic Fiber and Textile Conference in Carpi*, June 2008

39 W. Ruigrok, S. Zajitschek: *Towards sustainable, fair and organic international commodity chains: An analysis of Helvetas projects*, Research Institute for International Management, University of St. Gallen, December 2007

40 "There are two sets of generic producer standards, one for small farmers and one for workers on plantations and in factories. The first set applies to smallholders organised in cooperatives or other organisations with a democratic, participative structure. The second set applies to organised workers, whose employers pay decent wages, guarantee the right to join trade unions and provide good housing where relevant. On plantations and in factories, minimum health and safety as well as environmental standards must be complied with, and no child or forced labour may occur."

41 FLO et al: *Fair trade in Europe 2005*

42 FLO: FLO Standards announcement: minimum prices and premiums for olives and olive oil from West Asia, cotton and organic pineapple from Ghana, 18th June 2008, www.fairtrade.net

POVERTY ALLEVIATION AS A BUSINESS – THE MARKET CREATION APPROACH TO DEVELOPMENT

is the title of the original study by the author of this – unrevised – 2006 volume, Urs Heierli. Published in March 2000, it summarised the experiences of his 12 years working as country director of SDC in Bangladesh and India (1987–1999).

Can poor people make a business with goods and services that are relevant for poverty alleviation? The answer is yes, as the six examples of the original study show. To make it happen, markets should be created and technologies must be validated, tested and introduced. If a critical mass of demand is created, small private enterprises will emerge to respond to these new business opportunities.

The following six examples are examined in detail. They are analysed according to the 4 Ps of marketing (Product, Price, Place and Promotion) and various performance parameters, especially in view of the potential for scaling them up and replicating them in other countries.

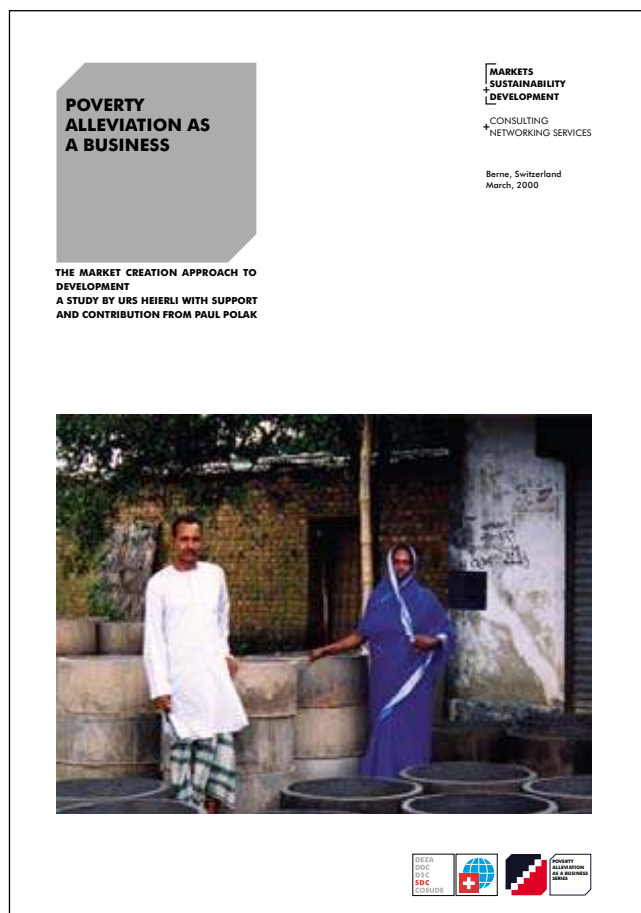
1. 'Hundred million trees as a social insurance scheme: the village and farm forestry programme in Bangladesh'
2. 'Pedalling out of poverty with the treadle pump in Bangladesh, India and Nepal'
3. '60 kilograms more maize per family with Postcosecha silos in Central America'
4. '2'000 micro-concrete roofing workshops produce over 150'000 roofs per year'
5. '6'000 private workshops produce over one million latrines per year in Bangladesh'
6. 'The rope pump in Central America: the scope for private drinking water supply'

ORIGINAL PUBLICATION:

Poverty Alleviation as a Business – the Market Creation Approach to Development
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SDC Berne, March 2000

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WHERE FARMER AND FASHION DESIGNER MEET – GLOBALISATION WITH A HUMAN FACE IN AN ORGANIC COTTON VALUE CHAIN

The cultivation of cotton is usually associated with poverty and misery. Real prices for cotton have declined almost tenfold in 50 years, accentuated by excessive subsidies in the USA and Europe. The reward is threadbare revenue for millions of hard-working cotton farmers in India and Africa. Many in India, heavily indebted, have committed suicide after ruination from crop failures.

The production of bioRe organic cotton started in India in 1992. It now sells on mainstream markets, with over 8,400 products in the COOP Naturaline collection. Its 17 fascinating, turbulent years have brought together 10,000 farmers in India and Tanzania.

Exploring the economics of organic cotton production, this book looks at how to absorb higher costs of production, certification and farmers' premiums. The dilemma is that typical mark-up calculations multiply them all along the value chain, by a factor of 16 to 20 in shop prices. The result: If farmers get 20 cents more for the cotton used in a t-shirt, it will cost 20 dollars instead of 16. The solution found: to add marginally better prices at the end of the chain.

The study also describes similar projects by Helvetas in West Africa and Kyrgyzstan and discusses how to adapt fair trade practice to meet new challenges in highly complex value chains.

Success and sustainability depend on recognising the now anonymous people in the value chain. In organic cotton, globalisation has a human face once again.

