Sowing the Seeds of Change:
Weaving Innovation and Integrity into Organic Agriculture

Together we make a world of difference
Sowing the Seeds of Change: Weaving Innovation and Integrity into Organic Agriculture

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I hope I have not forgotten anyone, and apologise if this is the case. Any other errors or omissions are the responsibility of the author! And thanks to Heidi, for having the vision to push this project.

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Editor: Heidi McCloskey
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The growth of the organic cotton sector has been considerable over the past five years. The positive environmental and social benefits at the farm level have become increasingly apparent to non-governmental organizations, government bodies and brands while becoming of greater importance to the general public. No longer is organic cotton a story of lower yields for higher incomes; it’s a story of innovation and discovery. It’s a story that is just beginning – one that clearly demonstrates the healthy alternatives to conventional agriculture that do not involve the use of harmful chemicals.

For many early innovators in the organic movement, there was nothing quite like experiencing firsthand the contrast between conventional farmers who live day to day under a mountain of debt and health problems, and organic farmers who empower themselves and their families within a few short years and develop amazing joy, humour, and confidence in their ownership of a healthy, collaborative solution.
1. Tradition or Innovation?

In the not-so-distant past, farming without synthetic chemicals was considered to be the standard method of farming and was practised around the world for hundreds of years before the advent of modern agricultural chemicals. After synthetic chemicals were introduced to farmers, old farming methods were quickly subsumed by what is now termed “conventional” farming. Farmers saw and enjoyed a seemingly easy way to eradicate insects, weeds and other pests. What conventional farming failed to consider were the short, medium and long term effects of chemical exposure on people and the environment. As the effects of agricultural chemical exposure have not been well documented until fairly recently, the conventional cotton industry has easily been able to position modern organic farming as the same traditional, untried, unstable, and unaffordable production system, unable to provide adequate fibre volume to meet customer demand, despite its many success stories.

While that position has provided a convenient method of promoting conventional cotton fibre for many years, more and more brands have become well versed and highly experienced in social and environmental responsibility, including specific areas like textile chemistry and farming practices. Equipped with this knowledge, brands and their supply chains are now able to make informed sourcing choices. The choice to use organic versus conventional cotton is just that: a choice. But it’s one that, like organic farming, works with instead of against nature and one that aligns with the evolving environmental and social values of an increasing number of brands, organisations and consumers.

Organic farmers are true innovators in today’s agricultural world, often working with extremely limited funds, without sophisticated scientists and laboratories and without ready access to or influence on corporate boardrooms. Even with these limitations, they produce high quality food and fibre without damaging their productive base. These farmers often achieve impressive results in water conservation (see examples in the India section) and the restoration of soil fertility, and develop an intimate understanding of how their crops interact with the wider farm environment.

Organic farmers usually achieve higher incomes than their conventional counterparts. On a trip to India in 2006, Organic Exchange staff asked seven groups of farmers to compare their experiences before and after transitioning to organic cotton with regard to income, personal health, environmental health, and social development. Six farm groups reported much higher incomes and similar or higher yields per acre. The seventh farm group reported the same level of income as with conventional, but lower health costs from reduced exposure to pesticides.

One of these groups has also developed a successful water harvesting and conservation system, generating hundreds of thousands of litres of water each year, which provides more than enough for its irrigation needs (see India section).

The organic crop yields reported in this book currently include farmers in conversion, which occurs over a period of three years, and thus may seem lower than conventional yields. A quick glance at accomplished organic farmers tells a different story. Experienced, innovative organic farmers achieve similar or higher yields, although many choose to emphasise diversity of crops, and thus more secure income, over a single cash crop.

An extensive review of yields over time might also show that organic fields stay productive longer and that after five to seven years, most organic cotton farmers obtain similar yields as conventional farmers.
2. Organic Cotton in 2006

2.1. A Look at Global Organic Cotton Production

The global organic cotton fibre supply has increased 292% from a 2000-01 harvest of 6,480 metric tonnes to the 2004-05 harvest of 25,394 metric tonnes. Supplies are projected to grow to 31,017 metric tonnes (68,237,400 pounds or 142,161 bales) by the end of the 2005-06 harvest, reflecting an annual growth rate of 22%.

During the 2004-05 harvest, cotton was produced in twenty-two countries with Turkey growing 40%, India 25%, the United States 7.7% and China 7.3% respectively. In 2005-06, these four countries combined are projected to produce 79% of the global organic cotton fibre crop.

All existing organic cotton producer groups are expected to maintain or slightly expand production for the 2006-07 harvest, and a small number of new projects growing cotton for the general market are expected to begin organic production in 2006-07. Additional projects that currently grow cotton exclusively for specific customers are expected to expand their customer base beginning with the 2007-08 harvest.

Organic cotton fibre supply and demand has gone through several phases of development in the past fifteen years. These phases included: enthusiastic growth in the early 1990s, re-orientation in the early to mid 1990s, then the laying of a more structured and professional approach in the late 1990s and early 2000s. The current phase of development shows increased organic cotton production and trade, improved supply chains and fibre quality and rapid growth in demand.

The first phase of organic fibre production began in the United States and Turkey in the late 1980s. These countries were soon followed by Sub-Saharan Africa, predominantly Egypt and Uganda, India, and Peru. Some production was initiated by companies seeking to create new models of doing business; some were started by farmers seeking new markets and better ways of living; and several were started as development projects by an assortment of non-governmental organizations.


<table>
<thead>
<tr>
<th></th>
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<td>140</td>
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<td>-</td>
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<td>10</td>
<td>10</td>
<td>10</td>
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<td>100</td>
<td>200</td>
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<td>725</td>
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<td>Uganda</td>
<td>-</td>
<td>-</td>
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<td>75</td>
<td>300</td>
<td>450</td>
<td>250</td>
<td>200</td>
<td>275</td>
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<tr>
<td>USA</td>
<td>1,000</td>
<td>1,950</td>
<td>2,400</td>
<td>3,350</td>
<td>1,550</td>
<td>1,300</td>
<td>1,900</td>
<td>2,900</td>
<td>1,625</td>
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<tr>
<td>Zimbabwe</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Total in Metric Tonnes: 2,075, 3,826, 6,150, 7,482, 5,507, 5,562, 5,575, 7,545, 6,480


Source: Ton (2002) updated in Ferrigno et al., 2006

Conversion Note: 2,200 pounds are in a Metric Tonne, and 480 pounds in a bale.

1. See Organic Exchange 2006 Spring Fibre Report for more information
2. Ibid
3. Ton, 2002, Myers and Stolton 1999
4. Ton, 2002
### 2004-05 Organic Cotton Stocks and Fibre Production by Country
(in metric tonnes)

<table>
<thead>
<tr>
<th>Country</th>
<th>BEGINNING STOCK AUGUST 1</th>
<th>HARVEST</th>
<th>SALES / COMMITMENTS</th>
<th>ENDING STOCK</th>
<th>% OF PRODUCTION</th>
<th>FIBRE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>199</td>
<td>67</td>
<td>230</td>
<td>36</td>
<td>0.26%</td>
<td>Medium*</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>0</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td>0.18%</td>
<td>Medium</td>
</tr>
<tr>
<td>Kenya</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0.01%</td>
<td>Medium</td>
</tr>
<tr>
<td>Malawi</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>---</td>
</tr>
<tr>
<td>Mali</td>
<td>0</td>
<td>296</td>
<td>296</td>
<td>0</td>
<td>1.17%</td>
<td>Medium</td>
</tr>
<tr>
<td>Senegal</td>
<td>5</td>
<td>27</td>
<td>14</td>
<td>17</td>
<td>0.11%</td>
<td>Medium</td>
</tr>
<tr>
<td>Tanzania</td>
<td>0</td>
<td>1,213</td>
<td>1,213</td>
<td>0</td>
<td>4.78%</td>
<td>Medium</td>
</tr>
<tr>
<td>Togo</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>Medium</td>
</tr>
<tr>
<td>Uganda</td>
<td>400</td>
<td>900</td>
<td>500</td>
<td>800</td>
<td>3.54%</td>
<td>Medium</td>
</tr>
<tr>
<td>Zambia</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0.01%</td>
<td>Medium</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>Medium</td>
</tr>
<tr>
<td>India</td>
<td>930</td>
<td>6,320</td>
<td>5,213</td>
<td>2,037</td>
<td>24.89%</td>
<td>Medium</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0</td>
<td>600</td>
<td>600</td>
<td>0</td>
<td>2.36%</td>
<td>Medium</td>
</tr>
<tr>
<td>Israel</td>
<td>0</td>
<td>436</td>
<td>436</td>
<td>0</td>
<td>1.72%</td>
<td>Medium</td>
</tr>
<tr>
<td>Egypt</td>
<td>0</td>
<td>240</td>
<td>240</td>
<td>0</td>
<td>0.95%</td>
<td>ELS**</td>
</tr>
<tr>
<td>Nepal</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>Short***</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>0</td>
<td>65</td>
<td>65</td>
<td>0</td>
<td>0.26%</td>
<td>Medium</td>
</tr>
<tr>
<td>China</td>
<td>20</td>
<td>1,870</td>
<td>1,470</td>
<td>420</td>
<td>7.36%</td>
<td>Medium</td>
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<tr>
<td>Paraguay</td>
<td>34</td>
<td>70</td>
<td>70</td>
<td>34</td>
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<tr>
<td>Peru</td>
<td>100</td>
<td>813</td>
<td>775</td>
<td>138</td>
<td>3.20%</td>
<td>Medium &amp; ELS</td>
</tr>
<tr>
<td>Turkey</td>
<td>0</td>
<td>10,460</td>
<td>10,460</td>
<td>0</td>
<td>41.19%</td>
<td>Medium</td>
</tr>
<tr>
<td>USA</td>
<td>0</td>
<td>1,968</td>
<td>1,968</td>
<td>0</td>
<td>7.75%</td>
<td>Medium &amp; ELS</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,683</strong></td>
<td><strong>25,394</strong></td>
<td><strong>23,580</strong></td>
<td><strong>3,502</strong></td>
<td><strong>100.00%</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Medium Staples are 24-30mm in length.
** ELS stands for Extra Long Staples such as Tangus, Pima and Egyptian with staple lengths over 30mm.
*** Short Staples are less than 24mm.

### 2005-06 Organic Cotton Stocks and Fibre Production by Region
(in metric tonnes, predicted)

<table>
<thead>
<tr>
<th>Region</th>
<th>BEGINNING STOCK AUGUST 1</th>
<th>HARVEST</th>
<th>SALES / COMMITMENTS</th>
<th>ENDING STOCK</th>
<th>% OF PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast Asia (Pakistan/India)</td>
<td>2,037.00</td>
<td>10,834.86</td>
<td>11,835.00</td>
<td>1,036.86</td>
<td>34.93%</td>
</tr>
<tr>
<td>Middle East (Turkey, Israel)</td>
<td>0.00</td>
<td>10,760.00</td>
<td>10,700.00</td>
<td>60.00</td>
<td>34.69%</td>
</tr>
<tr>
<td>China</td>
<td>420.00</td>
<td>2,531.60</td>
<td>2,630.00</td>
<td>321.60</td>
<td>8.16%</td>
</tr>
<tr>
<td>Other Africa</td>
<td>804.38</td>
<td>2,469.60</td>
<td>2,859.00</td>
<td>414.98</td>
<td>7.96%</td>
</tr>
<tr>
<td>North America (USA)</td>
<td>0.00</td>
<td>1,867.64</td>
<td>1,868.00</td>
<td>0.00</td>
<td>6.02%</td>
</tr>
<tr>
<td>Latin America</td>
<td>172.00</td>
<td>1,188.00</td>
<td>1,035.00</td>
<td>325.00</td>
<td>3.83%</td>
</tr>
<tr>
<td>Africa CFA zone</td>
<td>68.50</td>
<td>1,014.95</td>
<td>1,049.00</td>
<td>34.45</td>
<td>3.27%</td>
</tr>
<tr>
<td>North Africa</td>
<td>0.00</td>
<td>240.00</td>
<td>240.00</td>
<td>0.00</td>
<td>0.77%</td>
</tr>
<tr>
<td>CIS (Commonwealth of Independent States)</td>
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<td>110.00</td>
<td>110.00</td>
<td>0.00</td>
<td>0.35%</td>
</tr>
<tr>
<td>EU, Central Europe</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00%</td>
</tr>
<tr>
<td>Central America</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00%</td>
</tr>
<tr>
<td>East Asia / Australia</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Total in Metric Tonnes</strong></td>
<td><strong>3,501.88</strong></td>
<td><strong>31,016.65</strong></td>
<td><strong>32,326.00</strong></td>
<td><strong>2,192.89</strong></td>
<td><strong>100.00%</strong></td>
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<tr>
<td><strong>Total in Bales</strong></td>
<td><strong>16,050.28</strong></td>
<td><strong>142,159.65</strong></td>
<td><strong>148,160.83</strong></td>
<td><strong>10,050.75</strong></td>
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</table>
2.2. Regional Changes

On a regional level, major organic production increases have occurred from highest to lowest respectively in Southeast Asia (India and Pakistan) at 692%; the Middle East (Turkey and Israel) at 478%; and Africa at 403%.

Other regions have also seen growth with the lowest recorded data in North Africa at 120% followed by North America at 121%. Growth in Africa has been mostly in East Africa in the non-CFA* region where conventional cotton production is simultaneously decreasing.

Based on current projections, the Southeast Asia region will overtake the Middle East as the leading production region in 2005-06, with China overtaking Africa's non-CFA region as the world's third largest producer of certified organic cotton.

Some countries, Greece in particular, have appeared to cease organic cotton production. New production countries include Pakistan and Kyrgyzstan along with African countries Mali, Burkina Faso, Togo, Kenya and Zambia. Both Tanzania and Uganda have seen major growth. In Latin America, production is now underway again in Paraguay. China is now also a major organic cotton grower, and organic cotton trials in Spain are commencing in 2006.

* CFA refers to the CFA Franc Zone including Benin, Burkina Faso, Mali, Ivory Coast, Togo, Niger, and other Francophone West and Central African Countries.
Together we make a world of difference
Organic cotton projects in Africa combine innovative approaches to farmer participation with strong social programs, an attention to fibre quality, and a diversity of interesting cultures and production areas, offering unique products and programs for a variety of companies.

While each project is different, visitors to organic cotton farms will always see amazing colour, traditional dress and smiles, and will often be greeted, quite literally, with a song and dance about organic cotton.

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5. Processing and the Future: Cotonou Workshop July 2006 20
1. Cotton in Africa

Cotton is an important cash crop for many African countries. It accounts for 50% to 70% of export revenues in Benin and is the second largest export earner in Tanzania. Some 10 million people in Central and West Africa depend on cotton revenues. However, African cotton exports are affected by subsidies paid by the United States, European Union and Chinese governments, a practice that undermines world market prices. It also increases the impacts of agrochemicals on human and environmental health. According to a global study, cotton uses 22% of all insecticides applied in agriculture and 11% of all pesticides.

Because of these economic pressures, many African smallholders are being driven to the margins of economic viability or out of cotton altogether with few alternative cash crops.

While conventional cotton production has contributed positively to economies in sub-Saharan Africa, it has not been cost-free. Synthetic inputs (fertilisers and pesticides) need to be bought on credit (deducted from a farmer’s earnings after harvest); farmers gamble on gaining sufficient yields to pay for the inputs, and conventional farming practices damage ecosystems and human and animal health. In addition, food security is reduced, and liberalisation exposes producer countries and farmers to unstable world market prices, which for decades have been fluctuating but generally declining.

African cotton production is based on smallholder family farming. In West Africa, units average eight to nine people who farm ten or fewer hectares. The same pattern is true for organic cotton farming, with a tendency for the smallest and poorest farmers to be more represented.

1. Ton, 2002a
2. Watkins, 2002
3. Linard, 2002; Goreux, 2003; Watkins, 2002
4. Ton, 2002a; PAN UK, 2003; Williamson, 2003a
5. Allan Woodburn Associates, 1995
6. PAN UK, 2003; Ton, 2002a
7. Ton, 2001; Minot and Daniels, 2002
8. Ton, 2001
9. Ton, 2001
10. PAN UK, 2003
12. Minot and Daniels, 2002; Toulmin and Gueye, 2003
13. Ton, 2002a

i. For a more detailed view of cotton in Africa as well as a history of organic cotton in Africa, see Ferrigno et al., Organic Cotton: a new development path for African smallholders, Gatekeeper Series 120, IIED: London 2005, from which this section is extracted.
2. History of Organic Cotton in Africa


Organic cotton production in Africa continues to be strong, and is over three times higher now than in 2000-01. Production is still concentrated mostly in the East; however, production in West Africa has grown, especially in Mali, through support from buyers in Switzerland, while production in Benin has become more secure and has gained access to export markets through new ties with buyers and the creation of a new trading company. Another new factor in Africa is the growth of Fairtrade cotton, beginning in Senegal and extending now to Mali. Some of the Fairtrade cotton is jointly certified as organic. Thus far, only one project in Senegal has ceased organic cotton production since 2000-01. Tanzania is currently the largest producer in Sub-Saharan Africa, ahead of Uganda. In Uganda, a new project, NOGAMU, is promoting organic cotton production in traditional cotton growing areas such as Kasese and West Nile. Outspan, a Ugandan trading company, may restart organic cotton production.

A small project in Togo is ongoing, with 300 farmers trained, although the fibre is currently uncertified due to lack of both funding and buyers.

New production and trials have begun in Zambia and Kenya. Production is also planned in Malawi. A small number of uncertified producers remain in Zimbabwe together with a support structure that also trains other producers in Southern Africa. Senegal, while still producing little organic cotton, has the potential to transition 2,000 hectares, already certified organic for other crops, to organic cotton.

### 2004-05 Organic Cotton Stocks and Fibre Production in Africa
(in metric tonnes, CFA Zone = West African Franc Region)

<table>
<thead>
<tr>
<th>AFRICA CFA ZONE</th>
<th>BEGINNING STOCK AUGUST 1</th>
<th>HARVEST</th>
<th>SALES / COMMITMENTS</th>
<th>ENDING STOCK</th>
<th>% OF PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>199</td>
<td>67</td>
<td>230</td>
<td>36</td>
<td>15%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>0</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td>10%</td>
</tr>
<tr>
<td>Mali</td>
<td>0</td>
<td>296</td>
<td>296</td>
<td>0</td>
<td>68%</td>
</tr>
<tr>
<td>Senegal</td>
<td>5</td>
<td>27</td>
<td>14</td>
<td>17</td>
<td>6%</td>
</tr>
<tr>
<td>Togo</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td>435</td>
<td>570</td>
<td>68</td>
<td>100%</td>
</tr>
</tbody>
</table>

### 2005-06 Organic Cotton Production Projections and Stocks in Africa
(in metric tonnes, CFA Zone = West African Franc Region)

<table>
<thead>
<tr>
<th>AFRICA CFA ZONE</th>
<th>BEGINNING STOCK AUGUST 1</th>
<th>HARVEST</th>
<th>SALES / COMMITMENTS</th>
<th>ENDING STOCK</th>
<th>% OF PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>36</td>
<td>58</td>
<td>94</td>
<td>0</td>
<td>6%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>15</td>
<td>200</td>
<td>200</td>
<td>15</td>
<td>20%</td>
</tr>
<tr>
<td>Mali</td>
<td>0</td>
<td>722</td>
<td>722</td>
<td>0</td>
<td>71%</td>
</tr>
<tr>
<td>Senegal</td>
<td>17</td>
<td>33</td>
<td>33</td>
<td>18</td>
<td>3%</td>
</tr>
<tr>
<td>Togo</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>1015</td>
<td>1049</td>
<td>35</td>
<td>100%</td>
</tr>
</tbody>
</table>

### OTHER AFRICA

<table>
<thead>
<tr>
<th>AFRICA CFA ZONE</th>
<th>BEGINNING STOCK AUGUST 1</th>
<th>HARVEST</th>
<th>SALES / COMMITMENTS</th>
<th>ENDING STOCK</th>
<th>% OF PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>0%</td>
</tr>
<tr>
<td>Malawi</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>0</td>
<td>1336</td>
<td>1336</td>
<td>1</td>
<td>54%</td>
</tr>
<tr>
<td>Uganda</td>
<td>800</td>
<td>1100</td>
<td>1500</td>
<td>400</td>
<td>45%</td>
</tr>
<tr>
<td>Zambia</td>
<td>2</td>
<td>23</td>
<td>23</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>804</td>
<td>2469</td>
<td>2859</td>
<td>415</td>
<td>100%</td>
</tr>
</tbody>
</table>
3. Sourcing Potential in Africa

There is strong organic cotton expansion potential in several countries that are loosely centred around two continental hubs, East and West, each with two distinct geographical regions, as follows:

East Africa:
Hub 1: Uganda, Tanzania, Kenya, Zambia
Hub 2: Zambia, Mozambique, Lesotho, South Africa, Zimbabwe

West Africa:
Hub 3: Benin, Burkina Faso, Togo, Ghana, Nigeria, Cameroon
Hub 4: Senegal, Mali

note:
The capacity and growth of these hubs are discussed in more detail in the following sections. All growth projections are based on the need to simultaneously increase production and the capacity of projects to deliver continued support and training to farmers while developing their management and marketing capabilities. The estimates used here are minimum estimated potential growth. The more human and financial capital that is invested, the higher production can grow.
East Africa Hub 1: Uganda, Zambia, Kenya, Tanzania

Fibre Production

Uganda currently has the largest number of both existing and prospective organic cotton farmers. Since 1994, 15,000 farmers have been growing organic cotton and sesame in the northern region of Lira. Two other projects in the same area have produced organic cotton in the past or plan to do so, and one company, Phenix Logistics, already manufactures organic cotton garments.

Some processing also exists in Kenya, where organic cotton fibre production is now in its second year.

Tanzania is currently the largest producer of organic cotton fibre in this hub; however, the group organising this project has high demand and all cotton produced is processed through their supply chains. This makes it difficult for companies who design their own products and utilize a set supply chain to access this fibre supply. Currently this can be negotiated on a case by case basis and may change in the future.

A second project set up in Tanzania has so far failed to properly get off the ground.

Zambia can be counted in either East African hub, as it is possible for its fibre to be processed in either Kenya or Uganda. Zambia is another new project, with highly promising early results in yields.

A conservative estimate for this hub is that a further 1,250 tonnes of organic cotton fibre could be sourced from this region by the 2010-11 growing season.

A higher estimate for organic cotton production based on sufficient investments, appropriate contracts and pre-financing for farmers could see over 7,000 metric tonnes of fibre produced. This is based on potential growth rates of existing projects coupled with the development of some new projects and does not represent the region’s full capacity.

Of the various existing projects, Lango in Uganda is thought to be applying for Fairtrade status, and others have the potential to aim for this.

Conservative Estimate for Additional Organic Cotton Fibre Production, 2010-11 (in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>300.00</td>
<td>600.00</td>
<td>600.00</td>
<td>700.00</td>
<td>700.00</td>
<td>700.00</td>
</tr>
<tr>
<td>Zambia</td>
<td>23.00</td>
<td>100.00</td>
<td>200.00</td>
<td>250.00</td>
<td>300.00</td>
<td>350.00</td>
</tr>
<tr>
<td>Kenya</td>
<td>5.00</td>
<td>20.00</td>
<td>50.00</td>
<td>100.00</td>
<td>150.00</td>
<td>200.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>328.00</strong></td>
<td><strong>720.00</strong></td>
<td><strong>850.00</strong></td>
<td><strong>1,050.00</strong></td>
<td><strong>1,150.00</strong></td>
<td><strong>1,250.00</strong></td>
</tr>
</tbody>
</table>

Actors in Hub 1

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>COUNTRY</th>
<th>FARM</th>
<th>TRADER / EXPORTER</th>
<th>SPINNER</th>
<th>MANUFACTURER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bo Weevil</td>
<td>Uganda/Netherlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lango Organic Cotton promotion</td>
<td>Uganda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenix Logistics</td>
<td>Uganda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOGAMU</td>
<td>Uganda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPOPA</td>
<td>Uganda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KATC</td>
<td>Zambia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton Growers Union</td>
<td>Kenya</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wildlife Works</td>
<td>Kenya/USA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chresma</td>
<td>Kenya</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

note: Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s Sourcing Guide.
East Africa Hub 1: Uganda, Zambia, Kenya, Tanzania

Processing and transport

Besides being one of the largest organic cotton fibre producers in Africa, Uganda also has the most advanced fibre processing industry, with Phenix Logistics producing organic cotton garments for the local market. Kenya’s organic cotton could either be processed completely in Kenya or spun in Uganda and woven in Kenya. Zambia is a newcomer to organic cotton production with great promise, and would be a central part of any East or Southeast African hub. It is possible also that some spinning capacity could be developed based on customer demand.

Neither Uganda or Zambia have sea ports, so processed yarn and raw fibre would need to be transported to Tanzania or Kenya for shipping.

East Africa Hub 2: Zambia, Mozambique, Lesotho, South Africa, Zimbabwe

Fibre and Textile Production

This hub can also include Zambia, as can Hub 1. While we have no current information about Zambia’s textile industry, past surveys by Pesticide Action Network UK indicated several potential companies that could produce organic cotton textiles.

Mozambique has not yet begun production but has a lot of promise. Furthermore, production could restart in Zimbabwe, particularly once the political situation changes. Production potential also exists in South Africa.

In terms of fibre production, this hub is still in its development phase, but we estimate it could eventually supply 650 tonnes of organic cotton fibre, and possibly more if Zimbabwe comes back into play.

Conservative Estimate for Additional Organic Cotton Fibre Production, 2010-11 (in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>23.00</td>
<td>100.00</td>
<td>200.00</td>
<td>250.00</td>
<td>300.00</td>
<td>350.00</td>
</tr>
<tr>
<td>Mozambique</td>
<td>0.00</td>
<td>50.00</td>
<td>100.00</td>
<td>200.00</td>
<td>300.00</td>
<td>300.00</td>
</tr>
<tr>
<td>Total</td>
<td>23.00</td>
<td>150.00</td>
<td>300.00</td>
<td>450.00</td>
<td>600.00</td>
<td>650.00</td>
</tr>
</tbody>
</table>

Actors in Hub 2

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>COUNTRY</th>
<th>FARM</th>
<th>TRADER / EXPORTER</th>
<th>SPINNER</th>
<th>MANUFACTURER</th>
</tr>
</thead>
<tbody>
<tr>
<td>KATC</td>
<td>Zambia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxmoz Farmholdings</td>
<td>Mozambique</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African Organic Farming Foundation</td>
<td>South Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afforest</td>
<td>Zimbabwe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

note: Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s Sourcing Guide.
West Africa Hub 3: Benin, Burkina Faso, Togo, Ghana, Nigeria, Cameroon

Fibre Production

Hub 3 in West Africa is the most promising for volume production after Hub 1 and also has great spinning potential over the long term. Benin and Burkina Faso are the leading producers in the region, with Benin having spinning and finished product manufacturing facilities for personal care and apparel products. Benin has also established a company to handle the marketing, manufacture and export of organic cotton products. Current production in Burkina Faso is handled through the Swiss non-governmental organization (NGO) Helvetas for a range of Swiss clients. Burkina Faso has manufacturing potential, particularly in hand-woven textiles.

In Benin, a rapid increase in production is being prepared around the area of the Pendjari National Park, for which Organic Exchange will help find markets. The German Development Agency GTZ and OBEPAB are developing the programme on the ground. This project will explicitly marry the protection of a wildlife reserve with poverty reduction.

Togo has produced a small quantity of organic cotton, and has some limited hand-woven processing capability. Nigeria is a potential producer at present, as is Ghana. Cameroon began small experimental production in 2006.

Conservative Estimates for Additional Organic Cotton Fibre Production, 2010-11 (in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>5.00</td>
<td>10.00</td>
<td>50.00</td>
<td>100.00</td>
<td>200.00</td>
<td>400.00</td>
<td>600.00</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>30.00</td>
<td>100.00</td>
<td>200.00</td>
<td>250.00</td>
<td>300.00</td>
<td>350.00</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>0.00</td>
<td>0.00</td>
<td>10.00</td>
<td>50.00</td>
<td>100.00</td>
<td>150.00</td>
<td></td>
</tr>
<tr>
<td>Togo</td>
<td>2.00</td>
<td>10.00</td>
<td>50.00</td>
<td>50.00</td>
<td>75.00</td>
<td>100.00</td>
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</tr>
<tr>
<td>Ghana</td>
<td>0.00</td>
<td>0.00</td>
<td>10.00</td>
<td>50.00</td>
<td>100.00</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5.00</td>
<td>42.00</td>
<td>160.00</td>
<td>370.00</td>
<td>600.00</td>
<td>975.00</td>
<td>1,300.00</td>
</tr>
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Actors in Hub 3

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>COUNTRY</th>
<th>FARM</th>
<th>TRADER / EXPORTER</th>
<th>SPINNER</th>
<th>MANUFACTURER</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBEPAB</td>
<td>Benin</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic Benin</td>
<td>Benin</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBT/COTEB</td>
<td>Benin</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GIETEX</td>
<td>Benin</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GTZ</td>
<td>Benin/Germany</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPCB</td>
<td>Burkina Faso</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helvetas</td>
<td>Burkina Faso</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAN Togo</td>
<td>Togo</td>
<td>●</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Capsard</td>
<td>Ghana</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodecotton</td>
<td>Cameroon</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

note: Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s Sourcing Guide.
**West Africa Hub 4: Senegal, Mali**

**Senegal** has been producing organic cotton since 1994 and now produces both certified organic and Fairtrade cotton, as does **Mali**. Both have great production capacity.

**Conservative Estimate for Additional Organic Cotton Fibre Production, 2010-11 (in metric tonnes)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Senegal</td>
<td>20.00</td>
<td>400.00</td>
<td>500.00</td>
<td>600.00</td>
<td>600.00</td>
<td>600.00</td>
</tr>
<tr>
<td>Mali</td>
<td>10.00</td>
<td>50.00</td>
<td>100.00</td>
<td>200.00</td>
<td>300.00</td>
<td>400.00</td>
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<tr>
<td>Total</td>
<td>30.00</td>
<td>450.00</td>
<td>600.00</td>
<td>800.00</td>
<td>900.00</td>
<td>1,000.00</td>
</tr>
</tbody>
</table>

**West Africa Hub 3: Benin, Burkina Faso, Togo, Ghana, Nigeria, Cameroon**

**Processing and transport**

**Benin** has an excellent port and shipping already takes place worldwide. **Benin** also centralises fibre and textile exports for **Burkina Faso, Togo and Nigeria**. **Benin** has spinning and some manufacturing capabilities. Both **Ghana** and **Nigeria** have potential organic processing capacities in the long-term by transitioning existing conventional textile production.

**Senegal** has high-end garment production capacity for small-volume orders as well as spinning capacity and is also the export route for **Malian** fibre.

**Conservative Estimate for Additional Organic Cotton Fibre Production, 2010-11 (in metric tonnes)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Senegal</td>
<td>20.00</td>
<td>400.00</td>
<td>500.00</td>
<td>600.00</td>
<td>600.00</td>
<td>600.00</td>
</tr>
<tr>
<td>Mali</td>
<td>10.00</td>
<td>50.00</td>
<td>100.00</td>
<td>200.00</td>
<td>300.00</td>
<td>400.00</td>
</tr>
<tr>
<td>Total</td>
<td>30.00</td>
<td>450.00</td>
<td>600.00</td>
<td>800.00</td>
<td>900.00</td>
<td>1,000.00</td>
</tr>
</tbody>
</table>

**Actors in Hub 4**

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>COUNTRY</th>
<th>FARM</th>
<th>TRADER / EXPORTER</th>
<th>SPINNER</th>
<th>MANUFACTURER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helvetas</td>
<td>Mali</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMDT</td>
<td>Mali</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENDA Pronat</td>
<td>Senegal</td>
<td></td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Cotonneerie du Cap Vert</td>
<td>Senegal</td>
<td></td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Aissa Dionne Textiles</td>
<td>Senegal</td>
<td></td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**note:** Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange's *Sourcing Guide*. 
4. Focus on Benin

In 1996 two organic cotton projects began in Benin in the central and northern regions, originally managed by the NGOs OBEPAB (Benin) and SNV-Kandi (Netherlands) respectively. OBEPAB has since taken over the SNV project. By 2001 there were over 300 farmers in both projects, and nearly 800 farmers by 2003. Seed cotton production was 72 tonnes in 2001 and 240 tonnes in 2004. As of 2006, some 1,100 farmers are now planting organic cotton.

Yield averages have fluctuated from as low as 271 kilograms per hectare (kg/ha) in 1997-98, when organic cotton was affected by outbreaks of aphids that also decimated conventional production, to 562kg/ha in 1999-2000. Yield averages do not reflect the good performance by experienced organic farmers and are lowered by incoming farmers as well as by other circumstances such as weather or pest outbreaks, both of which affect the conventional sector.

OBEPAB has recently began using a variation of the Farmer Field School approach where field agents and farmers use the fields as the learning venue and jointly undertake research. This supplements the work of the field agents and improves farmer capacities in pest and soil fertility management and research. Recently, the Beninese Institut National des Recherches Agricoles (INRAB) has become involved in soil fertility research and the government council of ministers endorsed the 2002 African Organic Cotton conference held in Cotonou.14

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4.1. Nizoumey Village

Farmer Profile – Michel Atekokale:

“Organic cotton rewards like a well cared for baby. When it is done well, it gives good revenues and leads us to better times,”

says organic cotton farmer, Michel Atekokale, who has six children in school. Thanks to the benefits of farming organic cotton, two of them have been able to study and pass the BEPC this year, a designation similar to the UK GCSE or graduation from Junior High in the United States. His ambition is to see all of his children graduate and then go to university. The oldest, Janvier, wants to study physics, and is about to leave for college/high school to study for a D stream or science Baccalaureate.

The income from organic cotton, which is higher than for conventional cotton, means that they can rent a house in town for the children in school. Michel has also built a large house in his home village for his children, and has bought bicycles for his school age children. The college to which his children are being sent is 35-40 kilometres away in Nbega.

Michel vows to continue farming organic cotton as long as it is viable. This year he planted four hectares and will most likely plant one more.

His yields have been as high as 1,200 kg/ha, and he hopes for better rain this year, as last year’s was poor and negatively impacted his
crop. Michel has been an organic farmer for seven years.

There are now twenty organic farmers in Nizoumey village, fifteen having started originally seven years ago.

This year the village organic cotton association, along with the state, paid the contributory costs for a community well. In previous years, the higher incomes from organic cotton have been used to build a health centre and dispensary in the village, and has allowed individual women farmers like Evelyne Atekokale to celebrate the independence that the income gives them within the household.

Farmer Profile – Vigue Atekokale:
Another woman farmer, Vigue Atekokale, says she now makes a significant contribution to both her family and community:

“When done well, organic cotton revenue is not bad. It allows me to help my husband with the children's needs and look after my own as well, and it helps with family well-being and love.”

It has also allowed her to independently look after her own self-development, purchase clothing for herself, and buy a motorcycle for one of her sons who now earns income as a motorcycle taxi driver. She has also been able to purchase new bicycles for three of her children who are away at school. Last year she planted one hectare of organic cotton.

In previous years, one hectare earned her between 120,000 and 200,000 CFA francs (between US$ 220 and 360), for a yield of between 570 and 1,000 kilograms per hectare. She has been an organic cotton farmer for six years.

Farmer Profile – Colette Segle:
Colette Segle says,

“Organic cotton is especially good for women as there are no more poisonings, and I get my own income as opposed to conventional.”

The revenue has allowed her to look after her children, send them to school, and improve her personal financial situation. This year her family has sowed organic seeds again and are happy with the earnings they expect to have. They had debts incurred from conventional farming that she can now pay back. She started farming organic cotton six years ago and has planted half a hectare so far already, with more to come. Her yield last year was 600 kilograms per hectare, which was very high considering she thought it was a bad year!

Paul Atekokale says that he values organic cotton as

‘We are paid immediately with no long delays like in conventional.”

He has bought a bicycle so that he can sell his rotation crops in markets outside the village.

Gogan Atchodo says,

“Organic cotton means you have your own money; it's beneficial, especially the work. The revenue means one can do things like build houses. I have also got a pen for my livestock.”

Gogan has also built a house in his home village, which is 30 kilometres away in Nbega.

Organic cotton fibre production in Benin could easily reach 200 tonnes of fibre by 2008-09.
4.2. Benin Supply Chain Map

Benin has changed radically over the past two to three years in terms of its market links and its capacity to move beyond fibre production and export to processing. Ginning in West Africa has always been world class, but now they're developing spinning and manufacturing capabilities.

The first ingredient for change was set when the NGO OBEPAB linked up with French investor BIOCOTON and several local companies to establish a joint-venture trading company, Organic Benin, which now handles processing and exports and liaises with buyers. Around the same time in late 2004, successful trials had taken place with local companies including the spinner, CBT, weaver, COTEB, and local design and production company, GIETEX.

Ginning in Benin takes place in the Sonapra factories of Bohicon and Kandi. Both factories have high ginning outturns of over 40% (ratio of fiber to seed and trash). The Bohicon and Kandi factories have a daily capacity of 80 tonnes per day each.

There are also four spinners, including the semi-industrial GIETEX, the Compagnie Béninoise de Textile (CBT, industrial), Echoppe (artisanal) and SASAO. CBT has the capability of converting 4,000 tonnes of fibre per year to yarns and fabrics. All fabrics produced through Organic Benin are made with 100% combed yarn.

CBT also manufactures finished goods. A range of small manufacturing units is being organised by Organic Benin and BIOCOTON. Echoppe also manufactures both garments and textiles.

4.3. Rotation crops

Available rotation crops in Benin include:

- Cashew nuts: 50 tonnes per year. The nuts can be shelled by a locally based Dutch-Beninese company.
- Groundnut/peanut: 25 tonnes per year
- Maize: 100 tonnes per year
- Shea nut and shea nut butter
4.4. Proposed Pendjari Production Project

As well as the current and potential fibre production mentioned previously, further increases in production could come from the proposed organic cotton farming area around the Pendjari National Wildlife Park, in North West Benin on the border with Burkina Faso. The park was registered as a biosphere reserve by UNESCO in 1986, and some 4,000 tourists visit each year.

The park includes a conservation area, a mixed conservation-hunting area and a mixed use zone where rural populations practice agriculture on some 3,460 hectares of land. Lions, elephants, tigers, crocodiles, antelope and other animals are all found within the park.

Conventional cotton is grown here as this is one of the few cash crop activities available to farmers in Benin. However, the use of chemical pesticides and fertilisers has caused a range of well documented problems. Endosulfan residues have been detected in the park’s waterways and in aquatic species such as fish and amphibians.

However, rather than restrict the livelihood options of local farmers, who are typical of the rural poor in Benin (average incomes around Euros 115 per year), conversion of this area to organic farming is currently being considered as it would promote both economic opportunity and wildlife conservation.

Conservative estimates envisage a transition of at least 1,200 hectares to organic cotton within four years, and optimistic projections estimate at least double that figure. The proliferation of organic cotton would allow improved incomes and ensure the future of the Wildlife Park.

Organic Exchange, together with the Beninese NGO OBEPAB, and supported by ICCO and GTZ, organised a workshop in Cotonou, Benin in July 2006 to look in depth at organic cotton in Africa and help determine its future.

Participants came from Benin, Burkina Faso, Ghana, Kenya, Zambia, Togo, Senegal, India, Lesotho, Taiwan, Mali, United Kingdom, The Netherlands, Uganda, France, Italy, United States, Australia, and Ethiopia and represented farmers, farmer organisations, NGOs, manufacturers, designers, government organisations, agricultural ministry, extension agents, donors, and journalists.

The participants were uniformly positive about the future of organic cotton in Africa, and ambitious to use organic cotton as a strategy to make up lost ground in textile processing. By focusing on higher-end textiles, the groups felt that they could gain a competitive advantage in specialised areas, rather than trying to compete against cheaper volume production.

The textile sector in Africa is required to meet higher labour standards and minimum wages than many competing regions, but the creation of an ‘Organic Cotton from Africa’ brand and a strong farming standard could turn potential weaknesses, such as higher costs, into strong selling points.

To back up these ambitious plans, a regional structure will be created over the next year and the sector will develop a plan to significantly improve the efficiency and effectiveness of their information systems.

African projects usually emphasise social impacts as much as environmental goals. The strong social aims of most farming projects also require investors interested in having added-value over and above environmental impacts, willing to be involved in the long-term.

Both African companies and projects feel a need to use organic cotton and higher-end markets to move from commodity production to developing a stronger industrial base. Africans are keenly aware that they have often gone backward in manufacturing over recent years, faced with cheap competition from Asia and dumping on their markets, but are confident that by focusing on higher end production they can reverse this trend.

The emphasis in Africa could also be on Fairtrade organic, perhaps aiming at elite rather than mass markets.
Together we make a world of difference
India has taken to organic cotton in a big way. The principles of organic cotton strike a chord with many Indian farmers who are steeped in a holistic tradition that sees the relationship between humans and their environment and respects natural processes in a way that is unique. Indian projects are often characterised by an enormous respect for the environment, a wealth of natural approaches to pest management and soil fertility, and a strong spiritual philosophy. Buyers in this region will also find a high degree of professionalism and a variety of regional differences in culture, food and dress.
1. Introduction

Organic cotton production in India has increased significantly since 2000-01. As of 2006, India is the second largest producer of organic cotton worldwide, with eleven known active projects. The largest projects are Pratibha Syntex, EcoFarms and Maikaal BioRe. Most production for the 2005-06 harvest is already sold or committed although some open stocks exist for several fibre qualities. It is possible that total production is slightly higher than stated here.

Pakistan is a newcomer to the organic cotton production scene and is set to grow rapidly in the coming seasons.

Some production, located on farms with permanent crop rotation systems (also known as permaculture systems) also occurs in Nepal although it is very small and currently uncertified.

The bulk of organic cotton production in India occurs in the following states: Gujarat, Madhya Pradesh, Maharashtra, Orissa, and Andhra Pradesh. India is rapidly increasing organic cotton fibre, textile and garment production to meet growing customer demands. India also has a mature, global textile industry with links to major international markets as well as access to a potentially enormous domestic market.
### 2004-05 Organic Cotton Stocks and Fibre Production in India and Pakistan (in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th>Beginning Stock August 1</th>
<th>Harvest</th>
<th>Sales / Commitments</th>
<th>Ending Stock</th>
<th>% of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pakistan</strong></td>
<td>0</td>
<td>600</td>
<td>600</td>
<td>0</td>
<td>8.67%</td>
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<tr>
<td><strong>India</strong></td>
<td>930</td>
<td>6,320</td>
<td>5,213</td>
<td>2,037</td>
<td>91.33%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>930</td>
<td>6,920</td>
<td>5,813</td>
<td>2,037</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

### 2005-06 Organic Cotton Production Projection in India and Pakistan (in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th>Beginning Stock August 1</th>
<th>Harvest</th>
<th>Sales / Commitments</th>
<th>Ending Stock</th>
<th>% of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>India</strong></td>
<td>2,037</td>
<td>9,835</td>
<td>10,835</td>
<td>1,037</td>
<td>91%</td>
</tr>
<tr>
<td><strong>Pakistan</strong></td>
<td>0</td>
<td>1,000</td>
<td>1,000</td>
<td>0</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,037</td>
<td>10,835</td>
<td>10,835</td>
<td>1,037</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Actors in India

<table>
<thead>
<tr>
<th>Actor</th>
<th>Farm</th>
<th>Trader / Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrocel</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Pratibha Syntex</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>EcoFarms</td>
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<td>●</td>
</tr>
<tr>
<td>Chetna Organic</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Organic Farms</td>
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<td>●</td>
</tr>
<tr>
<td>VOFA</td>
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<td>●</td>
</tr>
<tr>
<td>ETC India</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Super Spinning Mills</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Arvind Mills</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>GTC</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Maikaal Fibres</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Rajlaksmi Centre</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Maikaal BioRe</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Note:** Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s Sourcing Guide.
2. **Agrocel**

**Agrocel Industries** are one of the pioneers of both certified organic and certified Fairtrade organic cotton production in India. Most of their organic production takes place in **Gujarat**.

Their organic production was an outgrowth of their interest in the environmental, social and economic aspects of farming. Hence, the group has also done a great deal of work on water management and was also involved in helping the rebuilding efforts after the earthquake in Kaatch in 2001. Fifty-seven villages were rebuilt and eighteen thousand temporary houses were constructed.

The **Shrujan** project, a high quality, handwoven textile centre was founded by **Chanda Ben Shroff**, a member of the family behind **Agrocel**, and employs 3,500 women in 110 villages in **Gujarat** which supplements incomes of farming families during their lean periods.

Established in 1941, **Agrocel** has eighteen research and development centres in six states, helping farmers with such varied issues as taxation, accounts, audits, personal finance, as well as agronomic issues and food and cotton sales and exports.

In addition to organic fibre production, **Agrocel** has the capacity to produce small garment orders for basic knits like t-shirts in the 1,000-2,000 unit range and has produced such for the **Sports Authority of Gujarat**. They reserve 25% of their organic cotton fibre and a 25% mix of other organic crops for the rapidly growing domestic market.

**Agrocel**'s predicted harvest for 2005-06 is 800-850 tonnes of certified organic fibre and 600 tonnes of certified organic, Fairtrade fibre.

### 2.1. Organic farmers in Gujarat

There are currently twelve organic farmers located around the **Mandvi** centre, and some 1,200 certified organic and/or Fairtrade farmers in the **Rapur** zone, a marginal area with many tribal farmers. This area has relatively low yields due to lower rainfall.

Field officers are employed by **Agrocel** to support farmers on a one-to-one basis as they transition to or increase their current organic crop production. Soils are light with low water retention, and landholdings are small.

A third district in **Dhrangadhra** has farmers on 16,000 acres with progressive approaches, good soil, irrigation, and good farm practices. In total, 4,000 farmers are certified organic across the four districts where **Agrocel** are present.
### 2.2. Choudary Family, Mandvi District

A joint family holding of twenty-seven acres of inherited farmland is owned and managed by Karshan Bai Choudary, Tulsi Bai Manji Bai Choudary, and Narmada Ben Hari lal Choudary. Since their original inheritance, they have increased their holdings to a total of forty-five acres. Each of the three members farm a portion of the land as individual farmers and receive a share of the profits.

Growing organic cotton has helped Agrocel solve a significant soil salinity problem (too much salt in the soil). Some 50% of the land is under cotton at any time, with an average staple length of over 28 millimetres. The balance of the land is on rotation with castor, bajra, wheat, dill, green gram and groundnut, and 25% of the land is reserved for growing food for family consumption.

The nine-month cotton season begins in May when the crops are sown and ends with a three month, three-pick harvest beginning in September.

#### Irrigation

The Gujarat government offers a subsidy to farmers to install drip irrigation systems. Because the Choudary family saw irrigation as a solid investment in the improvement of crop yields, they borrowed the necessary finance and have since paid it back. In addition, they harvest rain water using tube wells, of which they have three; they also have three ordinary wells on the farm. The water table is 400 feet deep in this location, but the lack of rainfall is threatening cotton production, and the family have irrigated only 13 acres so far.

#### Organic Inputs

The family use mostly inputs gathered and grown on the farm, such as neem seed and cow urine, which act as natural pesticides, as well as buttermilk, datura, and neem cake. They also use

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### Choudary Family Farm Budget

<table>
<thead>
<tr>
<th>PER ACRE (IN US $)</th>
<th>CONVENTIONAL</th>
<th>ORGANIC</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Costs</td>
<td>309.52</td>
<td>119.05</td>
<td>38.46%</td>
</tr>
<tr>
<td>Labour Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Yields (kg/acre)</td>
<td>1,400.00</td>
<td>900.00</td>
<td>64.29%</td>
</tr>
<tr>
<td>Premium (%)</td>
<td></td>
<td>8.00</td>
<td></td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.48</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Total Income (Dollars)</td>
<td>666.67</td>
<td>462.86</td>
<td>69.43%</td>
</tr>
<tr>
<td>Costs</td>
<td>309.52</td>
<td>119.05</td>
<td>38.46%</td>
</tr>
<tr>
<td>Net Income</td>
<td>357.14</td>
<td>343.81</td>
<td>96.27%</td>
</tr>
</tbody>
</table>

This is a rare example of an organic farm budget showing a loss of income, although it is very slight, and if costs such as health care from pesticide exposure are taken into account, it would show a gain. What is interesting to note is the major reduction in production costs, which will significantly reduce this family’s debt.
some rock phosphate.

In place of synthetic fertilisers, they use farmyard manure as well as green manure. Marigold and maize are the predominant rotation crops for cotton, both of which help control sucking pests.

Access to finance is a major problem for these farmers. One of their few sources of credit is to access private moneylenders at 18% interest.

The farmers are certified by SKAL.

The farmers worry that agriculture is increasingly considered a low status activity, and the younger generation will not be willing to continue farming.

Mr. Singh describes many benefits from growing organic cotton: comparable or better yields than conventional and lower health risks to himself and his family due to the complete elimination of synthetic pesticides.

### Singh Farm Budget

<table>
<thead>
<tr>
<th>PER ACRE (IN US $)</th>
<th>CONVENTIONAL</th>
<th>ORGANIC</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Costs</td>
<td>261.90</td>
<td>142.86</td>
<td>54.55%</td>
</tr>
<tr>
<td>Labour Costs</td>
<td>53.57</td>
<td>0.00</td>
<td>0.00%</td>
</tr>
<tr>
<td>Average Yields</td>
<td>680.00</td>
<td>680.00</td>
<td>100.00%</td>
</tr>
<tr>
<td>Premium (%)</td>
<td>8.00</td>
<td>8.00</td>
<td></td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.48</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Total Income (Rupees)</td>
<td>323.81</td>
<td>352.51</td>
<td>108.86%</td>
</tr>
<tr>
<td>Costs</td>
<td>315.48</td>
<td>142.86</td>
<td>45.28%</td>
</tr>
<tr>
<td>Net Income</td>
<td>8.33</td>
<td>209.65</td>
<td>2515.86%</td>
</tr>
</tbody>
</table>

Mr Singh’s farm is clearly much more profitable under organic than conventional production, according to the data he supplied to us from his farm accounts. His net profit is over 20 times higher with organic cotton, and his average yields are the same, with lower production and labour costs.
In addition to the pesticide elimination, the fertilisers used on organic cotton are animal manure and agricultural crop waste, as opposed to synthetic fertilisers. A number of bugs, such as sucking pests and bollworm, are effectively controlled with neem oil, which he mixes with buttermilk.

Cotton provides 50% of farm and household cash income. In fact, the environmental, social and economic benefits from organic farming have inspired his son, who now wants to be a farmer, in a time when the younger generation is seeking work in more highly perceived sectors like law and medicine.

The farm is self-sufficient in food, a strong motivation for the family, who are concerned about the spread of genetically modified seed. They buy only luxuries like sugar from other sources.

The local Agrocel field officer is present during sowing to ensure the proper seeds are planted, help with soil and water testing, and monitor the farm once a week through harvest.

2.4. Rotation Crops and Other Local Developments

Recently, organic sesame, a common rotation crop, was exported for the first time from Navalgud in the Surendra Nagar district, the funds from which allow eighty-five local families to get power from Biogas. Four other villages have solar tube lights, and fourteen others will be receiving them in 2006.

However, Agrocel feel more connections need to be made by consumers between health, food, farming and traditional knowledge. There is a need to reach out to appropriate sectors who can then distribute these messages, such as Ayurvedic and holistic practitioners, health and beauty practitioners, as well as Ashrams. There are several key states which are ideal for launching this type of grassroots marketing campaign: Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan as their consumer base is already ecologically and socially aware.
2.5. Wagji Rajabhai Walan’s Farm, Bhutakiya Village, Rapar Taluk

Mr. Walan owns 7.5 acres on uneven terrain. He is married with two sons and three daughters and lives on the farm with his family. The farm is certified as both organic and Fairtrade.

Mr. Walan converted to organic farming in 2003. His organic yields are very similar to his conventional output, but he needs far less water. He sees both his individual farm’s and his region’s organic production increasing steadily based on local and international brand demand. He puts out bird food and bird baths and is happy that the birds contribute to natural pest control methods. He also makes his own natural pesticides from neem and buttermilk and uses animal manure, green manure, castor cake, neem oil, and other organic inputs. He rotates his organic cotton with castor, bhadja, and dill.

He usually grows cotton on 50% of his land, although poor rainfall in 2005 meant that he was only able to grow it on 20%. He also grows bajra, til, and some vegetables.

For irrigation, he has one 75 foot open well, but no drip irrigation as yet, as he cannot afford the cost. His well can provide water for up to four hours a day, which is sufficient for healthy organic cotton farming. At present, he does little water harvesting but does practice contour banding to reduce water loss. In Mr. Walan’s experience, organic farming uses less water due to the elimination of the synthetic fertilisers that had previously depleted his soil’s mineral content.

Cotton represents some 50% of his farm income. The adult members of his family work the land, and many farmers in the area often help each other on an as needed basis.

The family are food self-sufficient except for luxuries like sugar.

Walan Farm Budget

<table>
<thead>
<tr>
<th>PER ACRE (IN US $)</th>
<th>CONVENTIONAL</th>
<th>ORGANIC</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Costs</td>
<td>190.48</td>
<td>142.86</td>
<td>75.00%</td>
</tr>
<tr>
<td>Labour Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Yields</td>
<td>880.00</td>
<td>880.00</td>
<td>100.00%</td>
</tr>
<tr>
<td>Premium (%)</td>
<td>0.00</td>
<td>17.75</td>
<td></td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.51</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>Total Income (Rupees)</td>
<td>445.24</td>
<td>524.27</td>
<td>117.75%</td>
</tr>
<tr>
<td>Costs</td>
<td>190.48</td>
<td>142.86</td>
<td>75.00%</td>
</tr>
<tr>
<td>Net Income</td>
<td>254.76</td>
<td>381.41</td>
<td>149.71%</td>
</tr>
</tbody>
</table>

The Walan farm budget shows a much higher income for the farmer under organic than conventional practices, with similar yields and lower production costs.
2.6. Fairtrade

Mr. Walan has been part of a Fairtrade group since early 2006, the Agrocel Pure and Fair Cotton Growers Association, which currently has 340 members. His wife, Amrutha ben, is the Vice President of the association. As part of required Fairtrade activities, a sewing class also takes place in one room of their home.

2.7. Parbhat Bhai Savji Bhai Patel's Farm, Padampur Village, Kutch

This 70-acre farm is held jointly by three brothers. Mr. Patel is President of the Agrocel Pure and Fairtrade Cotton Growers Association.

They grow mostly cotton along with wheat, maize, til and some vegetables. They have one borewell with rain supplying the rest of their water requirements. Labour is a mixture of adult family members and outside labour, which is used at harvest time. They use animal manure and green manure for fertilisation, and neem, castor and buttermilk for pest control. Pigeon pea is also used to nourish the soil.

The Patel family prefers organic cotton to conventional as they find it less water intensive and healthier for the soil. With the profits they receive from organic and Fairtrade, the family is mostly food self-sufficient, only buying a few things like tea, oil, sugar and rice.

Patel Farm Budget

<table>
<thead>
<tr>
<th>PER ACRE (IN US $)</th>
<th>CONVENTIONAL</th>
<th>ORGANIC</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Costs</td>
<td>214.29</td>
<td>154.76</td>
<td>72.22%</td>
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<tr>
<td>Labour Costs</td>
<td>71.43</td>
<td>71.43</td>
<td></td>
</tr>
<tr>
<td>Average Yields</td>
<td>700.00</td>
<td>700.00</td>
<td>100.00%</td>
</tr>
<tr>
<td>Premium (%)</td>
<td></td>
<td>17.58</td>
<td></td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.51</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>Total Income (Rupees)</td>
<td>354.67</td>
<td>419.76</td>
<td>118.35%</td>
</tr>
<tr>
<td>Costs</td>
<td>285.71</td>
<td>226.19</td>
<td>79.17%</td>
</tr>
<tr>
<td>Net Income</td>
<td>68.95</td>
<td>193.57</td>
<td>280.73%</td>
</tr>
</tbody>
</table>

The family farm budget shows that their net income is much higher under the organic system, with similar yields to conventional.

Support Structures for Fairtrade

There is one field agent per every 47 farmers and 900 acres of farmland. The 340 Fairtrade farmers are in the pipeline for organic cotton conversion, with 160 ready for conversion now. Their total organic cotton production is approximately 900,000 kilogrammes or 900 tonnes. The internal control system is entirely run by field agents without any farmer involvement.

The field agent decides which additional farmers join the project based on a set of established Fairtrade criteria.
3. EcoFarms in India

3.1. Origins

EcoFarms was established by Mr. Omprakash Mor in Yavatmal, Maharashtra. Mr. Mor has been farming 40 years and converted completely to organic in 1990. He runs the trading company, EcoFarms, with the help of his son, Anand. Farming in this area is mostly rain fed, with only about 10% of the farms being irrigated. Rainfall is an average of 800 to 900 millimetres per year although in 2005 they received over 2,000 millimetres of rainfall.

Most farmers employ 50% of their land to grow cotton and 50% to grow food crops. Average yields are approximately 800 kilograms per acre. EcoFarms promote their own package of organic practices with an emphasis on total farm self-sufficiency, i.e., no use of external organic inputs.

Farmers

EcoFarms operate out of Maharashtra in Madhya Pradesh and have now expanded to Orissa. There are four external farm inspectors from Eco Cert (Germany) who certify the farmers from the Maharashtra district.

Farmers who wish to grow organic crops first enter into a formal contract with EcoFarms, who then help each farmer in planning his crops, and offer technical support including guidance for sourcing seeds and organic inputs. They also issue contracts to buy both their food and cotton crops. Approximately 600 farmers are involved in this project and span all three districts of Maharashtra, with sixty of these farmers residing in the Amaravathi district.

The average land holding is fifty acres per farmer as the maximum legal holding per farmer is fifty-two acres. There are few small farmers in this district.

Organisational Structure

The organisational structure of EcoFarms is optimised to manage both the collection and sale of food and fibre from those farmers with whom they have pre-existing contracts. EcoFarms has helped connect a total of two thousand farmers altogether.
India

EcoFarms is now a state-registered service provider under the state project on organic farming. As an organic farming service provider, EcoFarms host farmer field days, where meetings are held on such topics as seed selection, market development and farming techniques. In addition, they provide training and distribute information and booklets in local languages for groups of 50-80 farmers. They also have regular meetings with farmers, and their field agents visit each farmer on a monthly basis.

In 2003, EcoFarms began working with marginalized tribal farmers in Orissa. In 2006, there will be 150,000 certified organic acres, of which 30,000 acres will be organic cotton with an approximate yield of 800 kilogrammes per acre. EcoFarms pay a 25% premium for organic cotton over conventional cotton.

EcoFarms are concerned about potential volatility in the organic cotton sector, as experienced in the early 1990s when organic was a cool, but short trend that disappeared abruptly. They want customers and consumers to understand that organic farming is both a growing method and a way of life. Each business is a real family full of real people who invest everything they have in organic conversion because they want a better, healthier way of life. EcoFarms act as an advocate for these farmers and seek to build collaboration between the different farmer groups in order to strengthen their collective bargaining power, something farmers find difficult to do on their own.

EcoFarms also manage some seed banks and provide seed at no cost to farmers. They also voluntarily advise on the pros and cons of different seed varieties. In seeking to provide their farmers with research and development services, they are also considering breeding different seeds from high performing organic varieties. Orissa, even with limited research to date, already has 30 millimetre staple lengths.

Their irrigation efforts focus on water harvesting using wells and boreholes. Drip irrigation receives a 25% subsidy for installation.

3.2. Mr. Subhash Sharma's farm, Dorli village, Yavatmal

Mr. Sharma cultivates 30 acres of organic crops with his farm help and their families who live on the farm in lodging he provides. At present, he farms three acres of organic cotton and grows several food crops including various vegetables, maize, rice, and wheat.

Mr. Sharma converted to organic farming in 1994. He was fairly skeptical about organic farming in the beginning but is now totally convinced of its benefits. He is a model farmer, serving as a role model to others and is frequently visited by government officials, scientists and visiting farmer groups.

He is an incredibly progressive farmer who has won the President’s award twice for innovative...
farming and several awards from the Maharashtra government as well as the Tata Fellowship Award. One of the areas in which Mr. Sharma is particularly innovative is in the area of irrigation. He traps the rain water that falls on his farm through wells and contour farming. He says one centimetre of rainfall can generate 100,000 litres of ground water, and that organic farming has resulted in at least a 20% water savings.

He has pits that measure 10 feet wide by 20 feet long by 10 feet deep in each field, from which rainwater is channelled towards 75-foot borewells. He collects up to 36,000 litres of water per hour and has some 800 hours of water use available each year. Even with a 30% water evaporation rate, he estimates that his water needs are 50% lower with organic farming due to improved soils and land management.

The farm uses no mechanical equipment except for transport to market. All field operations are manual or animal powered.

For inputs he uses neem, castor, buttermilk, farm manure and green manure. He has developed a unique way of adding liquid manure to his drip irrigation process, and has planted several trees between the plots which serve as bunds (low ridges to help prevent flooding) and house several species of birds, which act as natural pest controllers. In addition, the trees provide shade which helps regulate crop temperatures.

### Farm Budget, Mr. Sharma

<table>
<thead>
<tr>
<th>PER ACRE (IN US $)</th>
<th>CONVENTIONAL</th>
<th>ORGANIC</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Costs</td>
<td>257.14</td>
<td>128.57</td>
<td>50.00%</td>
</tr>
<tr>
<td>Labour Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Yields</td>
<td>450.00</td>
<td>450.00</td>
<td>100.00%</td>
</tr>
<tr>
<td>Premium (%)</td>
<td></td>
<td>25.00</td>
<td></td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.48</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Total Income (Rupees)</td>
<td>214.29</td>
<td>233.28</td>
<td>108.86%</td>
</tr>
<tr>
<td>Costs</td>
<td>257.14</td>
<td>128.57</td>
<td>50.00%</td>
</tr>
<tr>
<td>Net Income</td>
<td>-42.86</td>
<td>104.71</td>
<td></td>
</tr>
</tbody>
</table>

From his farm budget, the benefits of organic cotton are clear. From being a loss-maker under conventional production, the crop is now profitable.
with cattle manure from the plentiful local livestock. They allow nomadic livestock keepers to graze their animals on their fields in the off season where they feed on the cotton crop residue.

The farmers here, as in other parts of India, are worried by the loss of status for farming.

Those farmers who can afford to educate their children in order to provide them with an escape from the risks of conventional farming. Many families have moved to more populous towns in order to provide their children with better access to education and healthcare.

3.4. Amla village, Dharyapur Taluk, Amaravathi

This district has a large group of organic farmers with an organised meeting room and office at the farmhouse of Bala sahib Wankhede, the son of Ashkrishna alias Baburaoji Wankkhede who was a pioneer in organic farming in Maharashtra in 1975. A whopping 90% of the farmers in Amla are certified organic. Bala Sahib owns 120 acres, with 60 acres under cotton. The rest of the crops are local vegetables including toor dal, moong, chana, and til. The farmers practice vermicomposting (composting using worms) in addition to using other forms of animal and green manure. One of the most commonly used rotation crops is pigeon pea. Farmers plant three rows of pigeon pea after every twelve rows of cotton to further enrich the soil.

The farmers here are incredibly committed to organic farming. Mr. Wankhede is the current district President of the Youth Congress and Vice President of the Agri-Produce Marketing Committee in Dharyapur. The farmers would like to put the profit they receive for organic cotton toward the creation of computer centres (in order to be able to check weather forecasts, seed prices, and technical information on farming), investment in improving drinking water facilities, and the building of medical facilities for the community.

The combined farm budget from farmers in this village shows that yields are the same between conventional and organic cotton, with incomes in organic much higher due to the premiums and lower input costs. Labour costs remain the same between both systems.

### Jaipur Village Farm Budget

<table>
<thead>
<tr>
<th></th>
<th>PER ACRE (IN US $)</th>
<th>DIFFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONVENTIONAL</td>
<td>ORGANIC</td>
</tr>
<tr>
<td>Input Costs</td>
<td>95.24</td>
<td>47.62</td>
</tr>
<tr>
<td>Labour Costs</td>
<td>69.05</td>
<td>69.05</td>
</tr>
<tr>
<td>Average Yields</td>
<td>850.00</td>
<td>850.00</td>
</tr>
<tr>
<td>Premium (%)</td>
<td></td>
<td>25.00</td>
</tr>
<tr>
<td>Price (kg)</td>
<td>0.48</td>
<td>0.48</td>
</tr>
<tr>
<td>Total Income (Rupees)</td>
<td>408.00</td>
<td>440.64</td>
</tr>
<tr>
<td>Costs</td>
<td>164.29</td>
<td>116.67</td>
</tr>
<tr>
<td>Net Income</td>
<td>243.71</td>
<td>323.97</td>
</tr>
</tbody>
</table>
3.5. EcoFarms and Supply Chain Requirements

Mr. Omprakash Mor enjoys an excellent rapport with the farmers in his project. There are feelings of mutual respect and trust, and the farmers know without a doubt that Mr. Mor has their best interests in mind.

A major problem faced even by successful groups like EcoFarms is access to crop finance and the associated pre-finance rates which can add up to 30% of the farmer’s total contract value. Farmers also face interest rates from local banks that are as high as 18-20%. This is an important issue for brands and investors as well as NGOs to understand. The major problem faced by many projects in expanding organic farming is not the difficulty of conversion but the cost of growing a business; affordable capital is a major need along with market forecasting systems and more agronomic research and information.

EcoFarms stress the need for better policy lobbying and market communication, dispelling widely believed myths that organic cotton is more water intensive and less profitable. There is also the need to promote organic farming as the escape route for farmers from debt and suicide, which is a major issue for areas like Maharashtra.

Spinning Capabilities:

EcoFarms can arrange for spinning, in the NE20-40 yarn count range.

Lead Time:

A ten-month lead time is required for fibre and yarn orders to allow for adequate crop planning.

EcoFarms pay their farmers within eight to ten days of delivery or collection of harvest, by bank transfer.
4. Chetna Organic

This project was started by the consultancy, ETC India, in Andhra Pradesh, who implement and coordinate activities in the field. This project is funded by ICCO and Solidaridad of the Netherlands and includes seed funding to support the farmers in developing their own organisation. There are currently 403 farmers in five different zones, who produced a total of 40 tonnes of seed cotton in 2005. All the farms are currently in either their first or second year of organic conversion.

4.1. Processing

The ginning outturn is 34%, and is performed by GTC in Nagpur and Vengatesh, Warangal. Spinning is done with Super Spinning Mills and Maikaal Fibres, and the fibre can be spun up to NE40. Both spinners are also able to produce Lycra blends, which they currently produce in 4% blends, NE30 for the sock industry. Rajlaksmi produces knitted fabrics including jersey, ribs, pique, and terry. Some basic wovens are also possible and include sheeting and toweling and come mostly from the Rajlaksmi Centre.

Chetna fibre is certified Fairtrade organic. The manufacturers, Super Spinning Mills and Rajlaksmi, are currently being audited against the Ethical Trading Initiative standard. Rajlaksmi are already accredited to the IFAT (International Fairtrade Association), Fairwear and Magasins du Monde labour standards.

5. Organic Farms

Organic Farms is a farmer-owned company. The Organic Farms structure supports marketing, training, technical advice, and certification for all of its farmers. They have nine trainers who also maintain the Internal Control System. At present, the company sells only fibre, and their goal is to produce 5,000 tonnes of certified organic fibre within six years. They sell most of their organic fibre to Assissi Garments, a manufacturer located in Tamil Nadu, India, that supplies companies such as People Tree in the United Kingdom and Japan. Rotation crops are mostly sold in the domestic market, but products such as safflower, mangoes and papayas are in demand from overseas markets.

6. Processing Options and Vertical Suppliers

India has a wealth of processing options in most regions as well as organic cotton growing options. There are several other projects in addition to those previously mentioned. Many of these projects, including Maikaal BioRe and Prathiba Syntex, have fully integrated supply chains allowing sourcing from fibre to finished garment.

Other spinners and weavers are willing and able to process organic cotton, such as Arvind Mills, the third-largest denim manufacturer in the world, with a processing capacity of 700,000 bales per year.
Together we make a world of difference
An amazingly diverse region, Latin America spans a range of landscapes from the Peruvian plains and mountains with their long staple and coloured cottons and farmers steeped in the long Inca history, to the modern industrial centres of Brazil and the vibrant spirit of land-locked Paraguay. Latin America offers a diversity of choices for small, medium and large sized companies seeking everything from basic knit and woven textiles and garments to amazing, complex artisan products – all present in a region of intriguing cultures, cuisine and colour.

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1. Introduction

Organic cotton production began in Peru in the 1980s. Peru and Paraguay currently grow the largest amounts of organic cotton in Latin America, although production also exists in Brazil and Nicaragua. Production is largest in Peru; however, production in Paraguay is growing and has the potential to be much more significant.

In this region, as in Africa and India, farmers are keenly concerned with ensuring their food security. Small farmers are particularly vulnerable to low prices and the global trading environment for both conventional and organic cotton. As with Africa, adequate financing is a key constraint to more farmers joining the organic cotton sector, as is the lack of a ready market for rotation crops.

Farmers and processors in this region also feel, as expressed at Organic Exchange’s 2006 Latin America Regional Meeting, that the final buyers do not always understand the added environmental and social value of the final product. It is important for buyers to understand why there is a premium price for organic cotton and why the need exists to both finance transition to organic and support capacity building and research. Processors also called out the need for more strategic partnerships to ensure fair distribution of knowledge and profits throughout the supply chain.
**2004-05 Organic Fibre Production in Latin America**
(in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th>Paraguay</th>
<th>Peru</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvest</td>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>Sales</td>
<td>500</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>Ending Stock</td>
<td>200</td>
<td>100</td>
<td>300</td>
</tr>
</tbody>
</table>

**2005-06 Organic Fibre Production in Latin America (predicted)**
(in metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th>Paraguay</th>
<th>Peru</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvest</td>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>Sales</td>
<td>500</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>Ending Stock</td>
<td>200</td>
<td>100</td>
<td>300</td>
</tr>
</tbody>
</table>

**Known available rotation crops in Peru and Paraguay**

**PARAGUAY**
- soy
- sesame
- manioc
- beans
- groundnuts
- green vegetables

**PERU**
- **North Coast:**
  - sarandaja
  - cowpea
- **Central Coast:**
  - maize
  - frijol
  - sweet potato
2. Paraguay

2.1. Introduction

In Paraguay, organic cotton has a long history. First launched several years ago by the non-governmental organization (NGO), Altervida, a member of the Pesticide Action Network who supports organic cotton growers, research and public education, the torch was handed off to the local organic farming and products group, Arasy, in 2002. Arasy supports smaller groups in seed production, credit programmes and crop finance. They cannot give credit to farmers who are not enrolled in their programmes, at least not without established and firm markets, although Arasy currently collaborate with Altervida in order to co-purchase organic cotton.

Arasy, the dominant player in organic crops, is a vertical company already experienced and established in markets for organic herbs and plants and juices. They are currently developing capacity in fibre production as well as processing, specifically for high end quality handwovens, yarns to NE38, woven and knitted fabrics, garments and home textiles. Arasy has built an extensive network of processing partners from fibre to finished products in both Paraguay and Brazil.

The supply chain is optimal for large orders of basic knits like t-shirts and polos. Wovens will also be offered as the supply chain develops.

For small and medium sized buyers or for small handwoven orders, an intermediary (agent, broker, or the direct presence of the buyer) would help expedite the sampling process and the delivery of final product. Arasy now have an agent in Europe who can work directly with buyers.

Another alternative, for small and medium companies wishing to set up production with Arasy in Paraguay would be to spend time on location with the production team and the factories/handweavers to work on production and design. Arasy have good relationships with NGOs and others working on sustainable agriculture and organic cotton production, including Altervida.

Arasy is a part of the Michelangoli Holding Company. Arasy is managed by Helene Ecklin, who settled in Paraguay from Switzerland, and has extensive experience in the global organic market.

Arasy’s Certification:

European Union 2092/91 (IMO – Institute for Market Ecology, the Swiss Certifier), National Organic Program (NOP) certified by Quality Assurance International (QAI), BIOSUISSE, NATURLAND, IVN – Textiles, JAS
2.2. Rotation Crops

As well as cotton, organic rotation crops in Paraguay include but are not limited to soy, sesame, and beans. There is also processing capability for these crops in country.

2.3. Organic cotton sector

Most groups in this sector, such as Altervida, see coordination, with Arasy as offering the best option for producing revenue in country by manufacturing and selling textiles and finished garments in the local market rather than relying mostly on fibre exports where prices, even for organic, may be affected negatively by general world market conditions. The challenge with organic cotton in Latin America is securing adequate and consistent volumes to achieve economy of scale in growing and processing.

Arasy have fine-tuned their capacity and production consistency by producing and selling in the local market. They have developed collaborative relationships with a pool of manufacturers who have successfully produced high quality t-shirts. Currently, there is untapped capacity in other knit and woven garment categories, from classic clothing (shirts, trousers) to high-end garments such as fine shirts and hand-knit pullovers.

The various NGOs, farmer unions, and companies have expressed a strong interest in building a lobbying alliance and support network around the concept that organic cotton is about much more than just premiums. They have noted that even when cotton is sold as conventional, there are benefits from reduced production costs and from improved capacity and training by combining volumes. In the future, as demand grows, farmers thus engaged can more easily be certified as organic growers. Currently, fibre profits in the conventional sector go to traders and ginners. By working together, these groups hope to ensure that profits are evenly shared with the farmers as well.

The Red Rural Network, a network of farmer groups, unions, and non-governmental organizations involved in the rural sector in Paraguay, already works as a successful alliance. It is small scale but effective, representing some 5% of rural farmer groups. It is supportive of organic methods and also offers a means of increasing organic cotton volumes if the market materialises.

One goal in Paraguay is to expand the sales of organic cotton to the local market because organic offers a better production system: higher incomes, environmental protection, and improved human health. The alliances formed through Arasy, Altervida, Red Rural Network and others must continue to educate farmers and consumers that growing organic is not only good for the environment but for the health of people and communities. Organic offers an opportunity for small farmers rather than large-scale mechanized farms based on geography and land ownership.

note: Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s Sourcing Guide.

### Actors in Paraguay

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>FARM</th>
<th>TRADER / EXPORTER</th>
<th>SPINNER</th>
<th>MANUFACTURER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arasy</td>
<td>🌿</td>
<td>🌿</td>
<td>🌿</td>
<td></td>
</tr>
<tr>
<td>Lioplant</td>
<td>🌿</td>
<td></td>
<td>🌿</td>
<td></td>
</tr>
<tr>
<td>Olympic</td>
<td>🌿</td>
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<tr>
<td>Pilar</td>
<td>🌿</td>
<td>🌿</td>
<td>🌿</td>
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</tr>
<tr>
<td>Various small groups,</td>
<td>🌿</td>
<td>🌿</td>
<td></td>
<td>🌿</td>
</tr>
<tr>
<td>handwovens</td>
<td></td>
<td></td>
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2.4. Farming profile: Arasy

Arasy both has its own farm, and contracts with other small producers for organic cotton, herbs, soy, and other crops. They also operate ginning, packing, basic processing and export functions, and have a range of manufacturing options available for textiles. They also buy cotton and rotation crops from other groups, such as the farmers working with Altervida.

Arasy’s main farm is 850 hectares, of which 200 are forest, and the balance predominantly soy. There are also 500 contracted small farmers growing organic cotton on 310 hectares. Two hundred tonnes were predicted for 2005-06 as most farmers currently plant less than one hectare of cotton. Several thousand other small farmers are growing other organic crops on land that could be transitioned to organic cotton. There are several thousand hectares of additional farmland available for organic crops.

Andres Garay is in charge of Arasy’s main farm, production coordination and reforestation programmes. A farmer himself, he switched his food crop from conventional to organic as soon as he learned about organic’s environmental and social benefits. Telling his story, he says that the positives were quickly visible. For example, he no longer had to apply chemicals to the beans he grew for the family’s consumption. This led to immediate health benefits such as elimination of the headaches, fatigue and skin problems he had experienced when spraying chemicals, mainly organophosphates. After a year and a half of organic farming he saw a reduction in the number of certain kinds of sucking pests. The transition to organic cotton was not without initial issues with boll weevils, which have since been solved with the use of home-made botanical pesticides.

Andres tells how he now effectively manages major pests using organic methods. Last year, while his conventional neighbours could not control a lambama worm (leaf roller), he and his fellow organic cotton farmers were able to deal with it effectively using cow urine and a local herb along with chili and tropical leaves. In addition, organic farmers use garlic and Bt sprays imported from the United States, although the amount applies varies with the natural differences in local soil qualities.

In Paraguay, there are no specified rotation crops for organic cotton. Most farmers grow maize (corn) as a staple with a variety of other...
crops including sesame, beans, manioc, groundnuts, soy, and green vegetables. The average farm in the area is ten hectares with one hectare planted with cotton. Andres has one half hectare of organic cotton, and four others planted with sesame, verveine (a variety of mint used to make herbal infusions), petit grain, and bitter orange. He has also planted trees as part of a forestry regeneration project. He raises livestock such as pigs and chickens. He grows 70% of his own food needs, but buys staples like oil, salt, meat, and spaghetti to supplement farm-grown food.

Arasy's base is found in Guayaibí, in the south of the Department of San Pedro. Since 2003 the organic cotton programme has been expanded to Guairá, Caaguazú and Paraguarí through a strategic alliance with the Azucarera Paraguayan and its coalition of small producers of organic sugarcane. At present, 400 organic cotton farms are certified, whose fibre is processed at the main plant in Guayaibí and then exported mainly to Europe, the United States and Japan.

In 2005, organic cotton production was 200 tonnes of seed cotton and 70 tonnes of fibre. Two hundred to two hundred forty tonnes are expected to be produced in 2006. At present, fibre length is approximately 26-27 millimetres, making it suitable for yarns up to NE38. Arasy is investing significantly in research and development in order to breed cotton with better characteristics. The variety they have used to date was chosen for having a high resistance to bollworms.
Paraguay:

2.5. Ginning, spinning and weaving

Arasy

Arasy operate their own micro-ginning operation. The mechanical roller gin is capable of processing 360 kilograms of seed cotton per day with an outturn of 35%. In this way, they retain their own seed both for breeding and for planting. The machine is manufactured in Brazil by Embrapa, a government-related group that operates as an independent entity. As the project grows, Arasy will purchase a second machine to handle additional volume.

In addition, Arasy offers several spinning options, depending on the needs of the client. There are no specific minimum orders, although smaller volumes will incur higher costs if they fall below certain levels.

Lioplant SA

Lioplant SA is an Italian owned, Paraguayan based spinner that produces excellent qualities of yarn. They produce both ring spun and open end yarns, from NE6 to 38 in organic with the current fibre lengths (26-27 mm), and up to NE50 if blended with Lycra™, for example. The plant is managed by Orlando Giuseppe, who is also a partner in the company. Lioplant have been spinning yarn for several generations and are accustomed to working with sophisticated international clients.

In 2004, Arasy processed 45,000 kgs of yarn. Waste products and spinning by-products were sold to Lioplant, the spinner. These sales allow some of the extra costs of organic yarn to be recouped. Arasy’s 45 tonnes of yarn were equal to roughly a week’s output for Lioplant. Some 1,500 tonnes of fibre per year are needed to keep one part of the factory open all year and reduce the costs of cleaning and separation at the spinning mill.

Arasy’s organic yarns are available in NE38/1, 30/1, 20/1, 10/1, 8/1, 6/1. Lioplant can do yarns up to NE50/1 but the fibre would need a micronaire of 34 and a staple length of 29mm. Yarns of up to NE40 are possible with 3% lycra, or 50 with 6% lycra. In 2005, 56 tonnes fibre were processed with a yarn outturn of 80%, giving 50 tonnes of fabric with a 90% outturn.

Pilar

Spinning and Textile Processing

Pilar has many international brand name clients including Otto Versand and have the production flexibility to work with both small and high production volumes in a wide range of fabrics with the exception of denim. The daily minimum at Pilar is 16,000 kgs for an organic separate line and 40,000 for whole plant. More information about Pilar and their company director, Guillermo Caballero Vargas, can be viewed at:

http://www.pilar.com.py and
http://www.fibre2fashion.com/manufacturedepilar/

Garment Manufacturing

Pilar makes high quality basic woven garments, although its denim is only basic denim. The factory was built at the beginning of the 20th century by Italians. Pilar is running close to full capacity. Lead times are 60 days freight on board (FOB), and their average order is 20,000 metres, but it can be as low as 2,000 metres, which can be viewed as their organic minimum. Based on their textile minimum, a dedicated organic line would require a commitment of 2,000 tonnes of organic cotton fibre per order.

Pilar also has an association with farm production and ginning, with 120 farm associations producing for them. They also are associated with handicraft and artisanal weaving and embroidery.
**Olympic**

*Olympic* produces solely for the local market. They are a fairly new company and recognise that while their qualities are wholly appropriate for the local market, at present they are only prepared to supply basic fabrics and garments to the international market.

Their dynamic and problem solving owner, Mr. Ferrera, is shifting his company’s strategy in order to align product quality, assortment, production time and corporate responsibility compliance with those standards required by the international market. As production orders increase, *Olympic* will work with Arasy’s more experienced staff to dedicate additional production capacity for high quality organic cotton and improve the innovation and efficiency of their operations.

*Olympic’s* current daily capacity is 2,000 kilograms of textiles, and the organic minimum is 180 kilograms for fabric. While their present wastewater effluent treatment only meets local standards, they will work to ensure it meets the requirements of its international clients. One technological issue is the fact that there is no capacity for biological treatment in Paraguay. Depending on the demand from domestic and international customers, this could change.
Paraguay:

2.6. Dyeing

The Brazilian group, Centroflora, (www.centroflora.com.br) and Arasy are collaborating on researching and testing vegetable dyes to compliment their low impact synthetic dye range for specific use on organic cotton. In addition, Centroflora is processing Arasy’s organic cotton to make charity t-shirts for the Brazilian market. Centroflora’s Brazilian manufacturing partner, COEXIS, has a garment manufacturing capacity of 350,000 pieces a month, none of which are organic cotton at the present time. COEXIS is currently undergoing organic certification and plan to initially produce 50,000 organic pieces per month as part of an environmental awareness project aimed at integrating small producers and indigenous people into their supply chain.

2.7. Processing and Manufacturing of Handmade and Artisan Products

Hand knitted products, embroidered handwovens and small runs of specialty fabrics using low count yarns such as NE8 and NE10 are produced with no minimums near Carapeya, located two hours from Asuncion, by several small groups including one organized by Benita Benitez, who works through Arasy. Higher counts are used for poplin and other fabrics by Pilar for wovens and for knits by Olympic. The economic threshold for a production line seems to be 1,000 kgs, equal to 5,000 t-shirts. Available fabric types include jersey, interlock, pique, rib, fleece, poplin and french terry.

Bertha and Arasy also oversee the manufacture of handmade luxury items such as dress shirts. Other typically family-based units produce handmade pullovers, baby clothes, and home textiles, among other products.

Bertha Benitez employs two non-family workers as well as her own adult family members. There are another ten to twenty family units she utilizes for higher volume or other specialty orders. The quality of her high-end knits is excellent. The lead times for 500 pullover sweaters runs approximately 60 days. If orders are received in advance, she can
properly plan production, book additional production groups and reduce lead times.

Another artisanal producer working through Arasy employs eight workers: four adult family members and four non-family members. Their product mix centers around home furnishings: hammocks, tablecloths, blankets, plate holders, and rugs, for example. Each worker can make five hammocks or blankets or twenty-five rugs using yarn remnants per month. Tablecloths are made at the rate of fifteen per month per worker.

2.8. Design and Production

Alicia Barreira is Arasy’s production manager and is overseeing the innovation and growth of their production capabilities and producing high quality classic garments that customers can buy off the shelf. Specialty products are developed specifically from customer designs.

Arasy are also increasing their focus on research and development in the areas of dyeing and finishing, in particular identifying dyes that meet global organic processing standards.

In 2004-05, 80% of Arasy’s production was dedicated to the local market. Their approach has been to supply products to the local market in order to avoid becoming wholly reliant on external markets and buyers. In 2005, they made 1,200 t-shirts for a children’s foundation, as well as uniforms for businesses and retailers. Besides being able to manufacture higher quality garments at competitive prices for the local market, they are also developing limited, exclusive ranges for international clients and planning a retail presence in the airport.

At present, Arasy works well with medium to large clients with consistent demands and designs. Turnaround times depend on the product. It takes 6-12 months for products like silk-cotton blends and special collections, 3-6 months for specialty fabrics, home textiles, baby wear, classic wovens and knitted fabrics, and 3 months or less for basics like t-shirts and polos.

2.9. Exports

Duties affecting the United States and Europe are 16% and 14-16% respectively. The Paraguayan government has been negotiating for duty reductions for textiles since 2005 with some movement.

There are no quotas for textiles exports from Paraguay. Transport is usually by air freight, and prices are dependent on export volumes and existing business relationships between companies and their freight forwarders.

2.10. Certification

Arasy are currently preparing for ISO 9001 certification. They are also interested in Fairtrade standards (FLO, IFAT), and the labour standard, SA8000.
3. Peru

3.1. Introduction

Organic cotton is one of the main organic crops in Peru. The dominant locations for organic cotton farming and both organic and conventional agrarian businesses are the valleys of the central coast (cotton Tangüis) and north forest (white and brown rough, with brown cotton, Lambayeque and Ica). In addition to the farmers and agrarian businesses, service providers, funding agencies, ginners, spinners, manufacturers, exporters and consultants all coexist in this location, ensuring improved communication and efficiency across the supply chain.

Increasing interest from markets in the United States and the European Union has helped stimulate significant growth in Peru as well as Brazil and Paraguay. Peru’s organic sector already has forty farming companies, twenty-seven processing units, fifty-one marketing and trading companies, two input suppliers and multiple service providers.

Peru is a specialty production country according to many actors in the sector due to the local growth of long-staple cotton. It’s currently a well kept secret and could further expand high quality organic cotton production if more brands were aware of its capabilities. Peru also benefits from its proximity to the North American market as well as its access to multiple shipping options to other markets.

Future opportunities for Peru include the development of a robust local market for organic cotton products, more effective marketing ventures, and improved knowledge sharing systems. While organic certification costs are relatively high, as growing volume increases, that becomes much less of a hindrance.

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**Actors in Peru**

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*note:* Farms aside, this table only lists those actors mentioned in this document. For a more comprehensive list see Organic Exchange’s *Sourcing Guide*. 
3.2. Profile: APAEM Association, Moroppe

A new development in Peru is the arrival of Fairtrade certification, which has promoted considerable growth in the number of farmers involved. Peru Naturtex’s certified producers (for organic or for Fairtrade or both) are located in the Moroppe region near the main city of Chiclayo on Peru’s north coast. In 2005, twenty-two farmers were registered in the APAEM association, a number which has increased to one hundred thus far in 2006.

The farmers in Moroppe are supported by Liliana Llontop, a field agent who is responsible for managing the villages of San Antonio and La Colorada. They grow upland (del serro) cotton, with eight farmers growing coloured cotton. Liliana is a trained agronomist with a farming background from the neighbouring village of Monsefu, and has three years of field experience. Two of the twenty-two organic farmers in the two villages are women, representing just less than one percent. Despite the small number, they are inspiring other women to participate in organic farming and its associated services. The president of APAEM Association is Rodolfo Piscoya, and the association celebrated their first anniversary in 2005. This association is involved in promoting organic cotton and implementing organic farming rules.

Coloured Cotton

The association farmers currently growing coloured cotton report that it is quite delicate and requires a lot of care in an organic system. Pests are a particular problem. In order to combat them, farmers use compost with animal manure as a base. Some 1,000-1,200 kilograms per hectare are applied. Vegetable residues are also added when available.

Rotation Crops

Legumes are most often used in the rotation system. Sarandaja is a native bean yielding some 1,000 kilograms per hectare and is rotated with cowpea and other food crops to provide for the farmers’ family needs.

Inspection

The internal control system in Moroppe has two inspectors, one for upland and one for coloured cotton. One farmer from each system certifies the other, and Liliana also visits all the farmers, who are required to keep notebooks and technical charts.

Pest Control

Apart from using the eco-system for pest control, farmers here also use a range of botanical and other controls. For example, cotton stainers are controlled using kerosene traps; manual control for some moth type pests is also used.

Fertilisation

Farmers in this region also innovate in fertilisation. For example, they use a technique called ‘pyramid fertilisation,’ where water is sent through the middle of a pile of compost or manure so that both filter into the soil simultaneously. Guano is also used when available as well as manure from goats and cows, which is ploughed into the soil to half a metre in depth. The farmers confirm that the rise in temperature from the introduction of manure helps the crop.

Peru Naturtex Partners

The APAEM association is supported by Peru Naturtex Partners, a company set up by James Vreeland Jr. to promote naturally coloured cottons in Peru in the 1980s, which currently works only with organic cotton to supply garments and textiles to a variety of global companies. The cotton from APAEM is currently manufactured into a range of organic, Fairtrade jeans for UK company, Hug (www.hug.co.uk), which are sold in a range of High-Street retail outlets in the UK. Uniquely, these jeans are made from long-staple cotton.
3.3. The White Cotton Project

The *White Cotton Project* is an initiative of *Verner Frang*, a company founded in *Sweden* in 1954 and owned by *Stephan Bergman* since 1985. The company launched its organic cotton production in 1986 in cooperation with *Raul Gerbolini* from *Tusa Cotton S.A.* based in Latin America. The *White Cotton Project* was first awarded *Farm Verified Organic* (FVO) certification in 1989. The project started as a small scale operation with very few farmers. Today, it is the largest producer in Peru with approximately 600 metric tonnes of ginned organic cotton certified by *SKAL* or *EU Flower*.

3.4. Oro Blanco

*Oro Blanco* is the marketing company for Peruvian organic, fairly traded cotton. The project was set up in 2000 by the Dutch non-governmental organisation, *Solidaridad*. *Oro Blanco* supplies companies in the *Made-By* network ([http://www.made-by.nl](http://www.made-by.nl)) including the Dutch brand *Koyuchi* with certified organic fiber promoted by *Solidaridad*.

As a means of supporting farmer development, *Solidaridad* is planning to transfer 40% of the shares in *Oro Blanco* to farmers in 2006.

More information on *Oro Blanco* can be found on their website: [http://www.oroblanco.org](http://www.oroblanco.org)

3.5. Processing

There are several companies in *Peru* that manufacture both textiles and finished garments, including *Franky and Ricky SA* and *Hialpesa*, among others. There are also a range of options in the handwoven and handmade range.

*Franky and Ricky SA*, founded in 1949, has a vertically integrated production process that includes knitting, dyeing, cutting, manufacturing, embroidery, printing and finishing processes. Their equipment is state of the art as well as water and energy efficient and ensures excellent product control, quality and flexibility in accordance with the high aggregate value of its product. They use exclusively Pima and Tanguis cotton.

More information can be found at the following website: [http://www.prompex.gob.pe/catalog/detempre sa1.asp?leng=2&idssector=7&idempresa=141](http://www.prompex.gob.pe/catalog/detempre sa1.asp?leng=2&idssector=7&idempresa=141)
Industrias Nettalco SA is a privately owned, vertically integrated company that exports high-quality knit garments to clients who are leaders in the mid- to high-end segments of the market. They began using organic cotton in 2003, and their consumption has risen from twenty-five tonnes to nearly two hundred tonnes in 2005. They manufacture garments for Hanna Andersson among others.

Hanna Andersson describes the main benefits in Peru as being good lead times, access to vertical suppliers, and access to high quality fabrics.

Hialpesa handles product development, raw material sourcing, production planning and management, quality assurance, export documentation and shipping consolidation. According to the company's literature, they provide a convenient one-stop buying experience for customers. The company is twenty-seven years old and has 1,500 employees. On a monthly basis, the spinning mill produces 440 tonnes of yarn; the knitting facility produces 240 tonnes of fabric; and the dyeing mill produces 320 tonnes of fabric. Hialpesa can produce some 400,000 units per month and currently exports to the United States, European and Canadian markets.

They launched organic cotton products in December 2004, and it now represents some 10% of their business.
4. Emerging Countries: Brazil, Columbia and Nicaragua

Brazil
Organic cotton production exists in Brazil in the state of Ceará, located in a semi-dry area. Currently 256 farmers cultivate an average of 1.2 hectares each, organized around an association, ADEC, that purchases, gins and sells the fibre on their behalf.

Previous crops have been sold to Veja Fairtrade in France. The project is growing as demand is high, so forward contracting is recommended in order for companies to secure adequate fibre.

Columbia
Some organic cotton processing takes place in Columbia for several European designers. The set-up is managed by British based designer Loula Mercedes Guarin of 1 Technology Ltd.

Nicaragua
Organic cotton farming is supported in Nicaragua by the Centre for Development in Central America (CDCA). CDCA has organised the farmers into cooperatives in order to more effectively market a range of organic crops. There is very little product manufacturing at present apart from a group of women who sew organic clothing for Maggie’s Clean Clothes in the United States.

Actors: Emerging Countries

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Together we make a world of difference
6. Ensuring Supply: Considerations for Brands and Other Investors

Ensuring supply is a significant step, and in an increasingly tight market, this means taking steps to identify farmers and ensure your fibre quality and quantity needs are secured. *Organic Exchange*, working extensively across sectors, has identified a preliminary list of issues to consider in securing fibre supplies.

In terms of investment, many buyers and investors think of putting money directly into community improvements, but experience suggests that farmers with secure revenues and higher incomes will provide these for themselves. More important interventions at least initially are those listed below.

**Pre-finance**

Many farmers would either like to expand organic production or enter into this arena. One of the biggest drawbacks is being able to finance operations, particularly sowing and harvesting, which are both labour intensive and expensive. Most farmers do not have access to bank accounts, and loans, especially small loans, are quite expensive.

Supporting farmers in having access to capital on a seasonal basis, also called season capital (i.e., farmers have access to the cash needed to finance external labour costs, seed purchase, finance new equipment, etc.), is one important area for intervention. Companies and buyers do not necessarily have to provide capital themselves, although it is an option. In cases where such financing is provided, it should be channelled through the farm group, support NGO or other central points rather than individually to farmers. Capital can also be sought from the buyers’ banks, micro-credit institutions, such as *Shared Interest*, and others. In general, 30% pre-financing of the contract value seems to be the farmers’ mean estimated norm.

**Forward Contracts**

Farmers will grow organic cotton once they see demand, but to ensure long-term supply, forward contracts with the farmer group or supporting institution should be set up to ensure long-term supply (between three and five years) with flexibility both for the buyer to adjust volumes and for farmers to retain some supply for sale on the open market. For example, contracts could attempt to secure a maximum of 50-70% of the production of a group of farmers at an agreed upon price, which leaves farmers some room and also guarantees against issues like a poor harvest.

**Extension and training**

Another necessary ingredient for securing and increasing organic cotton supply is for farmers to continue to benefit from strong support and training structures. Investigations so far put the cost of extension and training services at some 20% of the fibre freight on board (FOB) cost, and again, some means of pre-financing these operations needs to be put in place, which could be similar to the means suggested in the previous section on Pre-Finance.

**Indicators, Monitoring and Evaluation**

Buyers can also ensure that farmers are benefiting by requiring that organic cotton projects have both indicators and monitoring and evaluation systems in place. *The Organic Exchange Track and Trace system* can be used so that these metrics can be communicated up the supply chain, and village and farm level farmer groups can report on their own progress all the way to the retail level. For those brands and supply chain partners who report corporate responsibility metrics or make environmental or social claims at retail, these metrics have become increasingly important.
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