

Benin Organic Cotton project



Producer families showing their cotton. Photo: OBEPAB

Cotton is about people

Cotton production is more than producing cotton. Cotton is grown in some 90 countries in the world. Tens of millions of farmers depend for their income on cotton revenues. Cotton income allows farmers to buy food, to improve living conditions and to invest in productive activities. In many countries, cotton production therefore forms part of farmer culture. Cotton prices make or break farmer income, cotton producer organizations are key in agricultural development and society, and the period of cotton payments to farmers often marks the start of a period of socio-cultural events, consumption and investment. When we talk about cotton, we talk about people.

Commissioner: KIT/NIPS (the Netherlands)

Executing organisations: OBEPAB (Benin) with support of Agro Eco (the Netherlands)

Date: September 2004

Introduction

Cotton is the main export crop in Benin. 98% of cotton fibre is exported. Textile industry (spinning, knitting/weaving, colouring, confection) is limited to only a few industries. Benin cotton fibre has a good reputation on the international markets. However, cotton production in Benin has a poor record regarding the health of farmers, the environment, the net income of farmers, and the involvement of women in production.

This brochure provides basic information about the Benin Organic Cotton project, which is being executed by the Beninese NGO OBEPAB with support of Agro Eco, the Netherlands. The main objective of the project is to improve the livelihoods of cotton producers in Benin.

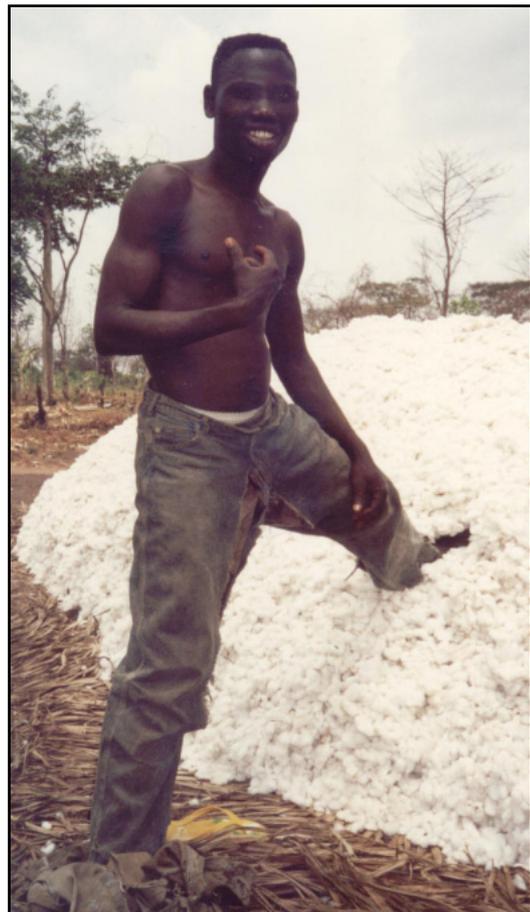
This brochure describes the Benin Organic Cotton project, its experiences to date, and the general contexts in which organic and conventional cotton production take place. The contexts of cotton production are similar in other producing countries in West Africa such as: Burkina Faso, Côte d'Ivoire, Mali, Senegal and Togo. The Benin Organic Cotton project may therefore be regarded as a 'nursery' for the development of more sustainable cotton cultivation practices that can be replicated on a large-scale in West Africa.

Cotton in West Africa

West African countries play an important role in the world cotton economy. Together they produce 5% of cotton world-wide, and 15% of global cotton fibre trade. Yet, West African farmers are among the poorest in the world. Purchasing power is only 5% that in Europe, USA or Japan.

West African farmers have little capital, so most work on the cotton fields is done by hand or with the help of oxen.

Cotton is often the only crop which they can sell on the international markets. And while local markets for other crops are poor (everybody grows similar crops, and purchasing power is low in general), the export crop cotton is for millions of West African farmers the dominant income earner.



Organic cotton farmer proudly showing his seed cotton. Photo: Peter Ton.

Cotton and health

The pesticides used in conventional cotton production are highly toxic, and dangerous to man, cattle and the environment in general. Cotton production in Benin is associated with food contamination due to the misuse of pesticides and the recycling of pesticide packaging materials.

A shock went through Beninese society when, in 1999/00, approximately 70 people died following the ingestion of the cotton insecticide endosulfan. Poisoning and deaths continued over the next years. Farmer knowledge about pesticides and pesticide use is poor. Cotton pesticides are thus commonly used for the conservation of food stocks, in horticulture and in fishing.

Cotton research should take these farming realities into account when re-introducing synthetic cotton insecticides like endosulfan, which were voluntarily withdrawn in the early-1980s precisely because of their high risk to man and the environment.

Endosulfan is banned, not approved, or voluntarily withdrawn in a number of Northern and Southern countries. NGOs world-wide call for a global ban on the production and use of endosulfan.

The Benin Organic Cotton project

Since 1996, the Beninese NGO OBEPAB carries out a project on organic cotton production and trade. The project is supported since 1998 through the bilateral Dutch-Beninese Sustainable Development Treaty, which is implemented by the Netherlands International Partnership for Sustainability (KIT/NIPS). Technical support is provided to the project since 1999 by the organic agriculture consultancy Agro Eco, the Netherlands.

Organic cotton production in Benin has increased significantly over the last five years. The Benin Organic Cotton project works with 600-700 farmers, one-third of which are women producers. All farmers are smallholders, growing 2 to 8 hectares of land. About one-third of their land is sown with cotton.

In 2004/05, some 650 farmers grow 200 tonnes of seed cotton on almost 500 hectares of land. The average yield will be 400 - 450 kg/ha. Locally, yields of 600-900 kg/ha are common in conventional cotton production. Two factors compensate for lower organic yields. First, organic farmers do not have to pay back input credit loans (on average 30% of gross conventional cotton income). Secondly, they receive a price premium of 20% above the local conventional price. The producer price is set in advance of the season. Purchase of all organic cotton is guaranteed by the project.

| Season | No. of farmers | Of which women | Area (ha) | Seed cotton (tons) | Yield (kg/ha) | Organic price (FCFA/kg) | Premium (%) |
|----------------|----------------|----------------|-----------|--------------------|---------------|-------------------------|-------------|
| 1996/97 | 17 | - | 10 | 4.8 | 494 | 240 | 20 |
| 1997/98 | 47 | - | 35 | 9.5 | 271 | 240 | 20 |
| 1998/99 | 113 | 10 | 102 | 35.9 | 352 | 250 | 11 |
| 1999/00 | 119 | 10 | 81 | 45.3 | 562 | 210 | 13,5 |
| 2000/01 | 283 | 80 | 168 | 72.4 | 431 | 240 | 20 |
| 2001/02 | 468 | 147 | 314 | 150.7 | 480 | 240 | 20 |
| 2002/03 | 685 | 214 | 425 | 185.2 | 436 | 216 | 20 |
| 2003/04 | 544 | 180 | 414 | 100 | 241 | 228 | 20 |
| 2004/05 (est.) | 651 | 239 | 491 | 195 | 400 | | 20 |

Table 1. Obepab organic cotton production figures (1996/97-2004/05)

Conventional cotton fibre is exported for 95%, to Asia and Brazil in particular. For the organic cotton fibre, which is of similar quality as conventional, it is envisaged to organise processing (spinning, knitting/weaving, colouring, confection) in Benin, so that more value is added inside the country before exports. To this effect, a Dutch consortium, who delivers textiles and clothing to Dutch department stores like C&A and V&D, is establishing an ecological textile chain, in collaboration with the local textile industries in Benin. This complementary, but separate, project is called the 'Timmermans' initiative'.

Women and cotton production

Cotton production in West Africa is often regarded as a men's affair. However, women are very much involved in the time-consuming operations of weeding and harvesting – on family fields. Women do not often have their own cotton fields because they have little access to inputs for cotton production. The cotton inputs are distributed through village producer organisations. Women in Benin are hardly represented in the boards of these producer organisations, and they may not even be entitled to become a member – for socio-cultural reasons.

Organic cotton production is very interesting to women, because they can now use inputs which are locally-available (organic manure, botanical insecticides) at little or no cost. They can thus grow the cash crop cotton without being dependent on the male-dominated village producer organisations. Also, pregnant and nursing women are able to produce cotton organically without having to fear for the health hazards, to themselves and to their child, of the use of synthetic pesticides.

Organic cotton production in practice

Organic cotton is produced without the use of synthetic insecticides or fertilizers. Soil fertility management is based on: crop rotation, mulch, oil palm nut processing residues and animal manure. When clearing fields, weeds and crop residues are recycled rather than burnt. Organic pest management relies primarily on the use of health- and environmentally-friendly, home-made, botanical insecticides (neem, paw paw, chilli pepper, garlic, etc.), and on the improved management of cotton crop residues to break the life-cycles of common cotton pests.

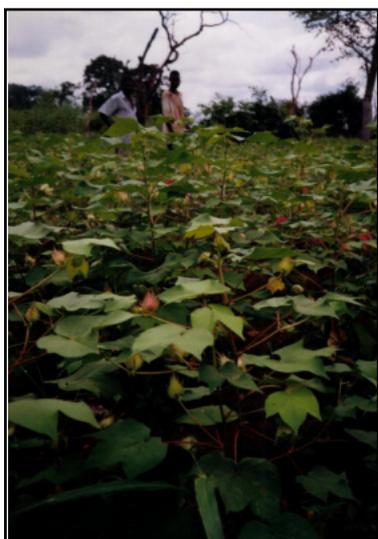
Organising producers around organic cultivation practices is a time-consuming, and thus costly, affair. Particularly because one deals mostly with illiterate farmers, for which new educational methods and tools need to be developed. Participating producers need to become acquainted with organic fertilisation and organic crop management practices – a number of which are very new to them. To this effect, OBEPAB organises so-called 'Farmer Field Schools'; practice-oriented workshops in the village or the cotton field, to train and exchange organic production experiences.

Farmer Field Schools

Farmer Field Schools were first developed in Indonesia as a means to train farmers and to exchange with them about pest management in rice. The FFS approach was very successful and led to a significant reduction of the use of pesticides. In Africa, the FFS approach turned out to be more complicated, because literacy tends to be much lower than in Asia. Yet, successes were reported in rice production in Côte d'Ivoire and in horticulture in Ghana. The FFS approach is new to Benin.

OBEPAB runs short FFS workshops with organic farmers about pest management and soil fertility management. In contrast with the rather lengthy thus costly FFS in Asia, the OBEPAB approach consists of a limited number of practice-oriented workshops with groups of farmers in their village or in one of their members' fields. Farmers are trained in pest and predator recognition, in scouting and in fertilisation practices.

Farmers in their turn share and exchange with the project agents about indigenous pest management and fertilisation practices. In Benin, the organic farmers shaped themselves the current fertilisation practices: the use of local oil palm nut processing residues (called *tchotchokpo*), household ashes and animal manure. They also experiment the use of a range of locally-available botanical extracts for organic crop protection.



Organic cotton plant.
Photo: Peter Ton

Organic cotton production helps to alleviate poverty. Growing cotton organically is economically interesting to a significant part of Beninese cotton growers. They do not have to spend money anymore on expensive inputs like synthetic fertilizers and pesticides, and thus run less risk to become indebted through input credit loans.

As production costs are much lower in organic, it is not a major problem that organic yields are lower than conventional. Overall, cotton income tends to be equal for those farmers participating in the project. Yet, the project aims for improvement of the average yield, through continued training and support on pest management and soil fertility management. Organic cotton growing should become a viable alternative to conventional for all cotton growers in Benin.

"When using chemicals on our crops, sickness was common. When we grew conventional cotton, we had higher yields, but paying for our inputs, we were using all the extra money on drugs to heal ourselves."

(Organic cotton farmers, Mangassa village, Benin)

Making conventional cotton more sustainable

The Benin Organic Cotton project is very innovative in West African contexts. The project is oriented towards the training of, and assistance to, hundreds of smallholders who are among the poorest in the world. The organic farmers are encouraged to become independent of the use of expensive and hazardous synthetic inputs. They do without input credit loans, running no risk of indebtedness. Overall, organic cotton in Benin contributes to poverty alleviation, to better health of farmers and cattle, and to better conservation of the environment.

“The negative impacts of conventional cotton production are thus far not incorporated in its price. The benefits of organic cotton production, like improved health and enhanced soil fertility should be recognised.”

(Gauthier Biaou, director of the *Centre Béninois pour le Développement Durable*, Benin)

The Benin organic cotton project serves as a ‘nursery’ for new ways of growing cotton in West Africa in a sustainable manner, and which can be repeated on a large scale. The project and the farmers actively share their experiences about soil fertility management and pest management with the conventional cotton sector. The project collaborates with local cotton producer organisations and with research stations. Today, organic cotton production is perceived in Benin as a new, modern and promising way of growing cotton in a sustainable manner. The World Bank therefore recently recommended to:

“Actively encourage the production of organic cotton in order to increase the prospects of promoting non-chemical production of cotton in Benin”.

(Project appraisal document of the World Bank
Benin Cotton Sector Reform project, 2002-2006)

Sustainable Development Agreement

In 1994, the governments of Benin and the Netherlands signed a bilateral Sustainable Development Agreement, to follow up on the outcomes of the 1992 UNCED conference in Rio de Janeiro. The agreement is based on three guiding principles: reciprocity, equality and participation. Sustainable Development Agreements were also signed between the Netherlands and Costa Rica and Bhutan. The concept of sustainability includes not only ecological, but also economic and social aspects.

The agreements are executed by national agencies. In Benin this is the *Centre Béninois pour le Développement Durable* (CBDD), in the Netherlands it is KIT/NIPS. The collaboration focuses on a limited number of themes, the most important of which are: biodiversity, energy and climate change, and sustainable economic relations. The Benin Organic Cotton project makes part of the collaboration on sustainable economic relations.

Benin

Economy, politics and trade

Average purchasing power in Benin is only US\$ 993 per capita per year, i.e. 23 times lower than in the OECD countries. Benin is among the 40 poorest countries in the world. Yet, Benin is a wealthy country in terms of culture and biodiversity (see below). Benin gained independence in 1960, without bloodshed. Since 1972 the country was governed by an autocratic regime. Democracy was re-established in 1990, again without bloodshed. Since independence, Benin has never been at war. Changes of power after elections went virtually without disturbances. Thanks to reasonable rainfall, Benin is renown in West Africa as a grain storage. Unlike the Northern Sahel countries, the country has not suffered from dramatic droughts and famine. Benin is largely self-sufficient in food.

Population is about 6 million. Most Beninese are farmers in rural areas. Cotton is the most important cash crop, followed by oil palm and cashew. The main food crops are: maize, sorghum, yam, cassava, cowpea and groundnuts. Yet, about one-third of Beninese earn themselves a living in the legal and illegal trade, particularly with neighbouring Nigeria. The country has a strong trading tradition.

Culture and biodiversity

Benin counts with 51 different ethnic groups, each having their own language and culture. The dominant ones are: 'fon', 'nago' or 'yoruba', 'mina', 'dendi' and 'batonou'. French is the official language. Traditional kingdoms coexist with 'modern' republican institutions. Benin is considered the '*Quartier Latin*' of West Africa, with a rich intellectual culture. There are two universities, in Cotonou and Parakou, which attract students from all over West Africa. Still, the adult literacy rate in Benin is only about 40%, which is far lower than in the English-speaking countries in West Africa. Benin is the centre of the animist 'voodoo' culture, which is based on supra-natural spirits and ghosts, and which today is mixed with Catholicism and Islam. In colonial times, Benin formed part of the Slave Coast, from which slaves were transported to the Americas, including the 'voodoo'-minded Caribbean Islands. Benin has a diverse musical tradition thanks to its variety of peoples and cultures. Benin's best-known musical export is the dynamic voice of Angélique Kidjo. The undeeep lagunas in Southern Benin house spectacular villages built on wooden trunks, established centuries ago by people fleeing war. Biodiversity is conserved in 'sacred forests' and national parks. The Parc W, on the border with Burkina Faso and Niger, is the most exciting national park in West Africa, with lions, elephants, buffaloes, hippos, antilopes, warthogs, caimans, baboons and a range of exotic birds. The Atlantic coast houses whales who use the undeeep sea waters as a breeding ground.



Cotton market. Photo: OBEPAB



Group of farmers on a cotton heap.
Photo: OBEPAB

Project executing organisations

OBEPAB

The *Organisation Béninoise pour la Promotion de l'Agriculture Biologique* (OBEPAB) was founded in 1995 in order to promote organic agriculture in Benin. OBEPAB's focus is on cotton production while the health and environmental hazards of agricultural production are highest in cotton. Since 1996, OBEPAB experiments organic cotton production with groups of farmers. OBEPAB also runs an information and documentation centre on pesticides and their alternatives, it organises workshops on pest and pesticide management, and it inventories the prevalence of pesticide poisoning in Benin. Experiments with urban organic horticulture are underway.

Agro Eco

Agro Eco Consultancy is based in the Netherlands. Agro Eco was founded in 1990 by consultants having 15 years of experience in organic agriculture and trade world-wide, in Africa in particular. Agro Eco has local branches in Tanzania, Uganda, Ghana and Zambia. Regarding cotton, Agro Eco assisted at the start of organic cotton projects in Greece, Mozambique, Turkey, Uganda and Zimbabwe. Today, the company is involved in organic cotton production in Benin and Uganda. Agro Eco also works on the creation of markets for ecological textiles, in the Netherlands in particular.

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