



Cotton production and land degradation in Mali Factsheet

In Mali, about a quarter of the population, i.e. 4 million people earn their living from cotton production. At the beginning of 2019, the cotton farmer confederation set an ambitious target to bring the cotton production to one million tons of cottonseeds during the 2019/2020 season. With a production of 700,000 tonnes in 2019/2020, the goal was not achieved, but it nevertheless highlighted the interest in increasing the country's production, cotton being the predominant crop in the agricultural sector. While analysing the contribution of cotton production to the economy in Mali, it is important to consider not only the gross output and gross value, but also the input expenditures. This factsheet presents the main findings of a study that compares the production of conventional and organic cotton in the districts of Koutiala and Bougouni in the Sikasso region.

The Value of Land

Established in 2011, the Economics of Land Degradation (ELD) Initiative aims at transforming the global understanding of the economic value of land, and thus the cost of its degradation. The goal is to improve stakeholder awareness of socio-economic arguments to promote sustainable land management. ELD provides tools and assessments that allow stakeholders to undertake cost-benefit analyses of land and land uses through a total economic valuation and include the results into decision-making.

Background

In Koutiala, known as **the capital of White Gold**, cotton production as export commodity started in 1950, while in Bougouni, cotton production was introduced more recently, but with an increasing expansion of surface areas. Generally speaking, farmers in these districts spend considerable **resources on farm inputs. Up to 46% of the price of urea and chemical fertilizers are subsidized** by the Malian Company for Textile Development (CMDT). The region remains one of the poorest in the country - hence the **"Sikasso paradox"** whereby, despite expectations, this cotton production area records relatively high levels of poverty.

Beside these trends, there is a growing interest in organic cotton globally. But **in Mali, the players of the organic cotton sector feel they are being treated unfairly.** Premiums are not paid or are paid with a big delay. There is no low-interest rates

credit scheme for the sector, and there is a lack of transparency in the pricing.

Results

Conventional cotton producers in **Koutiala** have an **average yield of 950 kg/ha**, compared to **1050 kg/ha** for cotton producers in **Bougouni**. They also rely entirely on large amounts of organic fertilizers to maintain their yields. This translates in **higher production costs per hectare for producers in Koutiala** with an average profit of 97,850 CFA/ha compared to 147,430 CFA/ha in Bougouni. Taking into account public expenditure on subsidies as well as health costs due to the use of pesticides and fertilizers, the **societal profit is 74,340 CFA/ha in Koutiala compared to 119,015 CFA/ha in Bougouni**, which indicates that the soils are more degraded in Koutiala.

Organic cotton farmers have an average yield of 450 kg/ha of cotton, i.e. half the yield of conventional cotton farmers. However, their input costs are also about half the costs of conventional cotton producers, with a **profit of 80,600 CFA/ha, slightly higher than that of the average conventional cotton producer in Koutiala**. In terms of productivity, organic cotton producers' yields range from 200 kg/ha to 1500 kg/ha, which highlights the potential organic cotton producers have to improve their yields with other agricultural practices.

Recommendations for policy makers

At the country level, production is maintained through the expansion of surface areas - at the expense of rangelands and forests. It is recommended to stop the extensification of cotton production and scale up sustainable production practices.

To this end, it is important

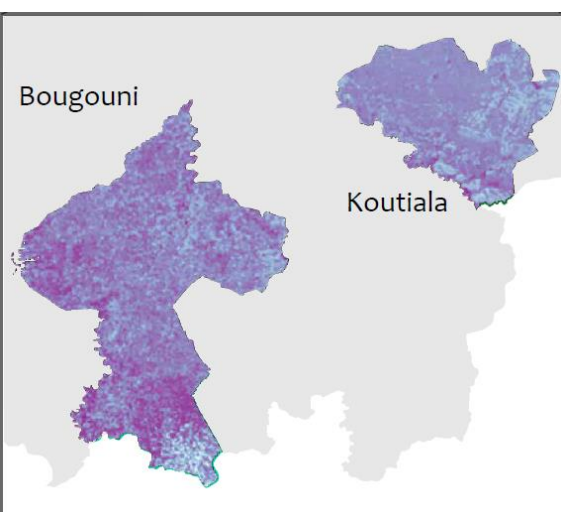
- to support investments in sustainable land management (SLM) practices.
- to facilitate access to low-rate, longer-term credit.
- to develop a comprehensive intervention and extension strategy in the form of technical packages, to be included in the specifications of management bodies.

It is advisable for farmers to use low-cost local solutions that do not require imports of inputs in order to maintain soil fertility over the long term. These local solutions include **SLM measures such as the use of cotton residues** (rather than burning them), **manure, household waste and compost, agroforestry, growing leguminous plants in rotation with cotton, and penning animals.**

Conclusions

Given the cost of conventional agricultural inputs, it is necessary to promote farming methods and crops that improve the soil fertility in the long term. Agroforestry and the production of leguminous crops in rotation with cotton help to increase yields. A much wider range of SLM methods are used elsewhere for cotton production (stone bunds, fascines, crop rotation or intercropping, permeable dikes, etc.). However, **it is essential keep records of those measures in the form of technical standards or packages as part of the responsibilities of permanent structures** (CMDT, FENABE, MOBIOM, etc.); in so doing, these methods can be effectively introduced into traditional agricultural practices and become part of the **overall intervention and extension strategy** developed and suitable to each locality specificities.

SLM practices require initial investments of labour and other agricultural inputs. It is therefore important **to foster access to low-interest credit** for small farmers and to support SLM investments, particularly in agroforestry.



Rate of soil organic carbon (%) in Kout. and Boug.



Degradation affected site

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