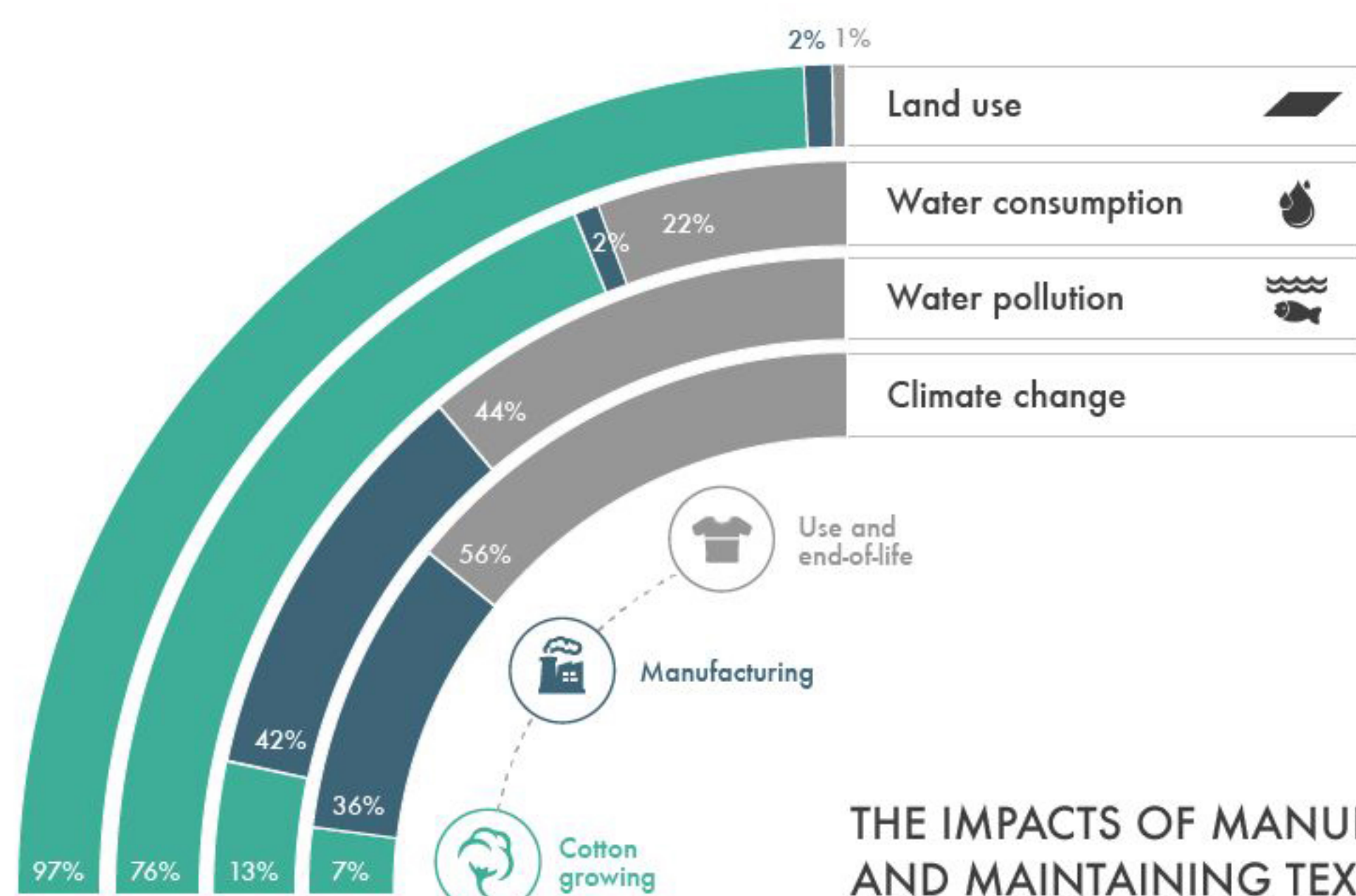
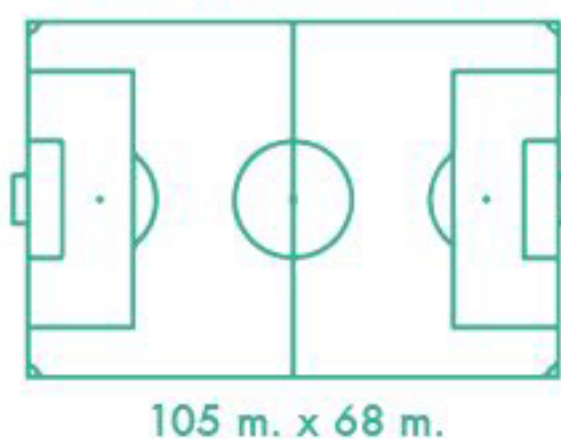


# THE IMPACT OF GROWING COTTON TO THE GARMENT LIFE CYCLE

Environmental impact and economic output



Growing cotton on the size of a soccer field during one year



105 m. x 68 m.

THE IMPACTS OF MANUFACTURING AND MAINTAINING TEXTILES ARE IMPORTANT TO UNDERSTANDING THE ENTIRE COTTON LIFE CYCLE <sup>1</sup>

Growing cotton is the first step of an extraordinary life cycle. Once cotton fibers leave the farm, they travel through the stages of ginning, textile production, dyeing, and garment assembly to become a finished garment, such as a t-shirt. Owing to the durability of cotton, the garments are laundered and dried repeatedly until eventually meeting their end-of-life. Each of these steps has an environmental impact.

As shown here, both the farming and after-farm life are important to consider when evaluating the impacts of cotton. In particular, the use of textiles over their long life, the care of which requires water, energy, and detergents. For some environmental concerns such as climate change, the maintenance of apparel plays the largest role in the life cycle. Consumers can help influence these impacts by washing clothing at lower temperatures, air drying, and washing larger loads.

1700 KG

Total harvested product

Cotton fibers 40%

Whole cotton seeds 50%

Organic materials 10%

110 KG OF SOIL AMENDMENT

830 LITERS OF COW MILK <sup>2</sup>

1600 KNIT SHIRTS

150 LITERS OF COTTONSEED OIL

## COTTON PRODUCES MORE THAN JUST T-SHIRTS

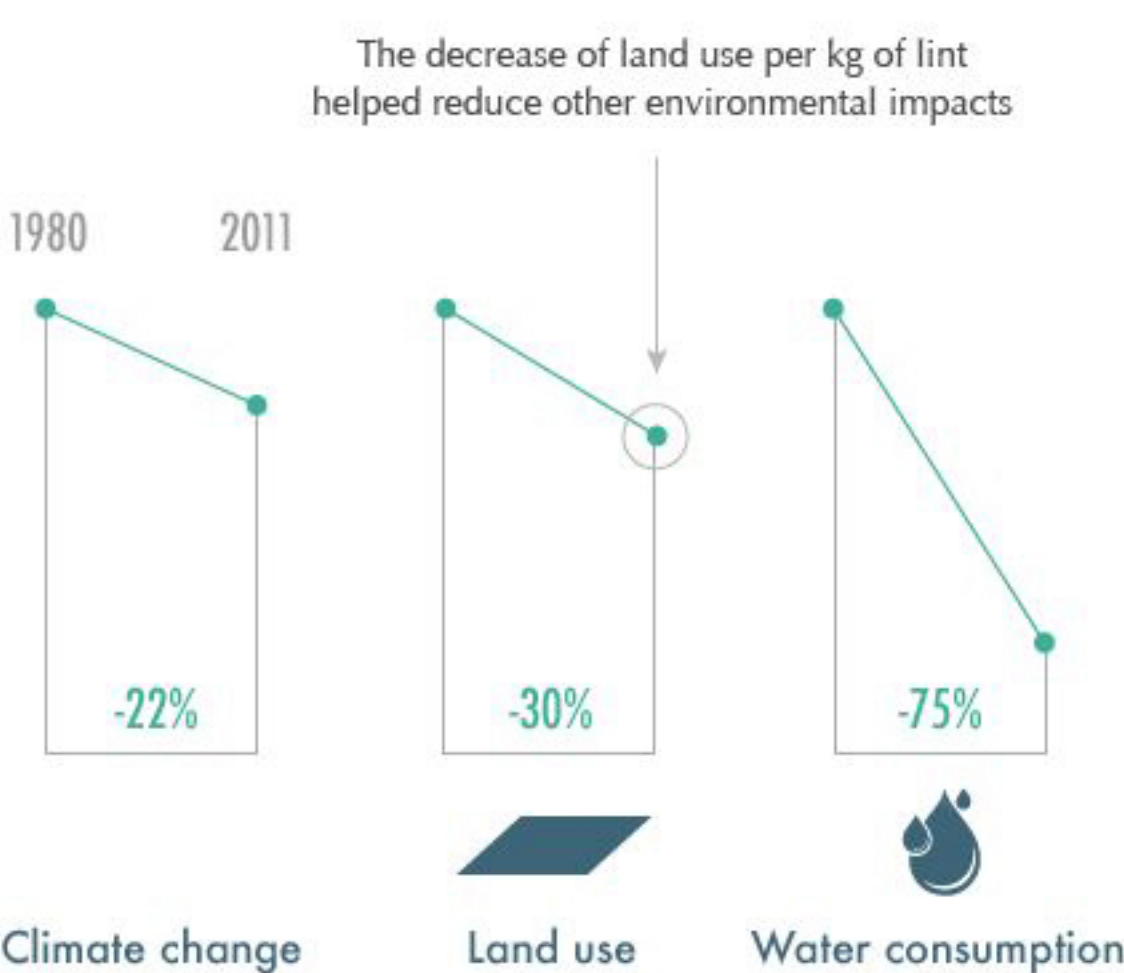
It is not widely known, but each cotton harvest produces more cottonseed than cotton fiber. This seed has a variety of applications but is primarily used as a cattle feed supplement and for the production of edible oil. Other byproducts of the cotton harvest can be used as compost. Thus, cotton is simultaneously a fiber and a food crop.

## COTTON IMPROVED ON ALL MEASURES OF RESOURCE "EFFICIENCY," WITH DECREASES IN PER KG OF FIBERS <sup>3</sup>

A key indicator of these efficiencies is the increasingly favorable ratio of land area planted with cotton to the volume of cotton produced. As a rule, increased efficiency decreases environmental impact.

Water consumed to irrigate cotton has been reduced by 75% over the past 30 years and is equivalent to 20 cm of irrigation water applied to the football field. In fact, only 40% of cotton fields are irrigated currently. Cotton accounts 4% of total water volume used for irrigation used in the United States.

Climate change impact has also been reduced by 22%, down to 1,215 kg of CO<sub>2</sub> equivalents for the football field, thanks to increased yield, better field practices and better management of fertilizers, among others.



The decrease of land use per kg of lint helped reduce other environmental impacts

## COTTON INCORPORATED COMMITMENTS

Cotton Incorporated has a dedicated team of sustainability specialists and researchers working to improve cotton's environmental impact. They monitor the effects of cotton production on the environment and are continuously developing new solutions to lessen the impacts. The Cotton Incorporated sustainability strategy has three main axes, presented here.



### Sources:

<sup>1</sup> <http://cottontoday.cottoninc.com/sustainability-about/LCHCA-Cotton-Fiber-Fabric/>

Water pollution is calculated based on eutrophication and ecotoxicity impacts. The ecotoxicity indicator was calculated based on USEtox methodology.

<sup>2</sup> Adapted from Bouwman et al. 2005, Exploring changes in world ruminant production systems, Agricultural Systems 84: 121-153. This is a rough estimate and might vary depending on farming system, nutrient and protein content and constitution of feed, etc. It has here an illustrative purpose only.

<sup>3</sup> <https://www.fieldtomarket.org/report/>

