

CONTRIBUTION OF BIOTECH CROPS TO SUSTAINABILITY

INCREASES CROP PRODUCTIVITY

contributes to **food, feed, & fiber** security



more **affordable** food

reduced production costs ↓



LESS ploughing pesticide sprays labor

US\$116.9 billion

farm income gains in 1996-2012
GENERATED GLOBALLY BY
BIOTECH CROPS

HELPS CONSERVE BIODIVERSITY

land-saving technology



↑ higher productivity

on world's **1.5 billion** hectares of arable land

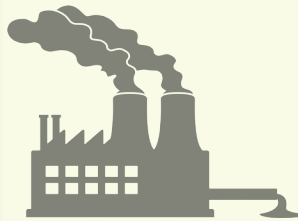


prevents **deforestation** protects biodiversity



REDUCES AGRICULTURE'S ECO-FOOTPRINT

lowers **CO2** emissions



in 1996-2012, pesticide spraying reduced by **503 million kg**

decreased environmental impact from herbicide & insecticide use by **18.7%**

use of **herbicide tolerant biotech crops** conserves **soil moisture**

savings on **fossil fuels**



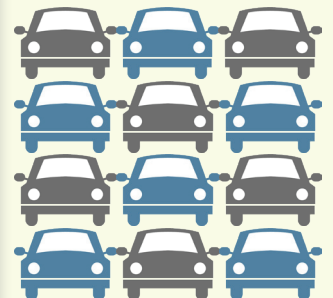
HELPS MITIGATE CLIMATE CHANGE

fewer **herbicide & insecticide** applications



reduced **FUEL USE**

reduced **CO2 emissions** equivalent to removing **11.9 million cars** from the road for **1 year**



CONTRIBUTES TO THE ALLEVIATION OF POVERTY AND HUNGER

better **livelihoods** from **higher yields**

18 million farmers in **27 countries** planted **biotech crops** in 2013



90%

small, resource-poor farmers from developing countries who got **US\$3.14** for every US\$1 invested in **GM seeds**

biotech crops help farmers **earn reasonable incomes**

biotech cotton has made significant contribution to the incomes of

>16.5 million farmers and their families in **CHINA, INDIA, PAKISTAN, MYANMAR, BURKINA FASO, & SOUTH AFRICA**



SOURCES:

Brookes, Graham and Peter Barfoot. 2014. GM Crops: Global Socio-Economic and Environmental Impacts 1996-2012. PG Economics Ltd.: Dorchester, UK.
James, Clive. 2013. Global Status of Commercialized Biotech/GM Crops: 2013. ISAAA Brief No. 46. ISAAA: Ithaca, NY.

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