

A woman in a red sari and blue headscarf is working in a tea plantation, plucking tea leaves. The background shows rolling green hills and trees under a blue sky. The image is overlaid with a dark blue gradient and a vertical rainbow-colored stripe.

Embedding Sustainability in the Business of Bayer Crop Science

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Sustainability at Crop Science

Agriculture's paradox: how to feed the world without starving the planet?

Challenge:

Growing
Population



+2.2bn
people¹



+50%

more food and feed required to meet growing demand and changing diets²

Limited
Resources



1/3
of land used
for agriculture



75%

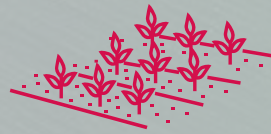
of freshwater resources devoted to crop or livestock production.³

Pressure on
Ecosystems



-17%

Harvest losses
from climate change⁴



-20%

Significant loss in arable land
per capita⁵ between 2016 and 2050

Way Forward:



We will link Sustainability to the core of our business and R&D/technologies



We will transparently create value to balance farmer's needs with societal expectations

We need to Enable Production of Safe and Affordable Food

~50% crop losses

Average yield losses (rice, wheat, barley, corn, potatoes, soybeans, cotton, coffee*)

10% post-harvest

13% fungal

14% weeds

15% insects



* approx. 50% of crop area worldwide – Source: Oerke et al., 1995/Yudelman et al., 1998



While enhancing Biodiversity and Overcoming Climate Change

Addressing the Paradox of Agriculture

// Production innovation and yield increase for food security while...

...reducing agriculture's footprint to preserve planetary boundaries //



Reducing field greenhouse gas emissions by

30% From the **most emitting crop systems** in the regions Bayer serves



Reducing the environmental impact of crop protection by

30% With **new innovations** and an integrated crop management approach



Empowering smallholder farmers to access sustainable agricultural solutions

>100M Smallholders benefit from access to education, products & partnerships





Our Approach to Sustainable Agriculture

Guiding principles for sustainability at Crop Science

1

Focus on transformational topics related to agriculture where we can really make a difference

2

Always keep the **farmer's perspective** in mind while creating value transparently for environment & society

3

Link sustainability strategy to the **core of our business** and R&D/technologies

4

Define KPIs to make all commitments
Measurable and transparent



Carbon Initiative

Advancing a carbon-zero future for agriculture



Greenhouse
gas reduction



Better yields and more
predictable harvests



Additional revenue
streams for farmers



Short Stature Corn

Developing new generation corn that stands up to harsh winds



Reduced crop loss



More precise use of inputs



Use less natural resources
(like land and water)



Better Farms, Better Lives

Improving the livelihoods of >100 million smallholder farmers



Drive **innovation** for smallholders through holistic crop solutions



Accelerate **digitalization** to create and scale new value chains



Foster **partnerships** to collaborate in smallholder capacity building and market access



Thank You!

