



Role of plant variety protection in sustainable agriculture and food security in the context of climate change

East Asia Plant Variety Protection Forum
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APSA

APSA's mission:
To support
sustainable
agriculture through
the production and
trade of **quality seeds**
for the **world**



The number '544' is displayed in white, bold, sans-serif font inside an orange rounded rectangle. This rectangle is positioned over the map of Asia, specifically over the Indian subcontinent and Southeast Asia.

total number of
APSA members
in 2023

The percentage '74%' is displayed in white, bold, sans-serif font inside an orange rounded rectangle. This rectangle is positioned over the map of China and the Korean peninsula.

of members are
seed enterprises;
most have R&D

The number '46' is displayed in white, bold, sans-serif font inside an orange rounded rectangle. This rectangle is positioned over the map of Australia and New Zealand.

countries
represented:
26 are in APAC,
20 from outside
the region



By 2030,


9 out of 10 major crops will experience reduced growth rates while average prices will increase dramatically.

(Source: FAO)

Maize yields are projected to decline 24%. (Source: NASA)

In the Mekong River Delta, which produces 6 million tons of rice (or 15% of global rice exports), **severe drought can cut rice yields by 65%** while **flooding and salinity can reduce yields by 40%**.
(Source: CGIAR)



A close-up photograph of a wheat stem. The stem is green and shows signs of stem rust infection, with numerous small, reddish-brown pustules visible along its length. The background is a blurred green field.

Stem rust had emerged in the UK in 2013, for the first time in 60 years. Climate changes over the past 25 years are likely to have encouraged conditions for infection.

(Source: CIMMYT)

A look at other climate change mitigation technologies: **renewable energy**

IP protection has greatly increased technological advancements in clean energy.

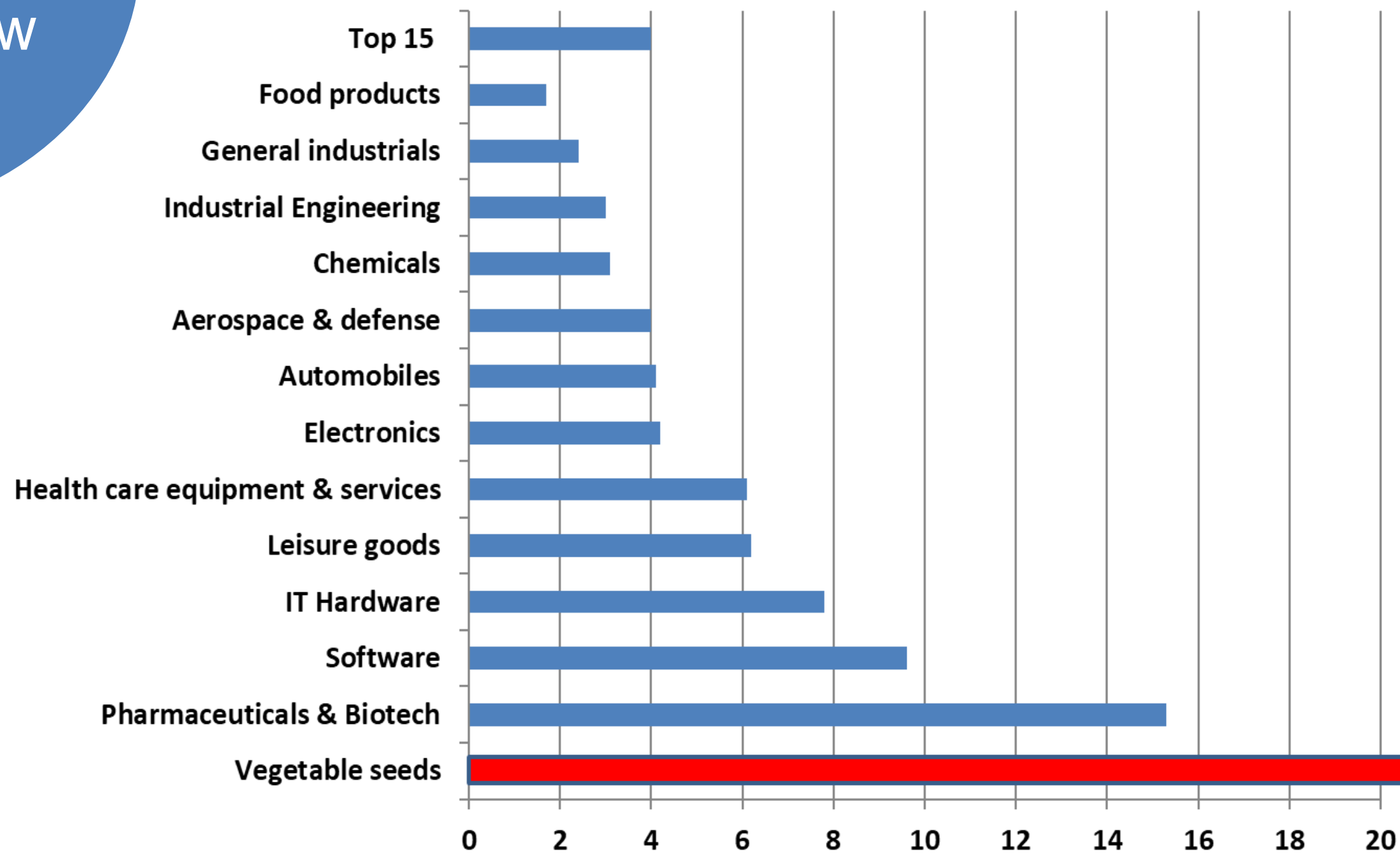
The rate of filing for IP protection in solar PV grew by 24% annually between 2006 - 2011.

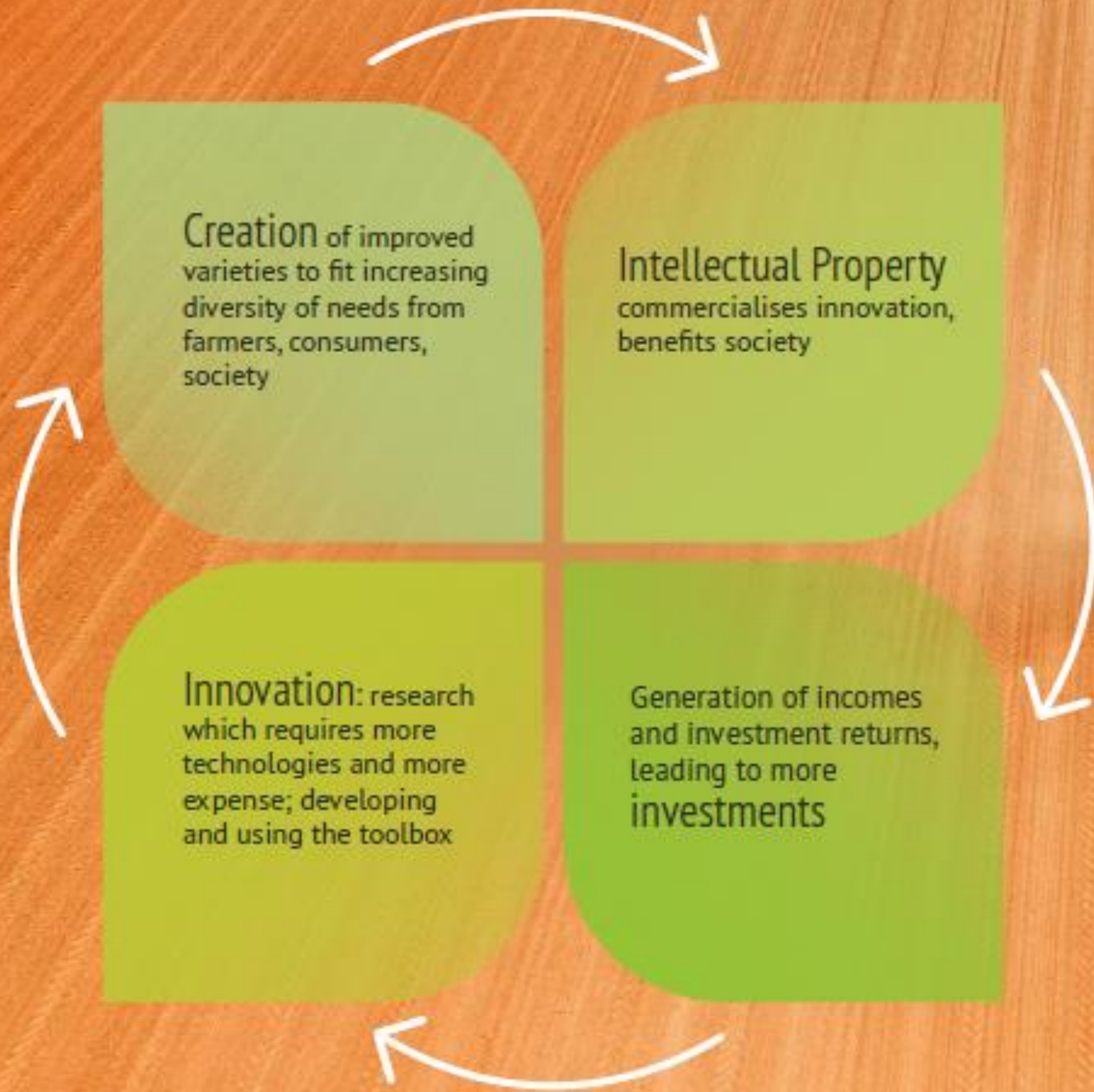
This encouraged many new players (SMEs) to enter the market and lowered cost for users by 98% vs four decades ago.



Only 8 more years to go before I develop a new variety...

R&D Intensity (R&D investments/Net Sales)





An effective plant variety protection (PVP) framework helps sustain the cycle of innovation.

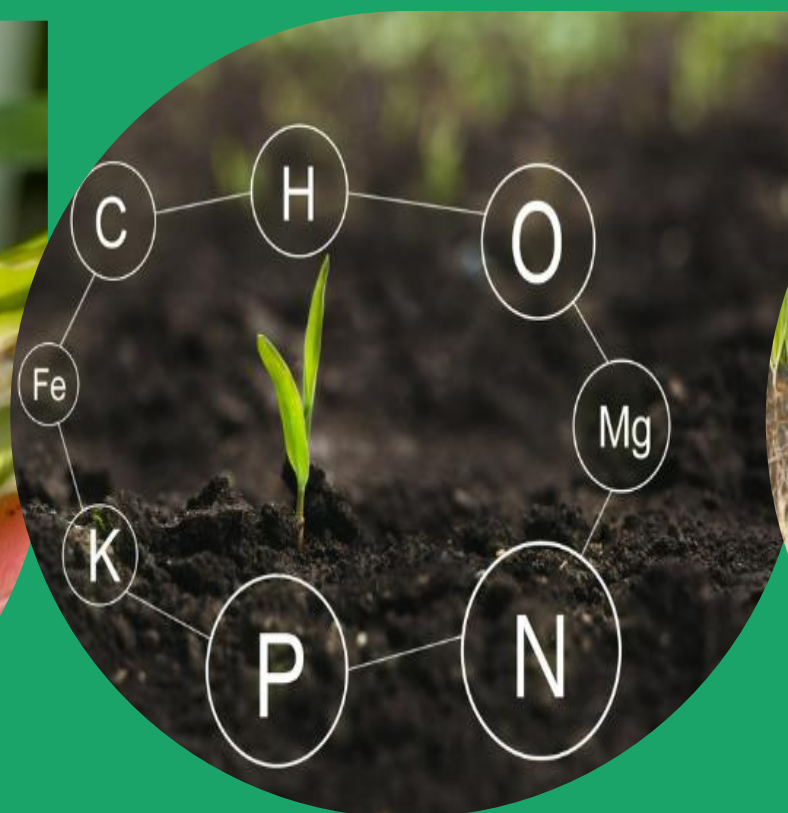
Climate-smart plant breeding objectives



Tolerance to abiotic stresses (drought, flooding, heat, frost)



Resistance to biotic stresses (disease, virus, fungus, weeds, insects)



More efficient use of water and nutrients in the soil



Carbon sequestration



High yield and fruit quality under stress

Key considerations for policymakers



Climate change adaptation in agriculture will be driven by innovation. National strategies must include the development of new plant varieties that can adapt to increasing environmental pressures.



Plant variety protection encourages investment into R&D and successful market entry by allowing breeders to recoup their financial and intellectual investment.



For farmers, this means greater choice of improved varieties and access to new solutions to climate challenges.