“Clima, Agricoltura, Mitigazione, Adattamento”

Franco Miglietta
Food Security

Crop Yields

Marketable Yields

Commodities prices
Trading

Crop Losses
Transformation & Processing
Transport losses

Farmers skill & technology
Pest & Diseases

Population (demand)
Accessibility
Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2003)
Crop yield changes estimated at 2050
Change in potential cereal output, 2080

- Decrease -50% or more
- Decrease 25-50%
- Decrease 5-25%
- No change ±5%
- Increase 5-25%
- Increase 25% or more
- Not suitable

Under HadCM3 model, IPCC SRES A2 scenario
The graph shows the projected population growth in Africa and Europe from 1940 to 2060. The population of Africa is projected to increase significantly, while Europe's population is projected to remain relatively stable.

In 2050, Nigeria is expected to have a higher male population compared to female, whereas Italy is expected to have a higher female population compared to male. The age distribution for Nigeria and Italy in 2050 shows a higher percentage of the population in the 75-79 year age bracket.
The impact of population growth and climate change on food security in Africa: looking ahead to 2050

C. Hall, T. P. Dawson, J. I. Macdiarmid, R.B. Matthews & P. Smith

With Climate Change

Undernourishment Prevalence (%)
- Very High (>35)
- High (25-34.9)
- Moderately High (15-24.9)
- Moderately Low (5-14.9)
- Very Low (<5)
- Not Included

Without Climate Change
Which strategies?

1. Sustainable Intensification: close the yield gaps

1. Stop degradation, reclaim degraded soils, regenerate fertility

1. Increase food security through aids, equitable trading to sustain imports

1. Promote and enlarge access to education & training
I. Sustainable Intensification: close the yield gaps

New Perennial Grain crops

Photosynthesis 2.0 Project

Photosynthesis 2.0 – Italy

AnaEE and Emphasis - ESFRI Projects

EU-Flagship project on Photosynthesis
I.  **Stop degradation, reclaim degraded soils, regenerate fertility**

**IT-LDN (Land Degradation Neutrality) Project**

*Sustainable Development Goal 15*

“Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”

**African Biochar Partnership**
Grazie per l’attenzione !!