

Biodiversity and global food security

A symbiotic relationship

Either directly providing **food products**, granting the **conditions to produce** them, sustaining a **means of living** or ensuring a resilient food supply system through **genetic diversity**, biodiversity plays a transversal role in all aspects related to food security.

Biodiversity

It is defined as the “**variability among living organisms**”, in terms of ecosystems, species and genetic diversity.

Increasing resilience

Sustaining livelihoods

Providing food

Nurturing the system

Genetic diversity

Increases **adaptability** of food-production systems in the face of **emerging challenges** and provides opportunities to overcome shocks and **prevent food shortages**. Currently:

66%
of total crop production
= 9 species

50%
of total aquaculture production
= 10 species

95%
of total food from livestock
= 8 species

Economic and physical supply

Biodiversity plays a direct role in the ability of individuals to **acquire the foods** they need and the **economic sources** to obtain them.

Remote areas rely on domesticated animals for **transport**.

Urban areas rely on traders and supermarkets, and their ability to provide sufficient and **diverse supplies**.

Wild-harvested products (e.g. wood and medicinal herbs) provide a **source of income** for many households.

Diversity on the plate

Balanced diets are a result of a **diverse range of foods** and access to **native micro-nutrient rich varieties**.

For instance, **Polignano carrots**, a traditional variety from Puglia (Italy), contain **four times** the amount of **nutrients** and **less sugar** content compared to domesticated carrot species.

Production safeguarding

Food production hugely depends on **natural resources** and **wild species** provided by diverse ecosystems.

Pollinator-dependent crops account for **30%** of global increase in food production since the 60s.

Stability

Access

Utilization

Availability

Food security

The **adequate access to food** by all people at all times for an active and healthy life.

Food production needs to increase to meet the needs of a population that is expected to exceed 9 billion by 2050

Understanding the **self-perpetuating connection** between biodiversity and food security is crucial to implement **protective measures**.

Food production systems and humans thrive in **healthy biodiverse ecosystems** and farmland, and in turn, biodiversity is enhanced by a **wise usage of land and species**.