



2015  
International  
Year of Soils

# HEALTHY SOILS ARE THE BASIS FOR HEALTHY FOOD PRODUCTION

Soils supply



essential nutrients



water



oxygen



root support

that our food producing plants need to grow and flourish

## THE IMPORTANCE OF MAINTAINING HEALTHY LIVING SOILS

Soils maintain a diverse community of organisms that:



help control **insect & weed pests and plant disease**

form beneficial **symbiotic associations** with plant roots



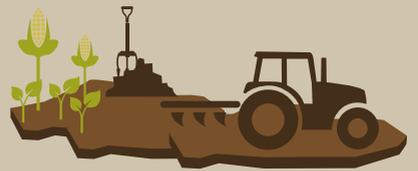
recycle essential **plant nutrients**

improve **soil structure**



Soils serve as a buffer to **protect delicate plant roots** from drastic fluctuations in temperature.

**Healthy soil** contributes to **mitigating climate change** by maintaining or increasing its **carbon content**



it is the foundation of food systems and the medium in which nearly all food-producing plants grow

## SOILS, FOOD SECURITY & NUTRITION



In the past 50 years

advances in agriculture technology has led to increased food production, but sometimes **with negative impacts on soils and the environment**



In many countries, **intensive crop production** has **depleted the soil**, jeopardizing our ability to maintain production in these areas in the future

It can take up to 1000 years to form **1 cm** of soil

**Soil health** and its fertility have a direct influence on the **nutrient content of food crops**



## SUSTAINABLE SOIL MANAGEMENT

**diverse farming approaches** promote the sustainable management of soils

### Agroecology

is a systems approach based on a variety of technologies, practices and innovations, including local and traditional knowledge and modern science.

### Organic farming

is agricultural production without the use of synthetic chemicals or genetically modified organisms, growth regulators, and livestock feed additives.

### Conservation agriculture

follows three principles (minimal soil disturbance, permanent soil cover and crop rotations) to improve soil conditions, reduce land degradation and boost yields.

### Agroforestry

includes both traditional and modern land-use systems where trees are managed together with crops and/or animal production systems in agricultural settings.

### Zero tillage

is a technique used in conservation agriculture to maintain a permanent or semi-permanent organic soil cover that protects the soil allowing soil microorganisms and fauna to take on the task of "tilling" and soil nutrient balancing.

**Sustainable soil management could produce up to more food 58%** ↑



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