Soil is the basis of food production, yet its loss and degradation currently threaten many EU regions. Soil erosion by water affects 16% of Europe's total land area and 1 million hectares in the EU are threatened by wind erosion. Moreover, 45% of European soils show low levels of organic matter. These problems result in poor nutrient balances, reduced drainage and water retention capacities, contributing to lower crop yields. Agricultural practices are responsible for over 90% of NH3 (ammonia) emissions leading to soil acidification and erosion. Current trends estimate that the overall societal cost of inaction to adequately protect soils stands at €38 billion per year in the EU. Soil degradation, in combination with changing climate patterns and economic constraints, can lead to the abandonment of arable land. Projections suggest that 19.8% of EU arable farmland could be abandoned by 2030. Organic farming, however, can offer solutions to many of the negative effects that agriculture places on soil.

### Soil Knowledge transfer and advisory services (Articles 15-16)
Options tailored specifically towards organic farmers to increase understanding and technical expertise on advanced soil management.

### Agri-environment-climate (Article 29)
Application of advanced soil management measures to enhance and maintain soil fertility, reduce soil erosion including the introduction of hedgerows and landscape elements to respond to wind erosion.

### Enhanced soil fertility: Crop rotations which incorporate grass legume leys (e.g. clover, alfalfa, beans and peas) improve soil organic matter, and consequently build soil fertility and reduce nutrient loss.

### Erosion control: Soils with good structure improve water infiltration, reduce surface runoff where soils are lost to streams, lakes and rivers, and help to reduce soil erosion.

### Reduced soil acidification: Farmyard manure improves soil organic matter and releases nitrogen more gradually than synthetic nitrogen fertiliser. Livestock is the main source of NH3 emissions, however organic farms, have lower livestock densities and as a result can have about 40% lower NH3 emissions per hectare than conventional farms.

### CAP Rural Development measures for sustainable soil management

New rural development measures, in Article 30, offer targeted solutions for measures include:

**Knowledge transfer and advisory services** (Articles 15-16)
Options tailored specifically towards organic farmers to increase understanding and technical expertise on advanced soil management.

**Agri-environment-climate** (Article 29)
Application of advanced soil management measures to enhance and maintain soil fertility, reduce soil erosion including the introduction of hedgerows and landscape elements to respond to wind erosion.

**Agro-forestry systems and forest measures** (Articles 22-27, 35)
Agroforestry and the application of forest measures, in conjunction with organic farming, to enhance soil management and contribute to nutrient recycling.

**European Innovation Partnership** (Articles 53, 61-63)
Support for knowledge exchange and collaboration between researchers, the organic sector and relevant stakeholders to stimulate participatory agro-ecological innovation on soil.
GERMANY: POLICY SUPPORT FOR ORGANIC FARMING

In the German region of Rheinland-Pfalz, the state government recognises organic farming as a system approach that can contribute to keeping arable soils in a good state, socio-economic development and climate action. The Rheinland-Pfalz Rural Development Programme (2007-2013) “PAUL” aims to expand organic food production through increased payments by combining organic farming with agri-environment measures. Moreover, increased support for ecological infrastructure on agricultural land and the introduction of diversified crop rotations seek to improve the economic resilience of farms. “PAUL” has prioritised organic farming by increasing the organic farming premium by 20-25% and providing extra payments for animal welfare measures, advisory services, research, test fields, education as well as regional marketing and food chain management. Between 2000 and 2010 Rheinland-Pfalz tripled its total area of organically managed land (5.3% in 2010) and doubled the number of organic farms.