

# The future will either be regenerative or it won't be

The **global environmental crisis** is strongly related to the way we produce, distribute and consume resources, especially in the **field of food** and energy. **The regenerative production model is an environmental alternative** to food production and a proposal for the future, both locally and globally. Farms like **Planeses** and projects like **Polyfarming** can become **reference centres**, as real and demonstrable examples of making a change to more environmentally-friendly production systems. **The whole of society must push** so that models such as regenerative, which benefit us all, can be consolidated.

## ■ Global environmental crisis: a consequence of human activity

A “**State of Climate Emergency**” was declared in December 2020 by the European Union, 14 countries, various cities, entities, and universities. This declaration involves adopting measures to reduce carbon emissions into the atmosphere within a specified time frame, as well as increasing awareness of the existence of a **global environmental crisis**. This crisis also encompasses other emergencies that can become as critical as the climatic one, such as **soil loss and degradation** (erosion, acidification, salinisation, etc.) and the **altered state of the seas and oceans**.

The current environmental crisis is related to the **human productive system**. The concept of an “ecological footprint” is the measure of the impact of human activities on nature and represents the area necessary to produce resources and absorb the impacts of a certain activity. In 2020, to meet the needs of humanity, an amount of natural resources equivalent to 1.75 planets has been consumed, and this footprint will be 2.5 planets in 2050, according to the Worldwide Fund for Nature (WWF). To counteract this trend, it is **urgent and necessary to change and improve the way we produce, distribute and consume resources**, especially in the fields of food and energy. The WWF Living Planet Report 2018 shows that the current food system is unsustainable due to its high environmental and social cost.

**1. Environmental.** Conventional agricultural production, which occupies 34% of the Earth's land, is responsible for 69% of freshwater withdrawals and is the main cause of soil health degradation. Together with the rest of the food system, it generates almost a quarter of greenhouse gas emissions (IPCC, 2019). Continuing with the conventional production system will cause, in the coming decades, what the scientific community has defined as going beyond the **point of no return**: 450 ppm of CO<sub>2</sub> in the atmosphere. According to a report by the Northeast Organic Farming Association (2015), the current production system has displaced 50-75% of the original carbon content in the planet's soils (136 billion tons of carbon) into the atmosphere and oceans.

**2. Social.** The current food system is based on three axes: **globalisation, monoculture and control by transnational corporations**. Joel Salatin, a promoter of regenerative

agriculture, attributes the **lack of generational change in the agricultural and rural world** that exists today to these axes - the average age of farmers and ranchers in Europe and the US is 60 years old. As he points out in his book “This is not normal”, the current paradigm, highly capitalised and based on staple food monocultures, has little to offer the next generations of young people and, hence, the lack of generational change. The current system means that making a living by working the land, producing food and managing the landscape to produce aesthetic and social beauty, is no longer a vocation for young people.

## ■ The regenerative production model as an environmental alternative to produce food

Now there are different alternatives that produce healthy food, while looking after the environment. The **regenerative production model** is one of the alternatives that is expanding and, every time, it acquires more relevance. One reason is that their method of producing food has **one of the lowest environmental and social impacts**, or even net positive ones (Rhodes, 2017). While some approaches to its definition focus strictly on outcomes and processes such as improving soil health and its carbon storage capacity, others are broader and based on the regenerative capacity and health of the ecosystem (Newton et al., 2020). There are different aspects that make the regenerative model especially **valuable** currently.

- **It is a solution to carbon sequestration.** The more organic matter there is in a soil, the greater its capacity to sequester carbon. For this reason, regenerative production models, which are based on the **health of the soil** by accumulating organic matter, capture around 50-100 Tm of atmospheric CO<sub>2</sub> per half hectare every year. Regenerative practices maximise the **fixation of carbon** in the soil and minimise its loss once it has been incorporated into the soil, thus reversing the greenhouse effect. Recent data on carbon sequestration in agricultural and pasture systems around the world show that more than 100% of current annual CO<sub>2</sub> emissions could be sequestered with a shift to regenerative production practices (Rodale Institute Report, 2020).

- **It is based on real experiences and scientific advancement in the knowledge of natural processes.** Producers will be able to create better regenerative systems based on basic

ecological knowledge such as: knowing how the natural nutrition of plants and animals works and its application in an integrated way, taking advantage of the resources in the environment.

- **It is a synergistic model** that combines a wide range of different well-founded regenerative practices, such as those described in the **'Manual for the design and implementation of a regenerative agri-food model: the Polyfarming system'**, and which can be implemented in each farm to change aspects of management and help productive systems go from being a problem in the climate crisis to being part of the solution.

- **It is a circular production system**, in which there is a complementarity of products at farm level that allows cost savings, i.e., what is left over from one use is applied to another, and where the nutrient cycles are closed because it returns organic matter to the soil while avoiding the consumption of chemicals.

- It is also a **scalable model**, which means that it can adapt to any type of conditions. As it does not depend on external inputs but on the regeneration capacity of the system, it does not have space limitations and can be applied on both small and large scales.

## ■ A model for the future both globally and locally

Regenerative production is receiving significant attention from producers, researchers and consumers, as well as from politicians and the mainstream media around the world. Around this system there is an expanding **"regenerative movement"**. Both the public and private sectors are currently exploring the possibilities that this model can contribute to climate action plans. Thus, the special report on "Climate change and land" from the IPCC (2019) speaks of the regenerative system as "a sustainable management practice focused on ecological functions, which can be effective in building the resilience of agroecosystems".

On the part of the **public sector**, and with the support of the organisation "The Climate Reality Project" led by Al Gore, various US state governments are committed to its implementation to help achieve local sustainability objectives. In the **non-governmental** sphere, there are several environmental, agricultural and food organisations that work to spread knowledge and promote the **adoption of production systems that incorporate regenerative agriculture and livestock**. Thus, at international level, there are Regeneration International, Rodale Institute, Savory Institute or Kiss the ground, among others. In Spain, Regenerative Agriculture, Alvelal Association or Carne de Pasto, among others, stand out.

**At local level**, the regenerative system makes it possible to respond to the main challenges that arise when recovering the activity of rural areas. When the regenerative model is applied, as in the case of the **Polyfarming system**, it becomes a model that demonstrates a **real reversal of rural abandonment**: farms become profitable and food is produced while conserving the environment under conditions in which the current model is not feasible. **At global level**, the regenerative system is a model that allows us to **feed humanity** in a more natural way, while helping to **cool the planet** with the massive absorption of CO<sub>2</sub> in regenerated soils.

## ■ Polyfarming: a project to promote policies that include the regenerative model

**Consolidating a regenerative model**, such as the one proposed in Polyfarming, does not require much more than knowledge, experience and support to change practice. However, adopting this new approach can be difficult because the conventional large-scale production system is underpinned by government agricultural policies and large agro-industrial corporations. Consequently, getting out of this system sometimes does not just depend on the will of those who want to change it.

Farms such as Planeses and projects such as Polyfarming can become **centres of reference**, offering real and demonstrable examples that surrounding producers can visit and emulate the model to make a change to more environmentally-friendly production systems.

But not only do producers have to make a change, **it is the society that has to push so that models such as regenerative can happen**. Among the keys to driving this change are: buying regenerative products, supporting local policies of change and lobbying for governments to support international initiatives that implement regenerative agriculture. One of the most significant is the **"4 per 1000"** initiative. This project was launched at COP21 and prompted many governments to include soil carbon sequestration as part of their climate change strategies. The objective of this initiative is to achieve an annual growth rate of 0.4% of the carbon reserves of the first 30-40 cm of soil by the year 2050, thus significantly reducing the concentration of CO<sub>2</sub> in the atmosphere. But **there are many other initiatives** that are aimed at improving soil health to breathe new life into ecosystems, creating a new vocation for farmers and ranchers, producing healthier and more nutritious food, while simultaneously reversing global warming. The first step to promote this change is to know and support the regenerative model, in this way we will head towards a **more hopeful and beneficial future for humanity**.