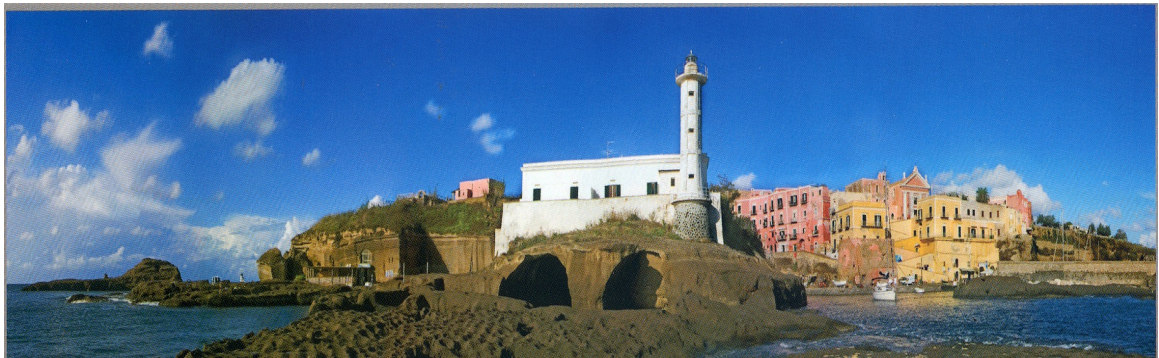




The Global Ventotene

“The United States of Europe can only be based on the republican constitutions of federated countries. And, once the horizon of the old Continent is superseded, and all the peoples who make up mankind are included in a single design, it will have to be recognized that the European Federation is the only conceivable guarantee ensuring that relationships with American and Asiatic peoples will work on the basis of peaceful co-operation, waiting for more distant future when the political unity of the entire world will become possible”. (*The Ventotene Manifesto*, 1941)



ECOLOGICAL AGRICULTURE AND THE EARTH CONSTITUTION

**The Union of Federalists
(UEF-WFM)**

Meeting No 2



**THE ALTIERO SPINELLI INSTITUTE
FOR FEDERALIST STUDIES**

The Global Ventotene

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Introduction

This seminar is dedicated to the theme of ecological agriculture and of the Constitution of the Earth. To some it may seem strange this combination. It is therefore necessary to clarify the reasons which suggested linking these two topics. The European Parliament voted on 12th July 2023 the "Nature Restoration Law" (NRL) after a very heated confrontation between European parties. It is a law that is inserted in the wake of the *European Green Deal* and the Sustainable Development Goals decided by the United Nations. "This law is good for even those who voted against it", said César Luena, the socialist rapporteur. However, the contrasts between supporters and opponents of the law are destined to continue, especially in view of the upcoming European elections on 9th June 2024, as announced by some parties and some farmers' associations. This is a first reason to deepen the contents of the NRL. There is, however, a second reason, which is not taken seriously by its opponents, namely the significance of this first step taken by the European Union towards an Earth Constitution. We live in the era that scientists have called "Anthropocene", because humanity has acquired the demonic power to destroy life on planet Earth, including the species *homo sapiens*. Awareness of this fate of the planet and its inhabitants is unfortunately still weak among European citizens and citizens of the world. An in-depth analysis of the benefits and costs of environmental policies is therefore useful, indeed necessary.

The two papers presented in this booklet were written by Professor Emeritus of the University of Vermont, Fred Magdoff, and Alberto Arroyo Schnell, Senior Manager of the IUCN (International Union for the Conservation of Nature) and will be discussed during the seminar. In addition, in the *Appendix* the reasons that led the European Commission, in June 2022, to present the proposal of the "Nature Restoration Law" are republished. Here I will limit myself to addressing two questions: the first concerns, very briefly, the role that agriculture has played in the history of mankind; the second concerns the first attempts to promote an Earth Constitution and the current situation.

Despite the remarkable advances that scientists in the natural and social sciences have made over the past two centuries, the remote origins of humanity remain largely obscure for the reason that we do not have the opportunity to draw on sufficient evidence for the centuries, indeed millennia, that we call prehistory. An accepted simplification is the identification of an age of gathering and hunting that preceded a later phase, which began about 12,000 years ago, of agriculture and livestock breeding. Some features can still be identified. "At the start of the Neolithic period, almost all humans were still foragers. Urbanization was zero". Only in the first century CE does it seem that "most of humanity lived in small agricultural settlements, the proportion living in cities was still only 1 percent" (J. Sachs: 8). It could be said that this has been almost insignificant progress, but this statement is incorrect. As a great archaeologist, Gordon Childe, argues, it was a revolution, perhaps the most important revolution in history. "This was initiated in the alluvial valleys of the Nile, the Tigris-Euphrates, and the Indus about five thousand years ago, with the transformation of some riverside villages into cities. Society persuaded or compelled the farmers to produce a surplus of foodstuffs over and above their domestic requirements, and by concentrating this surplus used it to support a new *Urban* population of specialized craftsmen, merchants, priests, officials, and clerks. Writing was ... a necessary by-product of this urban revolution which ushers in *Civilization* and initiates the historical record" (G. Childe: 30-1). With the birth and development of agriculture, therefore, civilization was born, a form of organized coexistence – not spontaneous, as in the tribe – of collective life, to regulate labor cooperation and political and cultural power. This information comes to us from the earliest records of written history.

Childe rightly speaks of civilization and not of a civilized state, because civilization is a historical process that includes dramatic contradictions, as we can see in our age where there are still deep gaps between rich and poor, between dominating states and dominated states. The ability of farmers to produce a

surplus, i.e. a quantity of products exceeding the food necessities of the family, allowed the formation of economic, social and political inequalities. “The formation of state as a highly competitive form of organization established steep hierarchies of power and coercive force that skewed access to income and wealth. Political inequality reinforced and amplified economic inequality ... many premodern societies grew to be unequal as they could possibly be” (W. Scheidel: 5). Soon the states entered into conflict with each other, the weaker were subjected to the control of the strongest, and empires were born. “By the beginning of the Common Era, states – most large empires such as Rome and Han China – comprised a tenth of the earth's land mass but between two-thirds and three-quarters of all people alive at the time. Shaky as they may be, these figures convey a sense of the competitive advantage of a particular type of state: far-flung imperial structures held together by powerful extractive elites” (W. Scheidel: 45).

We now make a long leap from prehistory and the first steps of history, documented by monuments and written documents, to the present day. The situation is well illustrated by Sachs: “By 1500, the urbanization rate stood at a mere 3.6 percent. As late as 1900, the global urbanization rate was only 16 percent. It is only in the twenty-first century that the half of humanity lives in urban settings (an estimated 55 percent as of 2020)” (Sachs: 8). The percentage of labour employed in agriculture in developed countries is now about 3% of the total. This means that the productivity of agricultural labor has dramatically increased in industrialized societies over the past two centuries. “During the 180 years from 1820 to 2000, world output per person increased roughly eleven times, leading to an equally dramatic fall in the global rate of extreme poverty – from around 90 percent in 1820 to roughly 10 per cent as 2015” (Sachs: 9). In the evolution of human history, we can therefore observe that social and political inequalities are a characteristic that accompanies the growth of overall wealth, which is initially concentrated in a few hands. However. Over the years, the long-term trend towards increasing equality prevails. Today, on a global scale, thanks to the development of China and India, the difference between rich and poor peoples is decreasing.

This extraordinary well-being conquered by a pImportant art of humanity was possible thanks to an extraordinary increase in agricultural productivity due to two factors: mechanization and the use of chemical fertilizers. The downside of this impressive progress, both quantitative and qualitative, is a considerable environmental cost. In the modern industrial world, agriculture and livestock farming are responsible for 20-25% of greenhouse gas emissions, due to methane emissions from ruminants, sheep and goats. In addition, on a global scale, agriculture and livestock farming globally use about 70% of the available water for irrigation, watering animals, cleaning stables, etc. The rest of the water used by humanity concerns domestic, urban and industrial uses (M. Dufumier, O. Le Naire: 99; 110). If we keep in mind that all glaciers, from the Himalayas, to the Andes, to Kilimanjaro, to the Alps, are melting due to excessive atmospheric heat, an increasingly severe scarcity of water in the plains below is inevitable. In addition, groundwater – from which cities, agriculture and many livestock farms draw water – are shrinking rapidly. These two processes represent a pincer that is causing a “great drought” on a planetary scale. What will be the future of the human species and many animal species?

Let us now consider the second problem: the relationship between Nature Restoration Law (NRL) and the Constitution of the Earth. The Constitution of the Earth is a project that does not fall from the sky. It is worth remembering at least two important precedents. The first concerns an idea developed during the negotiations between Reagan and Gorbachev on missile and nuclear disarmament in Europe. It was during these discussions that Gorbachev proposed a reform of the UN, also taking seriously the threat of environmental degradation as a basis for further negotiations. This hypothesis was completely abandoned by the great powers after the disintegration of the USSR. However, it has re-emerged as a proposal of international civil society thanks to the joint initiative of the Club of Rome, Maurice Strong, Secretary of UNEP, and Mikhail Gorbachev, as President of its foundation, Green Cross International. After years of discussion, the *Earth Charter*, signed by thousands of organizations, intellectuals, universities and religious organizations. In the Preamble, we read: “We must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny”.

The second initiative concerns the approval of the Report of the UN Secretary-General, Antonio Guterres, by the General Assembly in 2018. In the Report, *Gaps in International Environmental Law and*

Environment-Related Instruments: Towards a Global Pact for the Environment, It reads: "... there is no single overarching normative framework that sets out what might be characterized as the rules and principles of general application in international environmental law even though such principles may help unify the current, sectoral approach ... and help fill the gaps in the rules laid out in treaties". It therefore calls for an "international and unifying instrument ... and enforcement procedures", including "an international environmental court". In more explicit language it could be argued that the "Global Pact for the Environment" becomes a real *Constitution of the Earth*, equipped with an international court that can judge the crimes of ecocide, making its decisions enforceable. Ultimately, this Report contains the theoretical and practical basis for an in-depth discussion by politicians and jurists who wish to draft an Earth Constitution.

From these few hints on the past, it should be clear that the political objective that should be achieved with the Constitution of the Earth is the sustainable development of the Planet and that the operational translation of this objective is a *Global Green Deal* (GGD), therefore a plan¹ that identifies the individual objectives, the timing for their realization and the responsibilities (who must act and the means to act). The *Constitution of the Earth*, a pact between humanity and nature, is an integral part of the GGD because we cannot delude ourselves that individuals, companies and political communities change their predatory instincts towards natural goods; instincts they inherited from the Stone Age. Just as political constitutions represent a set of fundamental rules that governments must respect – except for extraordinary occasions that call into question the principles on which the constitution is based – so it is necessary to change the behavior of the citizens of the world who must accept some binding rules towards the natural environment in which they live.

Guido Montani

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¹ For more information on the GGD, see "How to Finance the Global Green Deal" in [The Global Ventotene, No 1](#), April 2023.

Ecological Agriculture

FRED MAGDOFF*

Agriculture has been implicated as a significant contributor to greenhouse gas emissions as well as causing a number of other environmental problems. Conventional agricultural systems commonly used today were developed under a set of economic conditions and agricultural science that did not take into account how ecosystems function. It is now clear that the practice of farming can be understood best holistically, as a type of ecosystem. This promotes a different way of evaluating farming practices.

Agriculture is commonly considered to be synonymous with farming. However, the term agricultural business (agribusiness) also refers to suppliers of goods to farmers and purchasers of products from farmers. The broader food system is even more inclusive:

- a) industries that supply farmers with their needs (machinery, seeds, fertilizers, pesticides, antibiotics, etc.);
- b) farmers who actually grow/raise the food;
- c) companies that purchase from farms and then may process or partially process the products;
- d) other processors/packagers/distributors, and
- e) stores and restaurants that sell food to the public.

The ecological and social problems with large scale farming (industrial agriculture) are well established. These include: being energy intensive and relying on fossil fuels, using a variety of synthetic pesticides, and other agrichemicals that may have detrimental ecological consequences; raising livestock under inhumane conditions; encouraging farms to grow larger (displacing smaller farms); paying low wages to farm workers who frequently work under difficult and dangerous conditions; and irrigating crops using huge quantities of fresh water—sometime extracted from groundwater at amounts greater than it is replenished.

There is substantial resource waste in the modern food system. For example, nitrates from excess nitrogen fertilizer application reaching the groundwater and polluting rivers and estuaries are a waste of fertilizer as well as the energy needed to produce it. Some fruits and vegetables might never reach the public from the field because they don't meet the cosmetic standards. Large grocery stores commonly overstock the produce section in order to indicate abundance to the public, only to routinely throw away the unsold and aging food.

Another important issue of our food system is treating food, an essential ingredient for life, as if it was any other commodity. If you have sufficient income, you can eat a high-quality nutritious diet. But if you are poor—in the U.S. this includes the working poor, earning less than a living wage—you may need to rely on charity and government social programs, resulting in malnutrition and hunger.

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Decisions made by farmers—what crops to produce and/or animals to raise as well as how produce and the scale of production—are based on the customary regional and international food system, prices of both inputs and products sold, and potential profits (sale price minus cost of production) rather than based on what is needed to satisfy everyone’s need for food using ecologically sound practices.

The striking degree of economic concentration in the input industries as well as those that purchase products from farmsⁱ has also had profound effects on costs of production and the decisions that farmers make. With fewer companies to purchase from and fewer to sell farm products to, farmers are squeezed on both sides because the few large firms exert near monopoly power on prices. The system provides incentives for farms to get larger by favoring large farms. There are physical advantages of scale as farms increase in size, but there are also financial ones. Because they purchase in larger quantities, their cost per unit is lower than that on smaller farms. Likewise, because they sell products in larger quantities, they frequently receive a higher price per unit. Larger loans commonly have lower interest rates than loans to smaller farms. As the late Richard Levins put it, “Agriculture is not about producing food but about profit. Food is a side-effect.” That applies to the entire food system. Generally, good profits are obtained by the agriculture input industries and the corporations that purchase and then sell (or process and then sell) the output from farms. Farmers, on the other hand are frequently squeezed financially. In the United States and Europe their political influence, despite low numbers, leads to government subsidies.

The food system, including how farming is carried out, was not designed in a rational way—it is the culmination of many individual and corporate decisions and practices, as logical as each may seem, selected to try to maximize profits. It is the result of allowing the “magic” of markets to work things out. However, there are numerous detrimental ecological and social effects of the system, usually referred to as “externalities” by social scientists. An example of how ecologically irrational the system can get has been in the news recently— The growing of alfalfa—requiring incredible amounts of groundwater—in the Arizona desert environment in order to ship to Saudi Arabia to feed milk cows.

Farming disturbs ecosystems

Agriculture necessitates the disturbance of natural systems. Keep in mind that there are essentially no terrestrial ecosystems that have not been damaged in one way or another by human activity. In other words, there are no completely undisturbed forests, grasslands, glaciers, etc. In addition to those locations that have been directly changed by agriculture, urbanization, industry, road networks, etc., all been influenced by a warming and destabilized climate, increased CO₂ in the atmosphere, and deposition of particulate matter and a variety of chemicals of human origin. According to many scientists, we are in a new geological epoch in which human activity is leaving clear geologic/chemical signals over the entire earth: the Anthropocene.

While some types of agriculture disturb local environments more than others, all involve drastic changes from “natural” systems. The rotational grazing of animals on grasslands comprised of original vegetation is, perhaps, one exception. Different farming systems developed in various parts of the world, but those that spread widely follow a set of practices. Soils are tilled (using plows and/or harrows) in order to prepare a seedbed and suppress weeds and then planted to a particular crop over the entire field. In the process, natural vegetation is destroyed and suppressed from re-

establishing, now mostly with the reliance on herbicides. (The use of no-till equipment planting is increasingly common, but it is still used in the context of drastic ecosystem disturbance and reliance on herbicides.) Frequently the same crop is growing repeatedly in the same fields or with a very simple alternation of two crops.

After tillage, standard crop varieties promoted by seed companies are planted, mostly in large fields with single crops, poor (or no) year to year crop rotation. As problems arise, each is dealt with as if it was an individual issue unrelated to other problems. If soil nitrogen is deficient, just add nitrogen fertilizer. If a disease, weed, or insect pest problem develops, use the appropriate pesticide. If a soil is too compact, use an implement to break up the layer. This is a *reactive* approach in which farmers react to problems that develop as they carry out their routine practices.

As large companies expanded and desired uniform production practices and uniform animals, animal agriculture—especially poultry and hogs—transitioned into an industrial system. Large quantities of animals are raised in confinement, using animals, feeds, and pharmaceuticals provided by corporations, using mandated practices. The point is to raise animals to market weight in the shortest period of time possible and to have a rapid turnover to the next batch. Under such arrangements, the “farmer” becomes little more than a worker for a corporation. Additionally, feeds may be transported in from other regions (requiring greater use of fertilizers on crop farms), while excess manure remains on “farms” where the animals are raised, causing pollution of surface and groundwaters.

Principles of Ecological Agriculture

Individual ecological techniques are used in a variety of systems: organic farming; regenerative agriculture; agroecology; and permaculture. These different systems vary from each other in a number of ways, but all strive to be more ecologically sound than conventional farming. The general principles and approach of ecological agriculture are universally applicable. On the other hand, the individual practices need to be selected and adapted to the specific soil, climate, and crops as well as equipment availability. But farmers using one or two ecological practices doesn't mean they are implementing ecological agriculture.

Although farming disturbs ecosystems in numerous ways, the objective of ecological agriculture is to do so by using practices that create *healthy agricultural ecosystems*. These are different than “undisturbed” or “natural” systems, but we can take advantage of what has been learned from their strengths. Generally, “natural” terrestrial ecosystems contain significant biological diversity (above ground and in the soil), they tend to efficiently store and use water, nutrients and energy, populations of various organisms regulate each other (there are few pest “outbreaks”), soils under “natural” forests and grasslands are resistant to being degraded by disturbances and are resilient, bouncing back when damage is caused by some natural disturbance. These characteristics that maintain “natural” ecosystems can be developed in agroecosystems. In other words, the overall goal of ecological agriculture is to maintain high levels of production while creating conditions that resemble the strengths found in natural systems.

Instead of *reacting* to what appear to be distinct separate “problems” that occur in conventional agriculture, ecological agricultural techniques encompass a *preventive* approach, striving to lessen or eliminate problems situations from developing. While following practices that promote healthy

agroecosystems does not eliminate all constraints and problems from developing, it goes a long way toward doing so. There is an analogy with preventive medicine, in which people follow practices of nutrition, exercise, getting vaccinated, etc. (and not smoking) that will keep them healthier. Doing so does not eliminate the possibility of health issues from occurring, but it reduces their occurrence and/or severity.

Farm fields and farms are complex ecosystems. In recent decades a considerable amount of information has become available about soil properties and the intricacies of agricultural plants, their interactions with other organisms, and their defense mechanisms which have some analogous aspects to the human immune system. This includes enhanced understanding about the importance of the plant microbiome, the organisms living on leaves, stems, roots, and inside plants. Although the physical and chemical properties of soil affect plant growth, a diverse and active root microbiome is especially important for healthy plants. Aboveground and soil biological diversity helps keep low populations of potential pest organisms by competing for resources and direct antagonism. Plants defend themselves from insects by producing substances that slow down insect-feeding, provide sugary liquid at wound sites that beneficial insects can feed on, and emit chemical signals into the atmosphere that attracts the specific beneficial insect that helps to control the particular insect caterpillar feeding on the plant. The small wasp (in most cases) commonly lay its eggs inside the caterpillar and as the eggs grow and develop, the caterpillar dies. Plants, sometimes stimulated by soil organisms, produce chemicals that provide defense against diseases. Plants can also signal neighbors about adverse conditions. Healthier plants are better able to defend themselves than plants under stress.

Ecological Agricultural Practices

Soil is the great underappreciated natural resource. It is responsible for terrestrial life, including microorganisms, animals, and plant. Each of us is literally made from soil. The calcium in your bones and teeth came from the soil, taken up by plants and then ingested directly or indirectly (from an animal product). Same for the nitrogen that is an essential component of proteins and so on. Of course, the carbon inside us comes from the atmosphere, taken up by plant leaves as carbon dioxide (CO₂) during photosynthesis and converted into numerous compounds. But uptake by roots is the source of all the other nutrients in plants and animal products. The way in which a soil is managed has a profound effect on the health of the soil, of plants growing on it, and the broader environment. Plants grow better on healthy soils. But there are also other benefits such as less runoff water from rainfall, less off-farm pollution with toxic chemicals and nutrients.

Soils consist of inorganic minerals in grains of mineral particles (sand and smaller sizes), organic material (living organisms and residue), and pore spaces that are filled with either air or water. The solids are arranged in a three-dimensional structure in aggregates of various sizes. Aggregation promotes good storage of water as well as aeration needed by plant roots. Soil and crop management practices influence the amount of organic material in soil and the soil's structure.

General Approach

We will be discussing ecological farming, only one part of a complex food system. A reference for much of the discussion below can be found in *Building Soils for Better Crops*, written together with Harold van Es of Cornell University. The book is freely available electronically and can be used

online or downloaded as a pdf.ⁱⁱ All practices used in farming should help create a healthy soils and plants. They should fulfill one or more of the following: a) growing healthy plants with good plant defense capabilities; c) suppressing pests, and c) promoting populations of beneficial organisms. When growing annual crops, this mostly happens before the crops start to grow. But attention is needed as well during the growing season.

When soils are degraded and unhealthy, more and more attention is needed to deal with what appear as individual problems. But there is an underlying problem, an unhealthy agricultural ecosystem. Primary attention is needed to create healthy soils. Compared to conventionally managed soils, healthy soils store more water during rainfall events, store more nutrients for plants to use, are more conducive physically and biologically to plant root growth and proliferation, and maintain active populations of diverse organisms. Good management of soil organic matter plays a central role in creating healthy soils.

Significance of soil organic matter (carbon) to soil health and global warming.

Organic matter is critical to a soil functioning as a place for healthy root growth and development and in helping water infiltration and storage in soils for plants to use. Soils contain a variety of organic materials: living plant roots, soil dwelling organisms of a variety of sizes; dead organisms and crop residue; organic compounds adsorbed on mineral surfaces, and residue within the soil aggregates (clumps). Since all of life, including soil organisms and their residues, are based on carbon-containing molecules (such as sugars, starches, fats, and proteins), soil carbon is frequently used as synonym for organic matter.² Soil organic matter is usually about 58 percent carbon. Since the beginning of agriculture, there have been huge losses of soil organic matter from most of the world's agricultural soils, one of primary drivers of soil degradation. This results from soil disturbance, enhanced by plowing and harrowing, increasing the rate that soil organisms utilize (decompose) organic residue, releasing CO₂ that reaches the atmosphere in the process. More organic matter has been decomposed than added as stable crop residue and manures. Despite the losses due to agricultural practices, the earth's soils are still a large repository of carbon, containing three times as much as is in the atmosphere as CO₂.

When organic matter decreases, soil biodiversity decreases, storage of nutrients decreases, soil structure deteriorates and it becomes more susceptible to erosion. As a farmer follows practices that build-up and maintain a good supply of soil organic matter, **essentially all soil properties**—biological, chemical, and physical— are improved. Thus, good organic matter management is central to creating healthy soils and healthy soils are essential for growing healthy plants. The storage of soil organic matter (carbon, removed from the atmosphere by plants) in soil has been proposed as a means to help reduce global warming. There are a variety of schemes and programs to encourage farmers to increase soil organic matter. While there are many very good reasons to follow practices that increase organic matter in soil, this is not a “magic bullet” to solve our greatest environmental problem.¹ Although other remedies can help some, there is no alternative to rapidly reducing fossil fuel use and leaks from fuel extraction (methane especially) that are the main drivers of warming and climate destabilization.

² Some soils also contain mineral forms of carbon such as lime (CaCO₃).

Management Practices

Practices are undertaken to conserve and enhance habitat above ground and in the soil to develop and maintain a large extent of biodiversity. Some practices affect biodiversity both aboveground and in the soil, some are oriented toward doing one or the other:

- a) planting well-adapted varieties, using appropriate spacing;
- b) using complex rotations (including crops that leave significant residue and legumes that make nitrogen available for succeeding crops);
- c) reducing soil disturbance (tillage intensity) through use of equipment that can plant seeds with minimal soil disturbance, use of rotations with perennials such as a grass/legume sod-forming crop that remains for a number of years before rotating back to annual crops);
- d) keeping the soil covered with living vegetation or crop residue as much as possible through the use of reduced tillage and cover crops between commercial crops, helping maintain and increase soil organic matter, increase water infiltration into soil and reduce erosion, enhance presence of beneficial soil organisms, and increase nutrient availability to following crops;
- e) adding organic residue from off the field to enhance levels of soil organic matter (manures, composts);
- f) creating habitat within and/or surrounding fields (zones with flowering plants, for example) for beneficial organisms to thrive;
- g) Reducing weeds by using rotations with both annual and perennial crops—helping to control both annual and perennial weeds—and cover crops when commercial crops are not growing;
- h) Integrating animal and crop agriculture (growing feed crops on farms that raise animals), providing on-farm use for the manure while reducing transport, providing an on-farm use for forage grasses and legumes that help maintain a complex rotation and improve soil structure and nitrogen availability;
- i) Reducing soil compaction by staying off fields when they are wet; and
- j) Using other practices that reduce erosion such as grassed waterways or terraces to move water slowly away from a field.

Many of these practices have multiple benefits. For example, cover crops growing when soils would otherwise be bare enhances water infiltration, reduces erosion, helps suppress weeds, stimulates soil biodiversity, and increase nutrient availability to crops (if a legume is grown, more nitrogen). Many farmers in the U.S. are using cover crops because of their multiple benefits or reducing tillage. As good as these two practices—cover cropping and reduced tillage— are individually and in combination, using them is not sufficient to reaching the goal of an ecological agriculture.

Creative combinations of these practices, tailored to specific farms and fields, work together to create an ecological agriculture. But it is not always easy to do so. It takes time to try new management practices and new crops (and animals) and it takes some years to develop a healthy agricultural ecosystem. When selling small amounts of food directly to the public through farm stands, farmers markets, and Community Supported Agriculture farms, much of this approach can be carried out. However, there are limitations in the other segments of the food system—to where most of the farm products flow— that make doing so difficult for large-scale farms that are currently selling a very limited number of crops into large markets. The infrastructure also may be lacking for handling different crops than the two or three grown in the region or to process animals

in small batches. The re-integration of animals onto crop farms and raising them in humane ways goes against the desire of large food corporations for the lowest costs of production possible.

The good news is that we know how to grow food in environmentally sound ways. But the food system needs to be reoriented to encourage farmers to do so and to provide them with a decent living and to supply everyone with a sufficient quantity and quality of healthy food.

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¹ James M. MacDonald, Xiao Dong, and Keith O. Fuglie, "Concentration and Competition in U.S. Agribusiness," Economic Research Service (US Dept. of Agriculture), June 2023, accessed Sept. 7, 2023 from <https://www.ers.usda.gov/publications/pub-details/?pubid=106794>.

¹ Fred Magdoff and Harold van Es, *Building Soils for Better Crops: Ecological Management for Healthy Soils (4th ed.)*, Sustainable Agriculture Research and Education (SARE) Program, US Dept. of Agriculture, <https://www.sare.org/resources/building-soils-for-better-crops/>.

Why to Support the “Nature Restoration Law”

ALBERTO ARROYO SCHNELL*

Sustainable agriculture explained!

IUCN Europe is launching the report “Approaches to sustainable agriculture”, a referential document for the key approaches, concepts, and practices being considered by practitioners, researchers, and policy makers today. This report comes at a crucial time, to help with the implementation of the recently launched EU Green Deal, in particular the Farm to Fork and Biodiversity Strategies.

Humans are experiencing two major crises: large-scale *loss of nature and climate change*. 2020 also brought about a third, new kind of global crisis with COVID-19. This new situation has caused delays for many environmental initiatives, and the momentum for nature we witnessed during the build-up to 2020 has also been impacted due to priorities shifting to tackling the COVID-19 pandemic.

Yet it is now, more than ever before, that *society must work firmly towards agreed the necessary environmental goals*. In this context, sustainable *agriculture* is essential as agriculture it is a key human activity that depends intrinsically on natural processes, including soil fertility, water recycling, and pollination, and both nature and agriculture are increasingly *suffering the negative impacts of climate change*.

The new IUCN report “[Approaches to sustainable agriculture](#)” aims to shed some light on the abundance of understandings and terminology in the field - the many different approaches, practices, concepts - which can distract from the focus of building a common path forward for sustainable agriculture in the future. Whether it is agro-ecology, regenerative agriculture, organic farming, nature-inclusive agriculture, ecological intensification or others, all decision makers and stakeholders in the farming and environmental communities need clarity as a very first step. *Different approaches to sustainable agriculture exist, and they have a number of important commonalities and challenges, but also that their diversity is a strength in itself.*

Considering that the production of healthy food at affordable prices with environmental protection at the core is crucial for our survival as a species, addressing these challenges is the most important step we need to take for our common future, right now. “To ensure the road to genuine sustainable agriculture is a just transition, it is important to provide enough support for the necessary additional investments needed while keeping agricultural activity also profitable”, said Luc Bas, Director of the IUCN European Office. “The new Common Agriculture Policy should become our main tool to achieve sustainable agriculture in the EU”.

Background

The International Union for Conservation of Nature (IUCN) is a membership Union composed of both government and civil society organisations. It harnesses the experience, resources

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and reach of its more than [1,400 Member organisations](#) and the input of more than [15,000 experts](#). This diversity and vast expertise makes IUCN the global authority on the status of the natural world and the measures needed to safeguard it.

The IUCN European Regional Office connects and engages in policy dialogues with European institutions, governments, civil society, NGOs, science and the business communities to improve conservation policy and action. The European Regional Office is engaged in a range of policy areas and projects (for instance, the well-known [European Red List of Threatened Species](#)) and focuses on issues such as [biodiversity](#), [agriculture](#), [climate change](#), [nature-based solutions](#) and the [circular economy](#). The Brussels Office also advocates for Members at the EU level in case of urgent policy developments at national or local level.

The [IUCN Programme 2017-2020](#) was approved by Member organizations at [IUCN's World Conservation Congress](#) in September 2016 in Hawaii, USA. It was developed as a result of a nine-month consultation process across IUCN [Members](#) and [Commissions](#). The [IUCN European Work Programme 2017-2020](#) follows the same structure and subresults as the abovementioned IUCN Global Programme 2017-2020.

Building on IUCN's convening role in bringing together a diversity of actors on matter relating to nature conservation, IUCN has been increasingly involved in discussions with a variety of stakeholders on the subject of sustainable agriculture in the global, EU, and local contexts. For example, together with the European Commission's Directorate-General on Agriculture and Rural Development, IUCN has been organising a series of [Roundtables on the Green Architecture of the Common Agricultural Policy](#), bringing together farmer organisations and environmental NGOs to discuss potential ways forward.

Highlighted messages from the new report

- The approaches examined in this report would appear to share more similarities with each other than with conventional agricultural approaches.
- The approaches all share the common goal of striving for sustainability, which includes environmental aspects but also socio-economic considerations
- Each approach valid in a given set of circumstances: this report shows that different approaches exist, that they have a number of important commonalities, but also that their diversity is a strength in itself.
- Most of the approaches share some common challenges, related with low profitability and/or low productivity, more costly in terms of knowledge and/or labour, challenges related with their uptake and scalability, and very importantly the lack of common metrics for their environmental performance.
- Many of the approaches share similar environmentally- friendly practices, including: crop rotation, cover and companion cropping, mixed and intercropping, the reduction of synthetic pesticide and mineral fertiliser use, no or minimal tillage, lower livestock densities, managed and free range grazing, as well as: crop diversification, mixing farming and forestry, mixed crop and animal farming, nutrient balancing, recovery and reuse, and the inclusion of landscape elements such as hedgerows and flower strips. Without being exhaustive, we may nevertheless conclude that all the practices listed can be considered "sustainable agricultural practices".

30 Jun, 2022

IUCN statement on the EU Nature Restoration Law

UCN (International Union for Conservation of Nature) is deeply concerned about recent developments in relation to the EU Nature Restoration Law. IUCN firmly supports the adoption of an ambitious EU regulation on nature restoration for the benefit of people, nature, and the EU economy.

The Nature Restoration Law is a once in a generation opportunity to take a bold step towards a better future for European citizens and the EU internal market. Financing the restoration of nature is fundamental for our economy as every euro invested returns €8 to €38 in benefits. Moreover, nature restoration is crucial for our resilience as we experience the proliferation of droughts, wildfires and floods in Europe. Failing to adopt the Nature Restoration Law will have negative long-term consequences on the economy and on people, while weakening the EU's proven global leadership in environmental policymaking.

Conversely, an EU regulation for the restoration of nature would be a linchpin for the implementation of international commitments and sets a benchmark for any similar regulations adopted elsewhere. Healthy ecosystems are key to achieving the climate and biodiversity goals that the EU committed to under the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, and its own flagship European Green Deal. The EU has stated that it aims to be a "global leader in multilateral environmental policymaking and thus what happens at the EU level necessarily impacts other policy contexts. This new EU legislation would be a vital step towards achieving this goal. In this context, it is important to recall the European Parliament resolution from January 2020, calling for "[...] a clear global conservation objective for 2030 of at least 30 % of natural areas and the objective of restoring at least 30 % of degraded ecosystems that can be restored should be enshrined in the post-2020 framework, and that the EU should set similar objectives domestically". The EU's commitments resonate even more strongly following the adoption of the Kunming-Montreal Global Biodiversity Framework at CBD COP15, where the EU clearly demonstrated the strength of its global leadership.

EU Member States have already committed to move forward with this proposal. Scientists, businesses, farmers, hunters, the renewable energy sector, cities, NGOs have come forward in support of the proposed regulation. IUCN joined these voices in sending three letters to IUCN statement on the EU Nature Restoration Law, the key EU institutions (European Commission, European Parliament and Presidency of the Council of the EU). With this statement, IUCN reiterates its firm endorsement of the regulation. Protecting nature while ensuring sustainable development and people's wellbeing is at the core of IUCN's mission. Over the past 75 years, IUCN has been one of nature's strongest advocates, bringing together stakeholders from all sectors. At this critical juncture, the EU regulation on nature restoration is an essential law that must not be delayed.

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IUCN Statement, 4th July, 2023

Appendix

EUROPEAN COMMISSION

Reasons for and objectives of the proposal*

Despite EU and international efforts, biodiversity loss and the degradation of ecosystems continue at an alarming rate, harming people, the economy and the climate. This is widely documented, notably in reports by the Intergovernmental Panel on Climate Change (IPCC) [1](#) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [2](#), the Aichi Targets progress report [3](#), and the Economics of Biodiversity: The Dasgupta Review [4](#). Healthy ecosystems provide food and food security, clean water, carbon sinks and protection against natural disasters caused by climate change. They are essential for our long-term survival, well-being, prosperity and security, as they are the basis for Europe's resilience.

The restoration of ecosystems, coupled with efforts to reduce wildlife trade and consumption, will also help prevent and build up resilience to possible future communicable diseases with zoonotic potential, therefore decreasing the risks of outbreaks and pandemics, and contribute to support EU and global efforts to apply the One Health approach, which recognises the intrinsic connection between human health, animal health and healthy resilient nature.

The 2022 IPCC report in particular highlighted that the world and Europe have a brief, rapidly closing window to secure a liveable future, as the rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt. It calls for the implementation of urgent actions for the restoration of degraded ecosystems, to mitigate the impacts of climate change, notably by restoring degraded wetlands and rivers, forest and agricultural ecosystems.

Recent geo-political developments have further underlined the need to safeguard food security and the resilience of food systems. Commodity price increases and concerns about global food security call for the need to address vulnerabilities, such as dependencies on imports, as well as the need to accelerate the transition towards food systems that are sustainable, and resilient [5](#). Evidence shows that restoring agro-ecosystems has positive impacts on food productivity in the long-term, and the restoration of nature acts as an insurance policy to ensure the EU's long-term sustainability and resilience.

In the final report of the Conference on the Future of Europe, published on 9 May 2022 [6](#), in their proposals on agriculture, food production, biodiversity and ecosystems, pollution, citizens asked in particular to 'create, restore, better manage, and extend protected areas – for the conservation of biodiversity'; to 'protect insects, in particular indigenous and pollinating insects, including through protection against invasive species and better enforcement of existing regulation'; as well as to 'set binding national targets across the EU Member States for reforestation of native trees and local flora, taking into account different national situations and specificities'. When it comes to their proposals on information, awareness, dialogue and life-style, citizens asked in particular to 'include food production and biodiversity protection as part of education, including the advantage of unprocessed over processed food, and promoting school gardens, subsidizing urban gardening

* European Commission, Regulation of the European Parliament and of the Council on Nature Restoration, COM ("0") 304 Final.

projects and vertical farming’ and to ‘consider making biodiversity a mandatory subject in schools and raise awareness for biodiversity through the use of media campaigns and incentivised ‘competitions’ across the EU’ [7](#). More decisive action is therefore needed to achieve the EU climate and biodiversity objectives for 2030 and for 2050, and to ensure the resilience of food systems.

More decisive action is therefore needed to achieve the EU climate and biodiversity objectives for 2030 and for 2050, and to ensure the resilience of food systems. The European Green Deal [8](#) commits to protecting and restoring nature. It states that the Commission will identify measures, including legal ones, to help Member States improve and restore damaged and carbon-rich ecosystems to good ecological status. The Green Deal also emphasised that all EU actions and policies should pull together to help the EU achieve a successful and just transition towards a sustainable future.

The EU Biodiversity Strategy for 2030 [9](#) set out targets to further protect nature in the EU. However, it underlined that protection alone would not be enough: to reverse biodiversity loss, greater efforts are needed to bring nature back to good health across the EU, in protected areas and beyond. Therefore, the Commission committed to propose legally binding targets to restore degraded EU ecosystems, in particular those with the most potential to remove and store carbon and to prevent and reduce the impact of natural disasters.

The EU has so far failed to halt the loss of biodiversity. A recent study [10](#) finalised in the framework of the evaluation of the EU biodiversity strategy up to 2020 [11](#) shows that the EU could not halt the loss of biodiversity between 2011 and 2020. It did not meet the voluntary target to restore at least 15% of degraded ecosystems by 2020 (in line with Aichi Target 15 of the Convention on Biological Diversity [12](#)). The outlook for biodiversity and ecosystems is bleak and shows that the current approach is not working.

The European Parliament and the Council have also insisted on stepping up efforts to restore ecosystems, as expressed in the Council conclusions of December 2019 [13](#) and a European Parliament resolution in January 2020 [14](#). The Parliament resolution called on the Commission to ‘move away from voluntary commitments and to propose an ambitious and inclusive Strategy that sets legally (and, consequently, enforceable) binding targets for the EU and its Member States’. In its resolution of 9 June 2021 [15](#), the European Parliament strongly welcomed the Commission’s commitment to draw up a legislative proposal on nature restoration, including on binding restoration targets.

Restoring ecosystems is also high on the international agenda. The 2050 vision under the Convention on Biological Diversity [16](#), the United Nations Convention to Combat Desertification (UNCCD) [17](#), the 2030 Agenda for Sustainable Development (the Sustainable Development Goals) [18](#) and the UN Decade for Restoration [19](#) all call for protecting and restoring ecosystems. Restoration will also be necessary for the EU to meet its commitments under the United Nations Framework Convention on Climate Change, and the Paris Agreement [20](#). Ecosystems such as peatlands, wetlands, oceans and forests can – if in good condition – remove and store large amounts of carbon dioxide and also contribute significantly to reducing the impact of climate change.

The proposal for a regulation on nature restoration sets out an overarching objective: to contribute to the continuous, long-term and sustained recovery of biodiverse and resilient nature across the EU’s land and sea areas by restoring ecosystems and to contribute to achieving Union climate mitigation and climate adaptation objectives and meet its international commitments.

To achieve this objective, the proposal sets multiple binding restoration targets and obligations across a broad range of ecosystems. These measures should cover at least 20% of the EU's land and sea areas by 2030 and all ecosystems in need of restoration by 2050. The proposal is further supported by an implementation framework to translate the objectives into action, by preparing and carrying out national restoration plans.

The proposal aims to enable the EU to act with urgency and to start restoring ecosystems based on binding targets and obligations that can already be measured and monitored. This will ensure that Member States can start restoration work without delay. More ecosystems can be included at later stages by developing joint methods to set further targets by amending the regulation.

The proposal thus paves the way for a broad range of ecosystems in the EU to be restored and maintained by 2050, with measurable results by 2030 and 2040. It enables the EU to contribute to halting biodiversity loss and bringing nature back to good health. It also enables the EU to demonstrate global leadership on protecting nature, in particular at the Conference of the Parties on the Convention on Biological Diversity to be held later in 2022.