FOOD & FARMING SYSTEMS

Jargon Dictionary

KCOA
Knowledge Centre for Organic Agriculture in Africa

KHSA
Knowledge Hub for Organic Agriculture in Southern Africa

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

In cooperation with:
SUSTAINABILITY INSTITUTE

ABOUT THE JARGON DICTIONARY

The Kusamala Institute of Agriculture and Ecology (KIAE) is an in-country partner of the Knowledge Hub for Organic Agriculture (KHSA). KHSA is part of the Knowledge Centre for Organic Agriculture in Africa (KCOA), a collaborative country-led partnership funded by the German Federal Ministry of Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and non-governmental organisations across Africa. The KCOA aims to scale up the adoption of agroecological and organic farming practices through five knowledge hubs in Africa. The other hubs are implemented by GIZ with in-country partners in North, West, East and Central Africa. The South African-based Sustainability Institute supports project implementation in southern Africa. Activities are focused in Zambia, led by Participatory Ecological Land Use Management (PELUM) Zambia and the Kasisi Agricultural Training Centre; in Namibia led by the Namibia Nature Foundation in collaboration with the Namibian Organic Association; and in South Africa led by the South African Organic Sector Organisation and Participatory Guarantee System South Africa; and in Malawi by Soils, Food and Healthy Communities and KIAE.

In the KHSA, KIAE has engaged with national stakeholders and worked with media to identify and fill the gaps related to knowledge about organic and agroecological agriculture. A key issue highlighted by media was the extent of jargon used in food and farming presentations, particularly related to climate change, which is not translatable into local languages or easy to explain. This version of the Jargon Dictionary contains just the English definition of the term and a user-friendly explanation.

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Adaptation [climate change]	"Adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change."[1]	Climate change adaption means changing the way that we do things to survive in a different climate. For example, in situations where there is less rainfall or it doesn't come at the right time, when the temperatures are higher for longer periods of time, or when there are more droughts and floods. For farmers, it means changing/ adapting the methods used to farm, what crops are grown and eaten and what animals are raised and how they are fed to support ongoing food production.
Afforestation	Afforestation is the "establishment of forest through planting and/ or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest."[2]	Afforestation is the planting of tree and associated plant species on land where there are none – either because land was used for different purposes or the trees were cut down. Afforestation aims to cover the soil as quickly as possible to stop erosion (see erosion). The root systems of trees also hold the soil firm. It can then support more animal and insect life in the soil and above ground.
Agrobio-diversity [agricultural biodiversity]	Agricultural biodiversity…or the genetic resources for food and agriculture, includes harvested crop and animal varieties as well as their "non domesticated (wild) resources within field, forest, rangeland including tree products, wild animals hunted for food and in aquatic ecosystems (e.g. wild fish)" and "non-harvested species…, including soil micro-biota, pollinators and other insects…[and] those in the wider environment that support food production ecosystems. [3]	Agrobiodiversity is all the natural plant, animal, insect and microorganisms (see microorganisms) that surround or are on the farm. It includes the plants we grow and the animals we raise as well as their wild relatives. It also includes plants that we do not harvest and other animals, insects and microorganisms that live around us. Having high levels of agrobiodiversity is important to provide food for people, animals and wildlife, and to keep natural systems healthy.
Agroecology	"Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system."[4]	Agroecology is an approach to farming that considers ecological, social and economic factors. It uses farming practices that do not harm the environment, that save water, that build soil health and that produce a diversity of foods. The 10 elements of agroecology are: diversity, co-creation and sharing of knowledge, synergies, efficiency, recycling, resilience, human and social values, culture and food traditions, responsible governance, and circular and solidarity economy.

TERM	FORMAL DEFINITION	USER-FRIENDLY EXPLANATION
Agroforestry	"Agroforestry systems include both traditional and modern land-use systems where trees are managed together with crops and/or animal production systems in agricultural settings. They are dynamic, ecologically based, natural resource management systems that diversify and sustain production in order to increase social, economic and environmental benefits for land users at all scales."[5]	Agroforestry is when we plant trees and shrubs in our farming systems, between crops. This practice helps to make soils healthier, keep more water in the soil, provide safe spaces for birds and other wildlife and protect land against erosion. We can also use tree crops (like fruits and nuts) for food or to sell and harvest the wood for energy or building.
Biodiversity	"Biodiversity is a term used to describe the enormous variety of life on Earth. It can be used more specifically to refer to all of the species in one region or ecosystem. Biodiversity refers to every living thing, including plants, bacteria, animals, and humans."[6]	Biodiversity is all living things. It includes us, plants, trees, animals, insects, microoganisms (see microrganisms) and the places in which we live (ecosystems).
Biofertilizer	"Organisms which help in increasing the nutrient availability to plants as a result of their biological activities. They help in bringing about soil enrichment. They can fix atmospheric nitrogen either freely or in the form of various symbiotic associations with plants."[7]	Biofertilisers are fertilisers made from natural formulations without any chemical input. They contain microorganisms (living things in soil and plants that can't be seen with your eyes) that help to make the soil fertile by 'fixing' nitrogen in the soil. Plants access the nitrogen and use it to grow strong.
Biopesticide	"Bio pesticides, are products that contain biological control agents (BCAs) or are derived from organisms or products found in nature, used to manage diseases and pests. Most BCAs are natural inhabitants of the soil and have few or no negative effects on off-target organisms or the environment."[8]	Biopesticides are made from elements found in nature that can protect our plants against pests. They are not poisonous to people, soils or water bodies. They can be found in plants, animals, minerals and microorganisms and are often bitter, smelly or sour. Examples of simple biopesticides are onion, garlic, neem oil and fish bean (ombwe/katupe).
Biological pest control	"Biological [pest] control is a component of an integrated pest management strategy. It is defined as the reduction of pest populations by natural enemies and typically involves an active human role."[9]	Biological pest control means stopping pests from damaging our crops by using their natural 'enemies' to reduce the pest population. There are no dangerous chemicals involved. We can use predators like lady bugs to control aphids or ducks to control snail or slug populations. Plants can also act as biocontrol agents. Some plants attract pests to them or repel pests from them.
Biomass	"Biomass is biological material derived from living or recently living organisms. In the context of producing bioenergy, it typically refers to agricultural by products and residues, woody waste products, and crops and microbes grown specifically for fuel."[10]	Biomass is any dead plant, tree and animal matter that can be burnt to cook food or provide warmth and to make compost. This material will break down over time to add to the soil. This 'dead' plants, trees and animal matter still has 'stored' energy that can be released through burning, composting or breaking down naturally into the soil.
Buffer zones	Buffer zones are "areas peripheral to a specific protected area, where restrictions on resource use and special development measures are undertaken in order to enhance the conservation value of the protected area."[11]	Buffer zones are areas that we leave alone to allow plants, wildlife and insects to be without disturbance. Buffer zones are important because they are spaces where 'life' can thrive without chemicals or human activities, like farming or mining.
Carbon credits	Carbon credits refer to a mechanism that companies can use to "compensate for their environmental footprint" by "paying someone else to either reduce their emissions or capture their carbon." There are three ways that carbon credits are used. A company can earn carbon credits by reducing their carbon emissions. It can earn credits by removing emissions by undertaking actions that capture carbon - like planting a forest. Or it can avoid emissions by stopping activities that enable carbon emissions. These credits can be traded so a company can pay another company for its credits to allow it to continue emissions without being fined in countries where carbon emission targets are set.[12]	Carbon credits are used to try and stop corporate companies from emitting carbon dioxide into the atmosphere above the levels they are allowed to do so. The release of too much of these gases is driving climate change. The credit system means that companies can earn carbon credits by releasing less or they can buy a credit from another company to allow them to release above the set level. They can also set up projects like planting forests that help to store carbon dioxide below the ground.
Climate change	"Climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."[13]	Climate change refers to change over time (more than 20 years) in rainfall patterns (it rains less or more than in previous years or it rains at different times); change in average temperatures (it is hotter or colder or it becomes hotter or colder sooner or later than in previous years); changes in how many and how severe extreme events are (droughts, floods, hailstorms, cyclones, etc.). The way that we produce, use and consume goods and services is causing faster climate change than natural patterns (see greenhouse gas emissions).
Climate-smart agriculture	"Climate smart agriculture is an integrated approach to managing landscapes, cropland, livestock, forests, and fisheries that address the interlinked challenges of food security and climate change". [14]	Climate-smart agriculture is a way of farming that tries to improve our ability to grow food in a time of climate change. It aims to save water, disturb the soil as little as possible (to keep carbon in the soil instead of releasing it as a greenhouse gas), and farm crops and livestock that can adapt to changing climate conditions.

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Compost	"Composting is the natural process of recycling organic matter, such as leaves and food scraps, into a valuable fertilizer that can enrich soil and plants. Anything that grows decomposes eventually; composting simply speeds up the process by providing an ideal environment for bacteria, fungi, and other decomposing organisms (such as worms, sowbugs, and nematodes) to do their work. The resulting decomposed matter, which often ends up looking like fertile garden soil, is called compost."[15]	Composting is when we take dead organic matter (left-over crop leaves, broken or dead tree branches, vegetable scraps) and animal manure and place it together in a certain way so that it breaks down into rich, crumbly earth that we can use as fertiliser for our crops. The crumbly earth that we get from composting is called compost and it is rich in the nutrients that our soils and plants need. (See green manure for composting without animal manure).
Commodity crops	"Agricultural Commodities are crops and livestock that are raised and harvested to provide food and sometimes fuel. Commodities are traded globally and classified into six categories." These are generally oil seeds, cereal grains, meat, dairy, miscellaneous like timber, wool and rubber and soft commodities like coffee and cocoa.[16]	Commodity crops are those crops that are traded without any processing. They are normally grown for the international market and are traded between a lot of companies before they reach the consumer. In Africa, commodity crops are typically coffee, cotton, soya, maize and cacao, among others.
Conservation agriculture	Conservation Agriculture is a "sustainable agriculture production system comprising a set of farming practices adapted to the requirements of crops and local conditions of each region, whose farming and soil management techniques protect the soil from erosion and degradation, improve its quality and biodiversity, and contribute to the preservation of the natural resources, water and air, while optimizing yields."[17]	Conservation agriculture focuses on keeping soils healthy by covering it at all times with plants and mulch and disturbing it as little as possible. It does this to keep carbon in the ground instead of releasing it into atmosphere as a greenhouse gas, which contributes to climate change (see carbon sequestration). These practices also help to stop erosion.
Conventional agriculture systems	Conventional farming – also sometimes called industrial farming – is associated with production methods that use synthetic external inputs (chemical fertilisers, herbicides and pesticides), hybrid and genetically modified seeds, monoculture production, animal feedlots, heavy irrigation, intensive tillage and other extractive and resource damaging practices.	Conventional agriculture typically uses chemicals to produce food. It focuses on increasing yield through irrigation and mechanisation (like tractors). Typically, the seeds are hybrid or genetically modified (see genetically modified organisms) and bought from companies and crops are planted as monocultures (see monocultural production).
Cover crops	"A cover crop is defined as a close-growing crop that provides soil protection, seeding protection, and soil improvement between periods of normal crop production."[18]	Cover crops are plants grown specifically to cover and protect the soil apart from being used as food crops. They help to keep water in the ground and reduce weeds. Examples are cowpeas and sweet potatoes, among many others.
Deforestation	"Deforestation is 'the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold... deforestation includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas.'"[19]	Deforestation is when people cut down most trees in a specific area. They might do this to get firewood, grow food or make pastures; governments might do this to expand a town or build a dam, and companies might do this to make space for large-scale farming of crops of livestock or for mining and other development.
Diversity	Diversity refers to the extent of differences between units of similar form and between units of different form. In biology, diversity refers to the "variation of life forms present in different ecosystems", in genetics, diversity refers "to both the vast number of different species" and to the diversity within a species.[20]	Diversity means the number of differences and the type of differences between things. For example, diversity of plant species means there are different types of plant species and even in one species there are differences.
Ecology	"Ecology is the study of the relationships between living organisms, including humans, and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them."[21]	Ecology is the study of how life on Earth interacts, including how we relate to our environment and to all life in it (plants, animals, insects, etc.).
Ecological pest management	"Ecological Pest Management (EPM) is an approach to increasing the strengths of natural systems to reinforce the natural processes of pest regulation and improve agricultural production… this practice can be "defined as the use of multiple tactics in a compatible manner to maintain pest populations at levels below those causing economic injury while providing protection against hazards to humans, animals, plants and the environment."[22]	Ecological pest management means using natural elements to keep pests under control. There are many ways to do this. Keeping soils healthy, planting plants and flowers that repel certain pests or that attract their natural predators for example.
Ecosystem	"A biological system composed of all the organisms found in a particular physical environment, interacting with it and each other."[23]	The ecosystem is all the living things around us (plants, trees, animals, insects, organisms, etc. and the relationships they have with each other and with the soil, water and air. An ecosystem contains many living things. It can be small like our gardens or very big like the ocean.
Ecosystem-based adaptation	"Ecosystem-based Adaptation (EbA), also referred to as Nature-based Solutions for Adaptation, involves a wide range of ecosystem management activities, such as the sustainable management of forests, grasslands, and wetlands, that increase the resilience and reduce the vulnerability of people and the environment to climate change."[24]	Ecosystem-based adaptation refers to activities that help ecosystems and the communities that rely on them adapt to changing climatic conditions (see climate change). For example, keeping mangroves and wetlands clean and healthy means that they can absorb flood water and storm surges; planting forests can stabilise soil and allow groundwater to fill up, which slows down erosion or desertification.

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Environment	Environment is "the complex of physical, chemical, and biotic factors that act upon an organism or an ecological community and ultimately determine its form and survival."[25]	Environment is the broader landscape around us. It is made up of living things (biotic) like people, trees, plants, fungi and microorganisms (see microorganisms) as well as chemical elements (temperature, levels of oxygen, salinity, nitrogen, pH levels, etc. and other chemicals.) and physical elements (natural vegetation, soil, minerals, cities, roads, etc.).
Environmental sustainability	"Environmental sustainability is defined as responsible interaction with the environment to avoid depletion or degradation of natural resources and allow for long-term environmental quality. The practice of environmental sustainability helps to ensure that the needs of today's population are met without jeopardizing the ability of future generations to meet their needs."[26]	Environmental sustainability means that we take care not to use too many resources from the natural environment at the same time. The environment needs time to rest and produce more resources and to continue to provide its services: producing soils and cleaning air and water. If we are sustainable, then there will still be resources available for our children and their children and so on.
Erosion	"Erosion is the movement of rock fragments (sediments), soil, or dissolved matter (which can be nutrients or pollutants) by wind, water, ice, or gravity. Weathering facilitates erosion, while the eventual deposition of these materials is called sedimentation."[27]	Erosion is the often slow breakdown of soils, rocks and other elements from water falling on them or wind blowing on them or gravity pulling them down (this is called weathering). The soil, rocks or other elements break down and move to other locations.
Desertification	"Desertification means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities."[28]	Desertification is when land becomes weak and cannot support plant life. It can be caused by changes in climate or by people's actions – clearing land for housing or agriculture or mining, for example. It happens in areas that are already quite dry.
Food security	"Food security is defined when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."[29]	Food security means that individuals, families and communities always have access to food that is good for them and that we can afford. It also means that we have access to enough food so that we can live full lives.
Genetically modified organisms	"Genetically modified organisms (GMOs) can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination… It allows selected individual genes to be transferred from one organism into another, also between nonrelated species. Foods produced from or using GMOs are often referred to as GM [genetically modified] foods."[30]	Genetic modification is when scientists change the genetic structure (DNA) of various organisms, like plants, animals or very small (micro) organisms in a science laboratory. They do this to change the way that the organism acts. For example, to make it resistant to a pest or disease. Genetic modification can mean that scientists take genes (DNA) from an animal and put them into a plant's gene structure, or that they take genes from the same plant family and put them into the plant they want to grow, or they change the genetic structure in the plant itself. The end result is called a genetically modified organism.

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Global warming	"Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere. This term is not interchangeable with the term 'climate change'." [31]	Global warming refers to the rise in average temperatures around the world. Large-scale industrial production (of goods, food and fuels) releases gases (see greenhouse gas emissions) that damage the atmosphere around Earth. This causes more harmful light rays to enter the atmosphere and to raise average temperatures.
Greenhouse gases	"Greenhouse gases means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation."[32]	Greenhouse gases are those that can take in and generate radiation, which we can't see but can feel as heat. Some greenhouse gases are produced naturally, but many are produced from industrial activity. Greenhouse gases are driving changes in our climate (see climate change).
Green manure	Green manure is "plant material grown not for produce, but specifically for the purpose of improving soil's nutritional value or texture". They are crops usually planted after "produce crops are harvested, then churned into the soil just before the next planting season to add valuable organic material to the soil."[33]	Green manure is crops grown to improve the soil and not for eating or fodder or any other purpose. Examples of green manure crops are peas and beans, winter rye and clover. Farmers plant these crops after harvesting their food crops. Once they are grown, they cut them and turn them into the soil, to make the soil healthy for the next food crop.
Herbicides	"Herbicides are chemicals used to manipulate or control undesirable vegetation ... The potential effects of herbicides are strongly influenced by their toxic mode of action and their method of application ... Herbicides can act by inhibiting cell division, photosynthesis or amino acid production or by mimicking natural plant growth hormones, causing deformities ... Application methods include spraying onto foliage, applying to soils and applying directly to aquatic systems."[34]	Herbicides are man-made chemicals sprayed onto land or into water to keep unwanted plants. They either kill the part of the plant that they are sprayed onto (contact herbicides) or some enter through the part of the plant they are sprayed onto and kill the whole plant right down to the roots (systemic herbicides). They can harm people and the environment.
Integrated pest management (IPM)	IPM is "an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism."[35]	IPM uses different methods together to control pests and the damage they cause. The first methods used are natural ones, such as selecting plant varieties that have natural resistance to pests; planting crops, trees, shrubs and other plants that attract the natural enemies of the pest; and using pesticides made from natural ingredients. If none of these work, then pesticides are used, but only those that target just the pest.
Land degradation	Land degradation is "a negative trend in land condition, caused by direct or indirect human-induced processes including anthropogenic climate change, expressed as long-term reduction or loss of at least one of the following: biological productivity, ecological integrity or value to humans."[36]	Land is degraded when it loses its ability to support life (people, animals, livestock, pollinators, insects, etc.) or when land can no longer play its part in the ecosystem (cycling water and nutrients, for example) or when it can no longer support people in what they want to do – like growing food. The degradation is caused by people's activities, including those that cause climate change, over the long term.

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Microorganism	"A microbe, or microorganism, is a microscopic organism that comprises either a single cell (unicellular); cell clusters; or multicellular, relatively complex organisms."[37]	Microorganisms are tiny living things (like bacteria or viruses) that you can't see with your eyes, only with a microscope. They can be simple microbes with only one cell, or they can cluster together to make a more complex microbe.
Minimum tillage	"Minimum tillage, is a broadly defined practice that includes no-till, strip till, ridge till, and mulch till systems. These techniques maintain plant residues on at least 30% of the soil surface after tillage activities. … all tillage techniques have a clear conservation goal, such as reducing the volume of soil disturbed or preserving surface residues in order to maintain soil, environmental, and economic viability."[38]	Minimum tillage means that farmers disturb the soil as little as possible when they are preparing the land for crops. This helps soil play its role in holding water, stopping erosion and supporting life (of plants, microorganisms, insects and animals). A general rule is that at least 30% of soil is not tilled.
Mitigation (climate change)	"Mitigation ... involves reducing the flow of heat-trapping greenhouse gases into the atmosphere, either by reducing sources of these gases (for example, the burning of fossil fuels for electricity, heat, or transport) or enhancing the 'sinks' that accumulate and store these gases (such as the oceans, forests, and soil)."[39]	Mitigation is the attempt to slow down and stop the volume of greenhouse gases being generated by people's activities. For example, the burning of coal for energy or of oil for transport generates greenhouse gases, as does the manufacturing of man-made fertilisers. There are parts of the Earth that store greenhouse gases naturally – the ocean, soils and forests. When these are polluted or degraded or destroyed, we lose the ability to store greenhouse gases. Mitigation therefore is about stopping the sources of greenhouse gases and it is about protecting the places that store them – these are called sinks.
Monoculture	"Monoculture farming is a form of agriculture that is based on growing only one type of crop at one time on a specific field... [it applies] to farm animals as well" where only one species of animal is produced."[40]	A monoculture is when the farm produces mainly only one crop or one type of livestock. It is the end result of monocropping, when farmers plant only one crop over a large area year after year or only focus on one animal like cows or chickens.
Mulching	"Mulch is any material, other than soil, placed or left at the soil surface for soil and water management. ... In agriculture and gardening, mulching is the practice of leaving crop residues or other materials on the soil surface for soil and water conservation and keeping favorable and stable environments for plant growth."[41]	Mulching is the practice of putting plant material and things like straw, leaves, grass cutting and other organic materials onto the soil. Covering the soil with this 'mulch' helps it stay cool, store water and support life in the soil (microorganisms, insects, etc.). This all helps soil to support healthy and strong plant growth.
Nationally determined contributions	Nationally Determined Contributions are the commitment that every country makes to reduce greenhouse gas emissions and to support its peoples in adapting to climate change (see adaptation and mitigation). Each country sets targets for mitigation and adaptation and reports through their Nationally Determined Contributions to the United Nations Framework Convention on Climate Change.[42]	In efforts to mitigate greenhouse gas emissions (see mitigation) and to help people and communities adapt to a changing climate, all countries in the world have made certain commitments. These commitments about what they will do in their own countries to mitigate climate change and to support adaptation are known as Nationally Determined Contributions. These plans are submitted to the United Nations Framework Convention on Climate Change so that everyone can see what progress has been made against country targets.
Natural capital	"The stock of natural resources and environmental assets within an area, country, or the world, which includes water, soil, air, plants, animals, and minerals. Also known as environmental capital."[43]	Natural capital is the sum of all natural resources in the world. It is the sum of all of the biodiversity (see biodiversity), geology, soils, air and water on Earth.
Natural farming	"Natural farming is a system where the laws of nature are applied to agricultural practices. This method works along with the natural biodiversity of each farmed area, encouraging the complexity of living organisms, both plants, and animals that shape each particular ecosystem to thrive along with food plants."[44]	Natural farming is a way of farming that lets nature do most of the work. In this approach, farmers know and work with the natural cycles on the farm, the existing plant and animal life, water patterns, etc. to produce food and livestock with minimal interference. Nothing is added to the soil to increase its fertility. The farmer uses the existing landscape and its biodiversity to create an ecosystem that supports crop and animal production. Common practices are mixed and intercropping, use of mulch and integrating animals, plants and trees into the farming system.
Nature-based solutions	"Nature-based Solutions are actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature."[45]	The term 'nature-based solutions' is being used to describe activities that make urban and rural spaces more resilient to climate change (see resilience). These 'solutions' including restoring natural features (like wetlands and mangrove swamps) to help them protect against flooding, or on building towns or cities in such a way that there is space for wildlife to move freely (ecological corridors), or reforesting areas to slow down erosion, as examples.
Nutrition security	Nutrition security is a state in which all people "'have consistent and equitable access to healthy, safe, affordable foods essential to optimal health and well-being. 'Nutrition security looks at the nutritional value, affordability, accessibility, and safety of foods that promote well-being. Nutrition security also incorporates a focus on equity in all of these areas."[46]	Nutrition security means that people are getting enough nutrients from their diets. Nutrients include carbohydrates, fats, minerals, proteins, vitamins and water. It is different to food security, which means that they are getting enough to eat. People are nutrition secure when they can access and afford healthy food that provides what they need to live a full life.

TERM	FORMAL DEFINITION	USER-FRIENDLY EXPLANATION
Organic agriculture	"Organic Agriculture is a production system that relies on natural processes, availability and relationships between plants and animals in area that are adapted to suit local conditions, rather than the use of inputs with adverse effects… Organic Agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved."[47]	Organic agriculture is an approach to farming that focused on fairness, health, ecology and care – of Earth and of people. Organic farming practices copy natural processes (multiple crops growing together, for example) and use local materials to make compost and natural fertilisers and pesticides.
Organic certification	Organic certification is a label provided by a certifying body that guarantees that production has taken place in accordance with set organic standards. This certification can be external by a third-party certification body or through mechanisms like Participatory Guarantee Systems. The objective is to gain access to organic markets.	Organic certification means that the food (plant or animal) being sold was produced according to organic standards. These standards are set by countries and by economic regions. Farmers will choose different certification options depending on which market they want to sell into. For export markets, third party certification is needed and for more local markets, Participatory Guarantee System certification is an option.
Organic matter	"Organic matter pertains to any of the carbon-based compounds that abound in nature. Living things are described as organic since they are composed of organic compounds. Examples of organic compounds are carbohydrates, lipids, proteins and nucleic acids. Since they are comprised of carbon-based compounds they are broken down into smaller, simpler compounds through decomposition when they die."[48]	Organic matter is all living or once-living things. Examples are plants and dead plants, animals and dead animals, leaves, plant roots, mulch, etc. When these things break down, they release nutrients back into the environment. Soil needs lots of organic matter for it to stay fertile and healthy.
Participatory Guarantee System	Participatory Guarantee System " is a process of certifying organic products by ensuring that their production takes place in accordance with specific organic standards." It is "a second-party organic assurance mechanism that serves as an alternative and complementary quality assurance system to third-party certification."[49]	Participatory Guarantee Systems are where farmers, their customers (retail and individual) and other interested parties come together to agree to give an assurance that farmers in the system have produced according to organic standards. This is called second-party assurance and it can be used for local and sometimes regional markets.
Permaculture	Permaculture is a design concept for sustainable landscapes in a manner that doesn't produce any waste – and encourages the use of closed loop systems seen in nature.	Permaculture is the way in which the farm or garden is designed. It follows natural patterns to develop a farming landscape that saves water, builds healthy soils, produces a diversity of healthy plants. The design of the farm or garden also helps to reduce waste by recycling elements, like water. This design process can be applied to organic or agroecological farming.
Pesticides	"Any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth."[50]	Pesticides are chemical or natural ingredients used on their own or mixed with other ingredients that are sprayed or applied to plants to manage pests. Different types of pesticides work differently. Some kill the pests and some just make the plant smell or taste horrible to pests.
Reforestation	"Reforestation is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land."[51]	Reforestation is when people plant seeds and/or plants and trees on land that used to be forested but isn't anymore. It can also mean when people encourage the regrowth of plants and trees that used to be there.
Regenerative agriculture	"Regenerative Agriculture is any practice, process or management approach that enhances the functioning of the systems on which it relies. This includes core ecosystem cycles such as energy, water and minerals by enhancing biological function. It also includes improving economic and social systems. In other words, any practice that makes the land, community and bottom-line healthier year after year is regenerative. It is based on outcomes, distinguishing it from most sustainable/conservation agriculture efforts."[52]	Regenerative agriculture is an approach to farming that tries to build the health of the soils and the ecosystem and of the people that live there. It uses practices such as minimal tilling, recycling of water and energy, and other non-harmful farming methods.
Resilience	"The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions."[53]	Resilience is the ability of people, communities and countries to withstand external shocks - these can be price increases of oil or food or extreme climate events like floods and droughts, for example. Withstanding means that they can experience the shock but are still able to continue with their normal activities or they can quickly recover to continue on with normal activities.
Smallholder	"Smallholders are small-scale farmers, pastoralists, forest keepers, fishers who manage areas varying from less than one hectare to 10 hectares. Smallholders are characterized by family-focused motives such as favouring the stability of the farm household system, using mainly family labour for production and using part of the produce for family consumption."[5]	Smallholders are those practising a land- or water-based livelihood on small pieces of land. The Food and Agriculture Organization notes the size of land as between 1 and 10 hectares. In Africa, many people farm on less than a hectare, but are still considered smallholder farmers. This type of farming typically does not use outside labour and crops and livestock farmed are mostly for household consumption.
Soil degradation	"Soil degradation is the loss of the intrinsic physical, chemical, and/or biological qualities of soil either by natural or anthropic processes, which result in the diminution or annihilation of important ecosystem functions. The main causes of soil degradation and, consequently, the main threats to its ecological functions are erosion, organic matter decline, loss of biodiversity, compaction, sealing, point-source and diffused contamination, pollution, and salinization."[55]	Soil degradation is the loss in soil's ability to sustain life (microorganisms, insects, animals, wildlife, trees and plants) (see soil fertility). It has reduced ability to hold water and cycle nutrients. People cause soil degradation by using harmful farming practices (over-tilling, too many chemicals, monocultures, etc.), by clearing land for farming, housing and other purposes.

TERM	FORMAL DEFINITION	USER-FRIENDLY EXPLANATION
Soil fertility	"Soil fertility is the ability of a soil to sustain plant growth by providing essential plant nutrients and favorable chemical, physical, and biological characteristics as a habitat for plant growth."[56]	Fertile soil supports the growth of healthy, strong plants. For soil to be fertile, it needs nutrients (like calcium, nitrogen and potassium) and a 'safe' environment in which it is not over-exposed to wind and water and it is not overly disturbed by tilling and human activity.
Sustainable development	"Sustainable development is broadly defined as: 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'."[57]	Sustainable development is a condition in which people use natural resources (fossil fuels like coal and oil, water, land, forests, etc.) responsibly. This means not overusing them, which doesn't give them time to rest and recover. If we overuse resources to the point where they cannot recover or continue to keep providing air, water, food, etc. then our children and their children and so on will not have enough resources to survive.
Vermiculture	"The term vermiculture mainly refers to the scientific process of cultivating worms or artificial rearing of worms to decompose organic food wastes into a nutrient-rich material. The output of vermiculture is called vermicompost and is formed by the process in which earthworms consume the farmyard manure and roughages in addition to the wastes from farms and thereby producing it. The produced vermicompost is rich in terms of nutrients and other plant growth-promoting substances, which are capable of supplying necessary mineral nutrients to help and sustain plants' growth."[58]	Vermiculture is the practice of using earthworms to break down food waste and crop residues (kitchen scraps, material left over from the harvest or that has fallen off crops) into a very rich compost that is put back into the soil to support strong plant growth (see compost).
Zero tillage	"Zero tillage refers to the arable land on which no tillage is applied between harvest and sowing. Zero tillage is a minimum tillage practice in which the crop is sown directly into soil not tilled since the harvest of the previous crop. Weed control is achieved by the use of herbicides and/or appropriate mulching and stubble is retained for erosion control."[59]	Zero tillage means that the land is not disturbed by mechanical means (tractors, tillers, hoes or picks). The seed is sown directly into the soil. Weeds can be a problem in this method and are controlled by use of herbicides to kill them (see herbicides) or by mulching to suppress their growth (see mulching).

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