**Glossary**

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| **Agro-Biodiversity**  | The variety and variability of animals, plants and micro-organisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry and fisheries. It com- prises the diversity of genetic resources (varieties, breeds) and species used for food, fodder, fibre, fuel and pharmaceuticals. It also includes the diversity of non-harvested species that support production (soil micro-organisms, predators, pollinators), and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest and aquatic) as well as the diversity of the agro-ecosystems. (FAO, 1999a)  |
| **Alien species**  | A species, subspecies or lower taxon, introduced outside its natural past or present distributi- on; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce.(Secretariat of the Convention on Biological Diversity, 2002)  |
| **Arthropod**  | Any invertebrate of the phylum Arthropoda, with the main characteristics of a segmented body, jointed limbs, and usually a chitinous shell that undergoes moltings, including insects, spiders and otherarachnids, crustaceans, and myriapods  |
| **Autochthonous**  | Originating from the respective place of observation, down-to-earth (for example, rocks in geology, animal and plant species in nature conservation, or woody individuals in forestry); indigenous (Glossary – Federal Office for Nature Conservation (BfN) Germany)  |
| **Beneficial insects**  | Some insects have beneficial roles for nature: 1= plants reproduction (pollinators), 2) waste waste biodegration (decomposers), and 3) natural resistance of agrecosystems/natural con- trol of harmful species (natural enemies, predators, parasitoids). They also have beneficial roles for humans as edible insect species in nutrition, insect valuable products (e.g. silk and honey) and biomimicry among others (FAO, 2013)  |
| **Biodiversity**  | 'Biological diversity' means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosys- tems. (Convention on Biological Diversity, 1992)  |
| **Biodiversity Action Plan**  | A plan to conserve or enhance biodiversity. (Earthwatch, 2000)  |
| **Biological pest control**  | Method of controlling pests, diseases and weeds in agriculture that relies on natural preda- tion, parasitism or other natural mechanisms that restrain the development of pathogenic organisms (FAO, 2019)  |
| **Biotope corridors /habitat corridors**  | It is an area of habitat connecting wildlife populations separated by human activities or struc- tures (such as roads, development or logging, production sides on farms etc.). This allows an exchange of individuals between populations, which may help prevent the negative effects on inbreeding and reduced genetic diversity that often occur within isolated populations. (NSW Government, Office of Environment & Heritage)  |

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| **Buffer zones**  | The region adjacent to the border of a protected area; a transition zone between areas managed for diffe- rent objectives. (Convention on Biological Diversity, Glossary)  |
| **Crop rotation**  | The practice of alternating the species or families of annual and/or biannual crops grown on a specific field in a planned pattern or sequence so as to break weed, pest and disease cycles and to maintain or improve soil fertility and organic matte content. (FAO, 2009)  |
| **Ecosystem**  | A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. (Convention on Biological Diversity, 1992)  |
| **Ecosystem services**  | Benefits people obtain from ecosystems. These include provisioning services such as food and water; re- gulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non-material benefits. (Millennium Ecosystem Assessment)  |
| **“Farm-gate” nutrient balance**  | The farm-gate nutrient balance compares the applied amounts of nutrients (Nitrogen (N), phosphate (P2O5) and potash (K2)) on a farm with the amounts of nutrients, which are exported from the farm within the framework of one year. (Glossary; Ministry of rural development and consumer protection Ba- den-Württemberg)  |
| **Fauna**  | All of the animals found in a given area. (Convention on Biological Diversity – Glossary)  |
| **Flora**  | All of the plants found in a given area. (Convention on Biological Diversity – Glossary)  |
| **Genetically Modified Organism**  | Any organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination. (European Union, 2001)  |
| **Green manure**  | Catch crops or similar plants, left on the field to wither and, which are incorporated into the soil to rise to SOM content.  |
| **Habitat**  | It is a place or type of site where an organism or population naturally occurs. (Convention on Biological Diversity, 1992)  |
| **Herbicide**  | Pesticides that kill weeds and other plants that grow where they are not wanted. (US Environmental Pro- tection Agency)  |

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| **High Conservation Value Areas (HCV)**  | High Conservation Value Areas (HCVAs) are natural habitats, which are of outstanding signifi- cance or critical importance due to their high biological, ecological, social or cultural values. These areas need to be appropriately managed in order to maintain or enhance those identified values. (https://www.hcvnetwork.org/)  |
| **Hotspots of biodiversity**  | An area on earth with an unusual concentration of species, many of which are endemic to the area, and which is under serious threat by people. (Convention on Biological Diversity – Glossary)  |
| **Humus balance**  | The comparison of the input and exit of humus/organic matter on a field, including the natural depletion of humus in the soil. Taking into account the organic fertilizer applied, the left overs of crops and the removal of crop material by the farmer in a calculation scheme.  |
| **Indicator species**  | A species whose status provides information on the overall condition of the ecosystem and of other species in that ecosystem. They reflect the quality and changes in environmental conditions as well as aspects of community composition. (United Nations Environment Programme, 1996)  |
| **Integrated pest management**  | ‘means careful consideration of all available plant protection methods and subsequent inte- gration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. Integrated pest management emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms. (EU Directive Plant Protection Framework (2009/128/EC))  |
| **Intercropping**  | Intercropping is the cultivation of two or more crops simultaneously on the same field. It also means the growing of two or more crops on the same field with the planting of the second crop after the first one has completed its development. (PAN-Germany)  |
| **Invasive, alien species**  | Invasive alien species are non-native species which cause to the environment and potentially cause species extinction, modify ecosystem processes and act as disease vectors. The problems caused by invasive, alien species have potentially large economic consequences. They are also one of the main drivers of biodiversity loss.  |
| **Main crops**  | The crop, which is grown throughout the longest period of the current year. Crops grown bet- ween two main crops are called catch crops.  |
| **Mitigation hierarchy**  | The mitigation hierarchy is defined as: **» Avoidance:** measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components of biodiversity. **» Minimisation:** measures taken to reduce the duration, intensity and / or extent of impacts (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided, as far as is practically feasible. **» Rehabilitation/restoration:** measures taken to rehabilitate degraded ecosystems or restore cleared ecosystems following exposure to impacts that cannot be completely avoided and/ or minimised.  |

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|  | **» Offset:** measures taken to compensate for any residual significant, adverse impacts that cannot be avoided, minimised and / or rehabilitated or restored, in order to achieve no net loss or a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, protecting areas where there is imminent or projected loss of biodiversity. A key principle is that offsets cannot provide a justification for proceeding with projects for which the residual impacts on biodiversity are unacceptable. This means that the avoi- dance options have to be considered seriously in harmful cases. (Glossary European Commisison and Business and Biodiversity Offsets Programme (BBOP))  |
| **Native species**  | Flora and fauna species that occur naturally in a given area or region. Also referred to as indigenous species. (Convention on Biological Diversity – Glossary)  |
| **No-net loss of biodiversity; Net gain of biodiversity**  | See definition mitigation hierarchy.  |
| **Nutrient balance**  | The difference between the nutrient inputs entering a farming system (mainly livestock manure and fertilisers) and the nutrient outputs leaving the system (the uptake of nutri- ents for crop and pasture production). (Glossary; OECD)  |
| **Pathogens**  | An agent causing disease or illness to ist host, such as an organism or infectious particel capable of producing a disease in another organism. Pathogens are mostly microscopic, such as bacteria, viruses, protozoa and fungi. (biology online)  |
| **Permanent grassland**  | Permanent grassland is land used to grow grasses or other herbaceous forage, either na- turally (self-seeded including 'rough grazing') or through cultivation (sown), and which is more than five years old. (Glossary; Scottish Government, Rural Payments and Services)  |
| **Pesticide**  | A pesticide is something that prevents, destroys, or controls a harmful organism (pest) or disease, or protects plants or plant products during production, storage and transport. The term includes, amongst others: herbicides, fungicides, insecticides, growth regulators and biocides. (European commission)  |
| **Primary (natural) ecosystems**  | Ecosystems that can or would be found in a given area in the absence of significant human management impacts. This includes all naturally occurring flowing and still water bodies (streams, rivers, pools, ponds...), all naturally occurring wetlands, and forests (rainforest, lowland, montane, broadleaf forest, needle leaf forest....) or other native terrestrial eco- systems like woodlands, scrublands ....  |
| **Protected areas**  | Protected areas are a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. A protected area can be under either public or private ownership. (IUCN, 2008)  |

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| **Protected/endangered species**  | Species of plants, animals, and fungi designated as threatened and endangered by national laws or classification systems or listed as endangered or critically endangered by the IUCN Red List of Threatened SpeciesTM and/or listed in Appendices I, II, or III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).  |
| **Protected/endangered species**  | Seedfast variety = a variety is seedfast when plants grow from their seeds that have the same characteristics and shape as their parent plants. This means that the variety can be reproduced naturally as in the past. It is pollinated by wind or insects. Hybrids are phenotypically uniform and often more fertile (e.g. as in corn) but not seed- fast. That means, seeds produced from hybrid varieties does not produce a stable variety, but plants with very different properties that no grower can really use. (From Seedfast).  |
| **Semi-natural habitats**  | Are habitats which are influenced by human activities but haven ́t lost their structure and are very similar to natural habitats e.g. reforested areas. Semi-natural habitats are also artificially created habitats that have been largely left to develop naturally and host typical native plant and animal species, excluding permanent grassland and agroforestry. Examples could be but are not limited to: **»** hedges, shrubs, tree line, alley, **»** single trees (living and dead), buffer stripes, fallow land, flower stripes, slope, balk, reforested areas, water elements (ravine, stream, ditch), **»**unmanaged edges or stripes not used for grazing  |
| **Soil biodiversity**  | Millions of microbial and animal species live in and make up soils, from bacteria and fungi to mites, beetles and earthworms. Soil biodiversity is the total community from genes to species, and varies depending on the environment. The immense diversity in soil allows for a great variety of ecosystem services that benefit the species that inhabit it, the species (including humans) that use it, and its surrounding environment. (Global Soil Biodiversity)  |
| **Species**  | A group of organisms capable of interbreeding freely with each other but not with mem- bers of other species. (Convention on Biological Diversity – Glossary)  |
| **Toxicity Load Indicator**  | A qualitative indicator for pesticide active ingredients which translates numerical and non-numerical values (toxicological endpoints, classifications) into a scoring system and which is applied to pesticide use data to measure and compare pesticide use (current use and trends). (Toxic Load Indicator. A new tool for analyzing and evaluating pesticide use)  |

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| **Treatment Index**  | Quantitative measure describing the intensity of chemical crop protection. It represents the number of pesticide application on an operational area, in a crop or in a farm, taking into account reduced application rates and partial area treatments. In tank mix applications, each pesticide is counted separately. (National Plant Protection Plan – Germany)  |
| **Water-Stewardship**  | The use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions.  |
| **Wetlands**  | The Convention on Wetlands define wetlands as: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters". (Convention on Wetlands, Ramsar)  |
| **Wild species**  | Organisms (animal, plants or fungi) captive or living in the wild that have not been subject to bree- ding to alter them from their native state. (Convention on Biological Diversity – Glossary)  |

**RECOMMENDATIONS**