References	

10.25.1 Abundance of functional groups

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Abundance of Functional Groups	**Biodiversity**
Description and justification	This indicator assesses the plant soil genetic diversity of microbial and invertebrate (metagenomic map), soil functional diversity of microbial and invertebrate (abundance of functional groups), plant functional diversity (diversity of functional groups) and animal functional diversity (diversity of functional groups).
Definition	A functional group is merely a set of species, or collection of organisms, that share alike characteristics within a community. The abundance of a functional group is the probability that a random organism of the community belongs to the i-th functional group.
Strengths and weaknesses	+ Relative abundances of functional groups, in addition to the number of species, contribute to defining the degree of diversity of an ecosystem. - Samples collection could be time and money consuming; it could be difficult to obtain than information on functional group memberships.
Measurement procedure and tool	Given a sample of organism belonging to a community (it is supposed that the sample was correctly collected, without giving priority to a particular zone of the ecosystem), a group of *N* organisms classified in *S* functional groups. The abundance of a functional group is given by: $$p_i = \frac{N_i}{N}$$ where: p_i is the abundance of the i-th functional group, i.e., the probability that a random organism of the community belongs to the i-th functional group N_i is the number of organisms belonging to the i-th functional group

	N is the number of organisms that were classified in *S* functional groups The maximum diversity occurs in that state where all the elements are equal; i.e., when $p_a = p_b = \cdots = p_i = \cdots = p_s = {}^{1}/_{S}$, where p_i is the relative abundance of the i-th functional group and *S* is the number of functional groups.
Scale of measurement	-
Data source	
Required data	Samples of soil collected in the study area
Data input type	Semi-quantitative
Data collection frequency	Annually
Level of expertise required	High
Synergies with other indicators	The Indicator can be further processed with conventional species diversity indices (Functional Group Richness, Shannon Index, Simpson Diversity Index, etc.)
Connection with SDGs	15
Opportunities for participatory data collection	
Additional information	
References	Borics G.,Tothmérész B., Lukacs B. A., Varbiro G. (2012), *Functional groups of phytoplankton shaping diversity of shallow lake ecosystems*, Hydrobiologia doi: 10.1007/s10750-012-1129-6 Schleuter, D., Daufresne, M., Massol, F., and Argillier, C. (2010), *A User's guide to functional diversity indices*, Ecological Monographs, vol. 80, n. 3, 469-484. doi: 10.1890/08-2225.1