	n_i is the number of individuals in functional group *i* and *N* is the total number of individuals in the community.
Scale of measurement	Dimensionless
Data source	
Required data	Number of individuals (plants) of different functional groups in the study area
Data input type	Quantitative
Data collection frequency	Annually
Level of expertise required	High
Synergies with other indicators	Related to indicators concerning functional groups in the study area (diversity of animals functional groups, abundance of functional groups).
Connection with SDGs	15
Opportunities for participatory data collection	It is possible to involve local stakeholders in plant surveys, although proper volunteer training may be necessary to allow them to recognise plant species.
Additional information	
References	Barnes, B. V., Zak, D. R., Denton, S., Spurr, S. (1998), Forest ecology. John Wiley and Sons, INC. Magurran, A.E. (2004), Measuring Biological Diversity. Blackwell

10.25.3 Diversity of functional groups (animals)

Project Name: PHUSICOS (Grant Agreement no. 776681)

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Diversity of Functional Groups (Animals)	**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	The Indicator is a quantitative measure that reflects how many different functional groups of animals there are in a community (study area) and is expressed by the Shannon Diversity Index, which quantifies the uncertainty in predicting the functional group identity of an individual that is taken at random from the study area.
Strengths and weaknesses	The fact that the index incorporates both components of biodiversity can be seen as both a strength and a weakness. It is a strength because it provides a simple, synthetic summary, but it is a weakness because it makes it difficult to compare communities that differ greatly in richness. Data used for biodiversity richness indicators can be used for the estimation of Shannon Index.
Measurement procedure and tool	The Diversity of Functional Groups (Plants) is calculated, like the Shannon diversity index *H'*, as: $$H' = \sum_i p_i \cdot ln(p_i)$$ where p_i is the proportion of individuals found in functional groups *i* For a well-sampled community, the rate can be estimated as: $$p_i = \frac{n_i}{N}$$ where n_i is the number of individuals in functional group *i* and *N* is the total number of individuals in the community.
Scale of measurement	Dimensionless
Data source	
Required data	Number of individuals (animals) of different functional groups in the study area
Data input type	Quantitative
Data collection frequency	Annually
Level of expertise required	High

Synergies with other indicators	Related to indicators concerning functional groups in the study area (diversity of plants functional groups, abundance of functional groups).
Connection with SDGs	15
Opportunities for participatory data collection	It is possible to involve local stakeholders in plant surveys, although proper volunteer training may be necessary to allow them to recognise plant species.
Additional information	
References	Barnes, B. V., Zak, D. R., Denton, S., Spurr, S. (1998), Forest ecology. John Wiley and Sons, INC. Magurran, A.E. (2004), Measuring Biological Diversity. Blackwell