Relations Categories

We have extracted 10 relations to form proper meanings between the entities. We define 4 symmetric relation types such as Coreference, Conjunction, Geographical_Part, Synonym_Of , and 6 asymmetric relation types such as, Caused_By, Helps_In, Includes, Origin, Used_For, Seasonal.

– **Caused_By**: **A** is caused by **B**, any relation where B is causing A, so, A is caused by B.
Ex: industrial activities are major causes of contaminating the soils.

– **Coreference**: Two entities that refer to the same concept.
Ex: Climate change will produce swings... due to changing climate patterns.

– **Conjunction**: Entities sharing similar role.
Ex: The review suggests a robust economic model or multidisciplinary approach be adopted...

– **Geographical_Part**: Two or more than two entities share the same geographical part. It helps to build a relationship between the locations.
Ex: Ghana is divided into ... ; Sudan Savannah, Guinea Savannah, Forest Savannah Transition, ...

– **Helps_In**: **A** helps in ... **B**, **A** has potential to ... **B**, any relation where A is helping B.
Ex: biomass harvesting has the greatest potential to ... soil productivity.

– **Includes**: **A** includes **B**, **A** (**B**, **B**) is ..., **A** contains **B**.
Ex: Agricultural contaminants include organic and inorganic fertilizers...
Silvi-Pasture (trees + fodder crops).

– **Origin**: **A** originated from **B**, **A** is mainly located in **B**.
Ex: oil palm is mainly originated from West Africa, Asia.

– **Synonym_Of**: any short form of their respective full form. This relation ties both entities as their synonym. A (B), so, B is a synonym of A and vice versa.
Ex: Nitrogen (N) is very benefitial...

– **Used_For**: **A** is used for **B**, **A** is based on **B**, any entity A, that is used for entity B.
Ex: Phosphorus is widely used in crop production.
using linear mixed models to compare mean differences of microclimate measurements.

– **Seasonal**: **A** is mainly available on **B** season, any two entities share seasonal relationship.
Ex: Mango is a summer seasonal fruit.