Biodiversity Policies

30.07.24
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Background

Using the Policy Database from Wuepper (2024)[1], I extracted the policies that dealt with biodiversity. Since nearly all biodiversity policies where legislative, the goal was to find more aspects to characterize these policies. To do so, I first performed a Text Clustering based on word abundances in the provided abstracts of the policies.

Then, on clearly distinguishable cluster, a group of policies dealing with environmental protection was selected, to perform a more guided clustering, to assign a goal, an instrument and an affected group to the policies.

The Clustering Processes are described in the Jupyter Notebooks:

Unguided thematically clustering of biodiversity policies

Guided clustering of the environmental protection policies

1: Wuepper, D., Wiebecke, I., Meier, L., Vogelsanger, S., Bramato, S., Fürholz, A., & Finger, R. (2024). Agri-environmental policies from 1960 to 2022. *Nature Food*, *5*(4), 323-331.
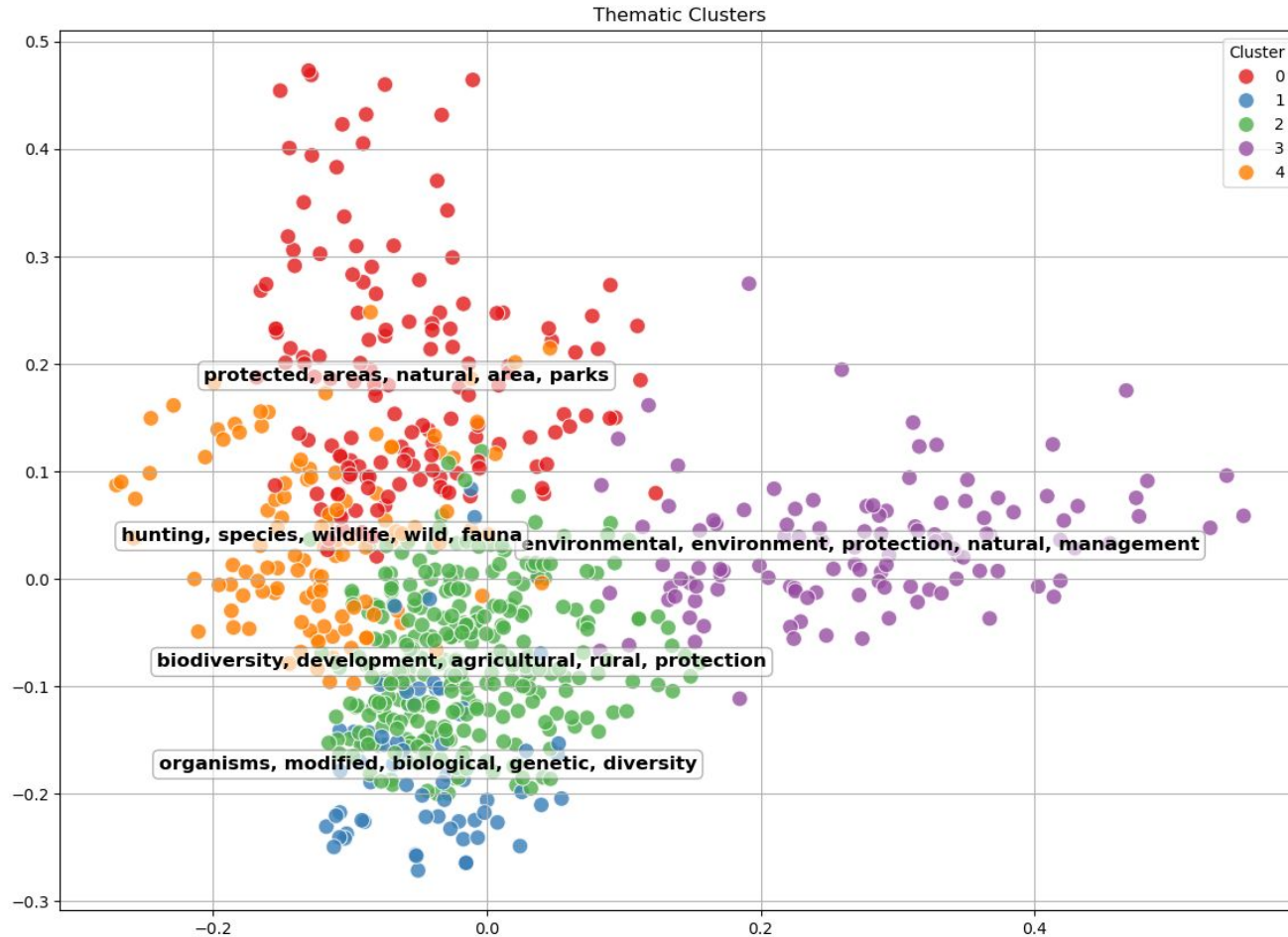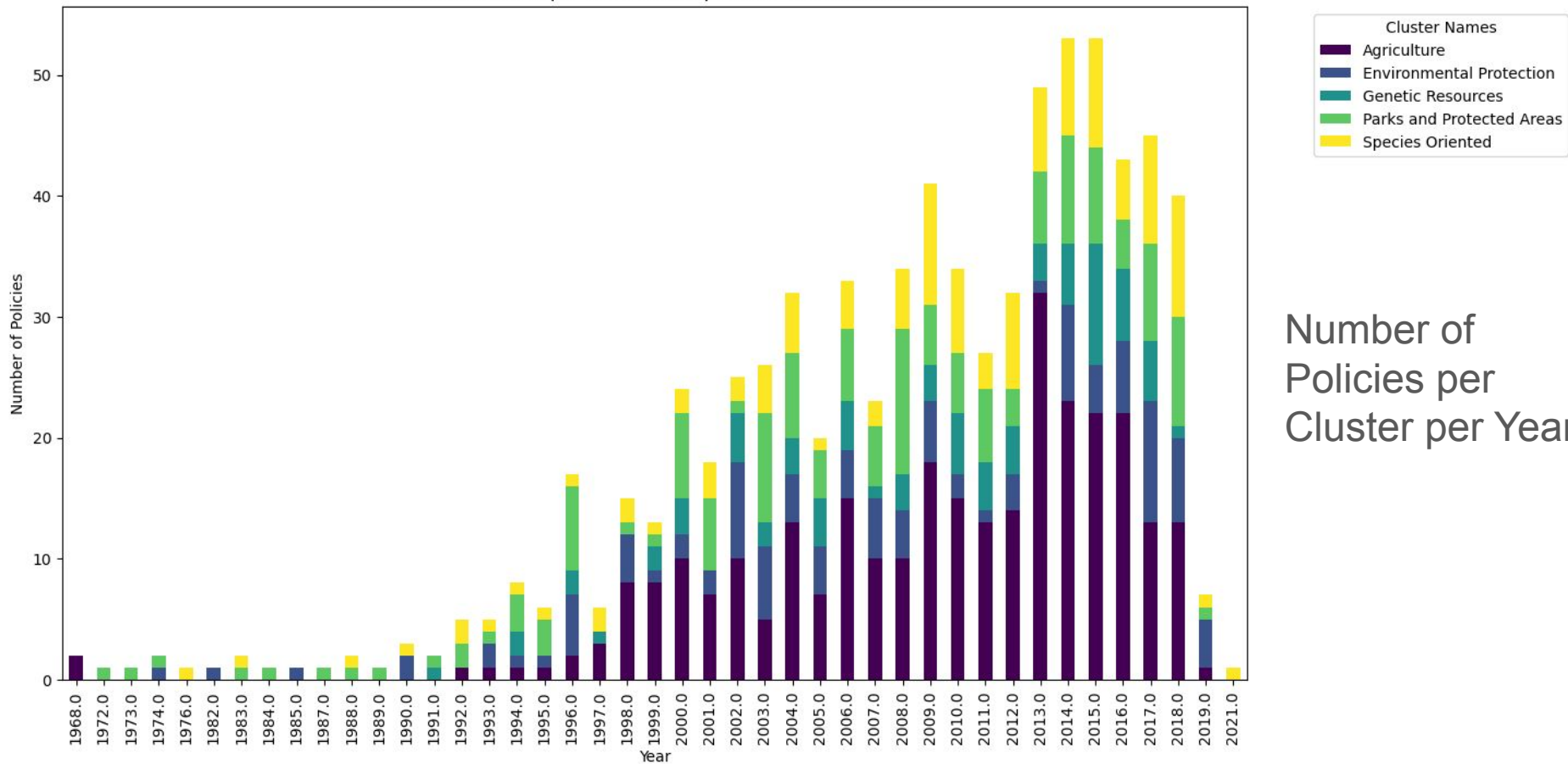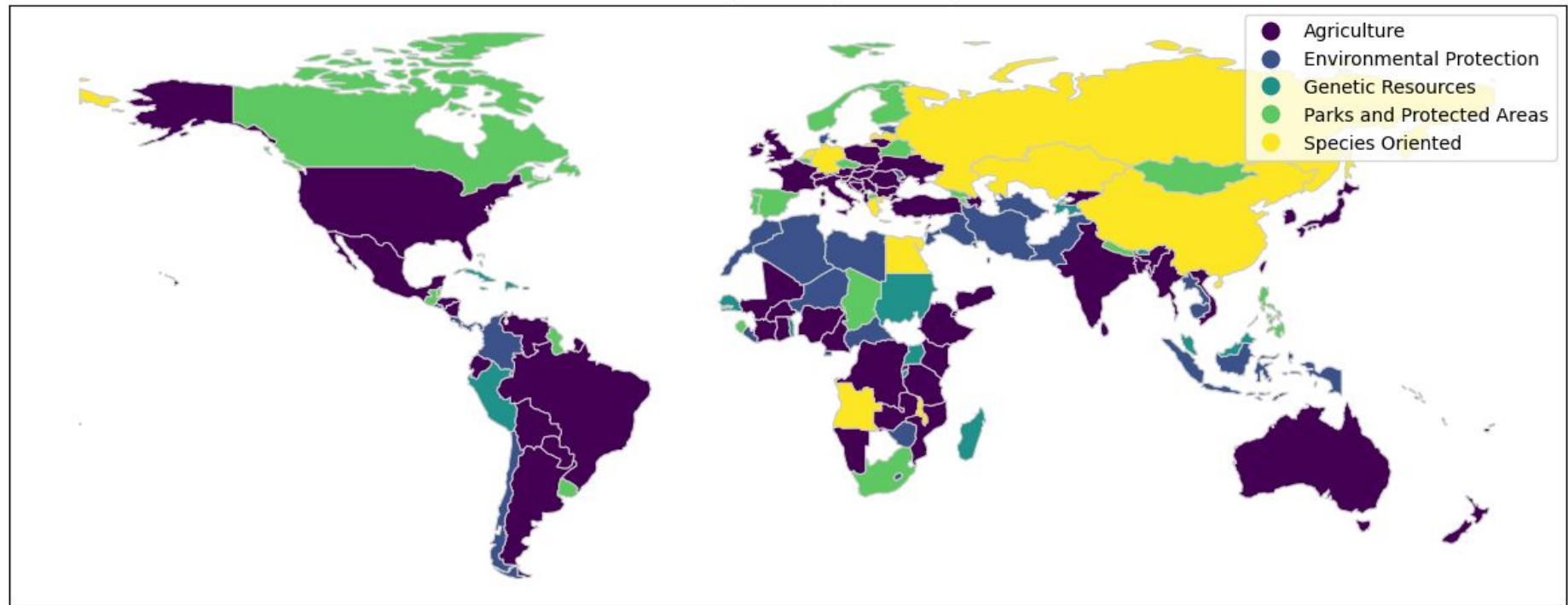
Thematic Clusters based on Word Abundance.
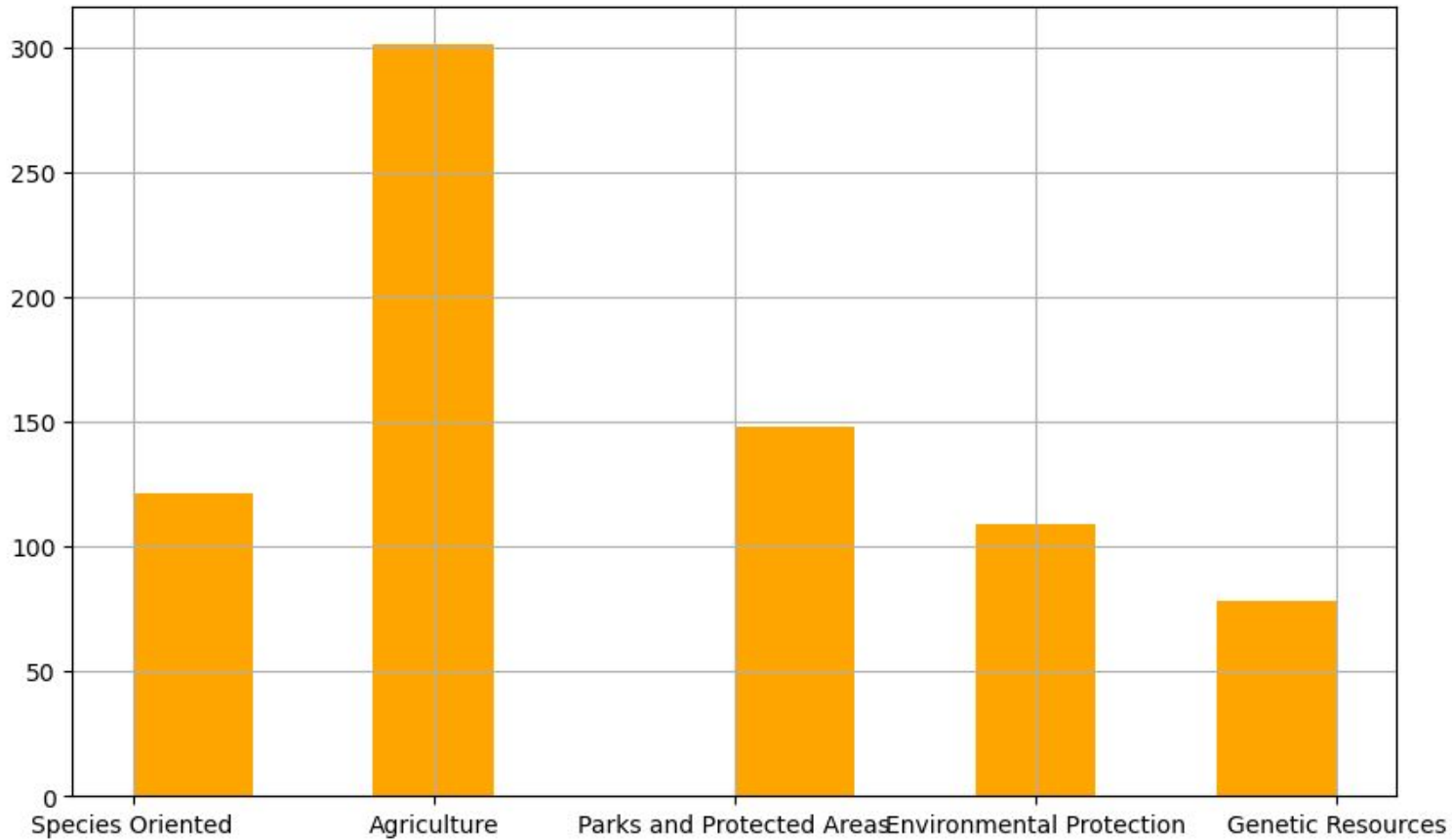
Number of Policies per Cluster.

Number of Clusters per Year with Proportions of Cluster Names

Number of
Policies per
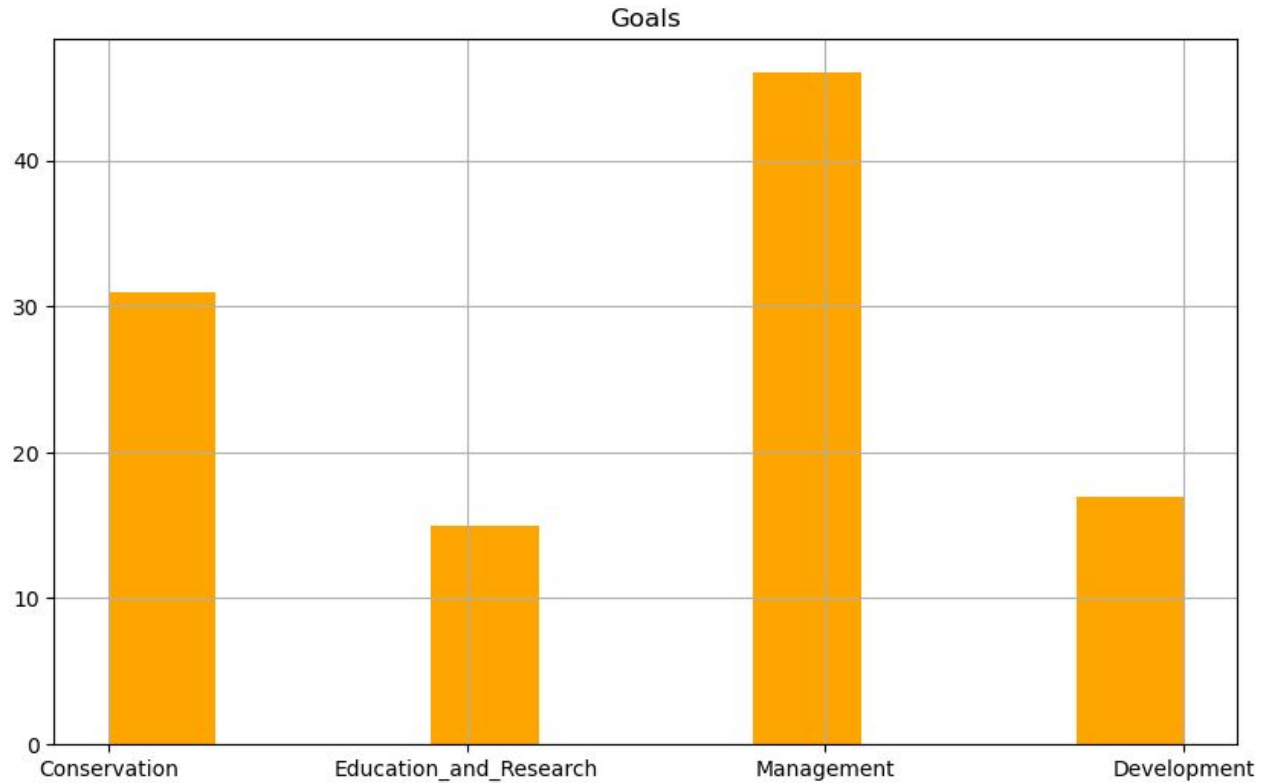Cluster per Year.

Dominating Cluster per Country
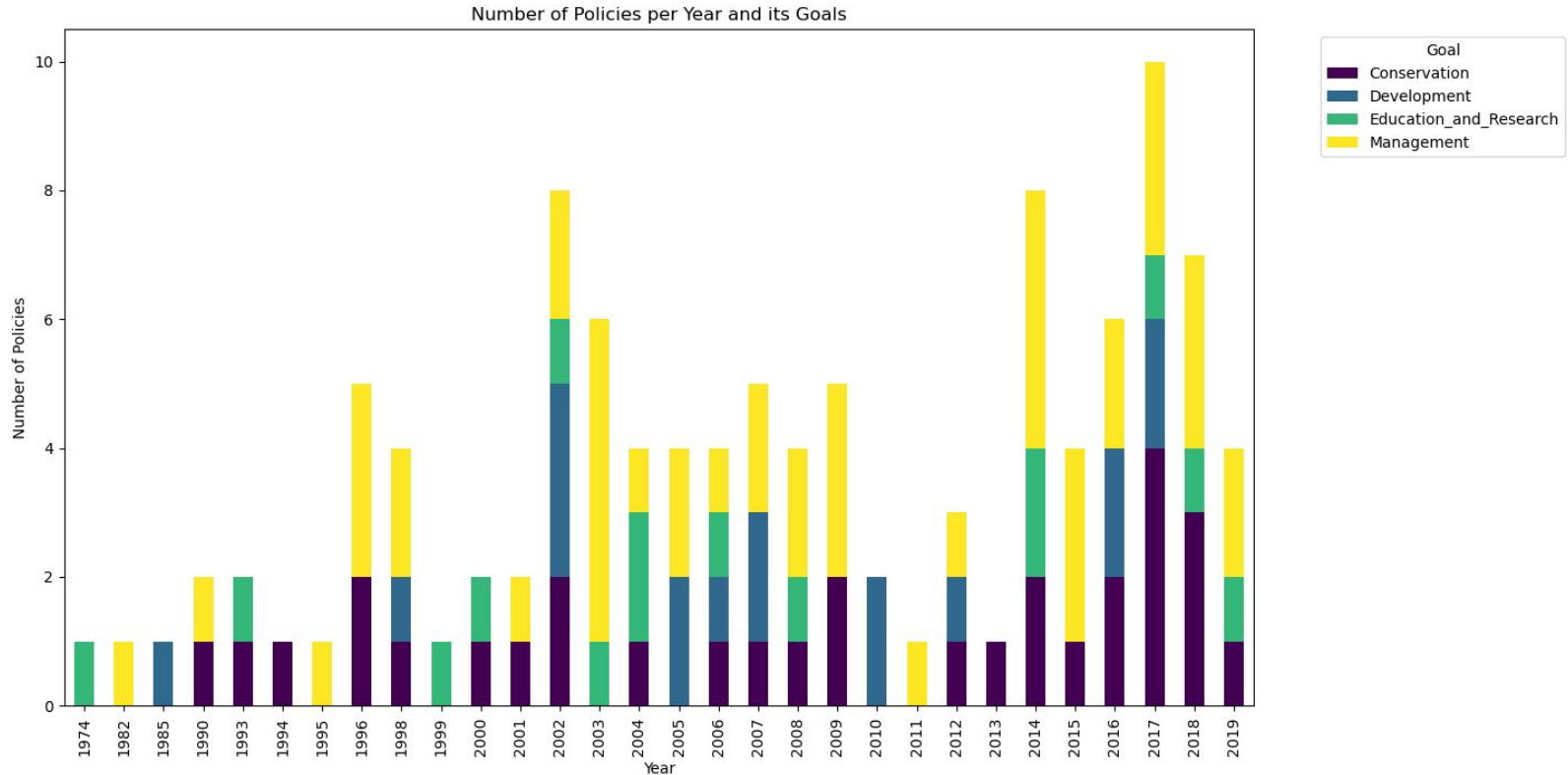
Environmental Protection Policies
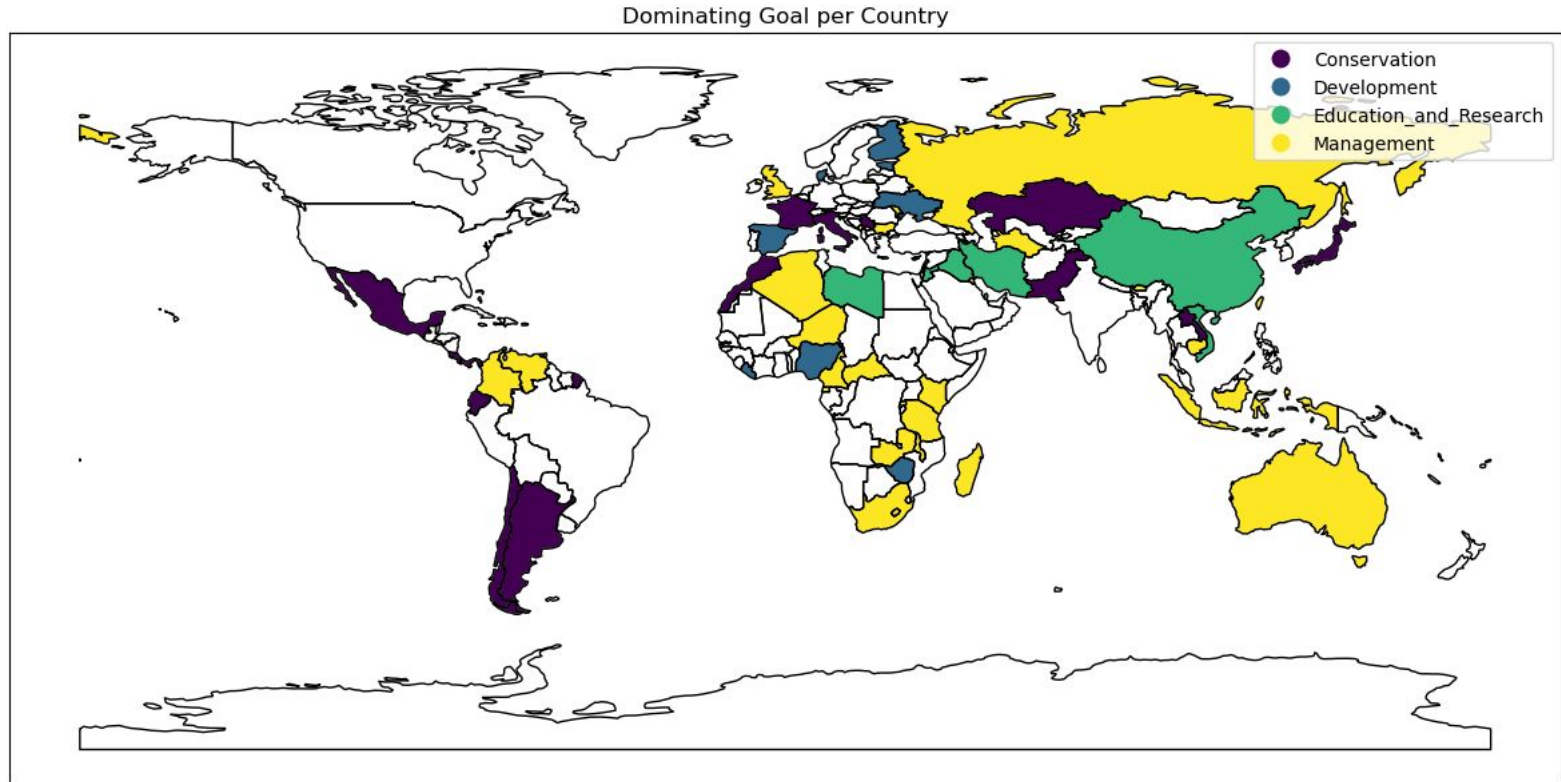
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Goals: Abundance

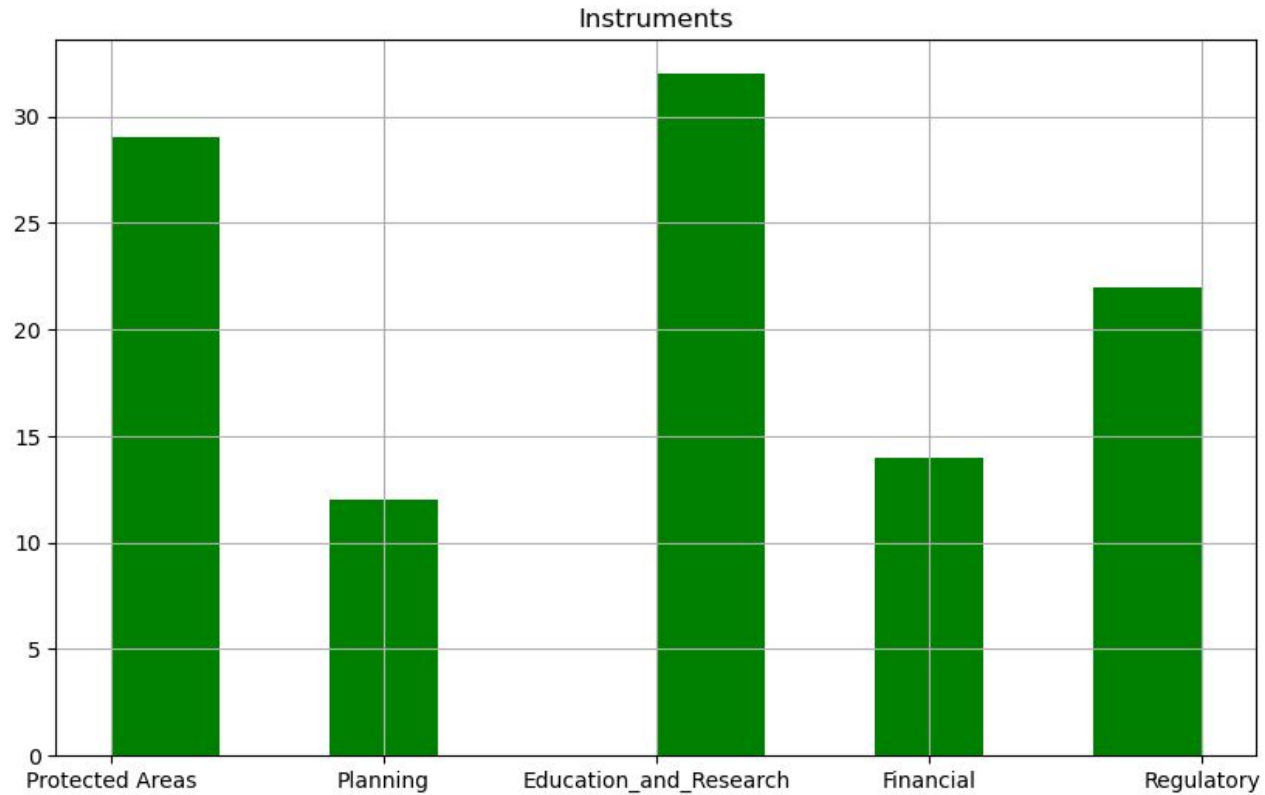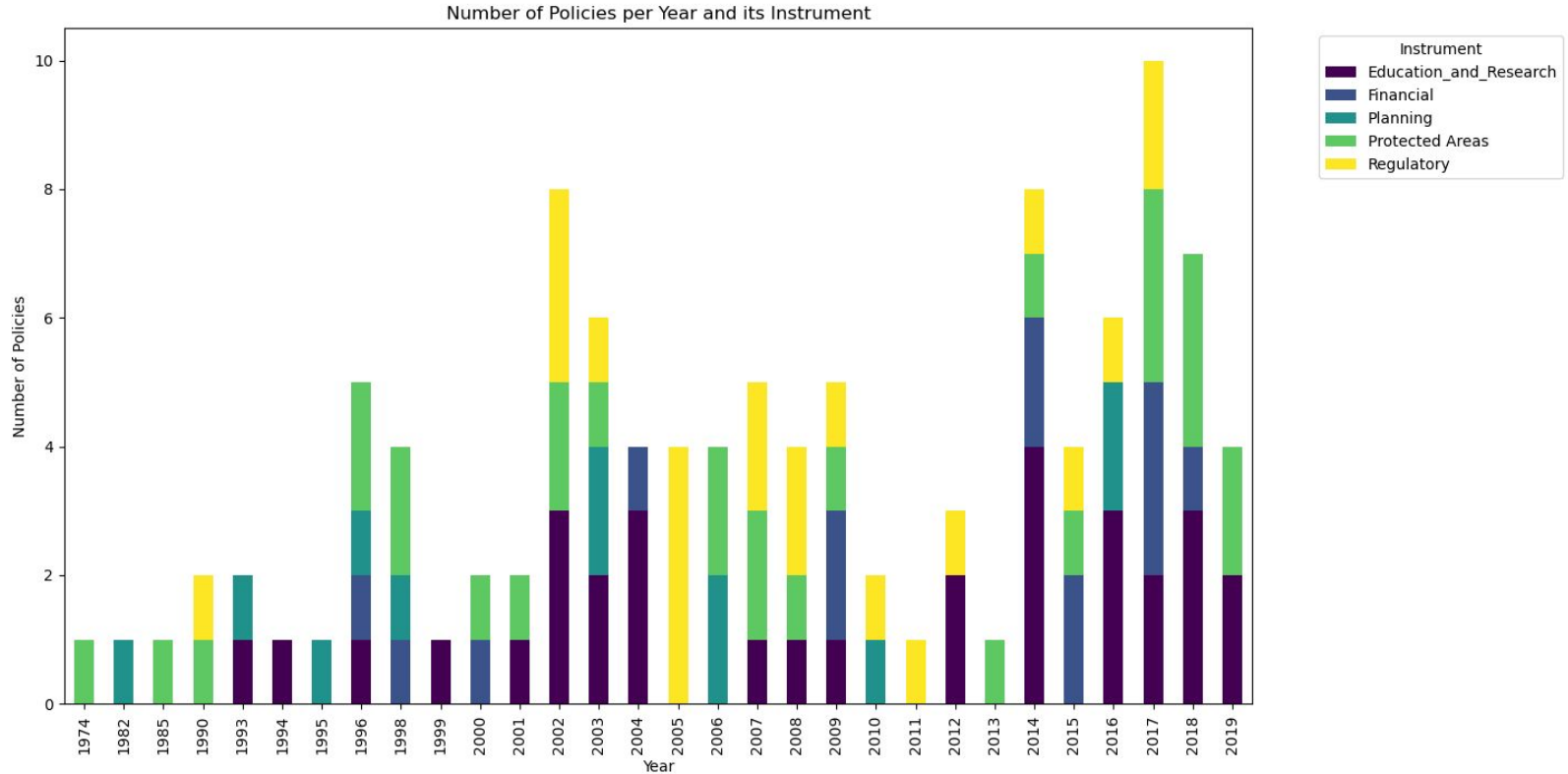# Goals: Development over Time

Number of Policies per Year and its Goals

Goals: Dominating Goal per Country

Dominating Goal per Country

- Conservation
- Development
- Education_and_Research
- Management

Instrument: Abundance

Instruments

Instrument: Development over Time

Number of Policies per Year and its Instrument

Instrument: Dominating Goal per Country

Dominating Instrument per Country

Legend:
- Education_and_Research
- Financial
- Planning
- Protected Areas
- Regulatory
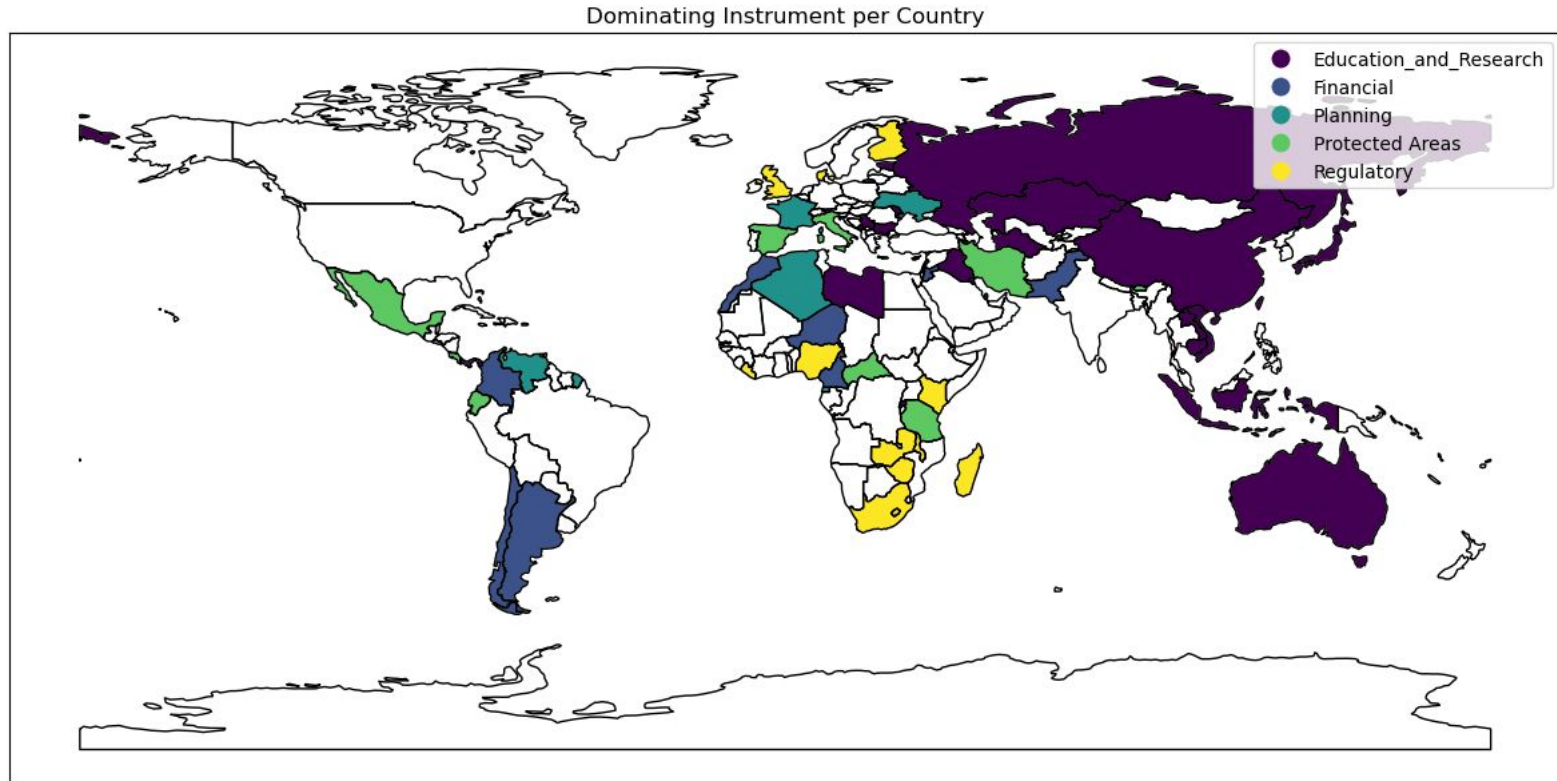
Affected Group: Abundance
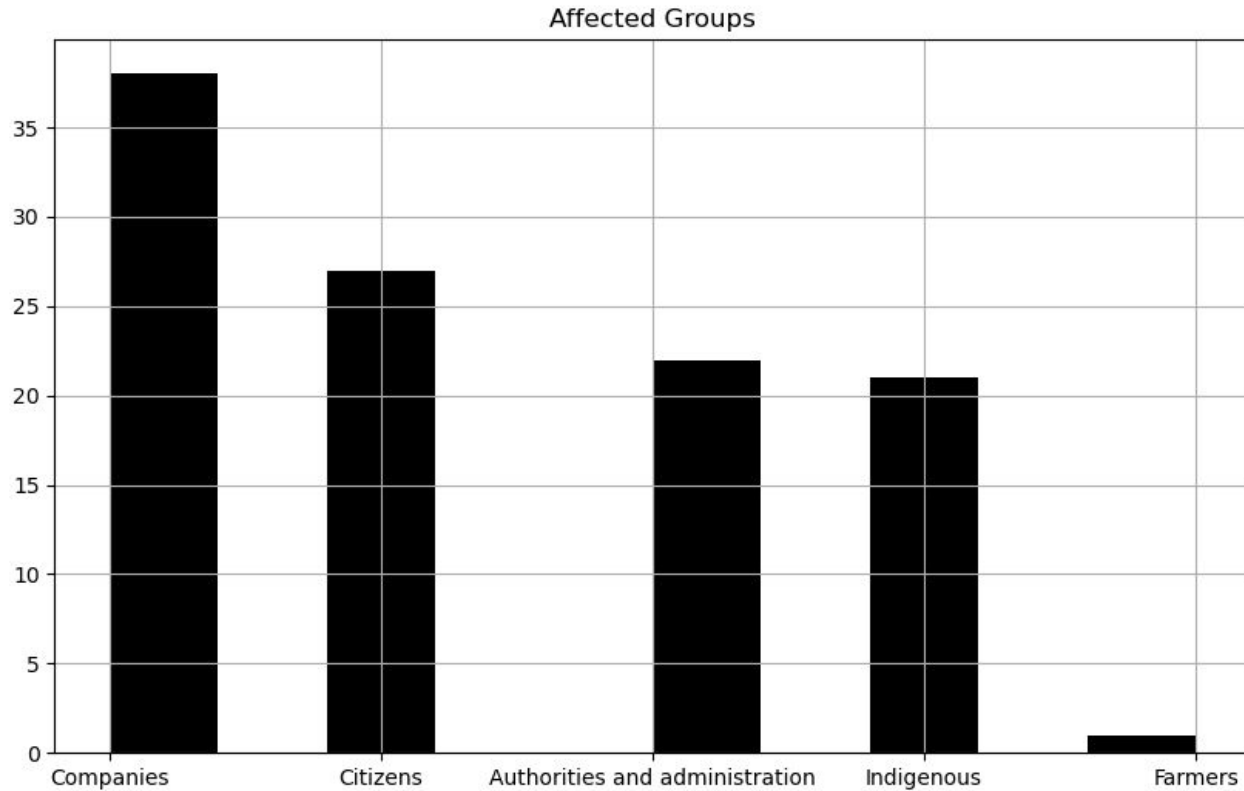
Affected Group: Development over Time

Number of Policies per Year and its Affected Group
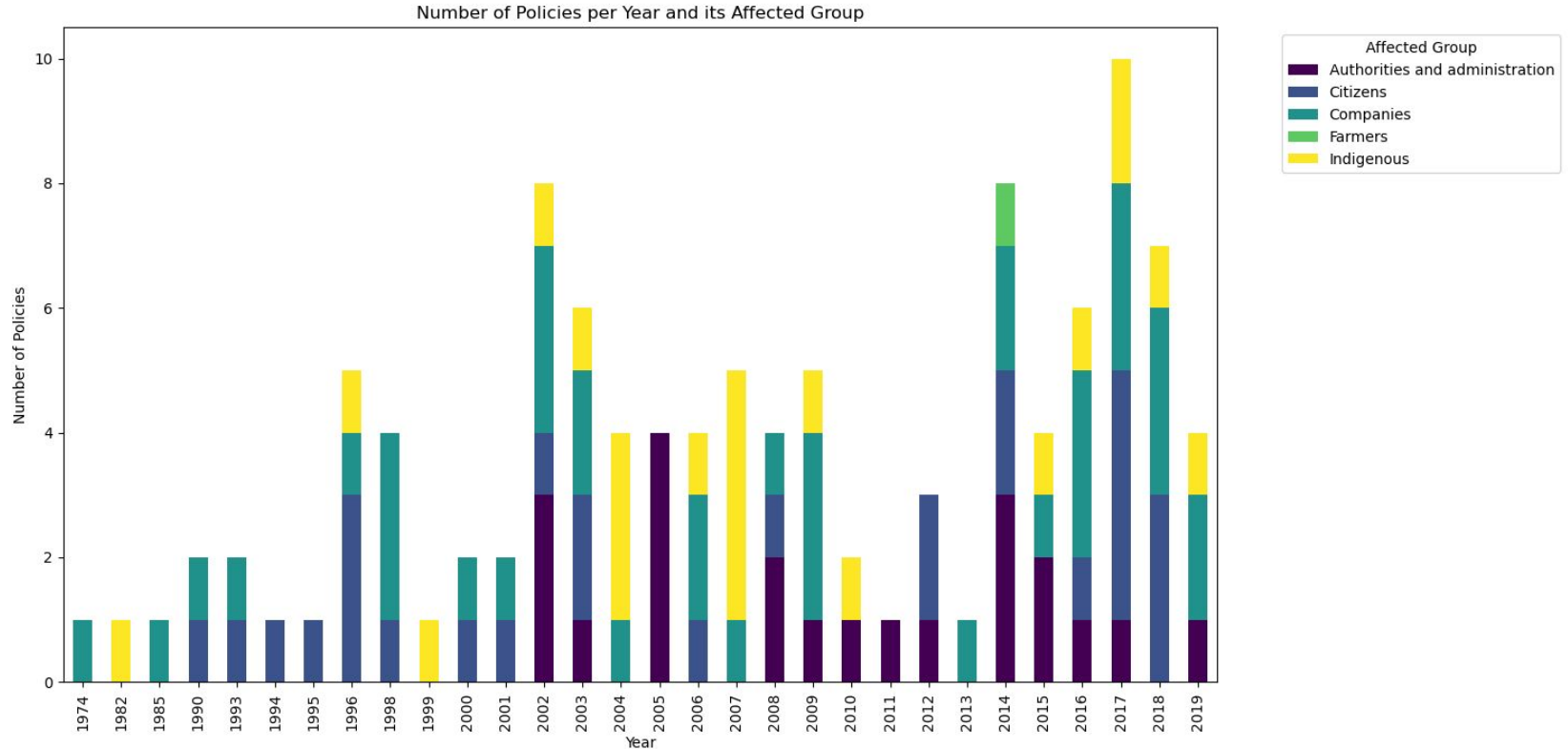
Affected Group: Dominating Goal per Country

Dominating Affected Group per Country
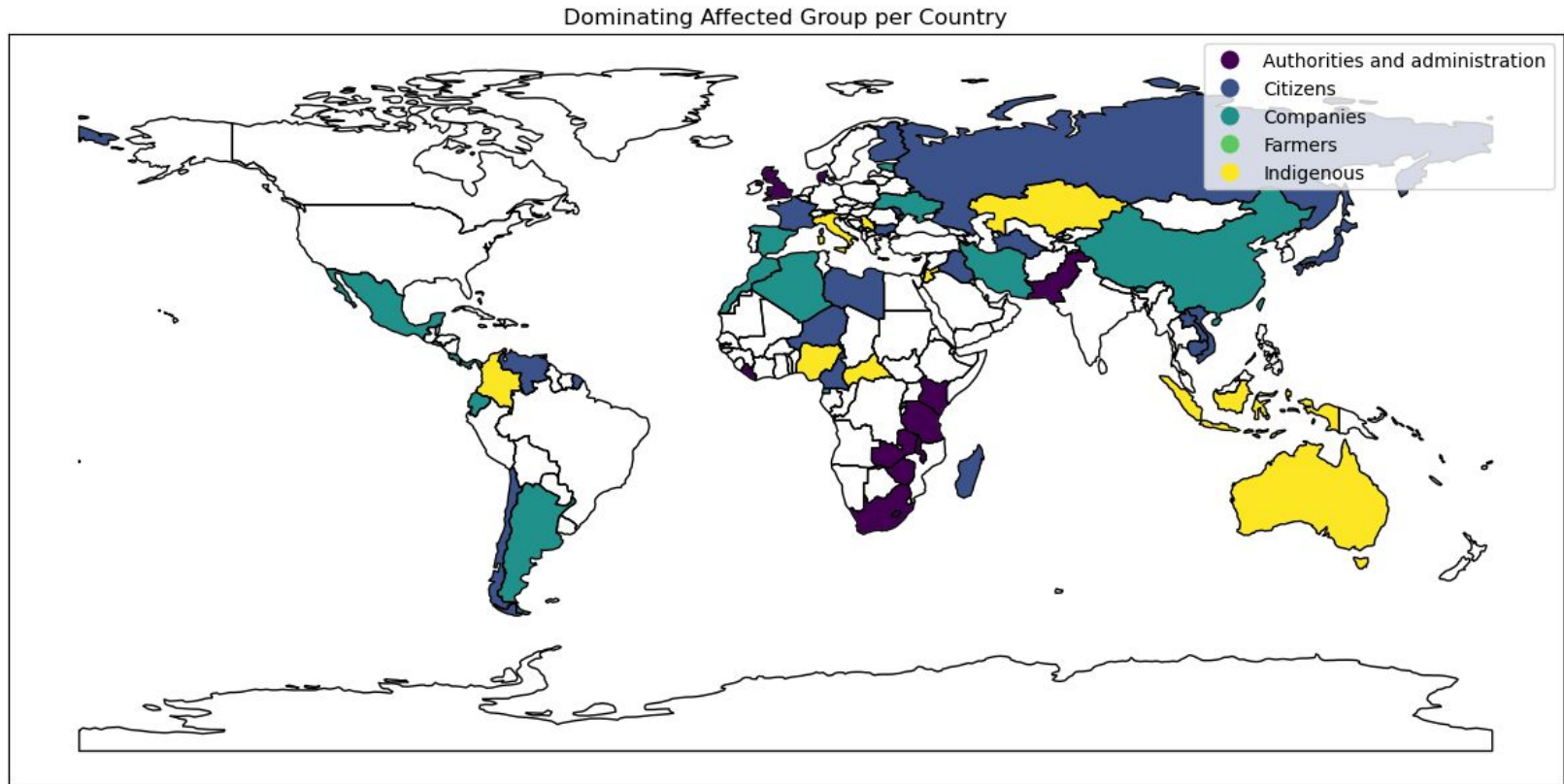
Limitations and further steps

- Some abstracts were not provided in a sufficient manner, there were empty or only contained a sentence, which was not sufficient for the analysis.
- Further since the translation to english was done using deepl pro, translating at least from spanish and french to english, there might still appear non-english phrases in the english abstracts.
- The Clustering method used hard clustering, which restricts each policies being mapped to one cluster. Weak clustering, where several categories could be mapped, would maybe make more sense for mapping the goal, instrument and affected group.