



Food and Agriculture  
Organization of the  
United Nations

# Overview of global trends and mechanisms for drought financing

**Eva Pek**

**Land and Water Division, FAO**



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**11-13 February 2025**  
**Podgorica, Montenegro**

# CHALLENGES OF IDENTIFYING FINANCE FLOWS

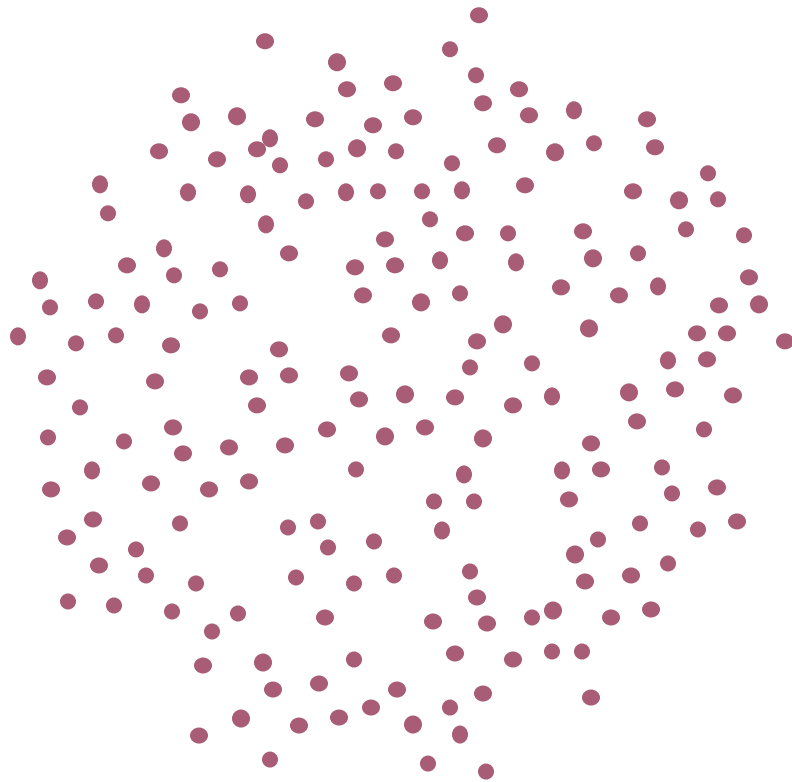
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**>250 000 ODA projects**

**Covering 22 years (2000-2022)**

**Rio-marked (climate change and desertification)**

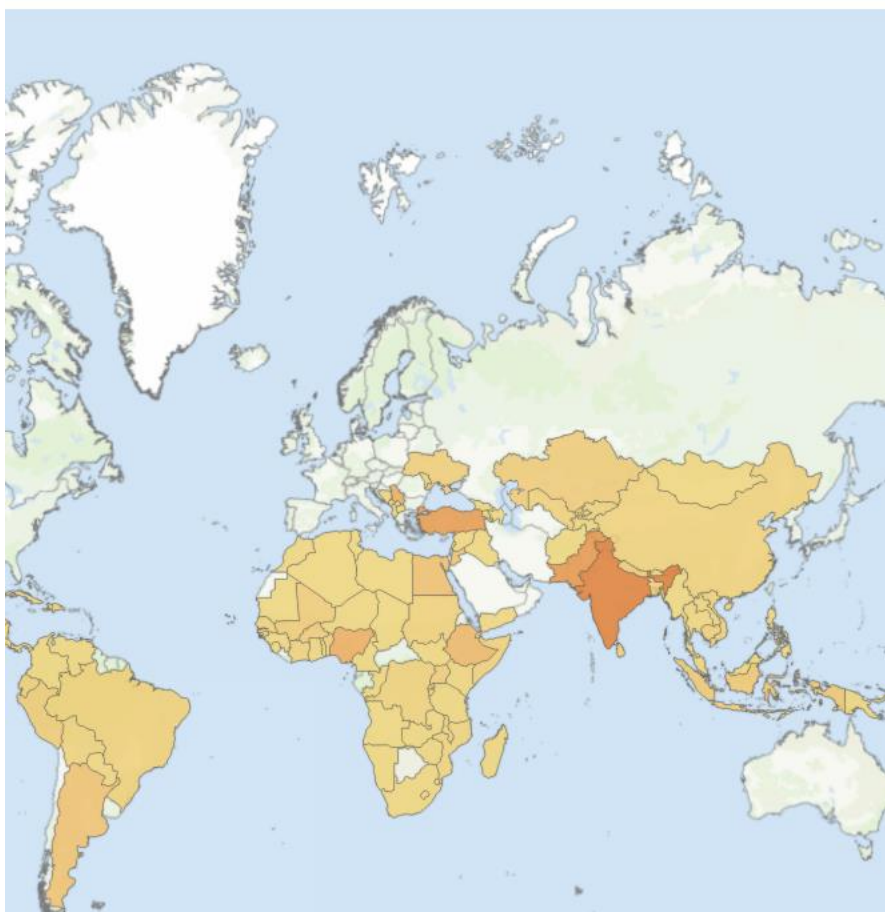


# Drought Finance Tracker 2.0

- HOME PAGE
- STATISTICS
- OVERVIEW
- EXPLORE MORE
- ANALYSIS

## Timeline of drought-related finance 2000 to 2021

Country *i*  Total budget  Year  *i*

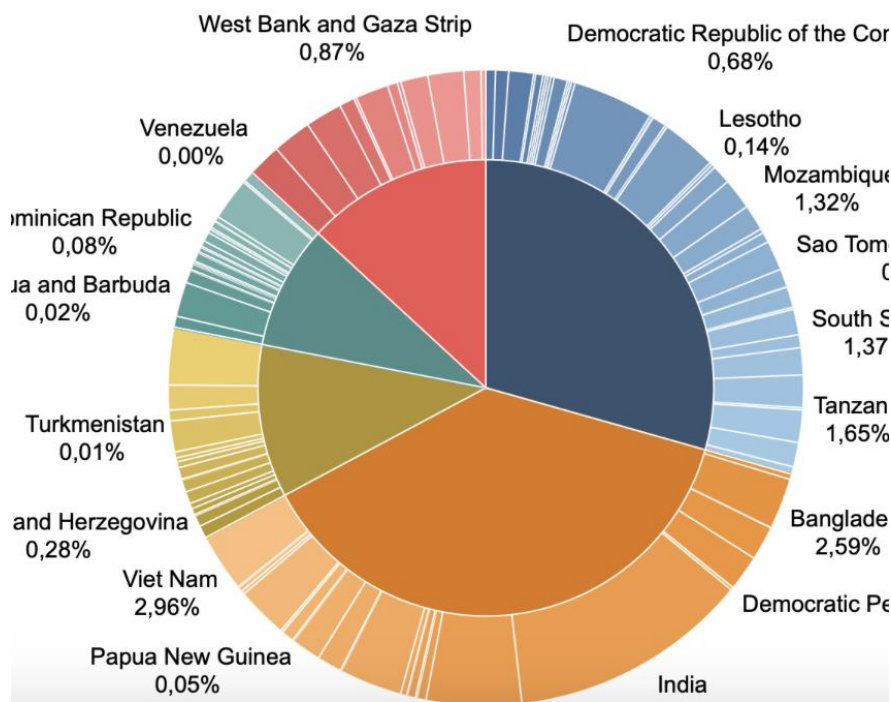


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## Explore more

Country *i*  Total budget  Financial instrument

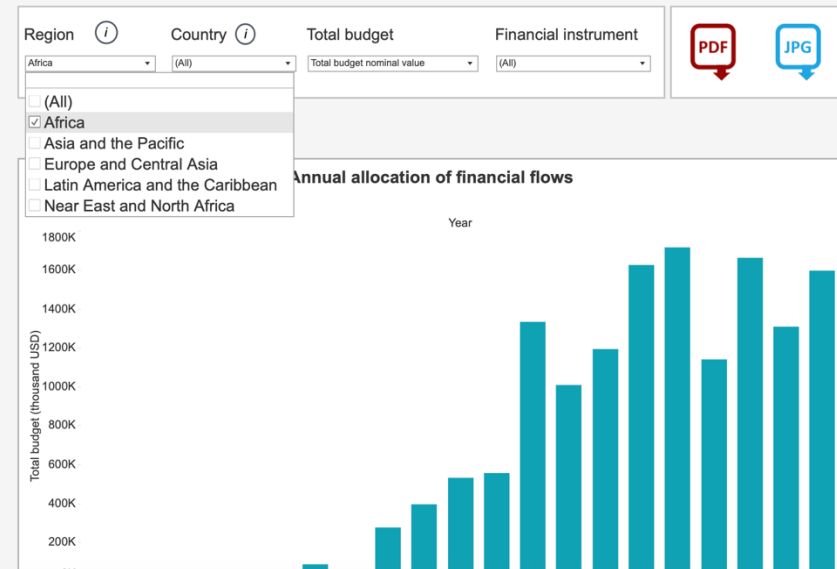
## Share of total budget per region and country



# Drought Finance Tracker 2.0

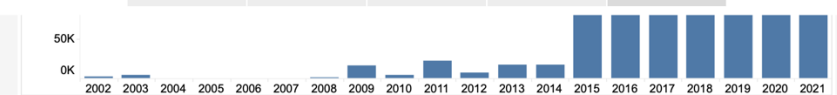
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## Overview



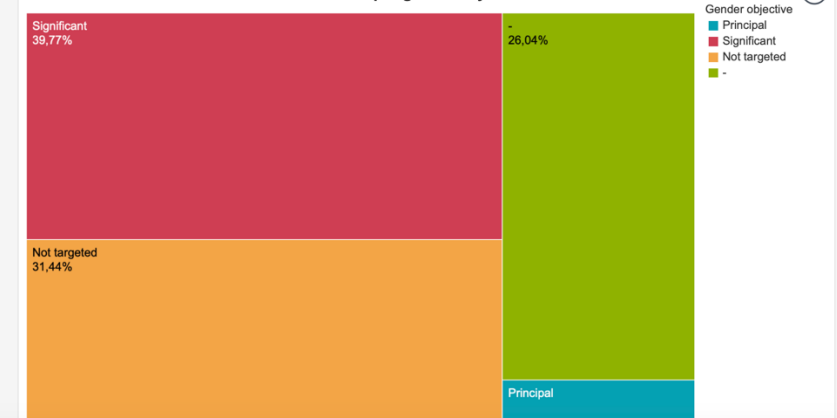
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Women's vulnerability to climate change has been already recognized, and several assessments show that women are more exposed to the impacts. Nevertheless, gender considerations are not mainstreamed into the project designs.

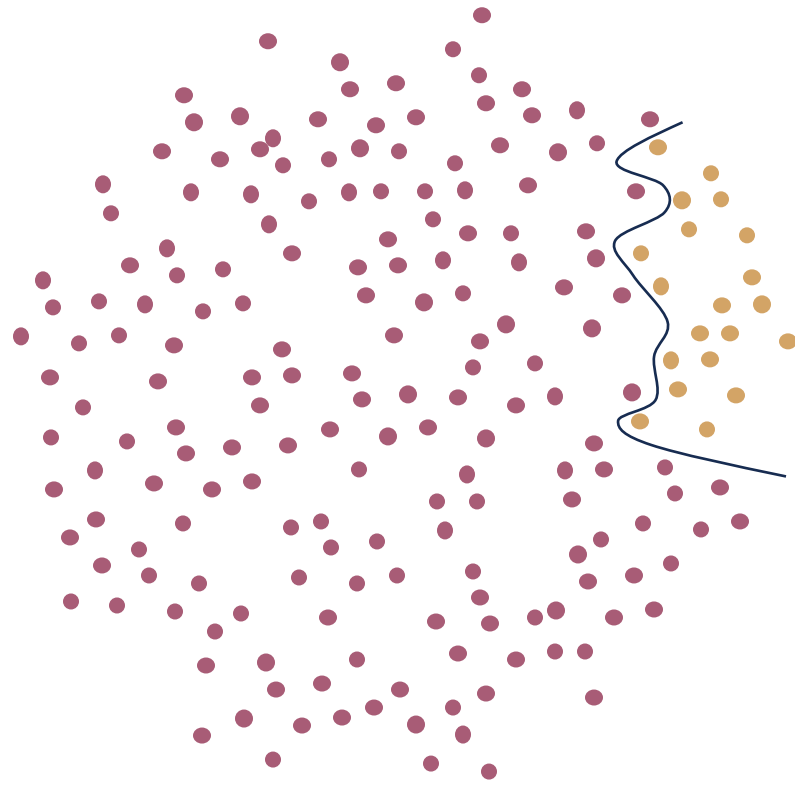
## Share of financial flows per gender objective



# CHALLENGES OF IDENTIFYING FINANCE FLOWS

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## Drought Finance Tracker v1 methodology

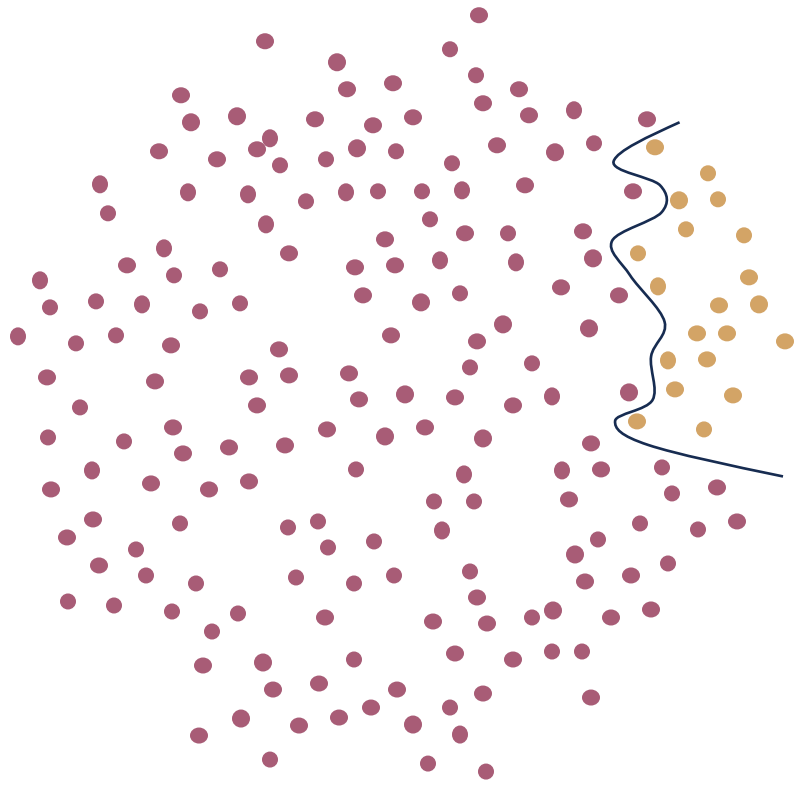


- cca. 1 200 projects with explicit reference to 'drought'
- main sectors: agriculture, emergency, water, general environment protection
- generally small-size projects

# CHALLENGES OF IDENTIFYING FINANCE FLOWS

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## Drought Finance Tracker v1 methodology



many irrigation and water projects not identified as drought-related projects

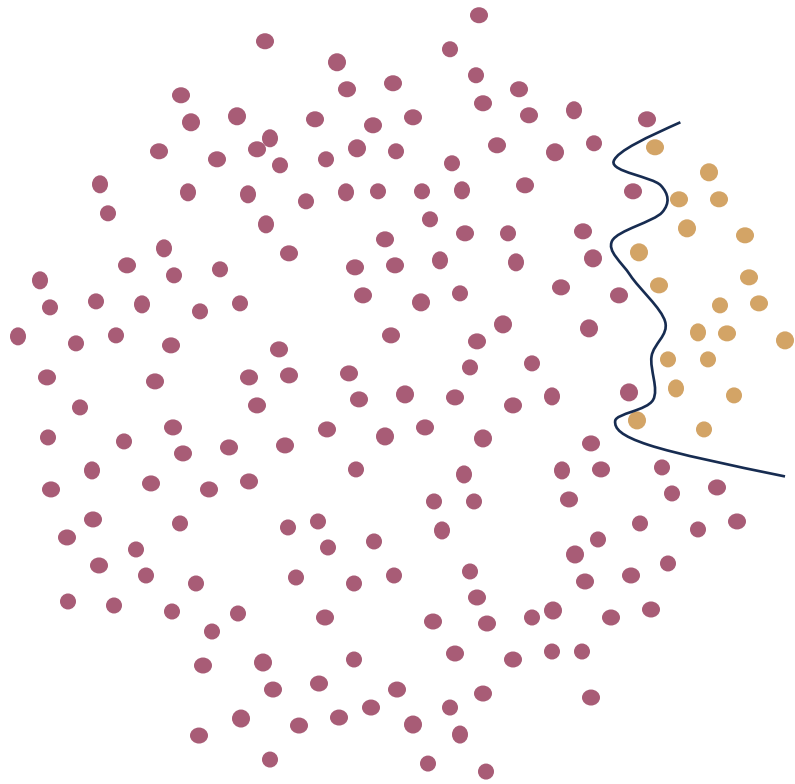
dominance of emergency and food assistance projects

unreasonably low counts of projects

# CHALLENGES OF IDENTIFYING FINANCE FLOWS

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**Drought Finance Tracker v2**  
**methodology – large language model**

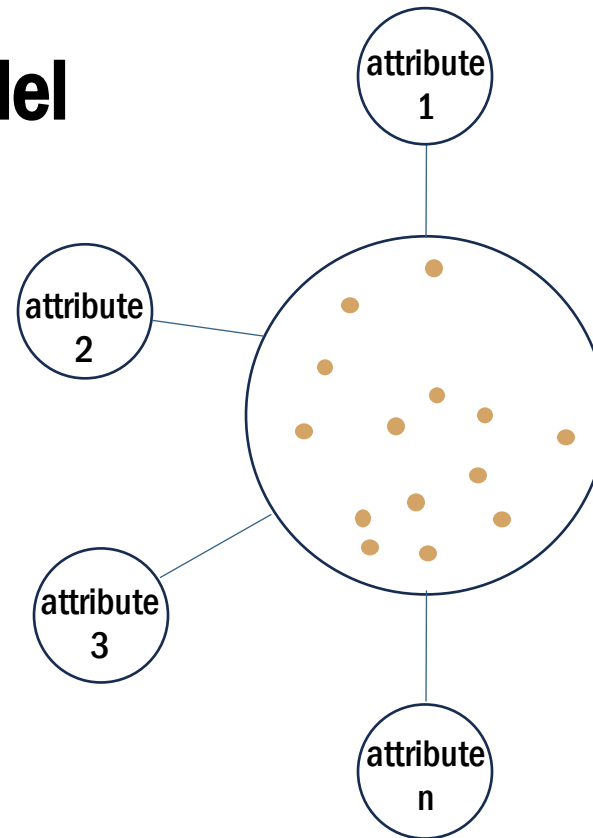
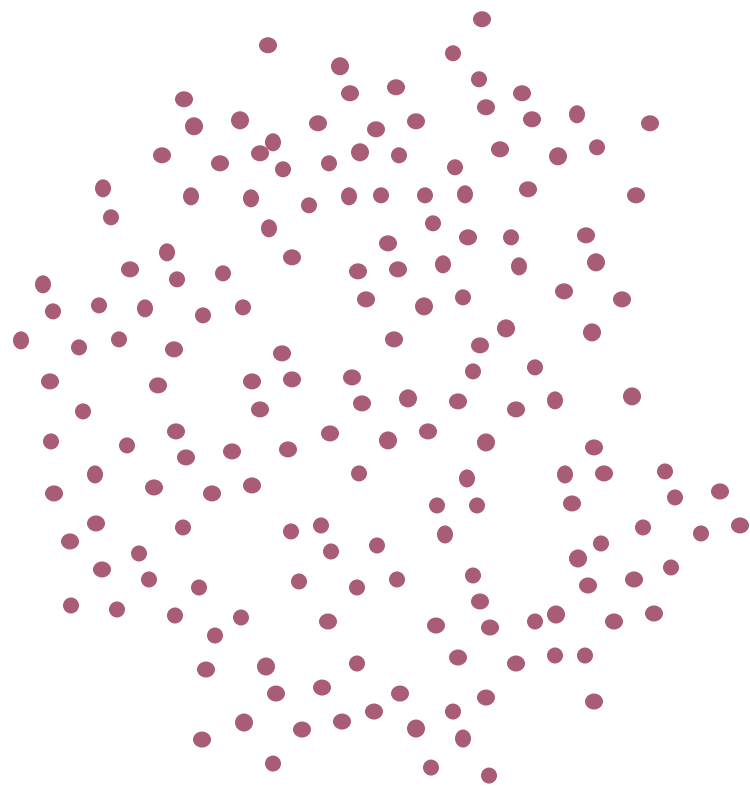


*training data*

manually validated set  
of projects including  
drought and its  
synonyms as keywords

# CHALLENGES OF IDENTIFYING FINANCE FLOWS

## Drought Finance Tracker v2 methodology – large language model

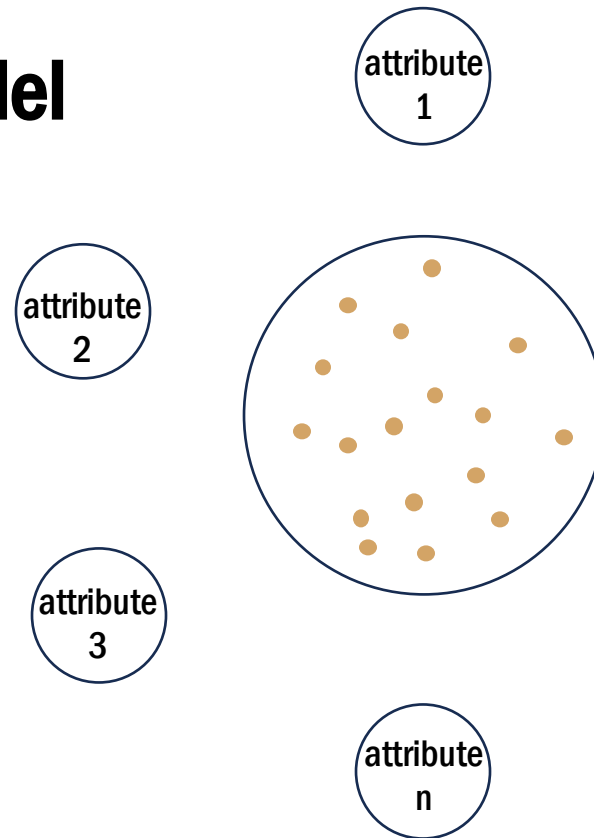
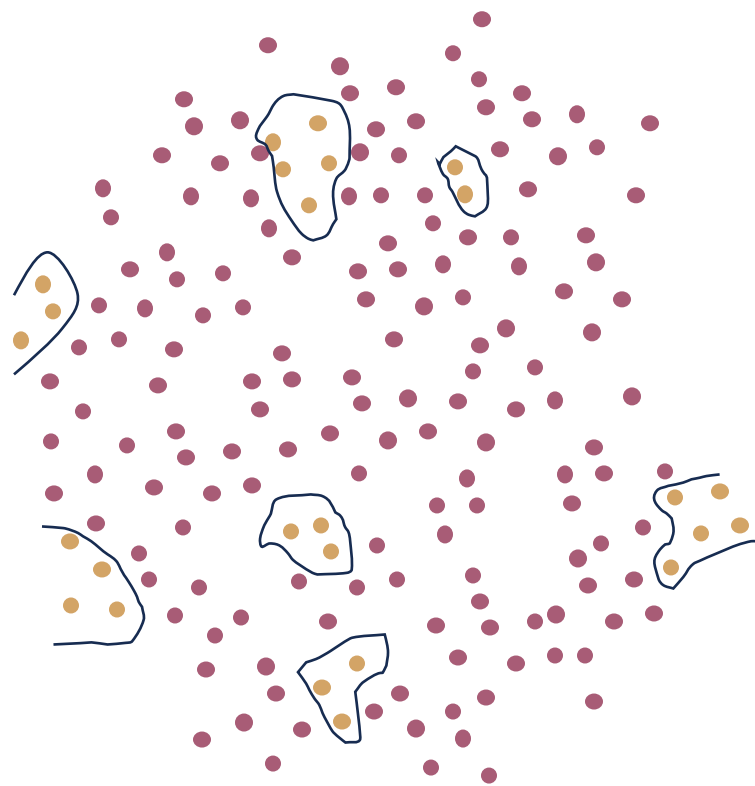


manually validated set  
of projects including  
drought and its  
synonyms as keywords

definition of attributes  
(12)

# CHALLENGES OF IDENTIFYING FINANCE FLOWS

## Drought Finance Tracker v2 methodology – large language model



manually validated set  
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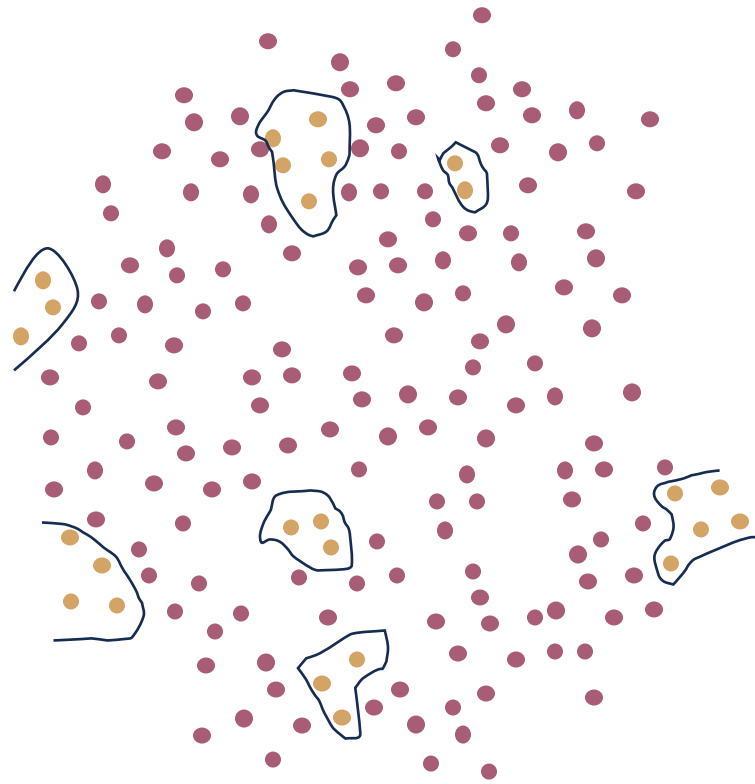
identification of further  
projects based on  
similarity patterns



# CHALLENGES OF IDENTIFYING FINANCE FLOWS

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## Drought Finance Tracker v2 methodology – large language model



**>6 000 projects identified**

**main sectors: water, agriculture, environment protection, multisector and energy**

**even distribution of projects among top sectors**



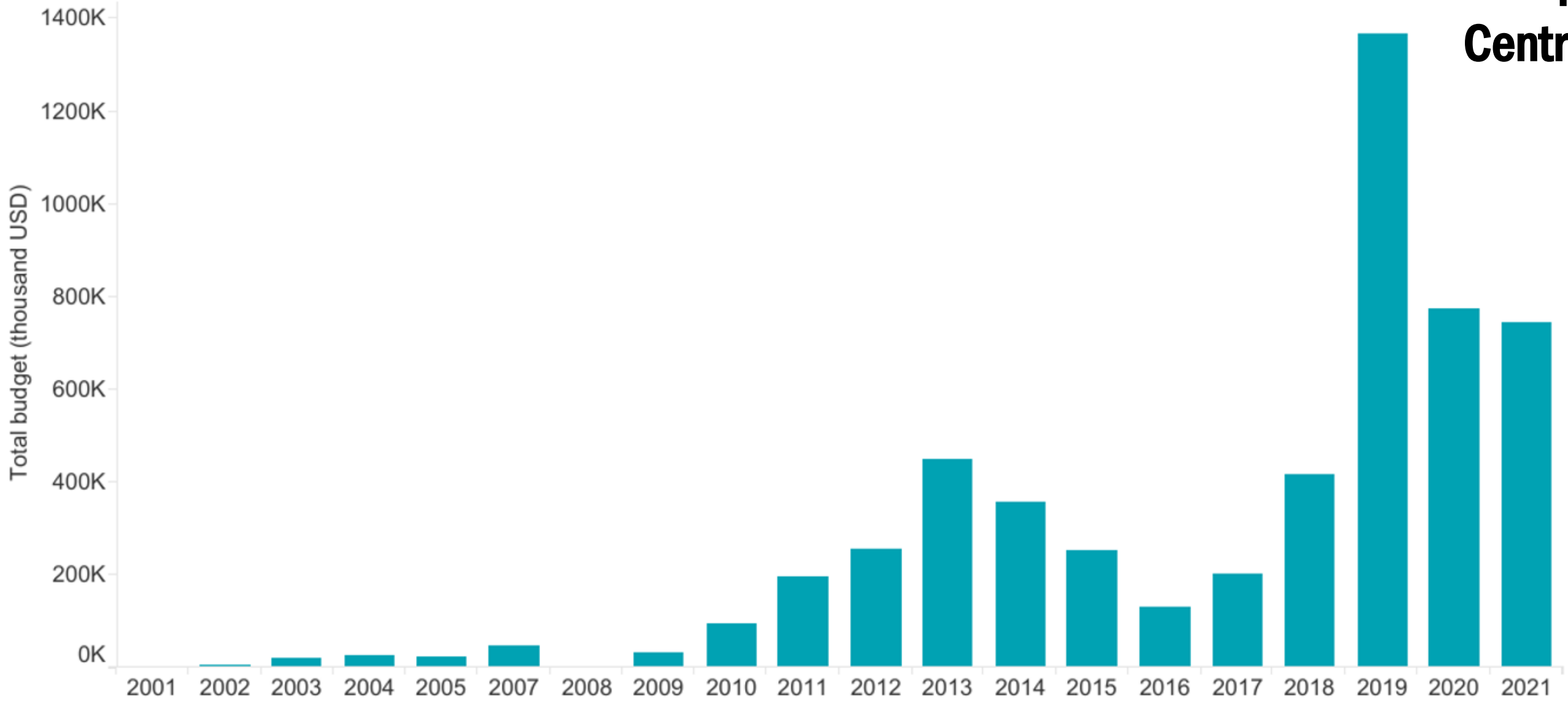
**TRENDS**



# Europe and Central Asia

## Annual allocation of financial flows

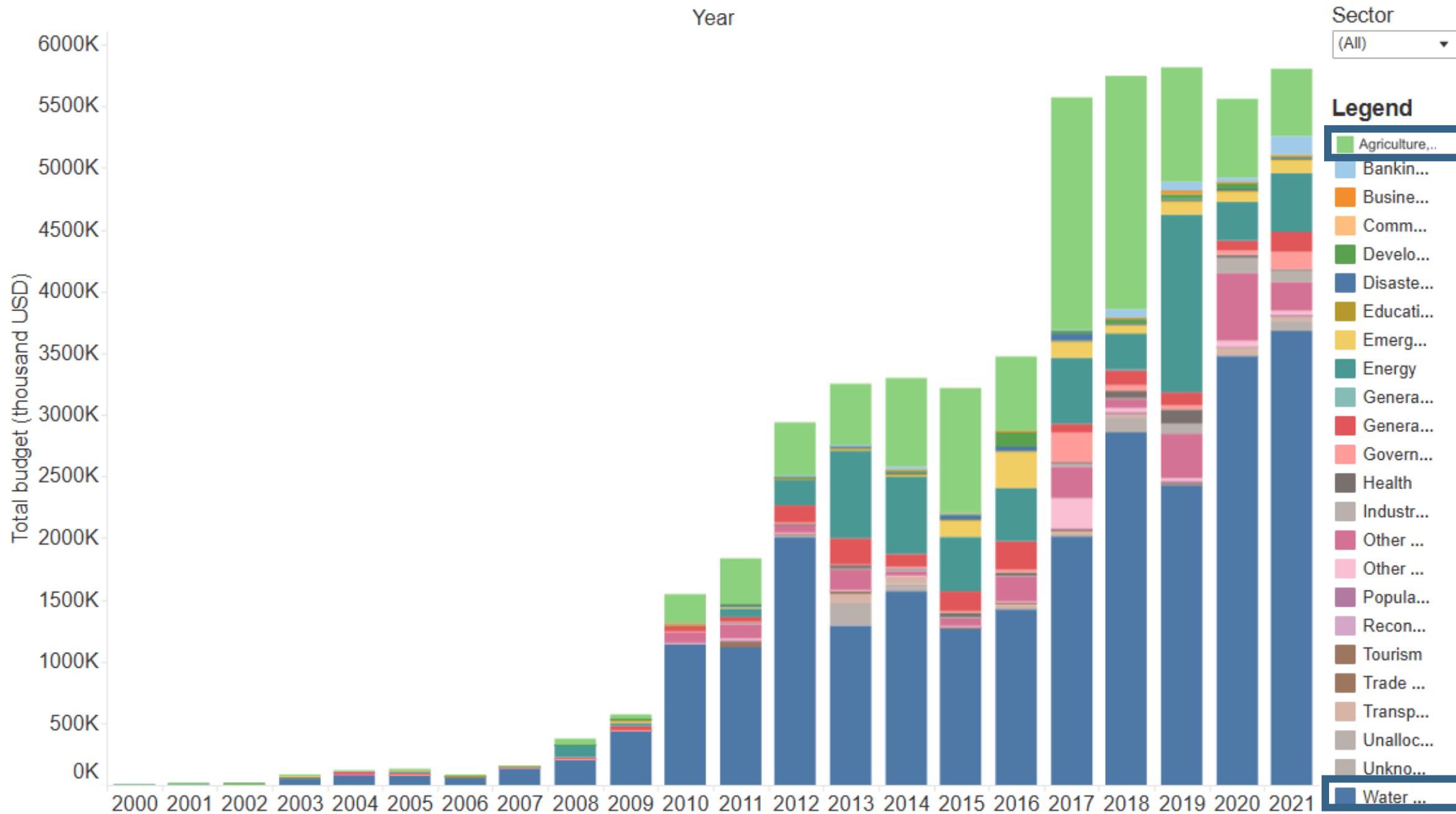
Year



# Annual distribution of financial flows amongst sectors



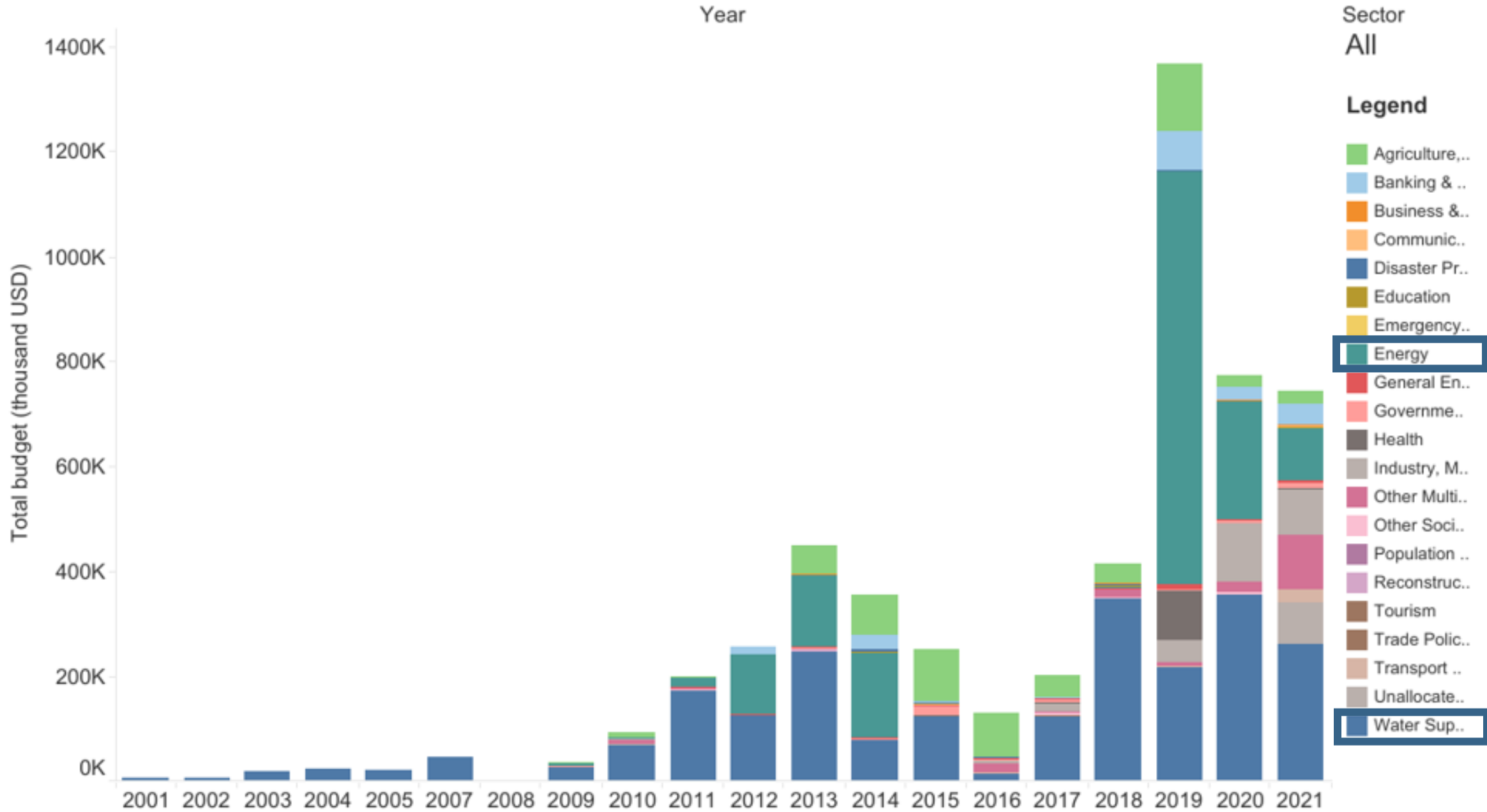
Global





# Europe and Central Asia

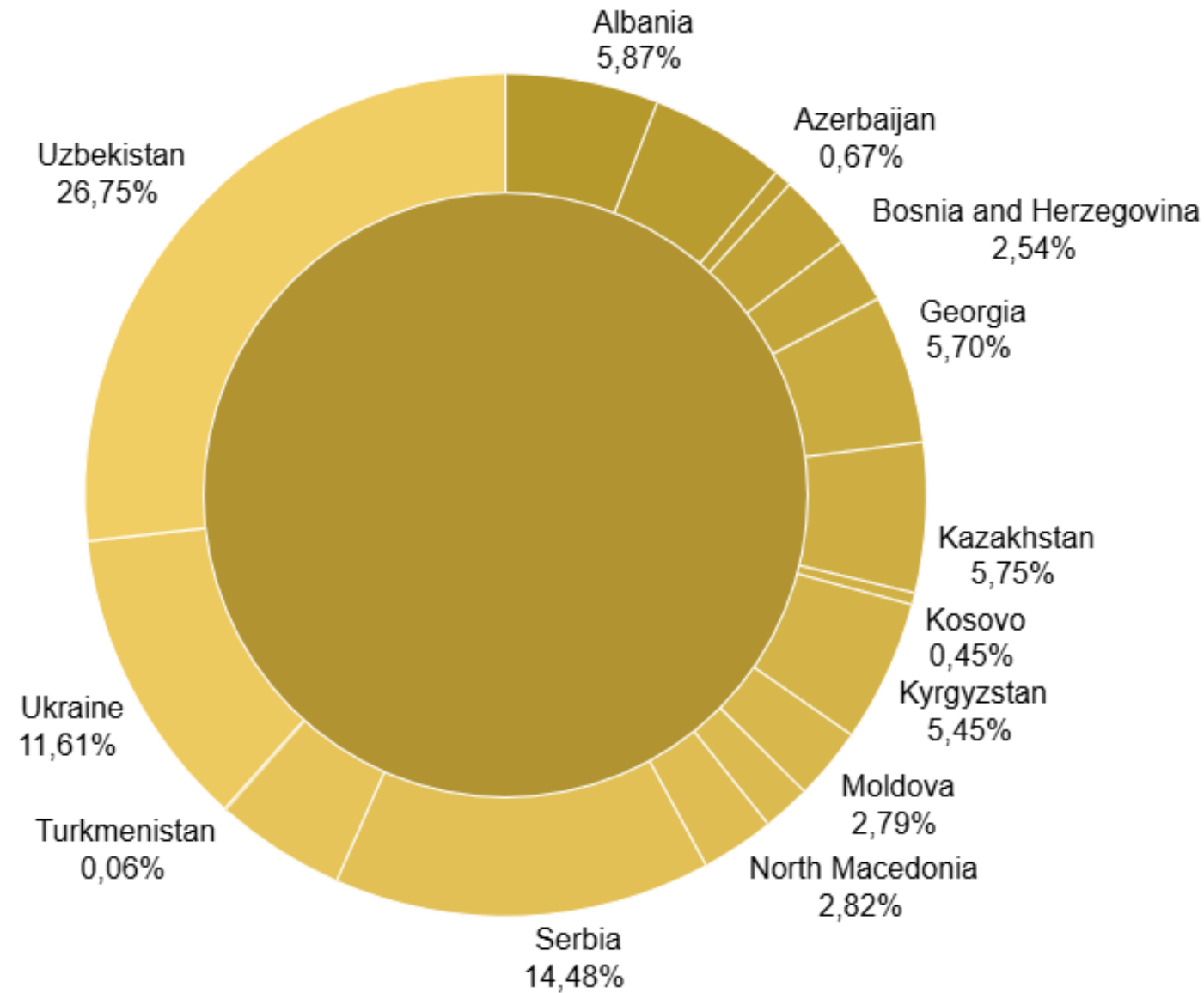
## Annual distribution of financial flows amongst sectors



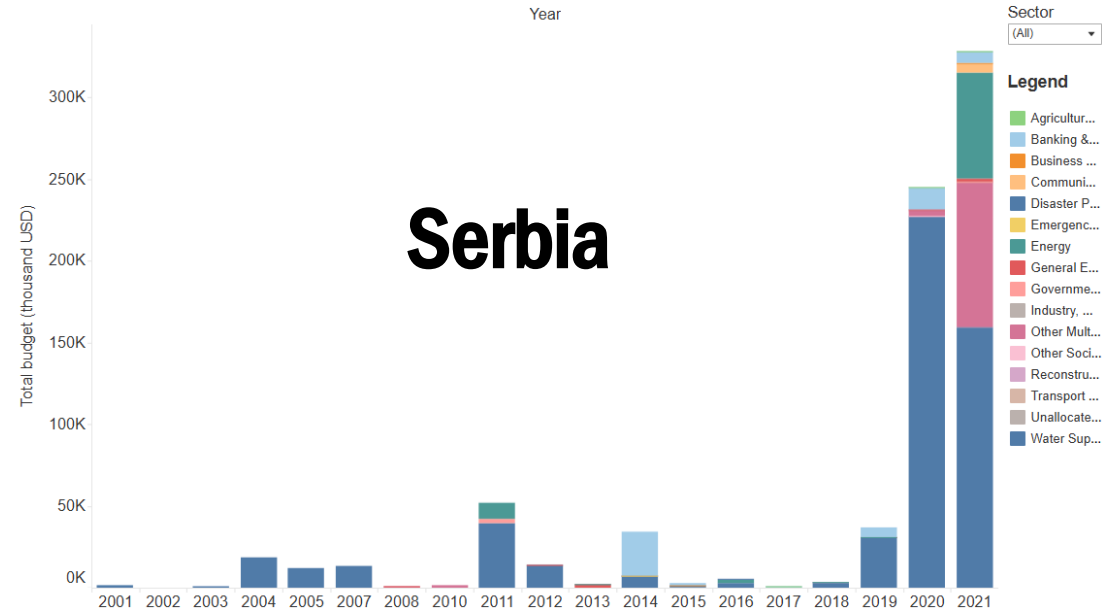
## Share of total budget per region and country



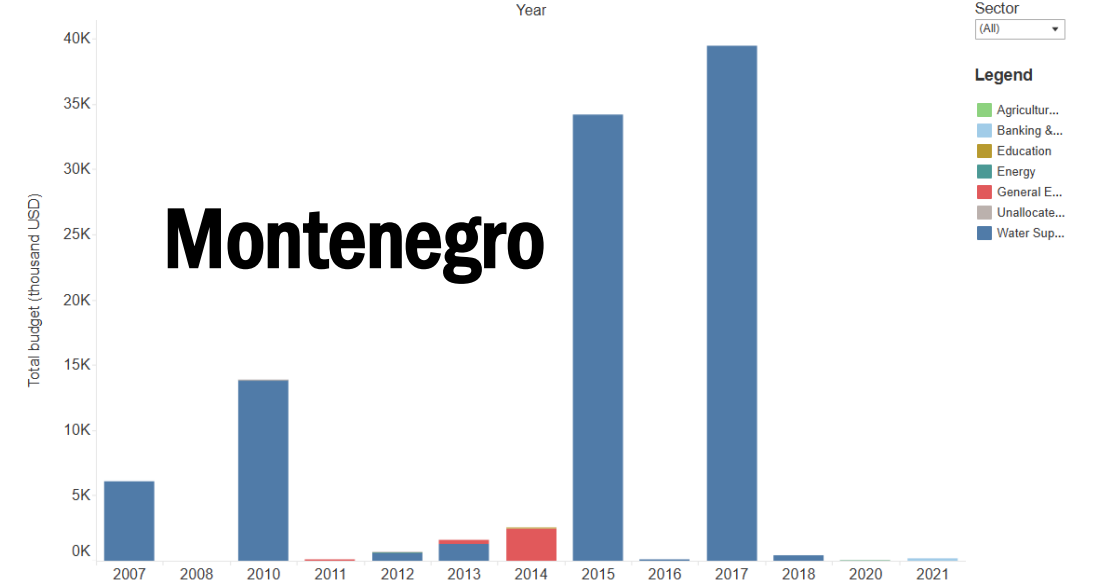
## Europe and Central Asia



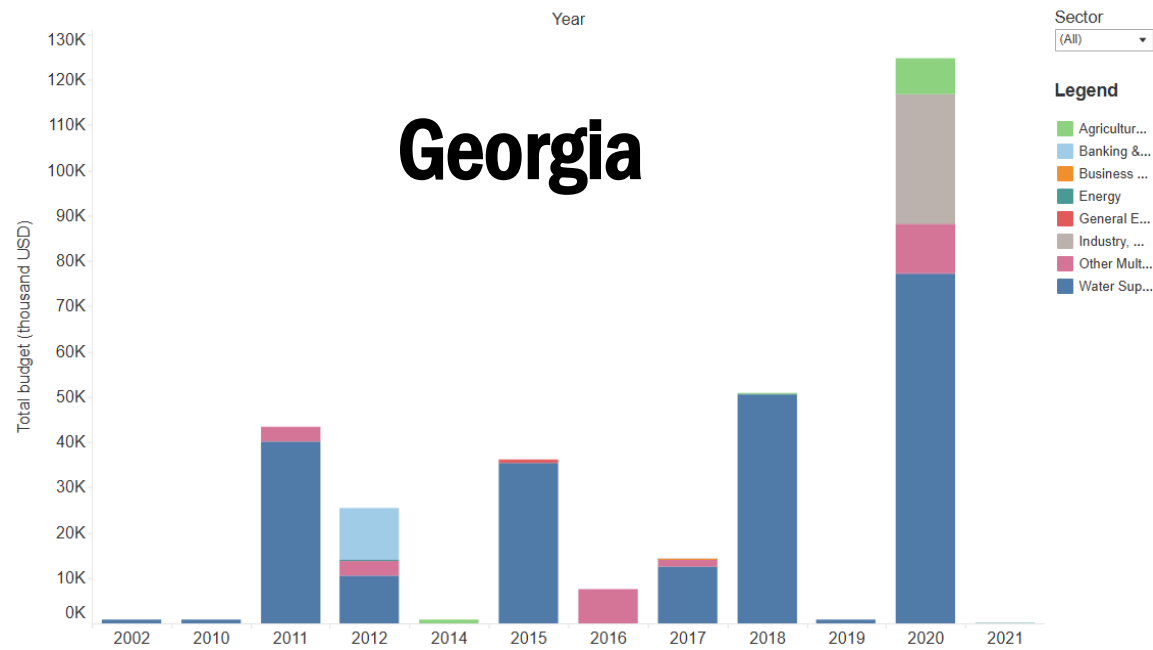
Annual distribution of financial flows amongst sectors



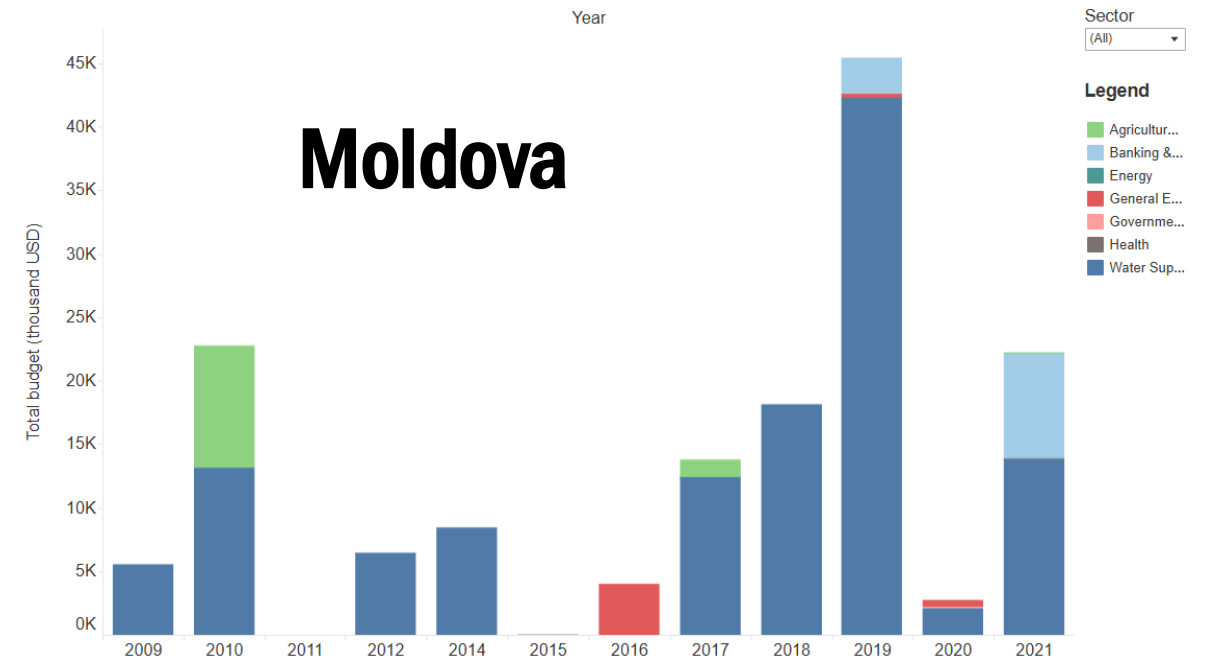
Annual distribution of financial flows amongst sectors



Annual distribution of financial flows amongst sectors



Annual distribution of financial flows amongst sectors

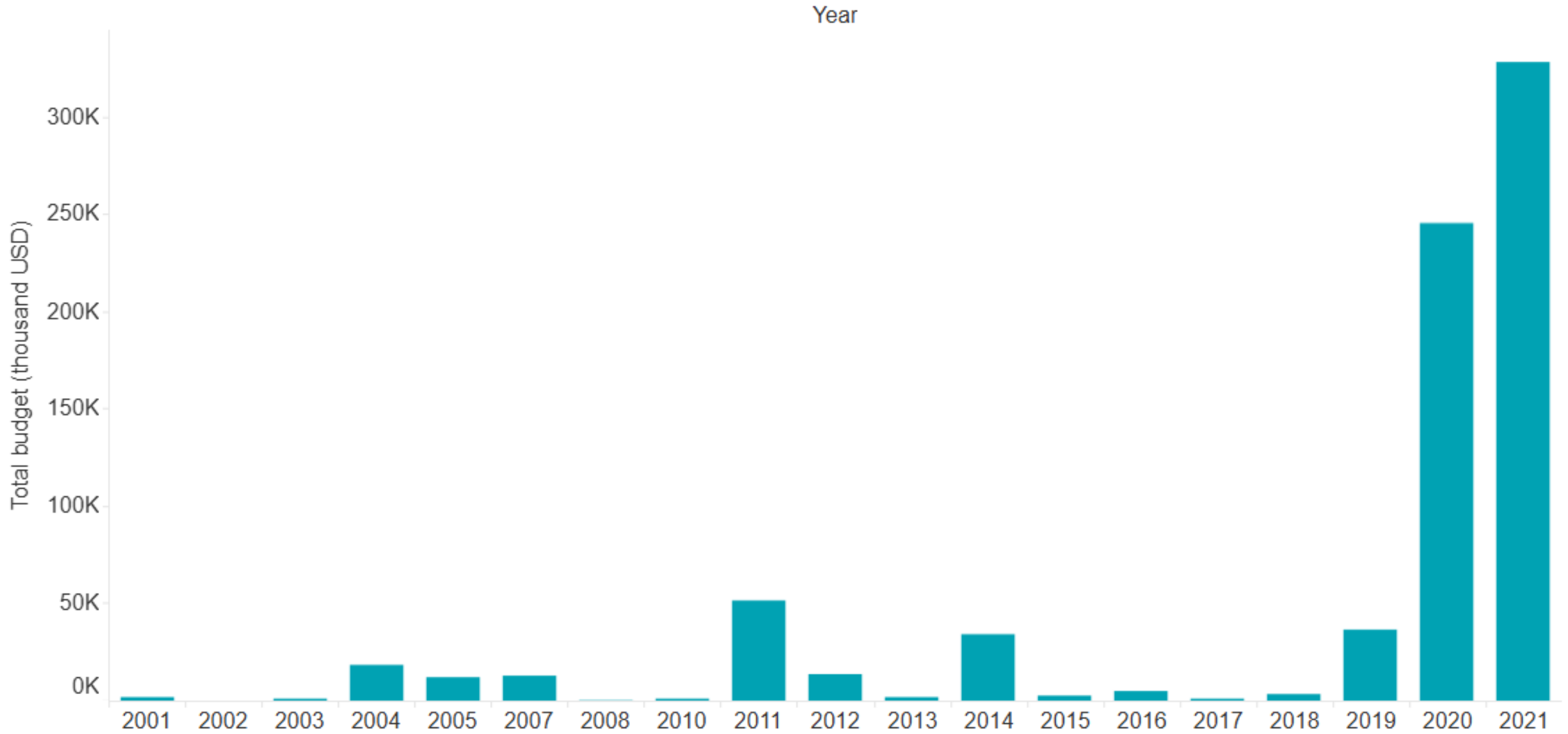




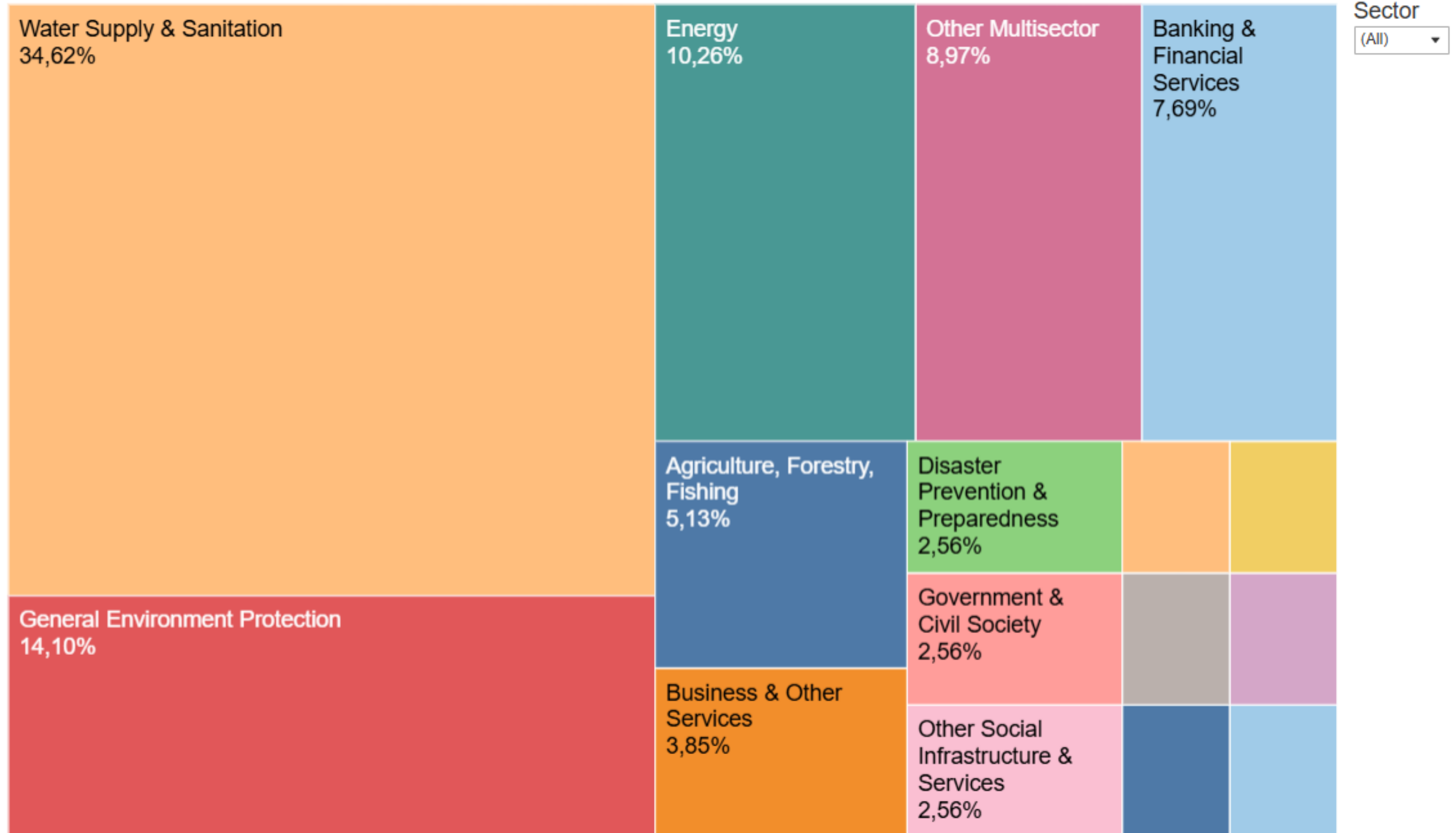
# CASE STUDY - SERBIA



## Annual allocation of financial flows



## Distribution of projects amongst sectors



Project title
Additional ebrd duboko serbia
Appraisal of ippc proposal serbia
Assistance to sustainable development in dragash
Belgrade palilula sewerage system
Bilateral visit of the director general for civil protection
City of uzice-conversion of coal boiler to gas in primary school
Combined heat and power plant and biomass padinska skela
Construction of wastewater treatment facilities. repartition of water supply network.
Cuprija-system for flood protection of rural settlements
Development of financial system in rural areas in serbia
Development of the financial sector in rural areas
Development of the financial system in rural areas in serbia
Drinking water supply
Drinking water supply (am)
Eds smart metering expansion
Empowerment of vulnerable older persons wellbeing in kragujevac and kraljevo region
Environmental negotiations: pre-appraisal env negotiations pre-appraisal
Expansion of the use of local biomass in medium-sized boilers on chips and pellets in serbia
Fif - regional sme csp - intesa leasing iv
Fif - regional sme csp - serbia ucb
Fif - regional sme csp ii - serbia banca intesa
Financing sustainable and resilient urban development in serbia
Fs biovision – sustainable waste management and processing
Green transition - implementing industrial emissions directive in serbia - grant agreement between sida and the faculty of technology and metallurgy
Help after floods in serbia
Hungary bilateral climate financing scheme
Improving c-balances on livestock-free organic farms for the sequestration of atmospheric carbon
Improving corporate governance in family-owned enterprises
Infrastructure programme: water supply and sanitation
Infrastructure: solid waste sector (kosovo)
Intensification of the recovery of waste delivered to the srem-ma?va landfill
Kragujevac district heating project
Local water supply and sanitary protection of spring and wells
Mediterranean component of the eu water initiative (med euwi)
Modernization of a central district heating system in the town of srbobran
Modernization of a central district heating system in the town of srbobran with possible use of alternative heat sources/ modernization of a central d
Near-end review of envap and eisp serbia
Peid, priority environmental infrastructure serbia - priority environmental infrastructure serbia
Presentation of environmental legislation and experience
Primary school rudovci - wood pellet boiler

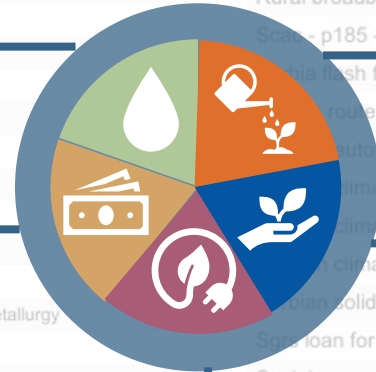
Primary school rudovci - wood pellet boiler
Prog national gestion des dechets
Program azahar (orange blossom program change included workshops at)
Project grant to the international and security affairs center (isac)
Raising environmental and social awareness among young people in southern, western and eastern parts of central serbia
Regionale wv und ae vi (kosovo)
Rehab. of urban water supply & sew. systems
Rehab.of urb an water supply & sew. systems
Rehab.urban water supplies
Rehabilitation of district heating systems in serbia (phase iv)
Rs: chp biomass padinska skela,aufst,eur
Rs: chp biomass padinska skela,konsulent
Rural broadband rollout 2
Scac - p185 - serbie - service de coopération et d'action culturelle
Serbia flash floods report on the estimation of potentially flooded areas in march 2016
Serbia: route 7 highway - lender's monitor
Serbian automotive cluster-competitiveness through cleaner production
Serbian climate resilience & irrigation programme 2
Serbian climate resilience & irrigation programme scrip
Serbian climate resilience and irrigation project (scrip) - development of irrigation strategy
Serbian solid waste programme
Sgrs loan for smes midcaps & other priorities iv
Social accountability certification
Support to environmental negotiations serbia - swedish epa - env negotiations sepa
Support to flood recovery in serbia programme
Support to flood recovery in serbia programme capital
Supporting to the serbian environmental protection agency for the pollution monitoring of soil at industrial and mining sites.
The modeling of agricultural water management in vojvodina
The project for equipping municipality of sjenica with a vehicle for sewer pipe cleaning and snow removal device
Undp climate smart bio-waste managment challenge
Utilizing the hydropotentiality of existing raw / drinking water feeders of regional water supply systems in the region of western serbia
Voluntary contribution to the undp in support of a project implemented in serbia on climate smart urban development
Wasteoilfree - integrated waste-oils management system. transfer of best practices for safe, sustainable and eco-friendly transport in serbia
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Water supply & sanitation - large systems

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## Water supply development

## Financial sector

## Energy / Heating

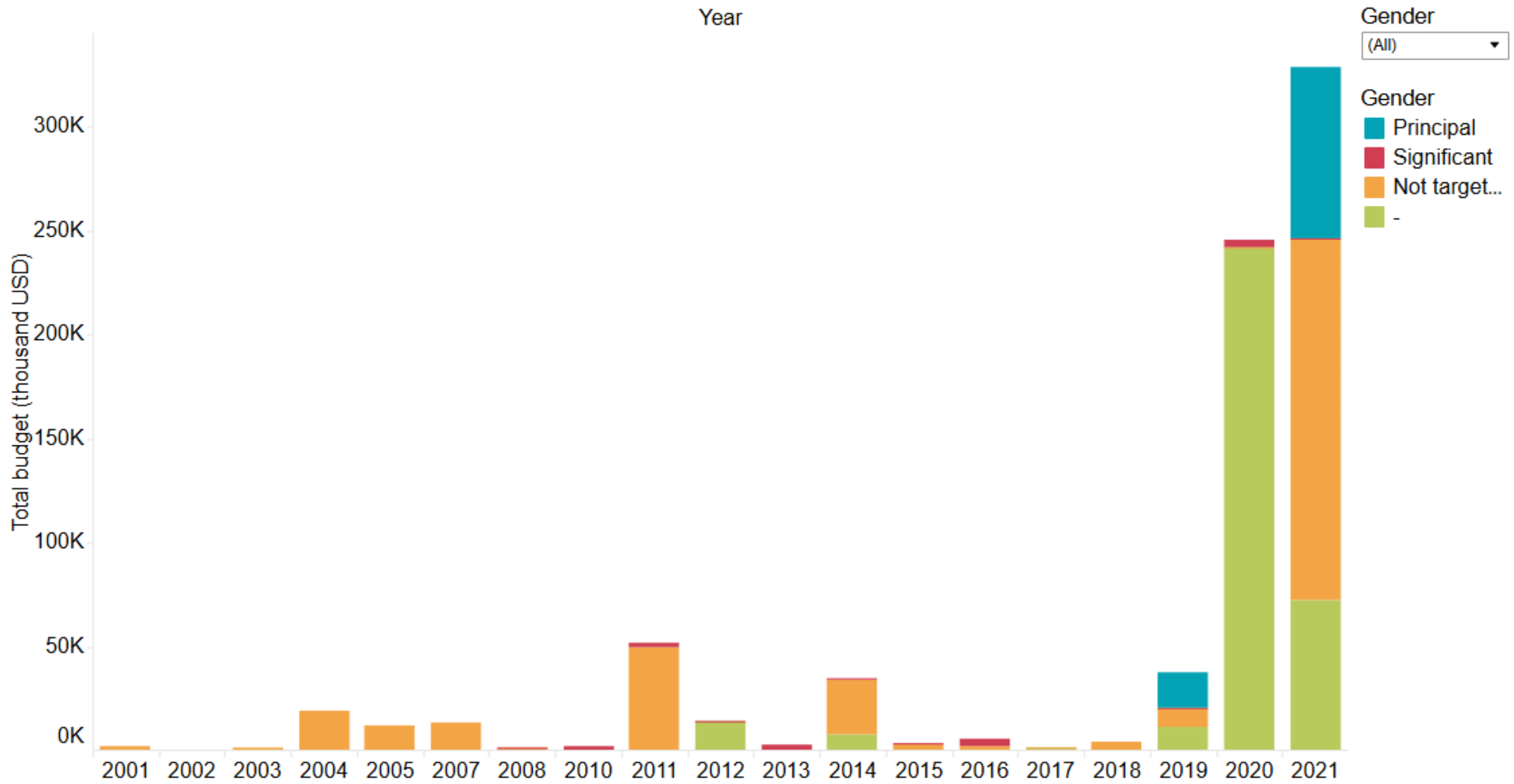


## Climate resilience and irrigation

## Environmental protection

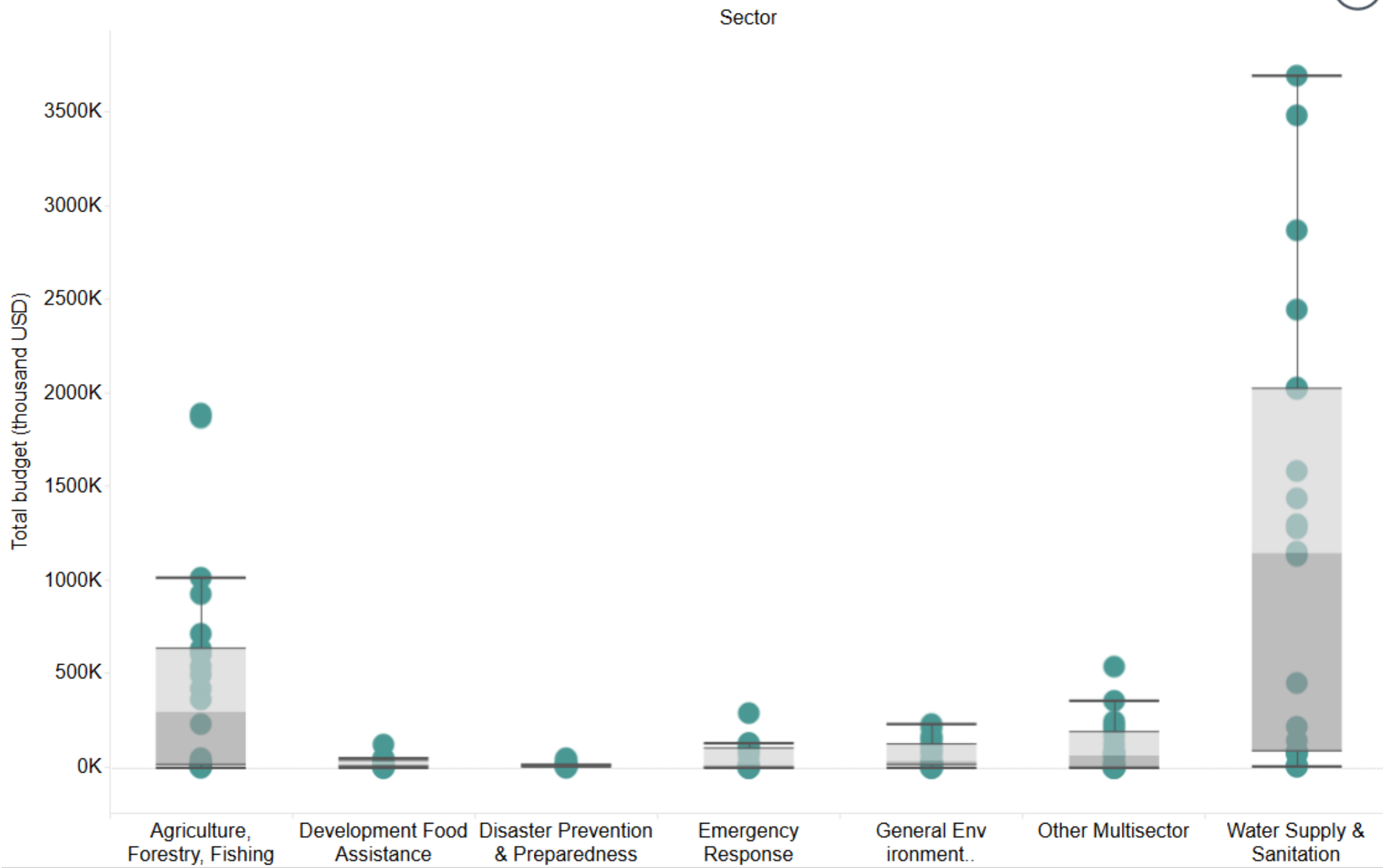
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# Annual allocation of financial flows amongst gender objectives



# Distribution of annual project budgets in the main recipient sectors

*i*



# THANK YOU FOR THE ATTENTION



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