CONVERGES
European Riparian Ecosystems

GC-WG2 progress report and STSM at University of Lisbon
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Genetic Conservation Sub-group (GC-WG2) Members:
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Funded by the Horizon 2020 Framework Programme
of the European Union

Annual meeting and 4th Management Committee Meeting 12-13 February 2020 – Thessaloniki,

Aims to be achieved by Genetic Conservation sub-group

- review the state of art in genetic conservation of riparian ecosystems/species at the European level;

- identify knowledge gaps, conservation barriers and future research and management needs;

SCHEDULE

Expected Output	Methodology	Deadline	Current status
Directory of experts	Contact database	15/12/2018	OK
List of relevant contacts, bibliography and information about most important riparian species from each country	Short Questionnaire	1/02/2019	OK
Progress report I	Information analysis, literature review and structured interview	15/03/2019	OK
Brief country reports	Structured interview	15/06/2019	OK
Progress report II	Systematic review and data analysis	15/10/2019	OK – STSM 1/11/2019-30/11/2019
Review paper on the state of art in genetic conservation of riparian ecosystems/species	Systematic review and data analysis	15/10/2020	In progress

GC subgroup Approaches

1. Literature review (STSM)
2. Consultation of experts/managers/practitioners
    - Creation of a Directory of experts across Europe
    - Questionnaire for country reports
        - Short questionnaire
        - Structured interview (STSM)

STSM:

- Reviewing literature
- Organizing questionnaires
- Data analysis
  - Numeric data
  - Text data

Reviewing literature

- Using KOBSON
- ISI World of knowledge
- Using three terms:
  - Riparian
  - Genetic
  - Conservation

Organizing questionnaires

- 29 documents
- 18 countries
- Separating numeric from text data
- Organizing data into categories

Numeric analysis

Microsoft Excel

5 sheets:

1. Experts info
2. Genetic conservation
3. Status on riparian genetics in a specified country
4. Strengths of riparian genetic resources
5. Weaknesses of riparian genetics resources

Experts info

I. PROFILE OF THE RESPONDENT	
Name	
Country of work	
Affiliation	
Email	
Which sector are you most involved?	A) University/Research institute B) Public administration C) Private sector D) Civil society E) Other: _____
Which vegetation type/species you focus on?	
How many years have you worked on: (a) Genetic conservation; (b) Genetic conservation of riparian vegetation?	(a) _____ (b) _____

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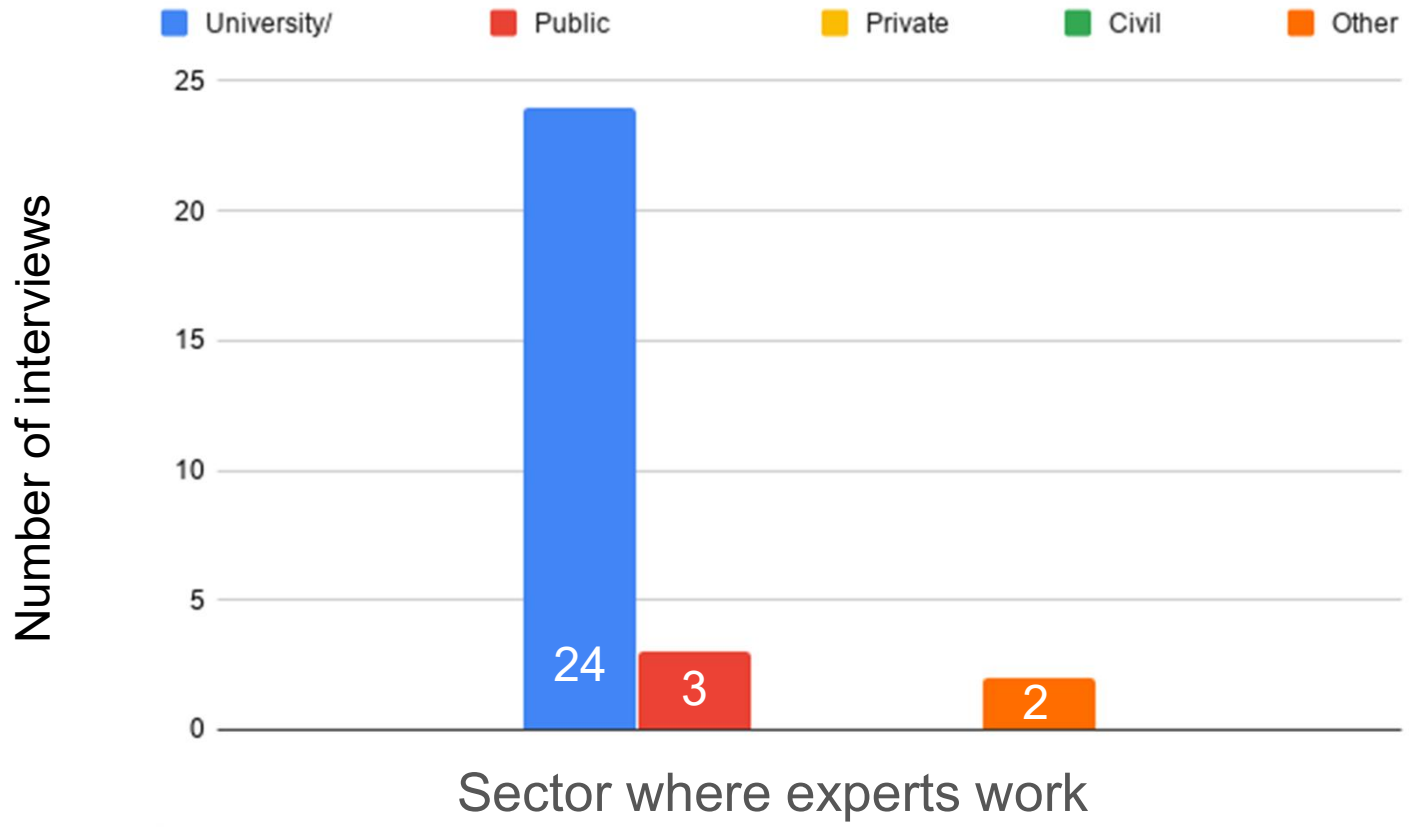
Experts info



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Genetic conservation

II. GENETIC CONSERVATION OF RIPARIAN VEGETATION	
In your view, which are the main benefits of conserving riparian genetic resources? (rank up to 5 choices)	⬡ Economic advantages/benefits ⬡ Food security ⬡ Fresh water ecosystem conservation ⬡ Filtering water polluters ⬡ Scientific interest ⬡ Social importance ⬡ Other
In your view, which is the most effective approach to conserving riparian genetic resources? (choose one option)	A) *In situ* conservation B) *Ex situ* conservation C) *In situ* x *ex situ* combination D) Integrative conservation
In your opinion, have there been changes in riparian genetic diversity in your country over the past ten years? Please, define the observed changes.	⬡ No significant changes ⬡ Improving status ⬡ Degrading _____ _____ _____

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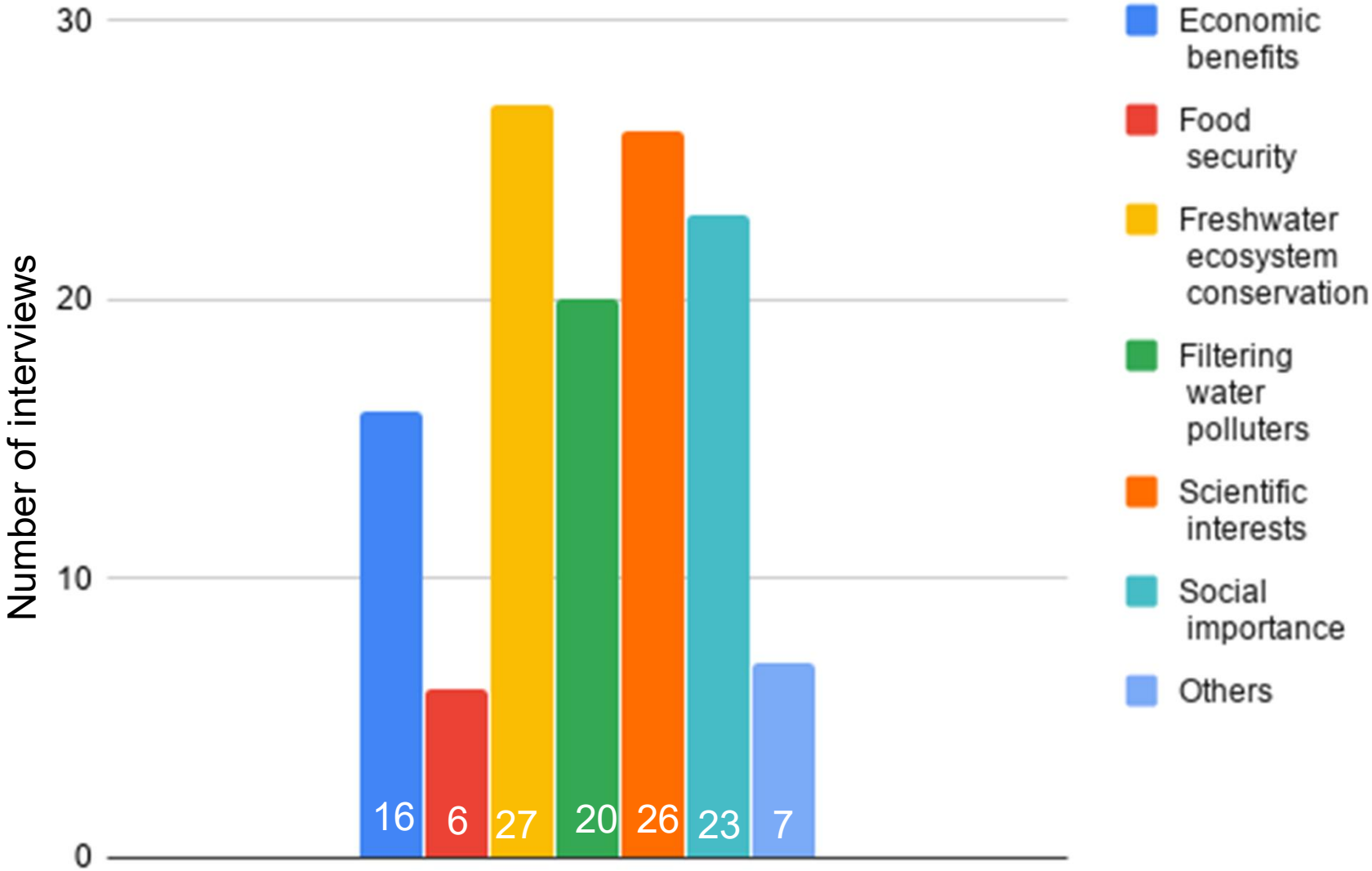
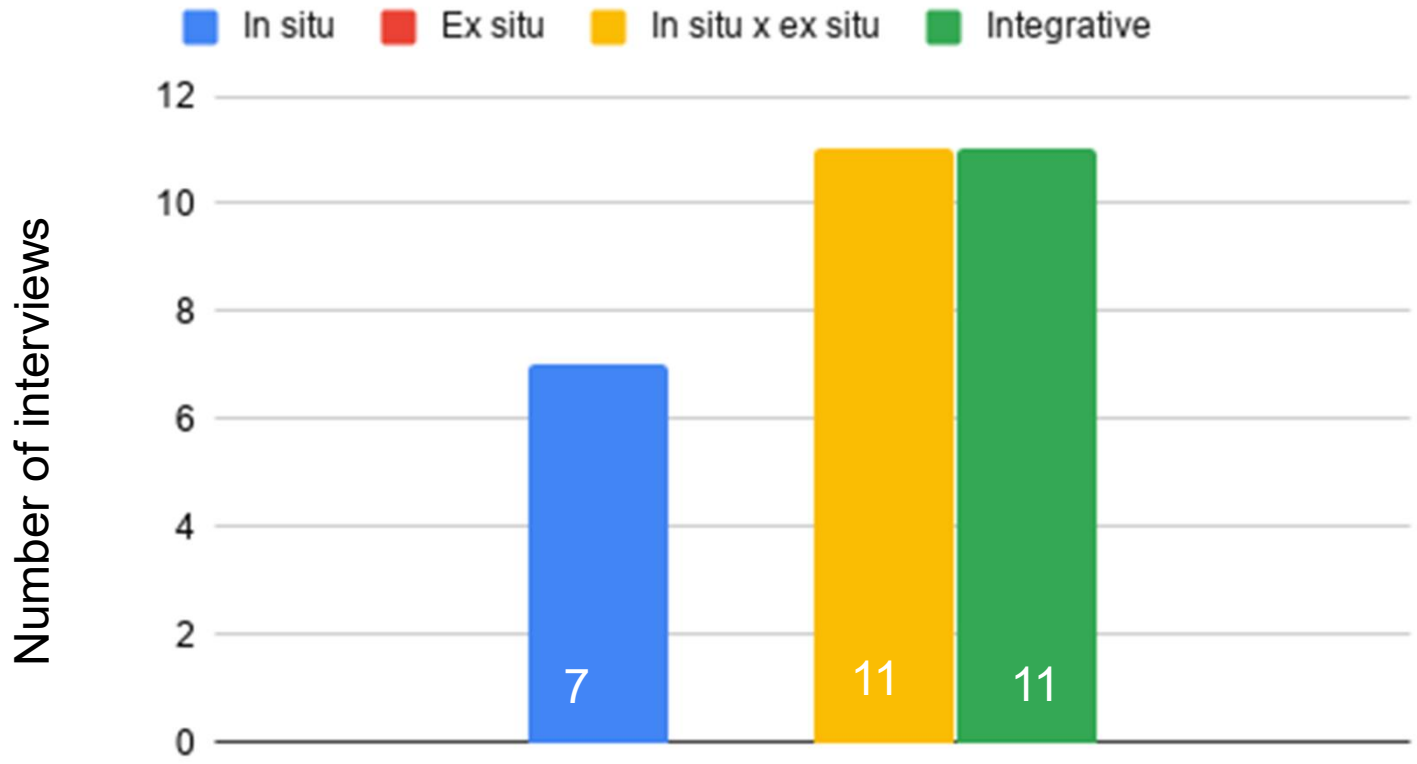


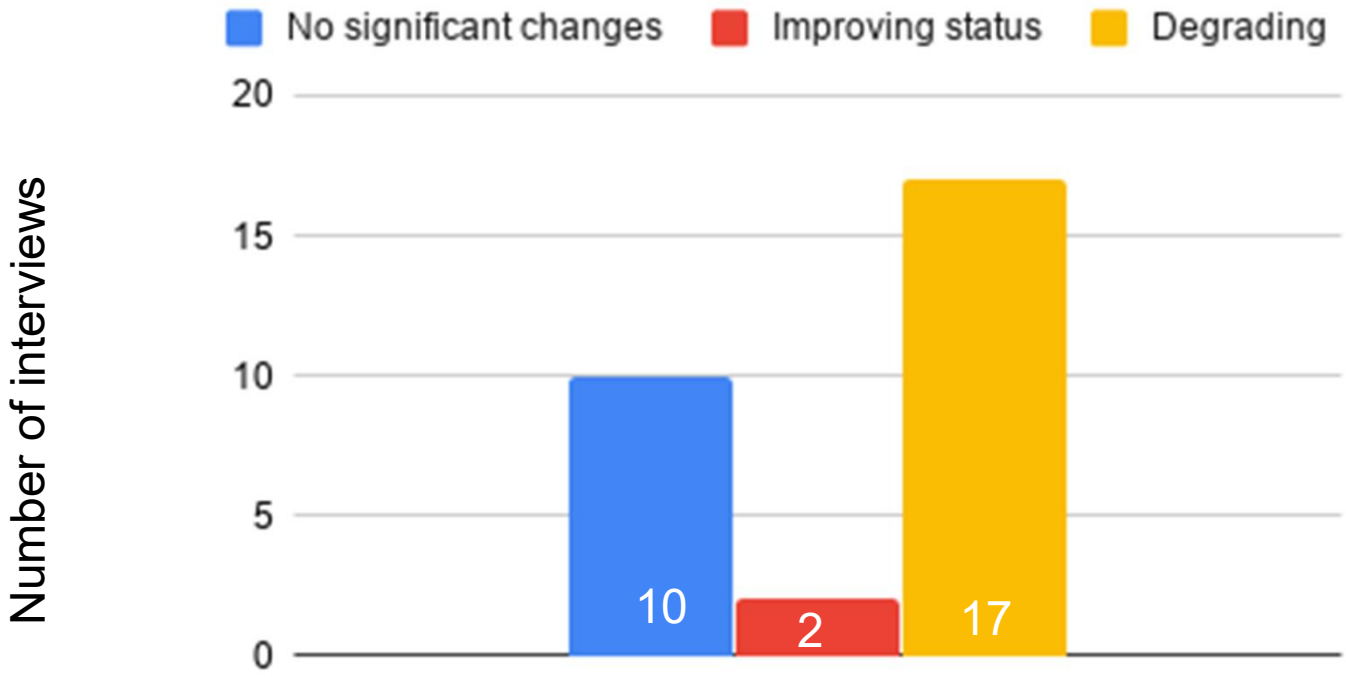
Which are the main benefits of conserving riparian genetic resources?

Genetic conservation



Which is the most effective approach to conserving riparian genetic resources?

Genetic conservation



Have there been any changes in riparian genetic diversity in your country for the past ten years?

Status on riparian genetics

III. STATUS ON RIPARIAN GENETIC RESOURCES CONSERVATION IN YOUR COUNTRY. According to your knowledge, please answer following questions:	
Has the state of diversity of riparian ecosystems in your country been assessed since 2000? If YES, please provide a link to the project or information on the results.	Y ⬡ NO ⬡ YES _Link for project_____ _Reference on scientific or grey literature_____ _____
Does your country have plans/programs to assess the state of genetic diversity of riparian ecosystems? If YES, please specify existing documents.	Y ⬡ NO ⬡ YES Link for project_____ _Reference on scientific or grey literature _____ _____ _____
Does your country have procedures in place to monitor or measure genetic erosion in riparian ecosystems? If YES, which institutions are in charge of implementing these procedures?	Y ⬡ NO ⬡ YES _____ _____

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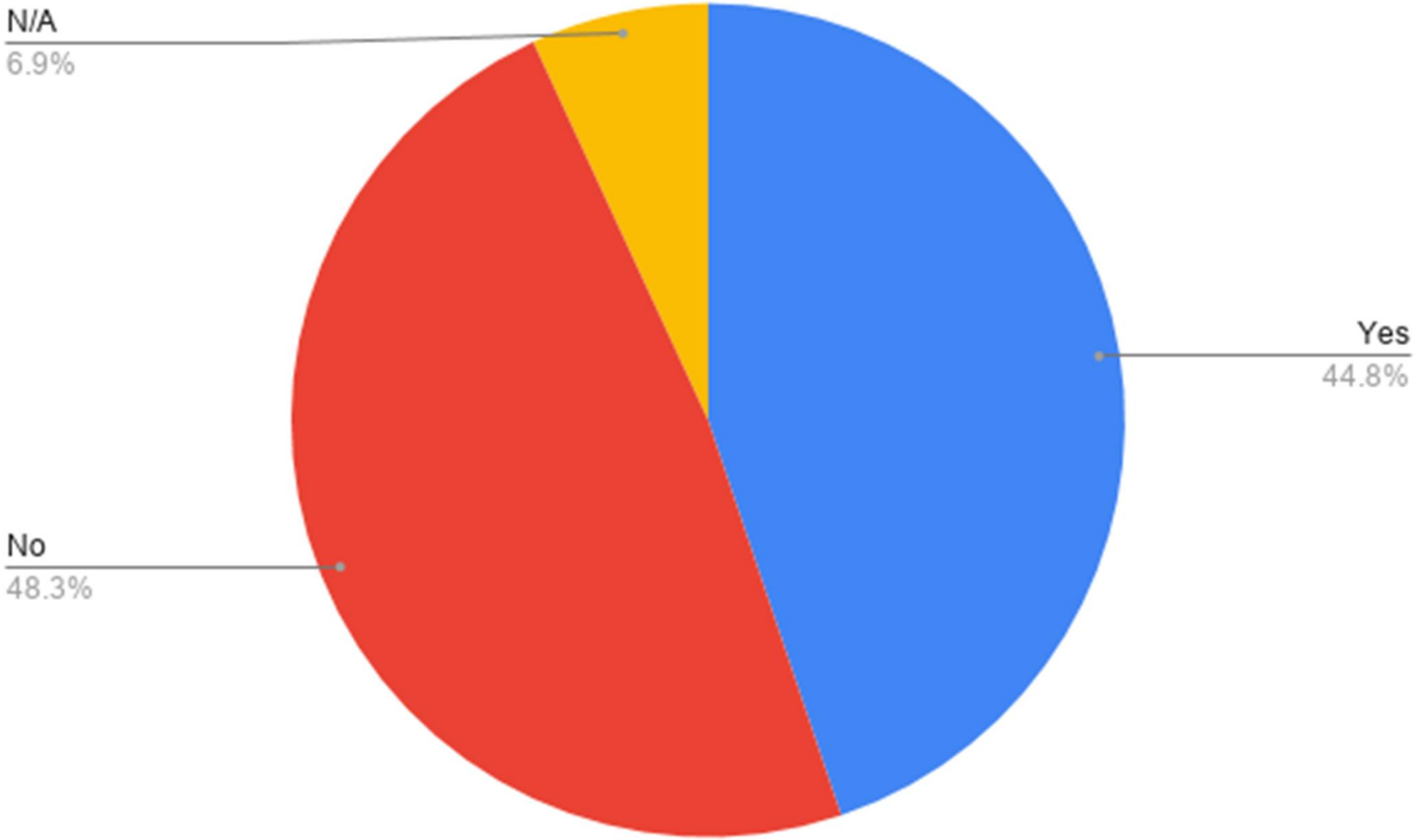
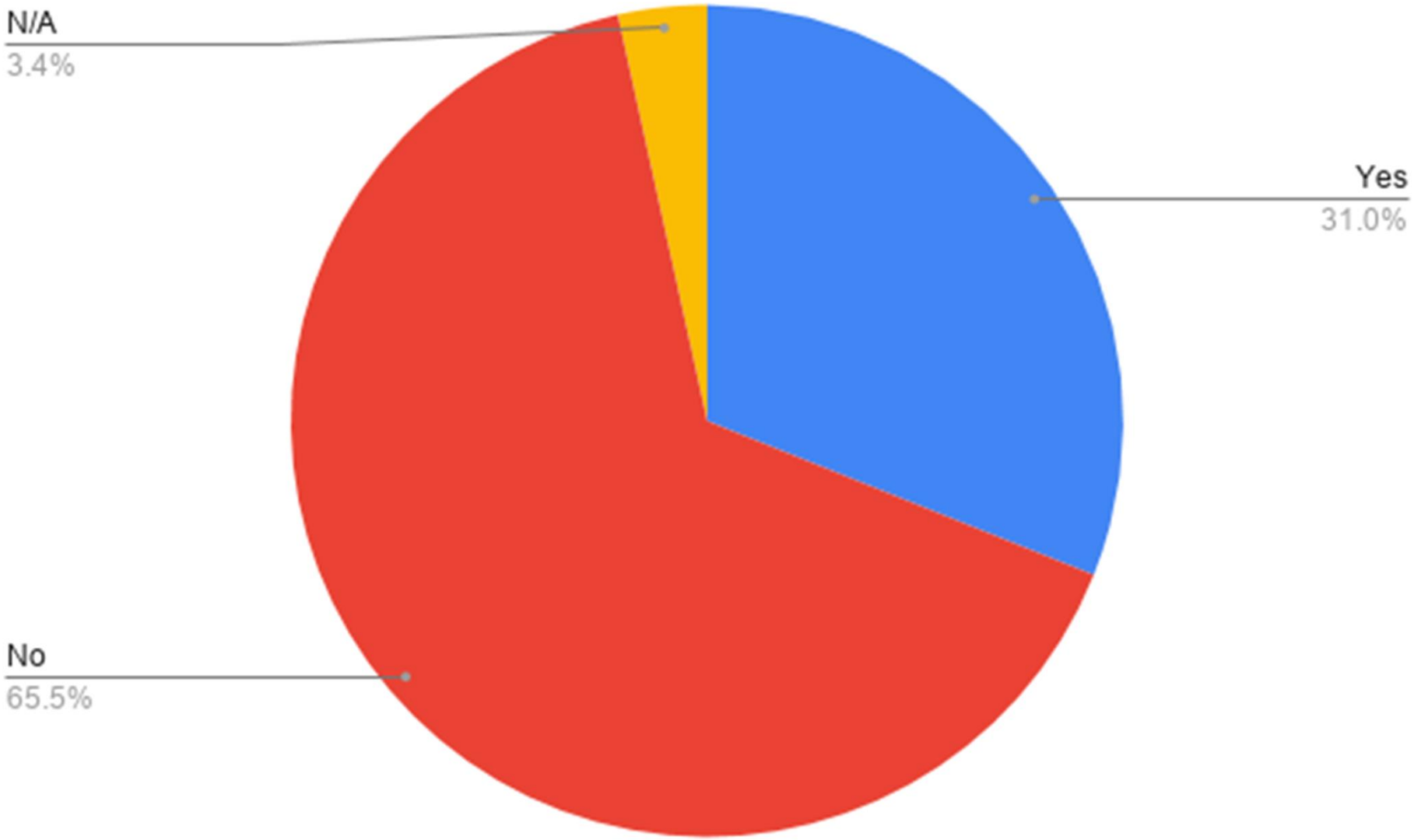
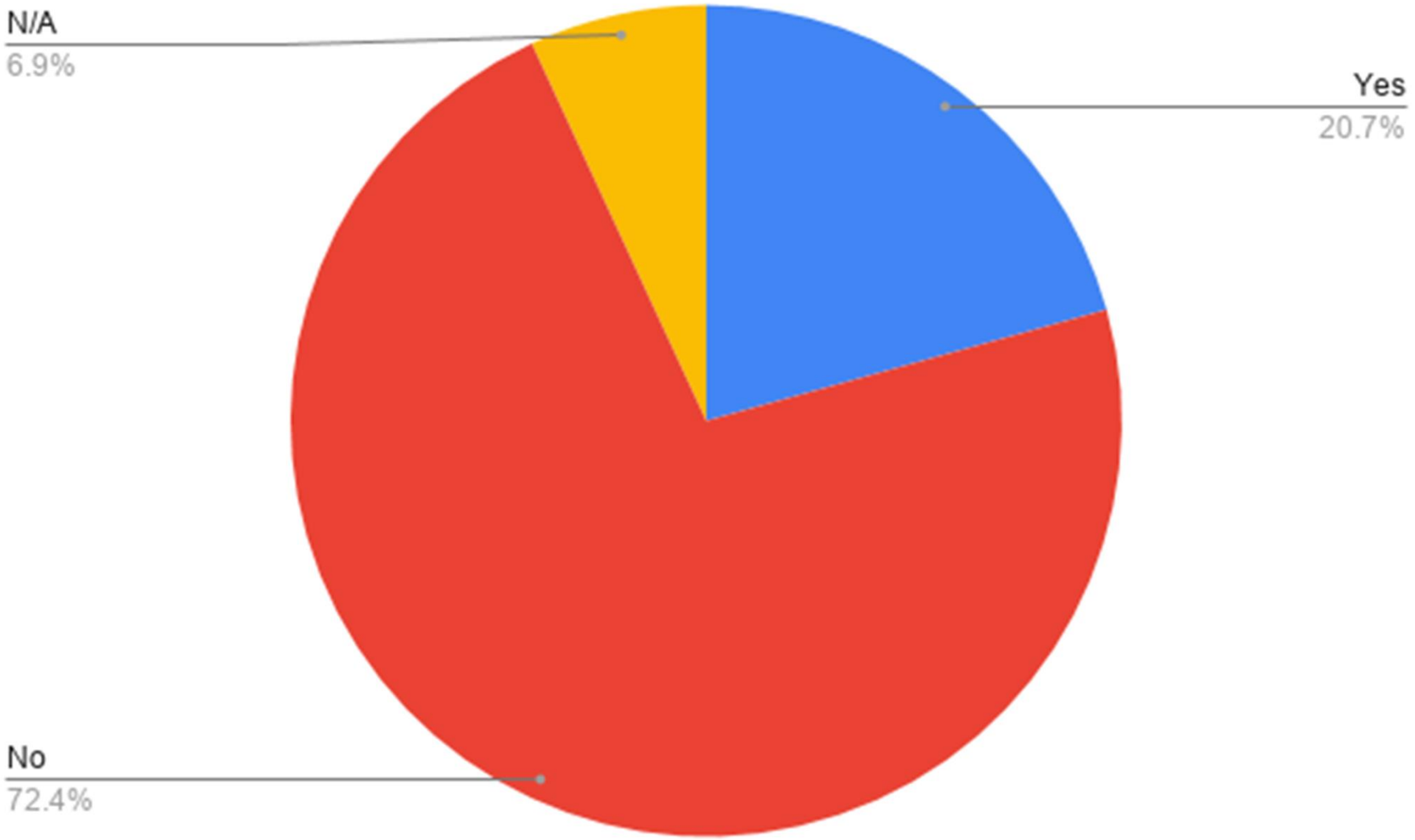


Has the state of diversity of riparian ecosystems in your country been assessed since 2000?



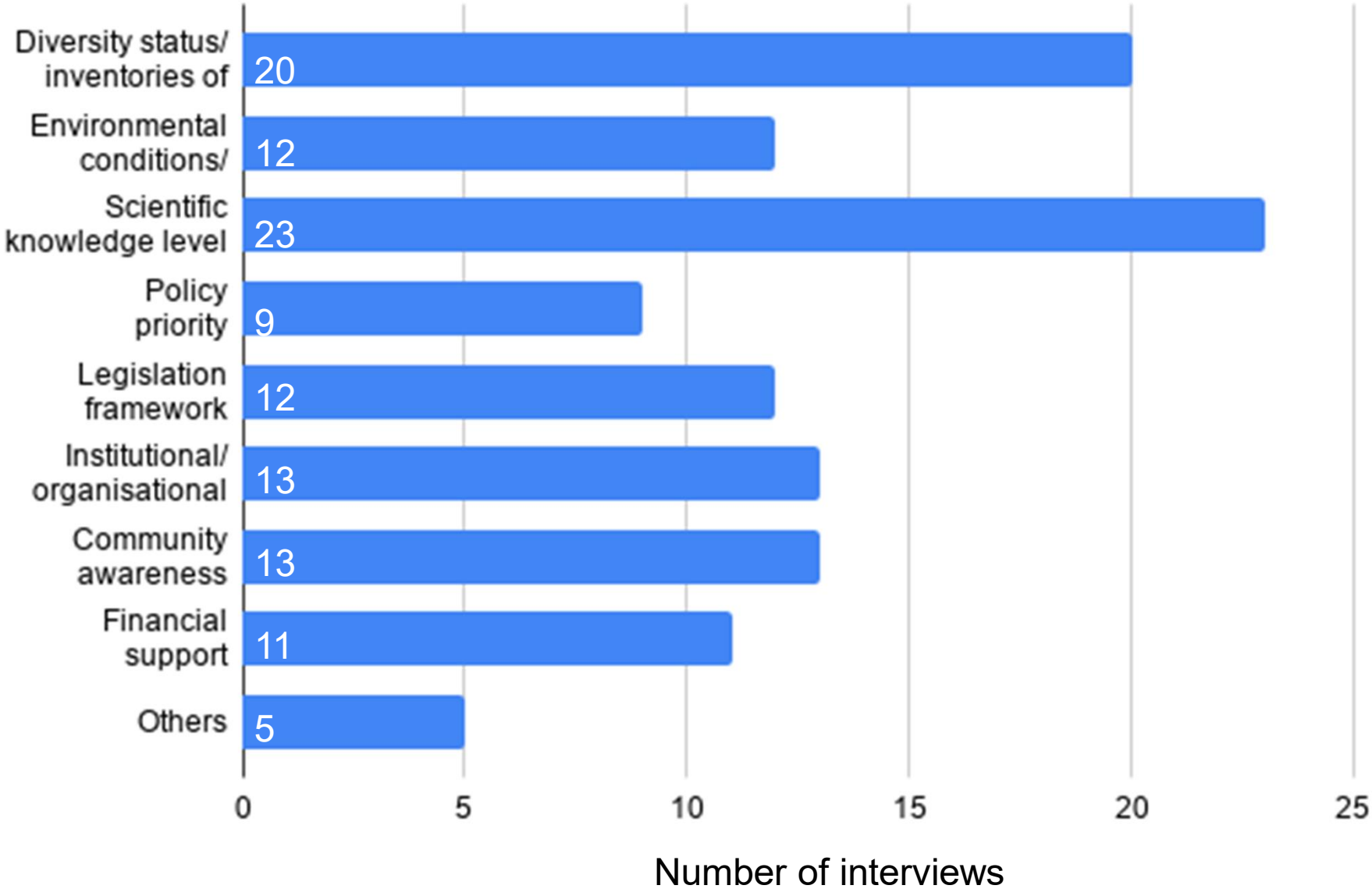
Does your country have plans/programs to assess the state of genetic diversity of riparian ecosystems?



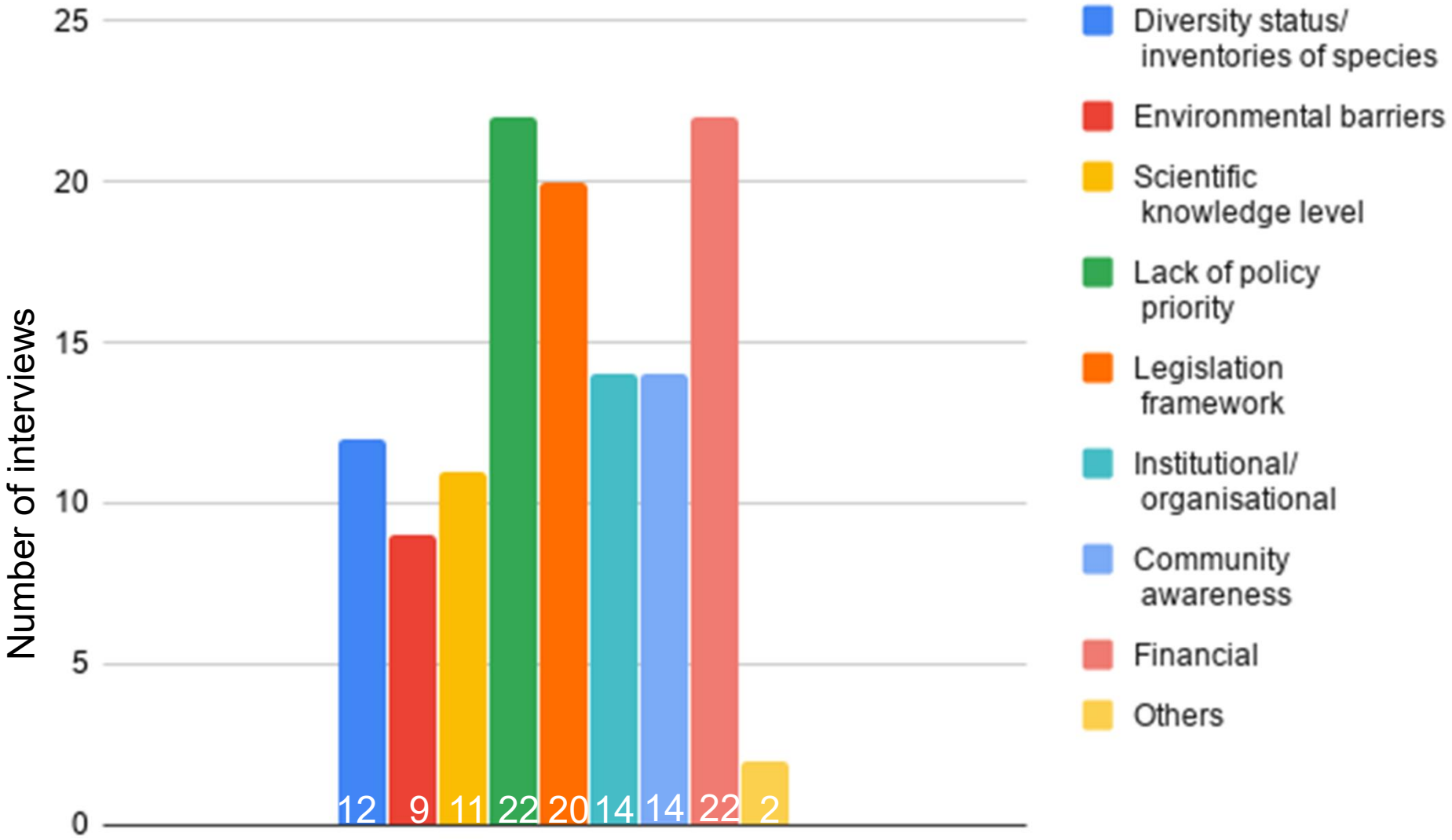
Does your country have procedures in place to monitor or measure genetic erosion in riparian ecosystems?

Needs on riparian genetic resources

IV. NEEDS ON RIPARIAN GENETIC RESOURCES RESEARCH AND CONSERVATION MANAGEMENT IN YOUR COUNTRY	
Indicate and rank strengths of riparian genetic resources conservation in your country.	⬡ Diversity status/inventories of species ⬡ Environmental conditions/accessibility ⬡ Scientific knowledge level ⬡ Policy priority ⬡ Legislation framework ⬡ Institutional/organisational framework ⬡ Community awareness ⬡ Financial support ⬡ Other: _____
Indicate and rank weaknesses of riparian genetic resources conservation in your country.	⬡ Diversity status/inventories of species ⬡ Environmental barriers ⬡ Scientific knowledge level ⬡ Lack of policy priority ⬡ Legislation framework ⬡ Institutional/organisational framework ⬡ Community awareness ⬡ Financial barriers ⬡ Other: _____



Indicate and rank strengths of riparian genetic resources conservation in your country



Weaknesses of riparian genetic resources conservation in your country

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Analyzing data
- text analysis -

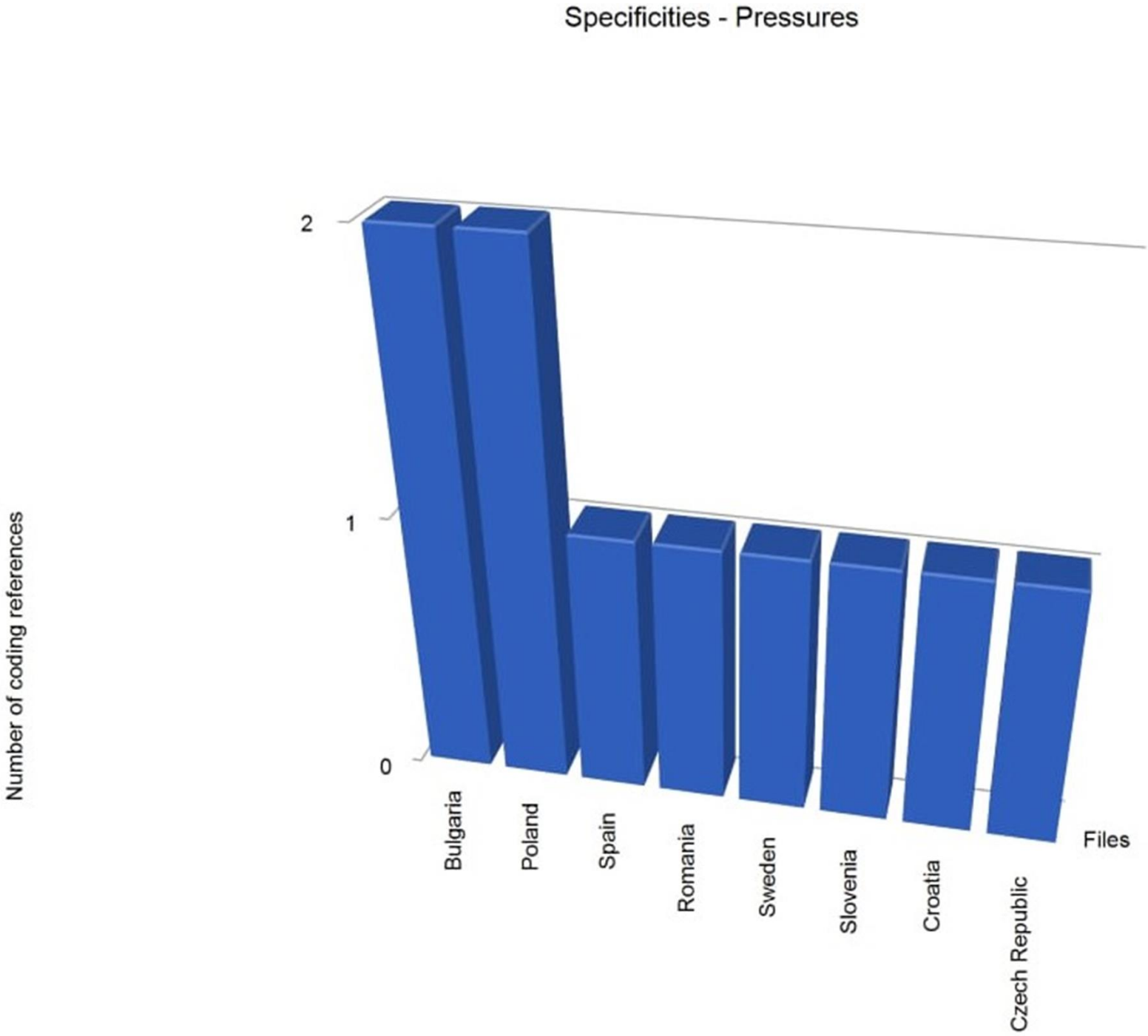
- NVivo 12 (https://www.qsrinternational.com/)
- 29 documents x 4 answers per document = 116 answers
- Coded in at least 2 coded lines per answer
- At least 232 coded lines

Analyzing data
- text analysis -

- 4 major categories
- 36 subcategories

Analyzing data
- Specificities -

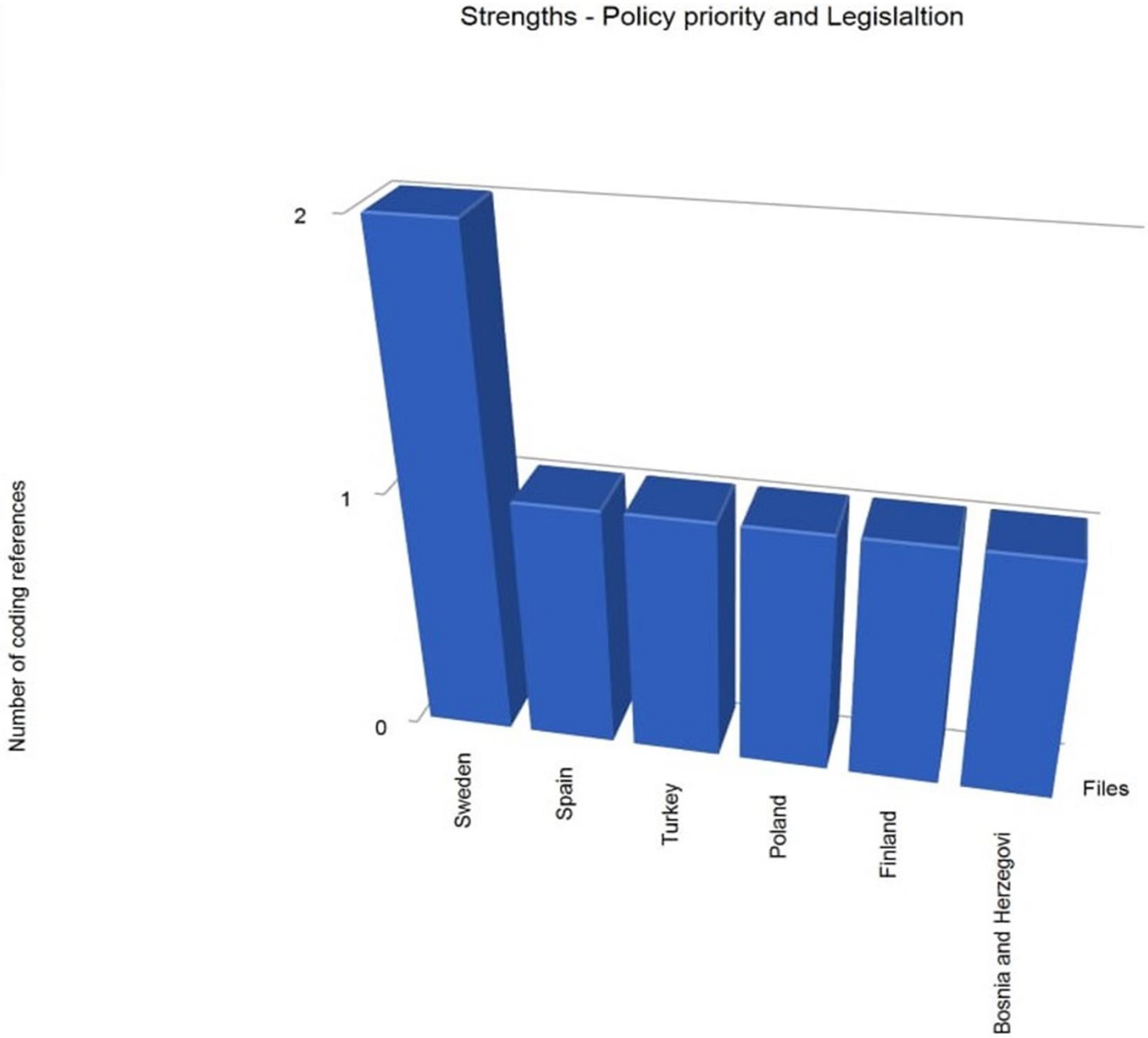
- In your view, which are the specificities of conserving riparian genetic resources in comparison with other systems/species?
    - Legislation
    - Water management
    - Biodiversity
    - Ecosystem functioning
    - Gene flow
    - Pressures
    - Regeneration
    - Water regimes


Specificities - Pressures
Number of coding references
2
1
0
Bulgaria
Poland
Spain
Romania
Sweden
Slovenia
Croatia
Czech Republic
Files

Analyzing data
- Strengths -

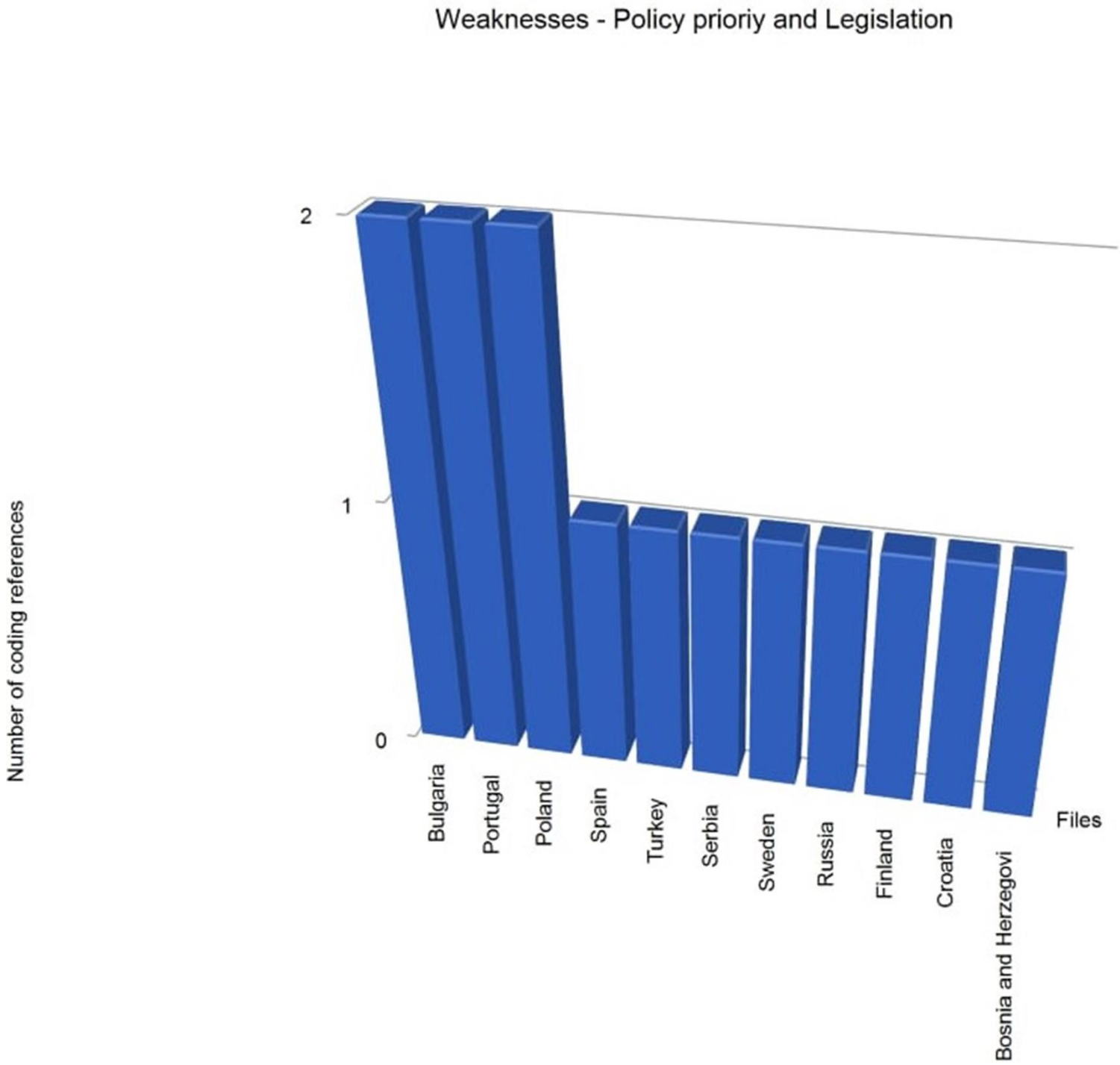
- In your opinion, how above ranked strengths can be used to achieve effective riparian genetic resources conservation in your country?

  - Community awareness
  - Detailed genetic screening
  - Financial support
  - Institutions engagement
  - Inventory
  - New ecological and molecular methods
  - NGO
  - Policy priority and legislation
  - Scientific knowledge


Strengths - Policy priority and Legislaltion
Number of coding references
2
1
0
Sweden
Spain
Turkey
Poland
Finland
Bosnia and Herzegovi
Files

Analyzing data
- Weaknesses -

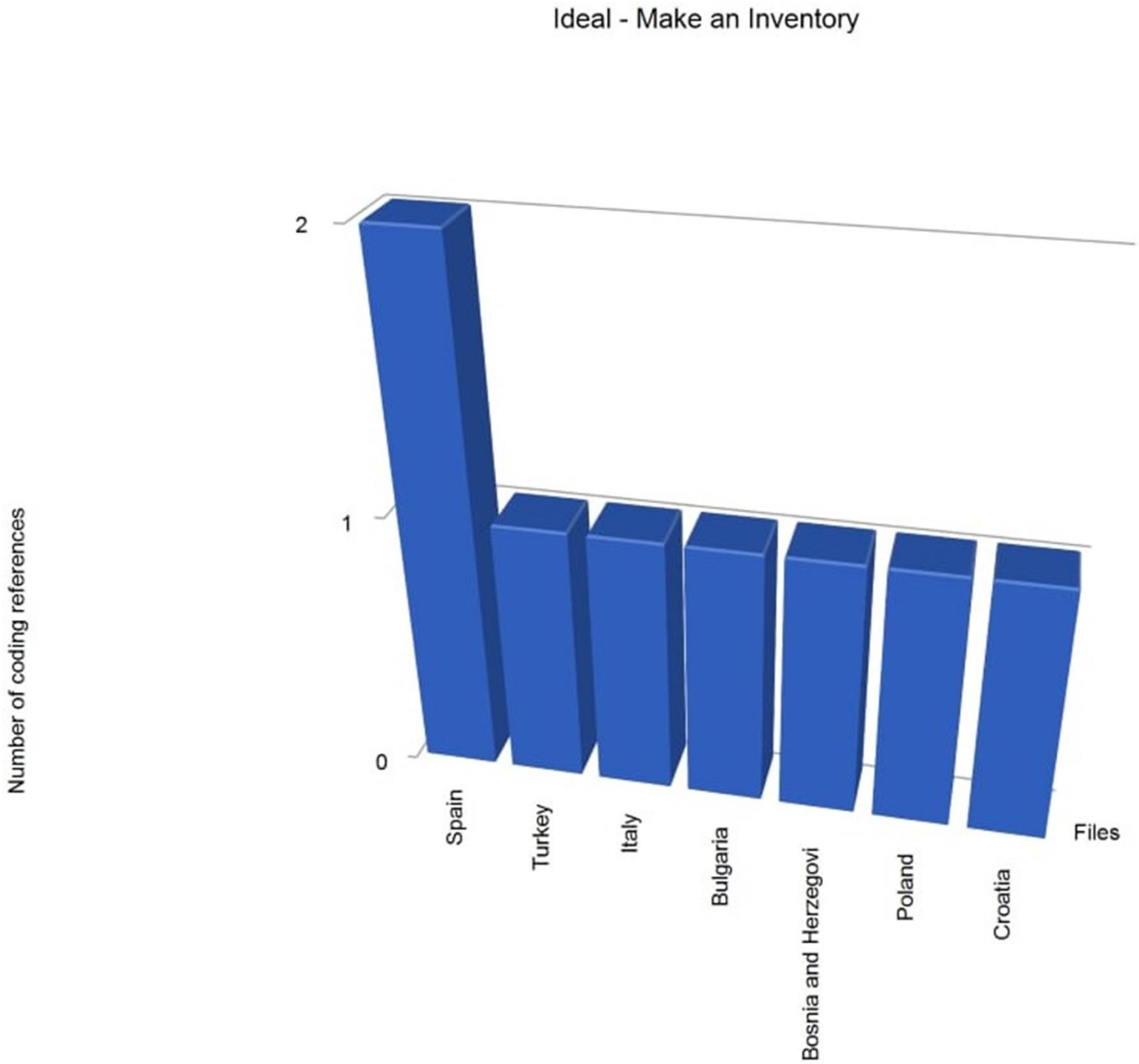
- In your opinion, how weaknesses of riparian genetic resources can be alleviated and/or eliminated?
    - Education and professional training
    - Financial support
    - Community awareness
    - Not an issue
    - Policy priority and legislation
    - Scientific knowledge
    - Working together


Weaknesses - Policy prioriy and Legislation
Number of coding references
2
1
0
Bulgaria
Portugal
Poland
Spain
Turkey
Serbia
Sweden
Russia
Finland
Croatia
Bosnia and Herzegovi
Files

Analyzing data
- Ideal proposal -

- Imagine and describe “an ideal” (the most beneficial) project aimed at riparian genetic resources conservation at the national level.

  - Education and professional training
  - Ex situ measures
  - In situ measures
  - Funding scheme
  - Genetic screening
  - Knowledge transfer
  - Make an inventory
  - Project monitoring
  - Referencing hotspots
  - Research
  - Upgrading project


Ideal - Make an Inventory
Number of coding references
2
1
0
Spain
Turkey
Italy
Bulgaria
Bosnia and Herzegovi
Poland
Croatia
Files

Analyzing data

- Word Cloud -

Summary

- Main benefits of conserving riparian genetic resources: Freshwater ecosystem conservation and Scientific interests
- Most effective approach to conserving riparian genetic resources: Integrative and Ex situ X In situ
- Changes in riparian genetic diversity – degrading
- The state of riparian ecosystem assessed since 2000 – 48.3% NO
- Plan to assess – 65.5% NO
- Procedures to monitor/measure genetic erosion in riparian ecosystems – 72.4% NO
- Strengths of riparian genetic resources: scientific knowledge level and diversity status (inventories of the species)
- Weaknesses of riparian genetic resources: lack of policy priority and finances.

Next steps

- SINTEZA Conference Belgrade 25/04/2020
  Session: Environmental Data Science
  https://sinteza.singidunum.ac.rs/

- Review paper on the state of art in GC of riparian ecosystems/species

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Thank you!

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