AdaptForChange project: identifying past good practices to adapt semiarid areas to the future

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Drylands and land degradation

Mitigation through reforestation

With native and non-native species



- Are reforestation efforts successful? What is success?

- Will their success change under a climate change scenario of increased aridity?

Global survey on dryland reforestations

Questionnaire on the Ecological Restoration of the Dryland Areas of Europe

* Required

Restoration project information

4. What is the name of your project? *

5. What is the location of the project? *
Please indicate a town, district, region and/or country.

6. Please provide the latitude and longitude coordinates at the centre of the project.

7. What is the size of the project in hectares? *

3) Which revegetation techniques were used? *

- [ ] Planting plants grown in nursery
- [ ] Transplanting plants from local area
- [ ] Seeding/Sowing
- [ ] Hydroseeding
- [ ] Inoculation/transplantation of soil crusts
- [ ] None
- [ ] Other:

4) Which supplementary techniques were used at planting/seeding? *

- [ ] Irrigation
- [ ] Fertilization
- [ ] Mulching
- [ ] Tree shelters
- [ ] Hydrophilic gel addition
- [ ] Micorrhization
- [ ] None
- [ ] Other:

5) Site preparation and plantation/seeding lasted: *

- [ ] < 2 months
- [ ] 2 - 6 months
- [ ] 7 months to 1 year

COST Action ES1104 - 'Arid Lands Restoration and Combat of Desertification: Setting Up a Drylands and Desert Restoration Hub'

Global survey on dryland reforestations

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I. Context and motivation

II. Planning, practice and maintenance

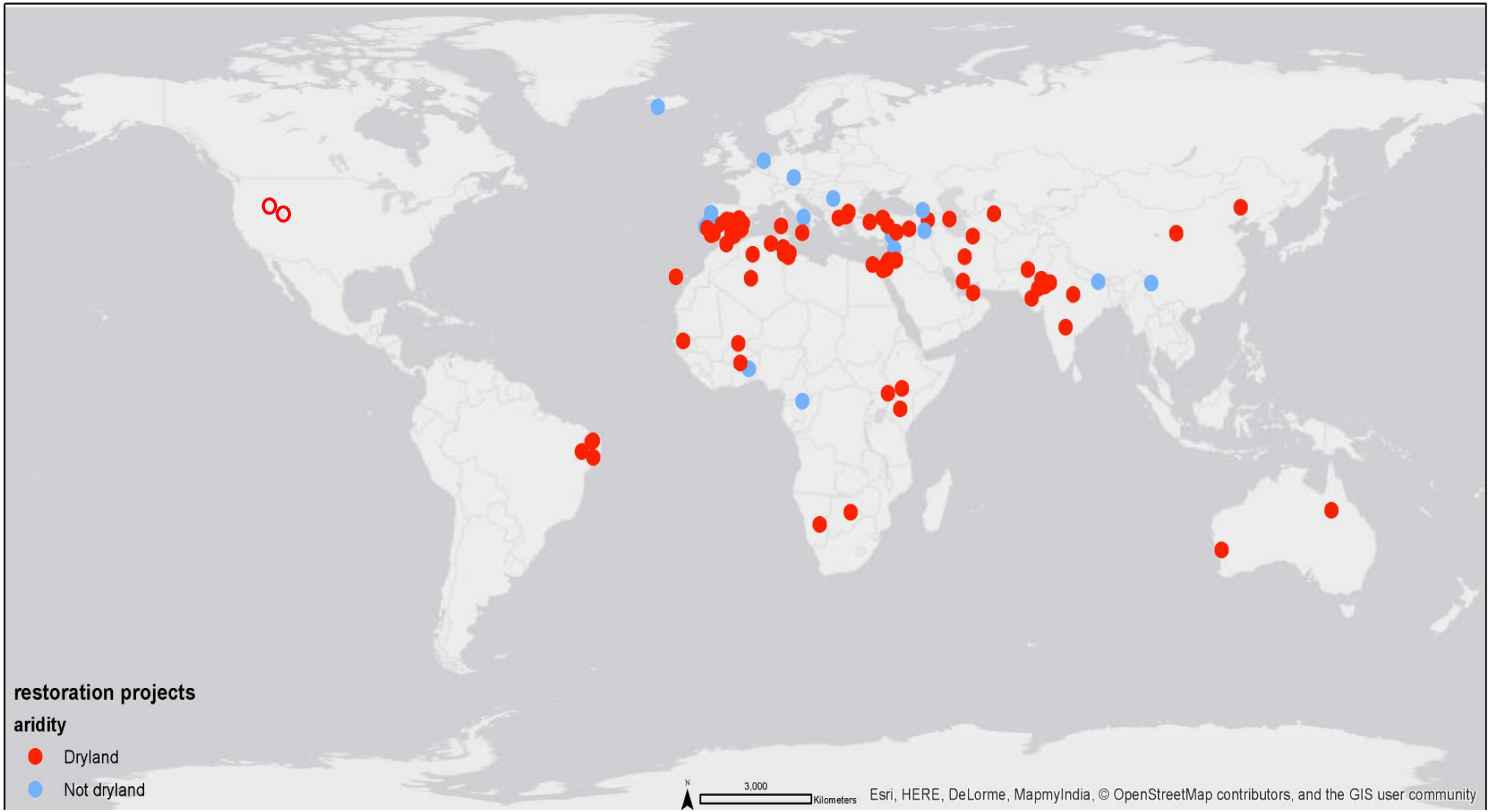
III. Criteria for plant species selection

IV. Monitoring and outcome

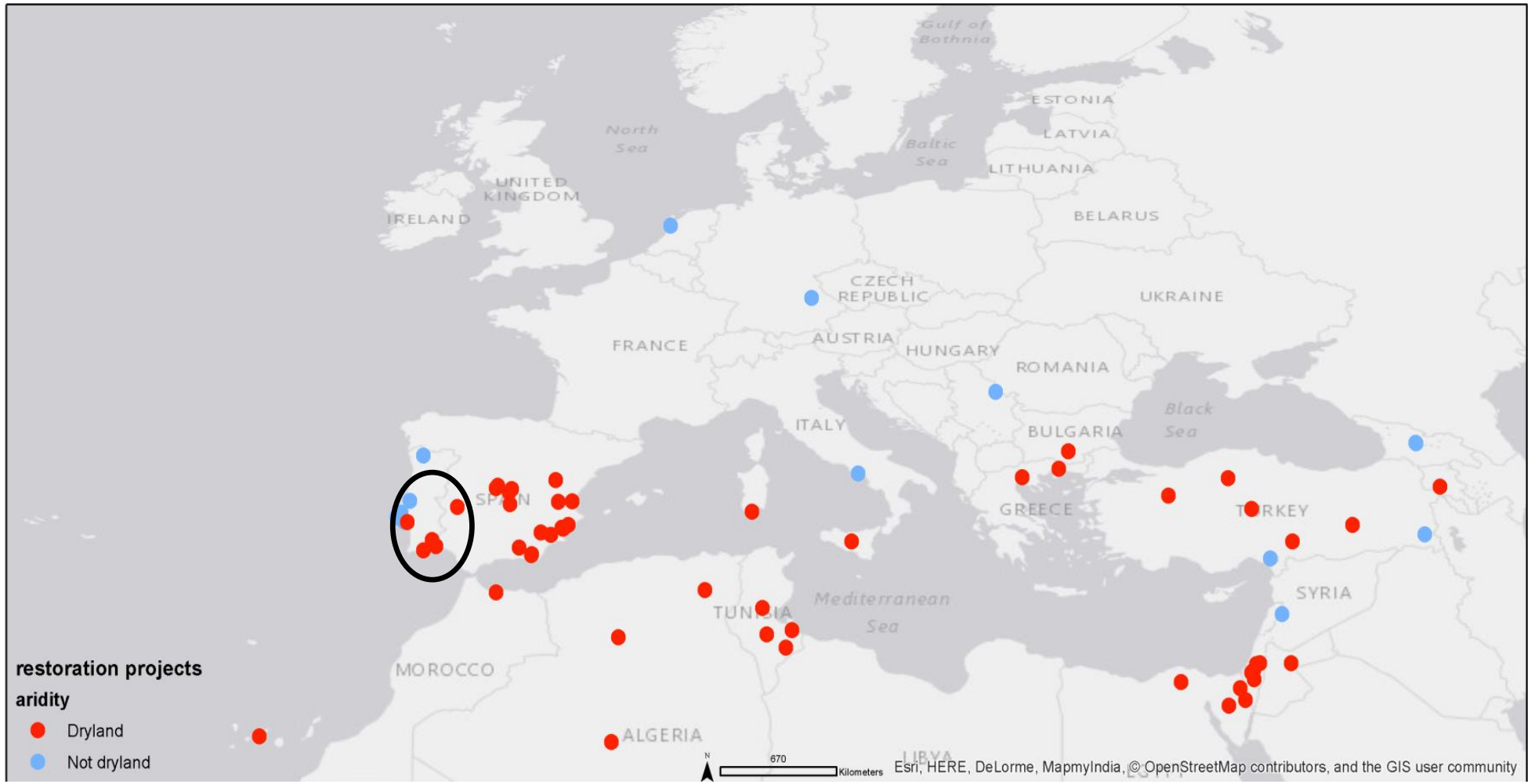
V. Costs and benefits

COST Action ES1104 - 'Arid Lands Restoration and Combat of Desertification: Setting Up a Drylands and Desert Restoration Hub'

Global survey on dryland reforestations



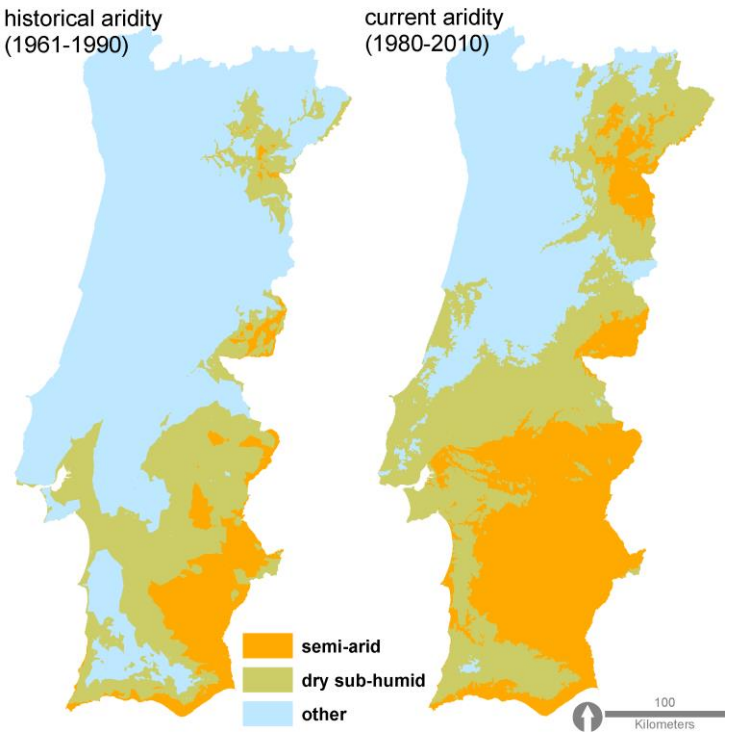
Global survey on dryland reforestations



Adapt For Change project

AdaptForChange

adaptation to climate change by improving the success of reforestation in semi-arid areas



Adapt For Change project

AdaptForChange

adaptation to climate change by improving the success of reforestation in semi-arid areas

Aims: decrease the cost-benefit of reforestations by

- identifying areas suitable to natural, assisted or no reforestation
- using knowledge on semiarid ecology and experience of past reforestations
- disseminate info on best practices for reforestation

Evaluate reforestations in semiarid

WP3: Sixty years of reforestations in the semiarid: *lessons from the past to adapt to the future*

How?

- Evaluate reforestations performed in Portugal semiarid areas over the last 40-60 years

- Identify successful practices

- Transfer the knowledge to areas currently affect by increased aridity and adapt reforestation practices to climate change scenarios

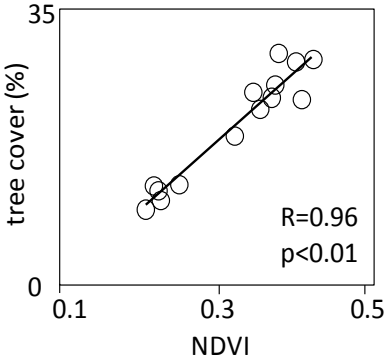
How to evaluate success?

Reference + Ecosystem functioning + Ecosystem services provision

- **Remote sensing data** (plant cover and productivity estimation for different ecosystem components e.g. trees, perennial and annual plants)

- **Data on key environmental variables**

- **Data collected in the field:**
  - Soil quality (e.g. SOC)
  - Vegetation structure and biomass
  - Plant diversity (taxonomic and functional diversity)
  - Habitat complexity (rabbit latrines, LIDAR)
  - Animal diversity (e.g. birds)
  - Other (e.g. lichens)



Reforestation with *Q. suber*

Reforestion with *P. pinea* + *Q. suber*

Reforestion with *P. halepensis* + *Q. suber*

Reforestion with *A. unedo* + *Q. suber*

Thank you

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