DMP title

Project Name My plan (KU Leuven DMP)
Project Identifier C14/21/021
Grant Title Polycentric urban development
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Institution KU Leuven

1. Data Description
What data will you collect or create? Fill out the table below and/or describe.

ID	Type of data	Format	Volume	How created?
1	Global population data	.mdb/.txt	1-2GB	Obtained from the Oak Ridge National Laboratory
2	Data processing/cleaning scripts for the global population data	.R/.py/.xlsx.	<10MB	Created/coded by researchers of the project
3	Night-time lights data	.shx	5GB	Obtained from the National Oceanic and Atmospheric Administration
4	Data processing/cleaning scripts for the night-time lights data	.R/.py/.xlsx.	<10MB	Created/coded by researchers of the project
5	CO2 emissions data	.mdb/.txt	1-2GB	Obtained from the Fossil Fuel Data Assimilation System
6	Data processing/cleaning scripts for the CO2 emissions data	.R/.py/.xlsx.	<10MB	Created/coded by researchers of the project
7	Patents data	.txt	40GB	Purchased from the European Patent Office
8	Data processing/cleaning scripts for the patent data	.R/.py/.sql	<10MB	Created/coded by researchers of the project
9	Merged multi-source datasets for analyses	.xlsx	200MB	Created by researchers of the project
10	Data analysis scripts	.R/.py/.sql	<10MB	Created/coded by researchers of the project

Do you intend to reuse existing data?
Existing data will be used in this research.

1. Global population dataset from the Oak Ridge National Laboratory. (https://landscan.ornl.gov/)
2. Night-time lights data from the National Oceanic and Atmospheric Administration. (https://sos.noaa.gov/catalog/datasets/nighttime-lights/)
3. CO_2 emissions data from the Fossil Fuel Data Assimilation System. (https://ffdas.rc.nau.edu/)
4. Patents data from the European Patent Office. (https://www.epo.org/searching-for-patents/data.html)

Do you use personal data (i.e. all data possibly identifying an individual)?

- No

2. Documentation and Metadata
Describe the documentation that will be created for the data. This section deals with the way in which you will document how the dataset was created and subsequently processed.

The research paper will be published will detail all relevant and necessary information in a transparent manner that allows for maximum reproducibility. The website in and of itself will also document the necessary background information, guidelines and terms regarding data (re)use.

Describe the metadata for the data. This section deals with metadata: information contained in your dataset about the research data.

The tangible output of this project will consist of (1) the research papers and (2) the cartographic web environment. As for we will use and report the metadata in line with the official terms, practices, and rules of respect institutions where we obtained the data:

1. https://landscan.ornl.gov/metadata (Metadata for global population data) ;
2. https://sos.noaa.gov/support/sos/manuals/translations/dataset-translations/ (Metadata for night-time lights data);
3. https://ffdas.rc.nau.edu/Data.html (Metadata for CO_2 emissions data);
4. https://www.epo.org/law-practice/legal-texts/html/guidelines/e/g_ii_3_6_4.htm (Metadata for patents data).

3. Ethical, Legal and Privacy Issues
Are there any ethical issues concerning the creation and/or use of the data?
No.

Did you consider all issues about copyrights and IPR?
Yes. All the uses about copyrights and IPR of the data will be strictly followed the articles and terms of the official guidelines of the respective agencies.

Are the collected data considered to be data containing personal information and are all the requirements about the collection of these data met?
No personal information is contained in global population data, night-time lights data, and CO_2 emissions data. There is personal information in patents data on the names and addresses of inventors, but this information will not be used in our research.

4. Data storage and Backup during Research
How and where will the data be stored during research?

The data will be stored and maintained in the Public Governance Institute data storage system.

Which back-up procedures are in place?
Data will be stored using the KU Leuven server (the 'shares'). By using this central storage infrastructure of KU Leuven, secure storage and regular backups of files is ensured. Additional back-ups on local (external) drives will be made on regular time intervals.

Describe the data security procedures and who has access to the data.
The central storage infrastructure of KU Leuven allows for the secure storage of our data. The data can only be accessed by authorized researchers.

5. Data selection and Preservation after Research
What is the long-term preservation plan for these dataset(s)?
The merged datasets and related processing/analysis scripts that were generated throughout the project will be retained for this 10-year period.

Data Selection: Which data will have long time value for the research and will be preserved?
The data processing/analysis scripts will be integrated in the department's web environment so that it remains fully operational beyond the scope of this project.

6. Data Sharing
Are there any restrictions for sharing the data?
The raw data and processed/merged data will not be shared due to the policies of the respective agencies.

If there are no restrictions, which mechanisms will be in place to assure that the data are discoverable, accessible and intelligible?
We will strive to make as much data processing/analysis scripts available at the end of the project as possible.

How will you share the data?

- Repository. The raw data and processed/merged data will not be shared due to the policies of different agencies. Only the data processing/analysis scripts coded by researchers can be shared.

With whom will the data be shared?

- On request

The data processing/analysis scripts will be shared in the public domain under a standard copyright notice.

7. Responsibilities and Resources
Who is responsible for Data Management during the project? This will be the person who might receive questions on the data management aspects of the research project.

The PI bears the overall responsibility for data management.

Which additional resources are needed for the execution of the Data Management Plan?

No additional resources are needed.

Did you read the KU Leuven Data Management Policy? (find the link to the policy in the guidance).

- Yes