Green Science, Technology and Innovation from the South: an interdisciplinary, ethnographic study of organic pesticide production (pyrethrum) in Kenya, Rwanda and Tanzania

A Data Management Plan created using DMPonline.be

Creators: Nick Rahier, n.n. n.n., Katrien Pype, n.n. n.n.

Affiliation: KU Leuven (KUL)

Funder: Fonds voor Wetenschappelijk Onderzoek - Research Foundation Flanders (FWO)

Template: FWO DMP (Flemish Standard DMP)

Principal Investigator: Katrien Pype, n.n. n.n., n.n. n.n.

Data Manager: Nick Rahier

Project Administrator: Katrien Pype, Nick Rahier, n.n. n.n., n.n. n.n.

Grant number / URL: G044223N

ID: 199925

Start date: 01-10-2023

End date: 30-09-2027

Project abstract:
This project proposes an interdisciplinary, ethnographic study of organic pesticide production (pyrethrum) in Kenya, Rwanda and Tanzania. Pyrethrum is a pesticide component derived from the chrysanthemum plant species. The yellow heart of the so-called 'killer daisy' contains a natural toxin called pyrethrin that is used to produce organic pesticides and insecticides. The premise of this project is that an ethnographic exploration of the pyrethrum revival programs in Kenya, Rwanda and Tanzania can provide uncharted knowledge about adequate responses from the Global South to the global environmental crisis. This knowledge is crucial to develop a better understanding of African technical and social ingenuity in the wake of the Anthropocene, an era defined as dominated by humanity's destructive impact on the environment. The research question guiding this project is: what kind of ideologies, expertise and technologies emerge in the Global South as responses to global environmental challenges? The project is a unique collaboration between KU Leuven, UGent and Egerton University (Kenya). We will experiment with the method of eco-ethnography, by engaging citizens (farmers and others) in the process of data-collection and in the continuous evaluation of the research process. The project will result in two PhD dissertations, 8 scientific articles, one edited book volume, and various formal and informal interactions with local and international stakeholders.

Last modified: 10-07-2023

Green Science, Technology and Innovation from the South: an interdisciplinary, ethnographic study of organic pesticide production (pyrethrum) in Kenya, Rwanda and Tanzania
FWO DMP (Flemish Standard DMP)

1. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

				Only for digital data	Only for digital data	Only for digital data	Only for physical data				
Dataset Name	Description	New or reused	Digital or Physical	Digital Data Type	Digital Data format	Digital data volume (MB/GB/TB)	Physical volume				
		Please choose from the following options: • Generate new data • Reuse existing data	*Please choose from the following options:* • Digital • Physical	*Please choose from the following options:* • Observational • Experimental • Compiled/aggregated data • Simulation data • Software • Other • NA	*Please choose from the following options:* • .por, .xml, .tab, .cvs,.pdf, .txt, .rtf, .dwg, .gml, … • NA	*Please choose from the following options:* • <100MB • <1GB • <100GB • <1TB • <5TB • <10TB • <50TB • >50TB • NA					
AS-Kenya	Archival Sources for subproject Kenya	generate new data	The archival material that will be consulted will be both digital and physical.	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	copies of archival data - max 2 standard size boxes of 300x120x120 mm				
AS-Rwanda	Archival Sources for subproject Rwanda	generate new data	The archival material that will be consulted will be both digital and physical.	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	copies of archival data - max 2 standard size boxes of 300x120x120 mm				
AS-Tanzania	Archival Sources for subproject Tanzania	generate new data	The archival material that will be consulted will be both digital and physical.	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	copies of archival data - max 2 standard size boxes of 300x120x120 mm				
AS-add	Archival Sources for additional parallel research by PIs in DR Congo, Tanzania, Kenya	generate new data	The archival material that will be consulted will be both digital and physical.	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	copies of archival data - max 2 standard size boxes of 300x120x120 mm				
OD-Kenya	Observational Data subproject Kenya (interview notes/transcripts, notes of observations, diary entries)	generate new data	digital + physical (written field notes + digital fieldnotes/reports)	observational (textual - raw)	.txt .pdf .doc .xml	<1GB	max 50 standard notebooks A5 size, 80 pages				
OD-Rwanda	Observational Data subproject Rwanda (interview notes/transcripts, notes of observations, diary entries)	generate new data	digital + physical (written field notes + digital fieldnotes/reports)	observational (textual - raw)	.txt .pdf .doc .xml	<1GB	max 50 standard notebooks A5 size, 80 pages				

OD-Tanzania	Observational Data subproject Tanzania (interview notes/transcripts, notes of observations, diary entries)	generate new data	digital + physical (written field notes + digital fieldnotes/reports)	observational (textual - raw)	.txt .pdf .doc .xml	<1GB	max 50 standard notebooks A5 size, 80 pages			
OD-add	observational data for additional parallel research by PIs in DR Congo, Tanzania, Kenya (interview notes/transcripts, notes of observations, diary entries)	generate new data	digital + physical (written field notes + digital fieldnotes/reports)	observational (textual - raw)	.txt .pdf .doc .xml	<1GB	max 50 standard notebooks A5 size, 80 pages			
VS-Kenya	visual sources subproject Kenya (existing spatial plans and schemes), drawings, models and digital visualisations and photographs	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	max 1 standard size box of 300x120x120 mm			
VS-Tanzania	visual sources subproject Tanzania (existing spatial plans and schemes), drawings, models and digital visualisations and photographs	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	max 1 standard size box of 300x120x120 mm			
VS-Rwanda	visual sources subproject Rwanda (existing spatial plans and schemes), drawings, models and digital visualisations and photographs	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	max 1 standard size box of 300x120x120 mm			
VS-add	visual sources additional parallel research by PIs in Tanzania, DR Congo, Kenya (existing spatial plans and schemes), drawings, models and digital visualisations and photographs	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml	<1GB	max 1 standard size box of 300x120x120 mm			
LS-project	academic literature, grey literature and policy documents (either collected online or physically in the countries where fieldwork is conducted)	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml	<100GB	max 3 standard size boxes of 300x120x120 mm			
MS-Kenya	media sources subproject Kenya (physical or digital newspapers, social media, or other published content from the country where fieldwork is conducted)	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml .jpg .png .tiff	<100GB	max 1 standard size box of 300x120x120 mm			

MS-Tanzania	media sources subproject Tanzania (physical or digital newspapers, social media, or other published content from the country where fieldwork is conducted)	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml .jpg .png .tiff	<100GB	max 1 standard size box of 300x120x120 mm		
MS-Rwanda	media sources subproject Rwanda (physical or digital newspapers, social media, or other published content from the country where fieldwork is conducted)	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml .jpg .png .tiff	<100GB	max 1 standard size box of 300x120x120 mm		
MS-add	media sources parallel research by PIs in Tanzania, DR Congo, Kenya (physical or digital newspapers, social media, or other published content from the country where fieldwork is conducted)	generate new data	digital + physical	compiled/aggregated data	.txt .pdf .doc .xml .jpg .png .tiff	<100GB	max 1 standard size box of 300x120x120 mm		
OS-Kenya	recordings of interviews/oral conversations with consent of participant subproject Kenya	generate new data	digital	observational	.mp3	• <5TB			
OS-Tanzania	recordings of interviews/oral sources with consent of participant subproject Tanzania	generate new data	digital	observational	.mp3	• <5TB			
OS-Rwanda	recordings of interviews/oral conversations with consent of participant subproject Rwanda	generate new data	digital	observational	.mp3	• <5TB			
OS-add	recordings of interviews/oral conversations with consent of participant parallel research by PIs in Tanzania, DR Congo, Kenya	generate new data	digital	observational	.mp3	• <5TB			
PD-Kenya	Personal data participants subproject Kenya (e.g. name, email address, phone number, gender, age, ethnicity, marital status, family composition, etc.)	generate new data	digital	observational	.xml	• <1GB			
PD-Tanzania	Personal data participants subproject Tanzania (e.g. name, email address, phone number, gender, age, ethnicity, marital status, family composition, etc.)	generate new data	digital	observational	.xml	• <1GB			

PD-Rwanda	Personal data participants subproject Rwanda (e.g. name, email address, phone number, gender, age, ethnicity, marital status, family composition, etc.)	generate new data	digital	observational	.xml	• <1GB							
PD-add	Personal data participants parallel research by PIs in Tanzania, DR Congo, Kenya (e.g. name, email address, phone number, gender, age, ethnicity, marital status, family composition, etc.)	generate new data	digital	observational	.xml	• <1GB							
LD-Kenya	data sets used for GIS mapping of relevant spatial data subproject Kenya	generate new data	digital	observational	.xml /.csv	<1GB							
LD-Tanzania	data sets used for GIS mapping of relevant spatial data subproject Tanzania	generate new data	digital	observational	.xml /.csv	<1GB							
LD-Rwanda	data sets used for GIS mapping of relevant spatial data subproject Rwanda	generate new data	digital	observational	.xml /.csv	<1GB							
LD-add	data sets used for GIS mapping of relevant spatial data parallel research by PIs in Tanzania, DR Congo, Kenya	generate new data	digital	observational	.xml /.csv	<1GB							
VD-Kenya	designs, videos, lifelogs, pictures, drawings, images and other visual representations created during fieldwork subproject Kenya	generate new data	digital + physical	observational	.pdf .psd .MP4 .dwg .jpg	<10TB	max 5 standard size A4 sketchbooks 80 pages						
VD-Tanzania	designs, videos, lifelogs, pictures, drawings, images and other visual representations created during fieldwork subproject Tanzania	generate new data	digital + physical	observational	.pdf .psd .MP4 .dwg .jpg	<10TB	max 5 standard size A4 sketchbooks 80 pages						
VD-Rwanda	designs, videos, lifelogs, pictures, drawings, images and other visual representations created during fieldwork subproject Rwanda	generate new data	digital + physical	observational	.pdf .psd .MP4 .dwg .jpg	<10TB	max 5 standard size A4 sketchbooks 80 pages						
VD-add	designs, videos, lifelogs, pictures, drawings, images and other visual representations created during fieldwork parallel research by PIs in Tanzania, DR Congo, Kenya	generate new data	digital + physical	observational	.pdf .psd .MP4 .dwg .jpg	<10TB	max 5 standard size A4 sketchbooks 80 pages						

AgI-Kenya	Aggregated interviews Egerton-team (data stats on farm particularities; farm size, farm income, types of labour, infrastructure, employee numbers, crops grown etc.)	generate new data	digital + physical	observational	.pdf .xml/.csv	<1GB	max 1 standard size box of 300x120x120 mm	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

Archival sources from national archives in Kenya, Rwanda, Tanzania, DR Congo, and from archival collection abroad (UK, Germany, Belgium)

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes, human subject data

Data will include observational data (OD), visual data (VD), oral source data (OS) and personal data (PD) based on interviews and participant observation among residents of Kenya, Tanzania, DR Congo and Rwanda. Ethical approval has been applied for. Reference number G-2023-6678

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes

Personal data will be gathered as part of datasets PD-Kenya, PD-Rwanda, PD-Tanzania, PD-add. These data will include name, email address, phone number, gender, age, ethnicity, marital status, family composition, etc. of research participants included in the subprojects. These datasets will be stored as password protected .xml files and stored on the computers of the lead researcher of each subproject. GDPR-compliance is part of ethical approval SMEC with reference number G-2023-6678

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements/ research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- Yes

Research is part of a collaboration between KU Leuven, Ghent University and Egerton University in Kenya. Collaboration agreements have been signed by all parties involved. These include sections on IPR of the creations resulting from the research. In particular, the following agreement on IPR has been included:
The parties are jointly responsible for drawing up an inventory of the Project Results in the following categories:

- Exclusive Project Results, where the Party-owner is mentioned;
- Joint Project Results, where the co-owning Parties are mentioned and their respective contribution to the Joint Project Results.

Each Party is entitled to the free, non-exclusive use of the Project Results of the other Parties to the extent necessary for its part in performing the Project.

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

2. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g., in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).

All data will be tagged with metadata according to the FAIR principles: making data Findable, Accessible, Interoperable and Reusable. Metadata will be data-driven (concepts and tags are defined based on the patterns detected within the data). A logbook containing metadata guidelines and methodological information per dataset will be part of the data management plan updated by M48

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- Yes

KU Leuven's Research Data Repository (RDR) built on Dataverse - open source repository software built by Harvard University will be used to store data securely. Researchers at Ghent University and Egerton University will follow the metadata standard of RDR.

3. Data storage & back-up during the research project

Where will the data be stored?

Data for each subproject will be stored on the personal OneDrive for Business of the researchers both at KU Leuven and Ghent University. Multifactor authentication will be activated to ensure the safe storage of (strictly) confidential data. We will look into the possibility to set-up a guest account for the research collaborators at Egerton University to allow them to store their data securely on a OneDrive server at either KU Leuven or Ghent University. If this is not possible, research collaborators at Egerton University will comply with the data management regulations of their home institution. Proper data management will be overseen by a data manager Dr. Nick Rahier.

How will the data be backed up?

Data will be available on the RDR repository, all data will be backed up on a H-drive for a minimum period of 10 years afters the project start date.

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely.
If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.

- Yes

Researchers will have access to a personal and secure OneDrive with 2 TB (KU Leuven) or 3 TB (Ghent University) storage capacity. Each researcher will also have an external HD of 10 TB that is password protected to store larger video-files and/or non-textual data requiring larger storage capacity.

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

Multifactor authentication will be activated to ensure the safe storage of (strictly) confidential data. Files will be uploaded to the secure server as 'read only' to avoid data tampering by third parties. External HDDs will be password protected. Data will be destroyed after 10 years (counting from the start of the project).

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

external HDD drives have been accounted for in the project budget under small equipment.

4. Data preservation after the end of the research project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

All data-sets (anonymised if necessary) will be stored for a maximum period of 10 years on password protected external HDDs and/or S-compliant repositories at the host institutions (KU Leuven/Ghent). Physical data that cannot be digitalised will be kept in boxes with meta-data stored digitally for easy access to physical items. The data manager, Dr. Nick Rahier, will oversee data storage in sofar this complies with the consent obtained by the research interlocutors in the various subprojects. Certain data may be too sensitive for reuse in the future; or interlocutors have not given permission to store these data. For safety and ethical reasons, this data will be destroyed, and thus not be stored.

Where will these data be archived (stored and curated for the long-term)?

Data will be stored on password protected external HDDs and/or S-compliant repositories at the host institutions (KU Leuven/Ghent University). Data gathered by collaborators at Egerton University will be stored following the regulations and facilities at Egerton University, Kenya.

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

There are additional expected costs for data preservation during the retention period. external HDD drives have been accounted for under small equipment in project budget.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Yes, in a restricted access repository (after approval, institutional access only, ...)

If access is restricted, please specify who will be able to access the data and under what conditions.

The collected data (after anonymisation) will be accessible to all team members, unless the owner of the data explicitly states that the data cannot be shared. The data owner will have to provide a justification for this decision which will be added as meta-data to the specific restricted data-set.
Data can be shared to external scientific researchers upon request. Scientific researchers will have to motivate why they want access to the data. Requests should be addressed to the project's data manager: Dr. Nick Rahier. He will take up the request with the other team members and data owner.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain in the comment section per dataset or data type where appropriate.

- Yes, Privacy aspects

Data-sets PD-Kenya, PD-Tanzania, PD-Kenya, PD-add are confidential data (e.g., name, sex, age, ethnicity, etc.) and will be restricted to use by the data owner only.
Some of the data part of the other data-sets might include subjective views, political opinions, intimate descriptions of life experiences, etc. If proper anonymisation is impossible and in case the data owner cannot guarantee complete source anonymity, the data will be restricted to use by the data owner only.

Where will the data be made available? If already known, please provide a repository per dataset or data type.

All data-sets will be uploaded to the KU Leuven RDR repository or similar repositories at the partner universities (Ghent University and Egerton University). Physical data will be stored by the data owner (or the data manager, Dr. Nick Rahier, if the data owner allows this) for max. 10 years past the project end date;

When will the data be made available?

The empirical data collected that can be made publicly available will be shared on the project website and via the partner institutions' designated repositories. Regarding data that cannot be published publicly, metadata will be made available containing info on how/where to request possible access by the end of the project (M48). For published work (journal articles, conference proceedings, books, book chapters) the published and/or accepted version will be deposited in repositories at KU Leuven (Lirias), Ghent University (biblio) and Egerton (DSpace) and made available after an embargo period set by the publisher. If allowed, the accepted version of published work will be made available publicly.

Which data usage licenses are you going to provide? If none, please explain why.

The empirical data collected that can be made publicly available (certain audio transcripts, video material, photos, etc.) will be licensed under the Creative Commons license (for visual material) or Open Data commons license (for textual data)

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- Yes

A DOI will be available through RDR at KU Leuven, but is not yet available. For data stored in other repositories, DOIs will be added if repository allows.

What are the expected costs for data sharing? How will these costs be covered?

RDR is free for KU Leuven personnel, hence, no costs are expected for data sharing. If partner institutions would encounter costs to deposit and share data, we will look into the option to centralise all data-sets at KU Leuven, using RDR.

6. Responsibilities

Who will manage data documentation and metadata during the research project?

individual researchers (Drs. Ondiege for Tanzania Subproject , Dra. Mulmi for Rwanda subproject, Dr. Nick Rahier for Kenya subproject, Dr. Milcah Mulu Mutuku for research collaborators Kenya, Prof. Katrien Pype for additional/parallel fieldwork in DR Congo, Prof. Dr. Koen Stroeken for additional/parallel fieldwork in Tanzania) will manage their-own data-sets and documentation.

Who will manage data storage and backup during the research project?

individual researchers (Drs. Ondiege for Tanzania Subproject , Dra. Mulmi for Rwanda subproject, Dr. Nick Rahier for Kenya subproject, Dr. Milcah Mulu Mutuku for research collaborators Kenya, Prof. Katrien Pype for additional/parallel fieldwork in DR Congo, Prof. Dr. Koen Stroeken for additional/parallel fieldwork in Tanzania) will store their

data-sets individually and ensure regular backups.

Who will manage data preservation and sharing?

Dr. Nick Rahier - postdoctoral researcher and data manager for this project will manage long term preservation and sharing of data if needed.

Who will update and implement this DMP?

Dr. Nick Rahier - postdoctoral researcher and data manager

Created using DMPonline.be. Last modified 10 July 2023

9 of 12

Green Science, Technology and Innovation from the South: an interdisciplinary, ethnographic study of organic pesticide production (pyrethrum) in Kenya, Rwanda and Tanzania
Application DMP

Questionnaire

Describe the datatypes (surveys, sequences, manuscripts, objects …) the research will collect and/or generate and /or (re)use. (use up to 700 characters)

Question not answered.

Specify in which way the following provisions are in place in order to preserve the data during and at least 5 years after the end of the research? Motivate your answer. (use up to 700 characters)

Question not answered.

What's the reason why you wish to deviate from the principle of preservation of data and of the minimum preservation term of 5 years? (max. 700 characters)

Question not answered.

Are there issues concerning research data indicated in the ethics questionnaire of this application form? Which specific security measures do those data require? (use up to 700 characters)

Question not answered.

Which other issues related to the data management are relevant to mention? (use up to 700 characters)

Question not answered.

Created using DMPonline.be. Last modified 10 July 2023

10 of 12

DPIA

Have you performed a DPIA for the personal data processing activities for this project?

- Not applicable

GDPR

Have you registered personal data processing activities for this project?

- Not applicable