Realizing the Potential of Grey Literature by Recognizing its Publishers: The PUBGREY Project and the Case of Climate Change

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Abstract

The way to confront climate change is by publishing the results of research dealing with the manifold and diverse topics associated with this complex entity. In response to this, GreyNet sets out to identify among its community of practice organizations that consider themselves publishers in grey literature. This is initiated by designing a standardized template. The acquisition of the data compiled via the online template harvested 25 records. The records captured in this phase of the project now comprise the PUBGREY registry openly accessible on GreyNet's website and via the GreyGuide, GreyNet's web access portal and repository. The organizations that appear in the PUBGREY registry are together seen as a consortium of publishers in grey literature. Together they demonstrate the supply-side of grey literature where its production, publication, and open access adhere to FAIR principles. Following this, a selection of records is made based on three criteria forming the population of this use case. These criteria include: open access compliance, each of the publishing bodies will have already been assigned a ROR ID, and an individual's email address is provided as the point of contact in the record. Ten of the 25 records in the PUBGREY registry adhere to the established criteria and form the population of our study. These are then asked to complete a brief online survey dealing with grey literature. The survey questions used in this study on climate change are the exact same as in a study three years earlier on circular economy. The reuse of the questionnaire was based on a recent [working paper](#) demonstrating how circular economy provides a strategy in achieving goals for climate change. Finally, via the search function on the ten websites of our survey population, a search of the terms: 'climate', 'climate change', and 'circular economy' are carried out. The results from both the survey and the searches from the websites are then analyzed and presented in summary.

Introduction

The way to confront climate change is by publishing the results of research dealing with its diverse and manifold topics associated with this complex entity. In order to demonstrate the role grey literature has in confronting climate change we first seek to identify the publishers of grey literature by compiling and publishing a registry in this field of information. We then seek to acquire the publishers' views on grey literature via a questionnaire. And finally, by means of the survey results, the use of the PUBGREY registry, and results from searches in the websites of the publishers are we then able to record and document our case on climate change. (See Appendix 1: PUBGREY Project Plan)

Step One – Identify the Publishers in Grey Literature

In order to identify the publishers in grey literature, an online template was designed and posted via GreyNet's distribution list and social media. The template consists of 10 fields with accompanying scope notes. It was posted in mid-February 2023 via GreyNet's distribution list and social media, namely Facebook and LinkedIn.

Field #	RECORD FIELD NAME	SCOPE NOTES
1.	Name of Publishing Body	*Complete Name and Acronym if applicable*
2.	Sector of Information	*Government, Academics, Business, Industry, Other*
3.	Document Types	*Reports, Proceedings, Theses, Datasets, Videos, etc.*
4.	Publication Formats	*Print, PDF, Datafile, Online, etc.*
5.	Main Coverage	*Disciplines, Topics, Subjects*
6.	Content Contributors	*Internal only, External also accepted*
7.	Open Access Compliant	*Yes, CC License if applicable*
8.	Homepage URL	*http, https*
9.	Identifiers	*Date founded, Awards, ROR ID, DOI, Social Media, etc.*
10.	Point of Contact	*Full Name, ORCiD if applicable, Email address*

Table 1: PUBGREY Template

In the final week of March 2023, the records submitted until then were compiled, edited, and published on GreyNet's Web site and in the GreyGuide, GreyNet's Web Access Portal and Repository. This repository was designed and is managed by my two colleagues in this project. The PUBGREY registry[1] carries an ISBN as well as a DOI. The first edition contains 25 records of publishers in grey literature and is the primary resource that serves in the next phase in our project.

Figure 1 Cover PUBGREY Registry

Step Two – Acquire the Publishers' Views on Grey Literature
Moving on to the second step in our project, we seek to acquire the publishers' views on grey literature separate from the views of a combined range of stakeholders that include authors, researchers, editors, sponsors, end-users, etc.

It is here that a selection of records is made based on three criteria: open access compliance, the publisher was assigned a ROR-ID[2], and the respondent who completed the template provided his/her contact details that could be used in a further line of questioning dealing with their views on grey literature and their response if any to search results acquired from their organization's website.

Of the twenty-five publishers in the PUBGREY registry 10 met these criteria and they are the population of our study on climate change. The population of the 2020 study on circular economy[3] was open to all types of stakeholders in grey literature.

The questionnaire GreyNet designed in 2020 that was used in the study on circular economy was reintroduced in this study dealing with climate change. The decision to reuse the questionnaire was sparked by a working paper by Wang et al[4] in 2022 entitled "Circular economy as a climate strategy".

The reuse of the questionnaire is seen as warranted in that the survey questions while referring to grey literature do not mention the term circular economy and neither do they include the term climate change. The ten survey questions (See Appendix 2) both in 2020 and again in 2023 are identical; however, the survey populations differ. This allows for comparison and analysis of the results of both. This would also help to determine whether there is the same or a similar level of consensus among GreyNet's community of practice with the controlled sub-group of publishers dealing with their views on grey literature.

Survey Year	Survey Population	Survey Reach	Survey Questions	Nº. of Survey Respondents
2020	GreyNet's Distribution List and social media	Open/ Random	10	72 (NA)
2023	PUBGREY Registry Publishers in Grey Literature	Controlled/ Criteria est.	10	10 (100%)

Table 2: Comparison of the 2020 and 2023 Survey Populations, Survey Reach, and Respondents

There is reason to consider that if a comparison of the results between the two survey populations were to uncover any significant differences, then this would allow us to identify the publishers' views dealing with grey literature juxtaposed to that of a varying range of stakeholders in the field of grey literature.

SURVEY RESPONSES*	
Strongly Agree 2020	**Strongly Agree 2023**
Q1 - Grey literature resources should be open access compliant	
63%	90%
Q4 - The dated mindset regarding grey literature is as much a barrier as broken links	
25%	40%
Q5 -Persistent identifiers maximize the use of grey literature resources	
36%	60%
Q7 - More consideration should be given to the accessibility of grey literature in its early production and subsequent publication	
61%	70%
Q9 - By drawing public awareness to grey literature, barriers facing it will have more prospect in being resolved	
39%	20%

*Rounded to the nearest percent

Table 3: Comparison of Five of the Survey Responses having the highest differential

Here we see a comparison of the results of 5 of the 10 questions in the two surveys exhibiting the highest differential. While four of the five responses compared show a significant increased percentage of strong agreement on the part of the publishers, one of the five responses compared shows a significant decreased percentage of agreement on the part of the publishers. A brief look at the 5 questions and the responses from the two surveys averages a near 19% disparity.

In the study on circular economy, grey literature is shown to be both a driver and a vehicle in research. As a driver, it is counted as one of the industries associated with circular economy namely the information industry alongside textile, agriculture, utilities, and other industries. As a vehicle, grey literature is seen as an important way of publishing by way of numerous document types, thereby communicating research results produced by other industries.

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Circular Economy

- **Driver:** Grey Literature is part of the information Industry among other industries in the circular economy such as textile, agriculture, utilities, etc.

- **Vehicle:** Via grey literature's multiple and diverse document types, information produced in all industries in the circular economy is transferable and openly accessible.

Now, if the circular economy can be viewed as a strategy related to climate and climate change as purported by Wang et al, then grey literature may also be seen as a driver and vehicle for climate change.

Step Three – Employ the PUBGREY Registry in the case of Climate Change
Two of the record fields in the PUBGREY template enabled us to address climate change. I refer here to the field Main Coverage in the template in which the disciplines, topics, and subjects of the publishers are recorded and to the field Document Types in the template in which both textual and non-textual document types are recorded.

Grey Literature seen as a driver in climate change
If we look at the coverage of topics compiled from the PUBGREY registry we see that the term climate change is not found among the topics. However, if we look at the host of topics recorded, it is not questionable to assume that many of them are related to climate change e.g., agriculture, coastal management, environment, food security, health, natural resources, sustainable development, etc.

PUBGREY – Multidisciplinary coverage by Publishers in Grey Literature

Agriculture	Food Security	Nuclear Science
Archaeology	Geography	Nutrition
Caribbean Studies	Grey Literature	Pharmaceuticals
Coastal Management	Health	Policies
Communications	Health Care	Psychology
Development	Health Care Systems	Public Health
Dietetics	Heritage	Public Policy
Diseases	Humanities	Publishing
Drugs	Informatics	Radiation Physics
Economics	Library Science	Science
Economy	Marine Environmental Science	Social Science
Educational Science	Mathematics	Soil Remediation
Engineering	Medical Devices	Steel
Enterprise Architecture	Medical Diagnostics	Sustainable Development
Entomology	Medical Procedures	Technology
Environment	Natural Resources	Telematics
Family Studies	Nuclear Energy	Trade
Florida History	Nuclear Medicine	

Table 4: Overall coverage of topics extracted from the PUBGREY Registry

This is later supported by search results involving the terms: 'climate', 'climate change', and 'circular economy' retrieved via the websites of the ten publishing organizations in our sample.

Organization's Website	Country	Coverage	Climate	Climate Change	Circular Economy	CC & CE
INIS-IAEA	AT	Energy	75733	35335	791	385
UF	US	Multidisciplinary	+10000	+10000	128	80
IFPRI	US	Food Policy	4529	4142	108	40
APO	AU	Public Policy	3173	2675	91	17
SAARLAND	DE	Multidisciplinary	357	104	4	-
MTAK	HU	Multidisciplinary	198	49	-	-
ADS	UK	Archaeology	91	7	-	-
AHS	CA	Health	72	12	2	2
ESTIA	GR	Multidisciplinary	16	3	1	-
NII	JP	Informatics	5	4	-	-

Table 5: Website search results from the sample population *(accessed on 23 April 2023)*

The working paper by Wang et al in 2022 in which circular economy is seen as a strategy in climate change appears to some extent in our web searches. Results shown in the table indicate that all 10 of the publishers' websites contain records on climate and climate change. While 7 of the 10 publishers' websites to some degree include records on circular economy, only 5 include records on climate change and circular economy combined. Topics covered in those five websites deal with energy, food policy, public policy, health, as well as a multidisciplinary coverage of topics.

Grey Literature seen as a vehicle in climate change
When referring to grey literature as a vehicle in transferring information and knowledge dealing with climate change, we need only look at the number of document types in various publication formats that are listed in the PUBGREY registry that accounts for at least fifteen. If we rank them according to the number of times that they are recorded by our survey population, we find that two of the top five are non-textual - those being datasets and audiovisual materials - while the other three in the top five are the more traditional grey literature document types: reports, theses, and proceedings.

Grey Literature Document Types		
Top 5 ranked in order ↑ ↓		
Reports **Theses** **Datasets** **Proceedings** **AVMs**	**Conference Papers** **Discussion Papers** **Grant Proposals** **Guidelines** **Legislative Material**	**Maps** **Policies** **Protocols** **Research Papers** **Standards**

Table 6: Coverage of document types listed by the ten publishers in our sample population

Summary of our Findings on Climate Change
From an empirical standpoint, grey literature can be seen as both a driver and vehicle in the field of scientific and technical information. As a driver, grey literature is in the forefront of information produced on all levels of (non)government, academics, business and industry. As a vehicle, grey literature serves in publishing and disseminating that which is produced in diverse and multiple document types both in textual and non-textual formats.

Climate Change

- **Driver:** Grey Literature includes multidisciplinary coverage of topics associated with climate change. As such, it is integral to research in this field.

- **Vehicle:** Via grey literature's multiple and diverse document types, the results of research associated with climate change are published and openly accesible.

We also found through the PUBGREY project, that publishers show more of a degree of consensus on grey literature than a combined range of stakeholders.

Concluding Statement

If we then establish that there is consensus among GreyNet's community of practice as to grey literature's role as both a vehicle and driver in research, what better way to draw awareness to this then through publishing. Hence, those organizations producing and publishing grey literature must publicly acknowledge their role as publishers. It is in this way that they can be seen as an integral factor in confronting climate change as well as other societal problems and issues, whose solutions can best be addressed by way of research and publication. In close, the PUBGREY Registry should be seen as a first step in formalizing a Consortium of Grey Literature Publishers.

References

[1] PUBGREY – Publishers in Grey Literature / compiled by D. Farace, GreyNet International TextRelease : Amsterdam, 2023. - 1st ed. – 15 p. - ISBN 978-90-77484-44-9 [Registry] https://www.greynet.org/images/PUBGREY_1st_ed.,_2023_.pdf
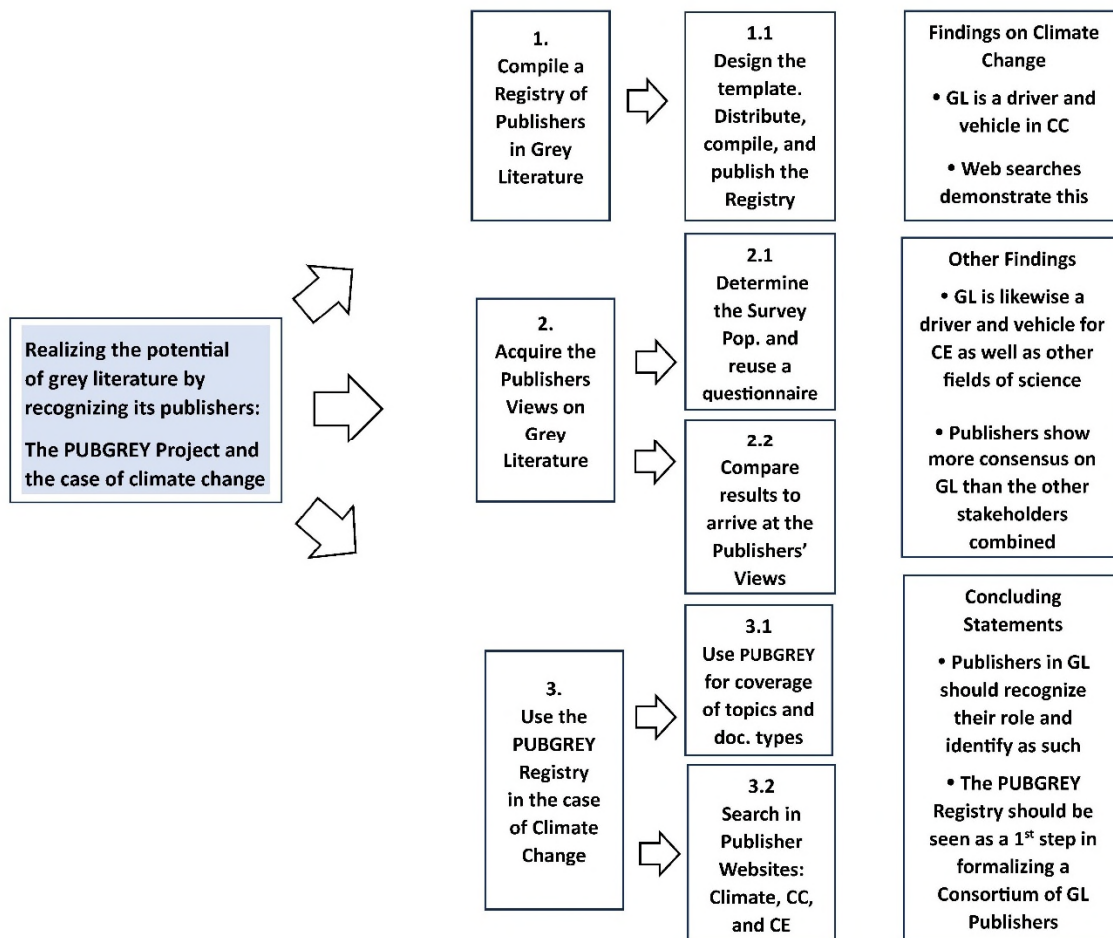
[2] ROR is a global, community-led registry of open persistent identifiers for research organizations https://ror.org/

[3] Farace D., & Frantzen J, (2021). Grey Literature Resources generate and drive Awareness to a Circular Economy: An Explorative Research Project. In: Twentieth-Second International Conference on Grey Literature, National Research Council of Italy, - Online Conference 19 November 2020 vol. 22 pp. 26-30. https://doi.org/10.26069/greynet-2021-000.456-gg

[4] Wang, K., M. Costanza-van den Belt, G. Heath, J. Walzberg, T. Curtis, J. Barrie, P. Schroder, L. Lazer, and J. C. Altamirano. 2022. "Circular economy as a climate strategy: current knowledge and calls-to-action." [Working Paper]. Washington, DC: World Resources Institute https://pacecircular.org/sites/default/files/2022-11/Circular-Economy-as-a-Climate-Strategy-paper-11.22-PACE-WRI-CH-NREL.pdf

APPENDIX 1:

PUBGREY Project Plan

The scheme above, provides an overview of the project plan. The three cells forming the left-hand column state the goals of the project. The cells in the middle column provide the method of approach and implementation. And, the cells forming the right-hand column discuss the project findings and concluding statements.

APPENDIX 2:

Survey Questions in 2020 and 2023

Q1   Grey literature resources should be open access compliant

Q2   Loss of Information is a waste and presents a problem especially for grey literature

Q3   Information overload contributes to the underuse of valuable grey literature resources

Q4   The dated mindset regarding grey literature is as much a barrier as broken links

Q5   Persistent identifiers maximize the use of grey literature resources

Q6   Knowledge transfer is the primary function of grey literature

Q7   More consideration should be given to the accessibility of grey literature in its early production and subsequent publication

Q8   With grey literature research, the reusability of data/sets is more important than their replicability

Q9   By drawing public awareness to grey literature, barriers facing it will have more prospect in being resolved

Q10   Optional: Please enter your name and email address, and any other comments or recommendations that would be of benefit for this survey. Thank You!