

Global Researches in Safely Managed Sanitation – A Bibliometric Analysis

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INTRODUCTION

- The concept of “Safely Managed Sanitation” (SMS) has emerged as a central theme in the discourse towards sanitation development.
- The WHO/ UNICEF Joint Monitoring Programme defines SMS service as one that the human excreta produced should either be: i. Treated and disposed on-site, ii. Stored temporarily and then emptied and transported to treatment off-site, iii. Transported through a sewer with wastewater and then treated off-site
- The challenges to sanitation are huge and therefore researchers, policymakers and practitioners across the world have engaged in extensive research, generating a substantial body of literature on safely managed sanitation.
- This Bibliometric analysis paper engages on a journey to explore, quantify and assess the scholarly landscape surrounding SMS.
- OBJECTIVES:**
- What is the extent, pattern of growth and geographical spread of SMS researches?
- Who are the authors and institutions shaping the discourse in the SMS field?
- What is the intellectual structure in the SMS knowledge base?
- What are the research gaps and future research trend?

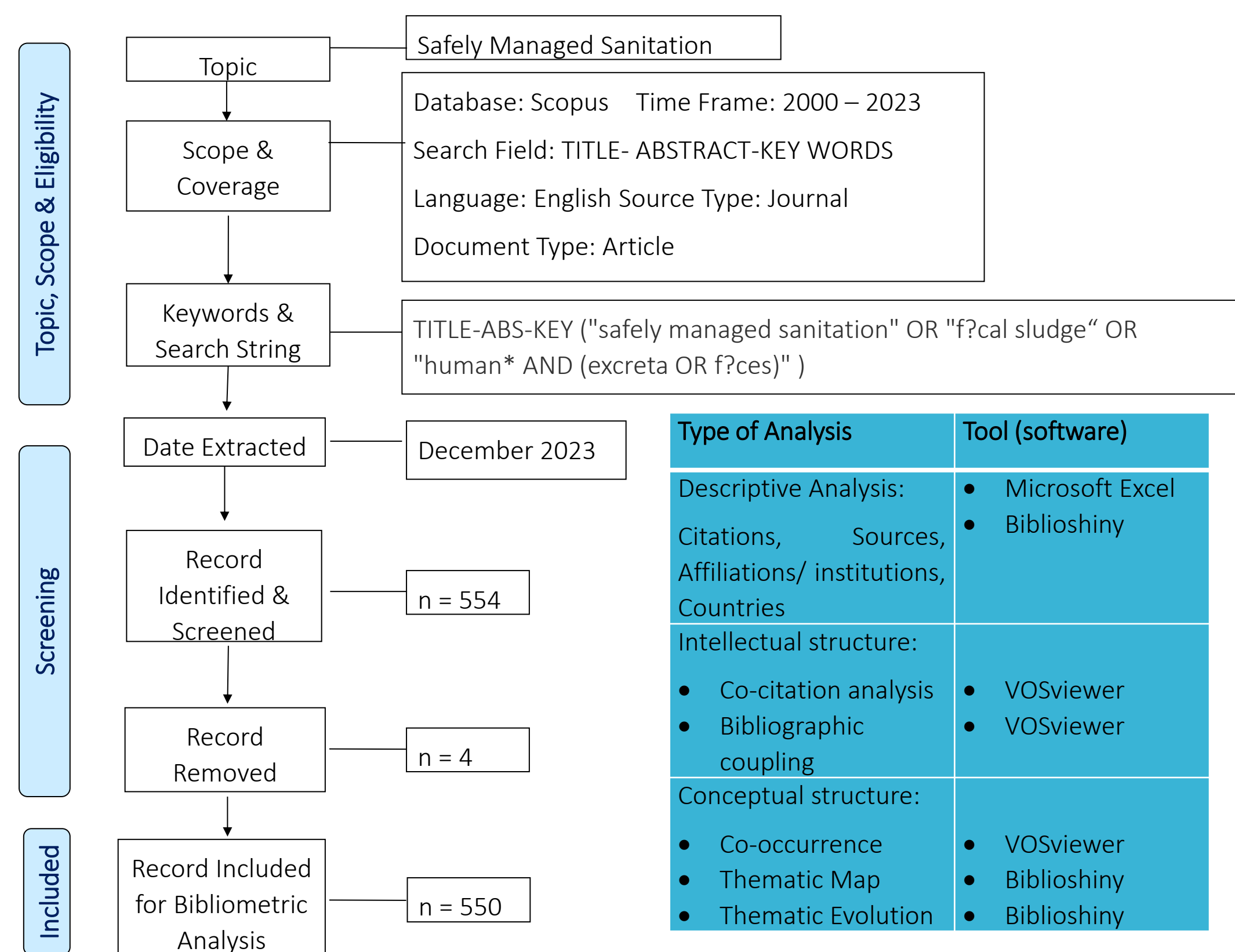
METHODOLOGY

Inclusion Criteria

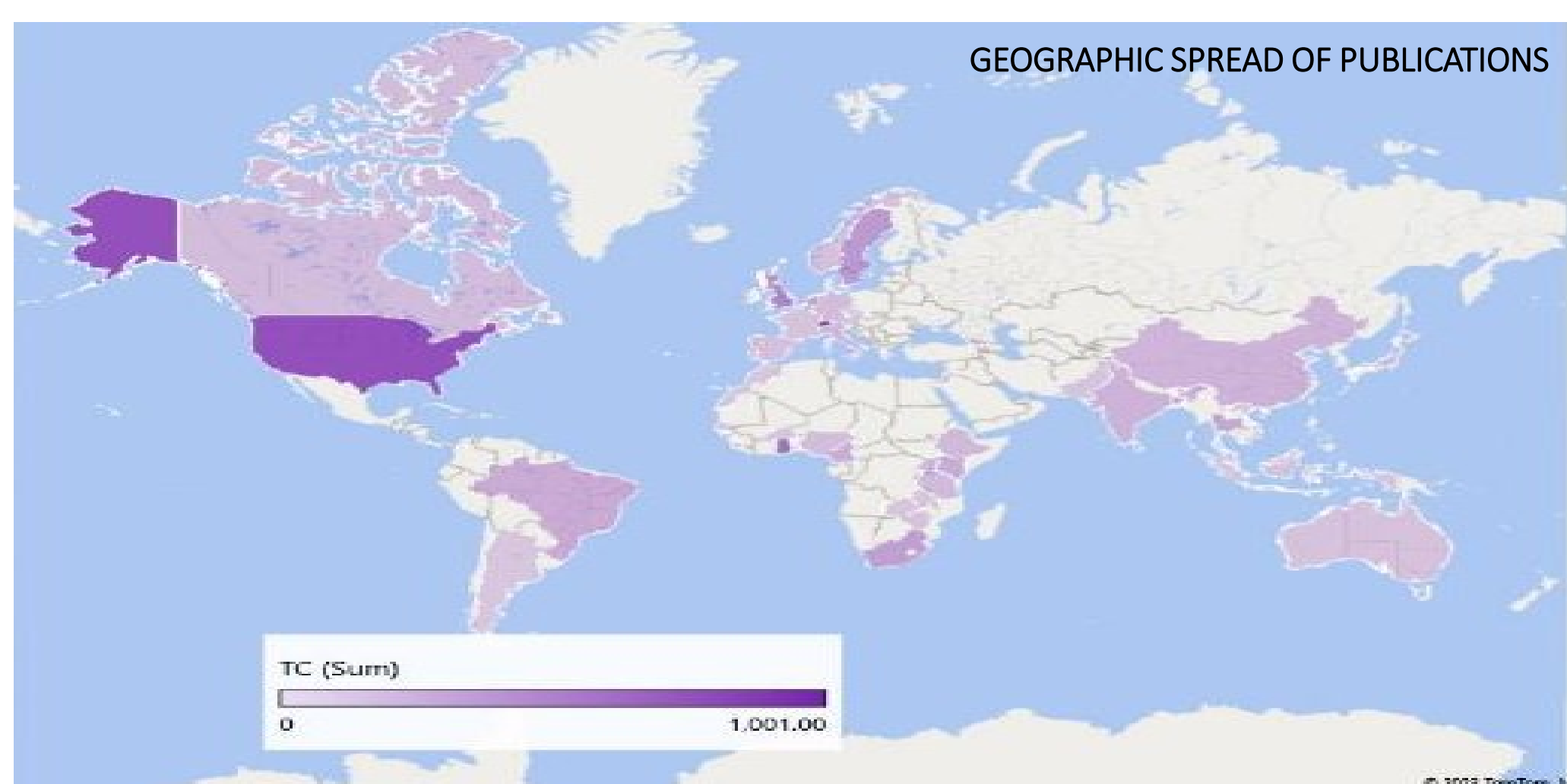
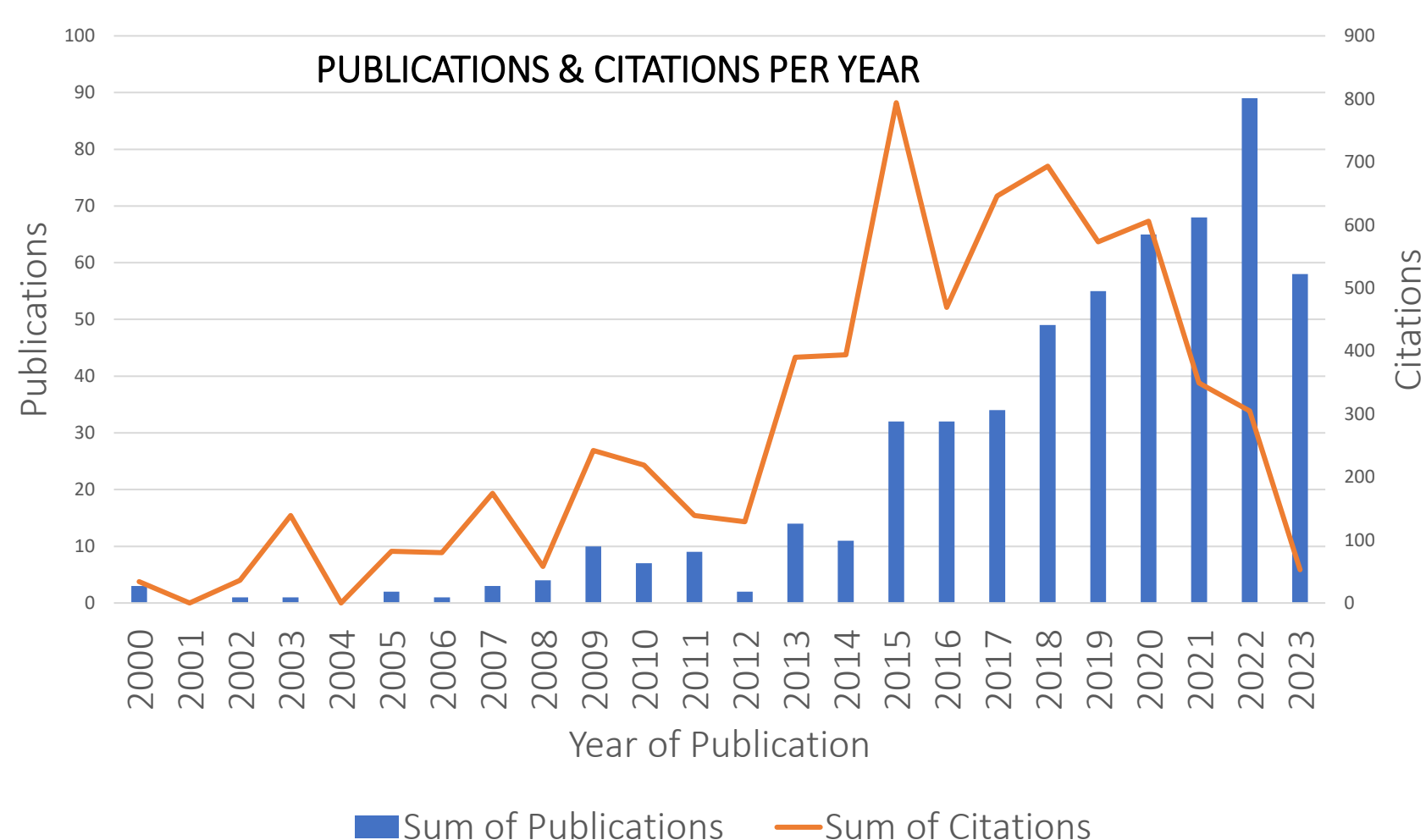
The study period was set from 2000 to 2023
Only English documents were included

Exclusion Criteria

Studies that are not related to SMS
The Source type was limited to Journals
The Document type was limited to Articles
Removal of duplicates



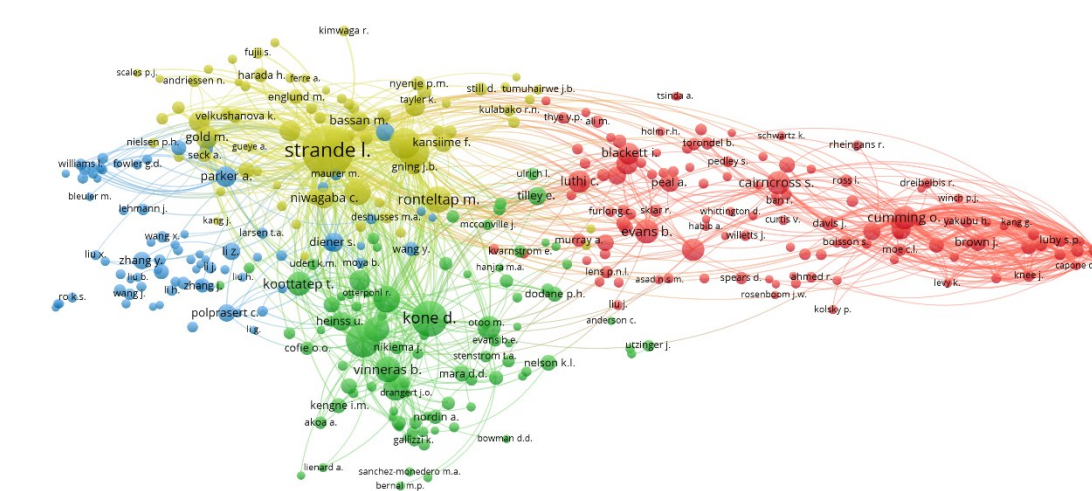
RESULTS & DISCUSSIONS



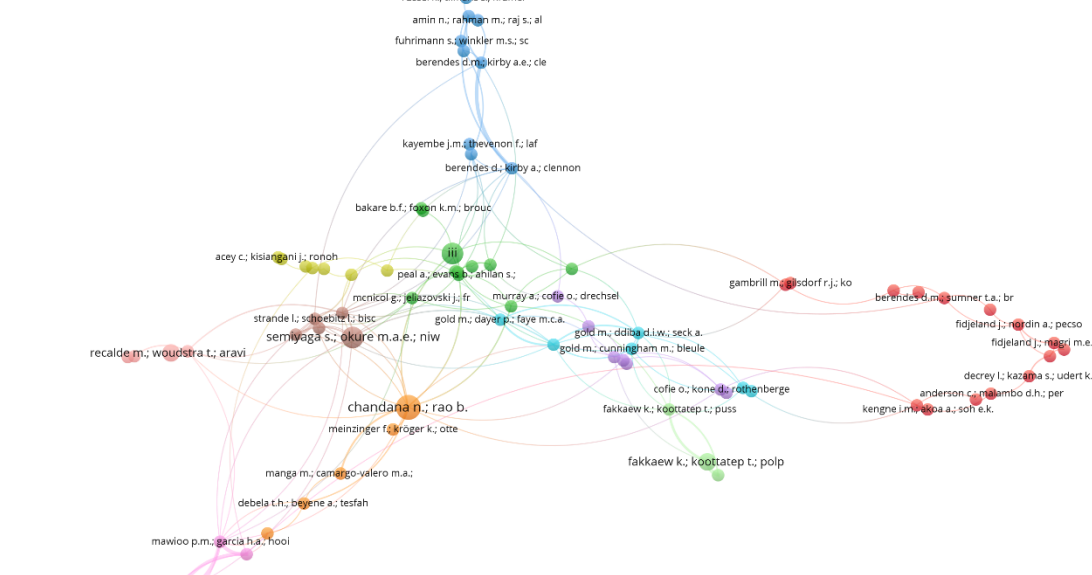
Most Cited Sources						Most Cited Authors					
Source	h_ind ex	g_ind ex	m_in dex	TC	NP	Authors	h_ind ex	g_ind ex	m_in dex	TC	NP
Journal of Water Sanitation and Hygiene for Development	15	22	1.15	690	69	Strande L	16	24	1.333	761	24
Water Research	10	15	0.56	548	15	Koné D	9	13	0.47	333	13
Journal of Environmental Management	9	16	1.12	319	30	Koottatep T	9	17	0.6	314	22
Science of The Total Environment	9	16	0.82	448	16	Mbéguéré M	8	9	0.57	406	9
Water Science and Technology	9	12	0.38	158	15	Niwagaba CB	8	13	0.8	383	13

Affiliation	Articles
EAWAG: Swiss Federal Institute of Aquatic Science and Technology	91
University of Kwazulu-Natal	82
Makerere University	60
Kwame Nkrumah University of Science and Technology	55
Emory University	52
University of Science and Technology Beijing	51
Cranfield University	41
International Water Management Institute (IWMI)	39
School of Environment	36
Swedish University of Agricultural Sciences	32
University of Yaounde I	32
Loughborough University	31
University of Leeds	29
University of California	27
University of North Carolina At Chapel Hill	27
Duke University	23
London School of Hygiene and Tropical Medicine	23
The Aquaya Institute	22

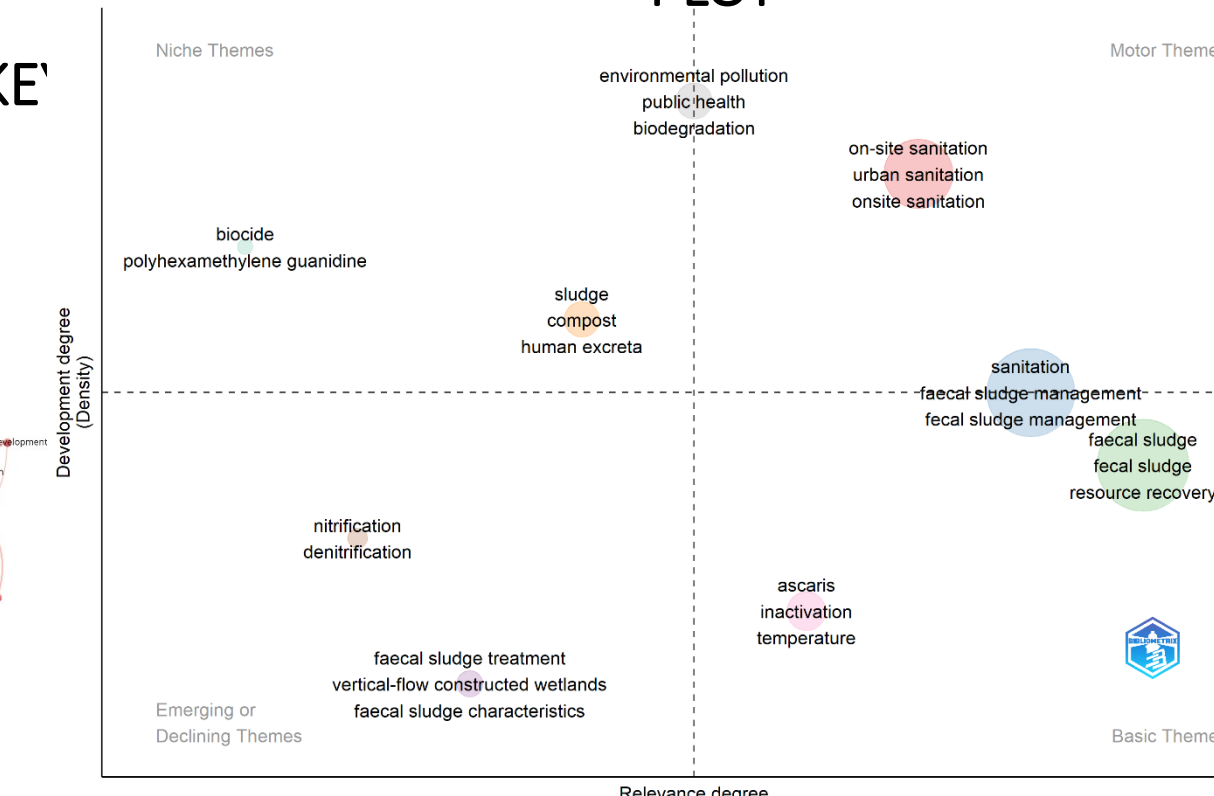
INTELLECTUAL STRUCTURE – CO-CITATIONS



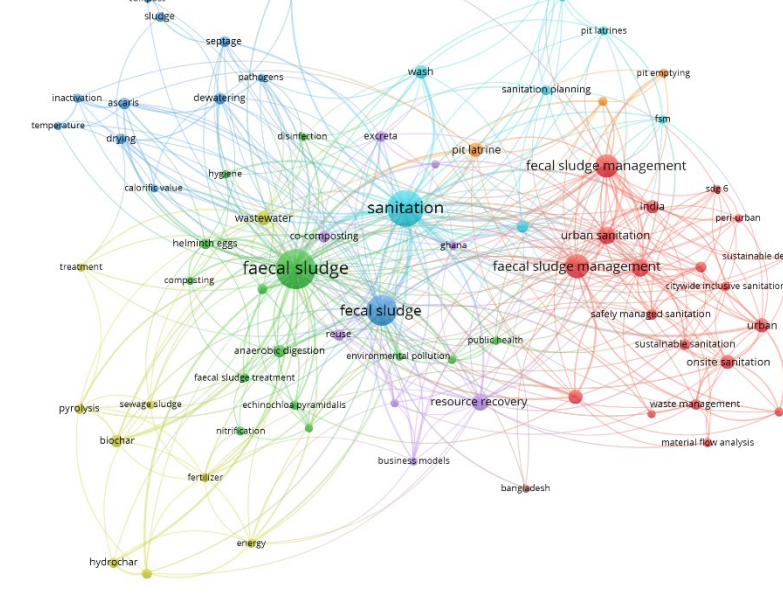
INTELLECTUAL STRUCTURE – BIBLIOGRAPHIC COUPLING



CONCEPTUAL STRUCTURE – THEMATIC PLOT



CONCEPTUAL STRUCTURE – CO-OCCURRENCE OF AUTHORS KE WORDS



FUTURE RESEARCHES

- Understanding Faecal Sludge Characteristics and Treatment:** There is a clear need for more detailed studies on the physical, chemical, and biological characteristics of faecal sludge. Faecal sludge characteristics vary widely across geographical areas and are very context-specific.
- Sanitation Challenges in Urban and Informal Settings:** Urban areas, particularly informal settlements, face unique challenges stemming from overcrowding, inadequate infrastructure, and limited resources.
- Innovations in Resource Recovery:** remains underexplored, despite its potential to transform waste into valuable products like compost, bioenergy, and fertilizers. More work is needed to optimize these processes and assess their economic and environmental benefits.

CONCLUSION

- There are limited studies particularly in Sub-Saharan and Asian regions in the area of SMS.
- Key authors and influential journals include Strande L., Mbéguéré M, and Niwagaba CB, and impactful publications in journals like the Journal of Water Sanitation and Hygiene for Development.
- The intellectual and conceptual structures revealed through co-citation analysis, bibliographic coupling, and keyword co-occurrence networks the diverse and interconnected nature of SMS research with a lot of emphasis on faecal sludge.
- Thematic clusters range from fundamental research and faecal sludge management in agriculture to treatment technologies and resource recovery, reflecting the multifaceted challenges and innovative solutions being explored in the field.