

## Supplementary information

# Status and prospects of green building in the Middle East and North Africa (MENA) region with a focus on the Moroccan context

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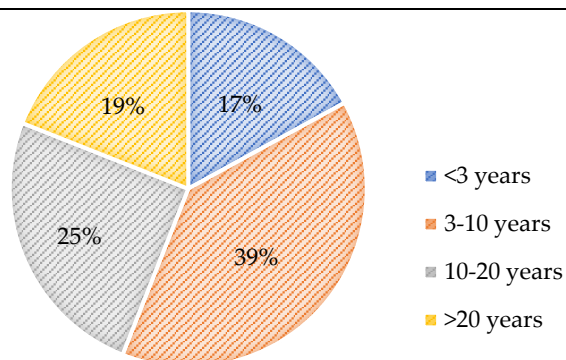
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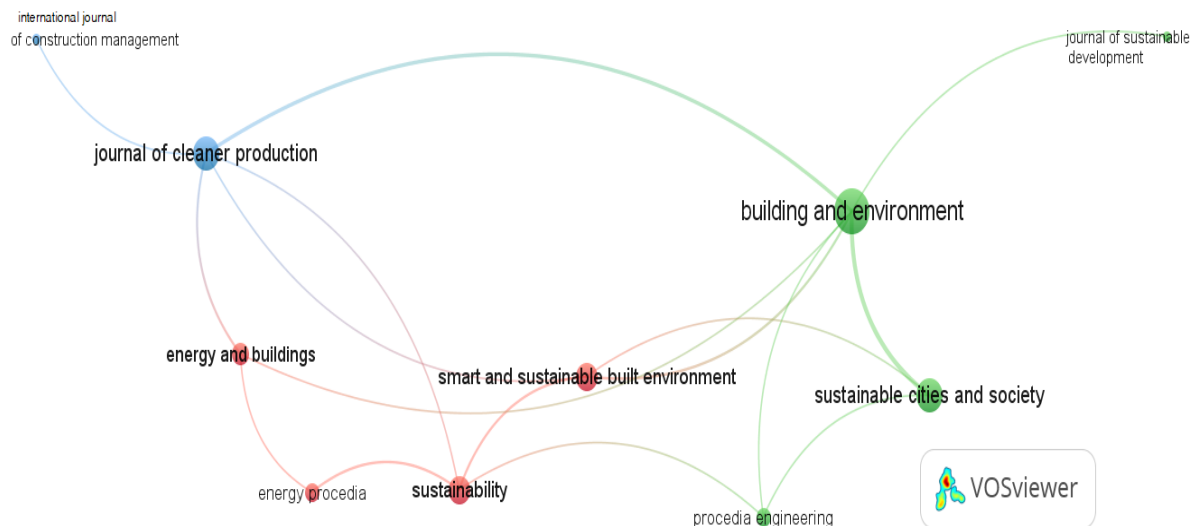
**Table S1.** Profiles of the respondents

	Man		Women		Total	
	Frequency	%	Frequency	%	Frequency	%
By profession						
Architect	18	10.18	24	14.37	42	24.55
Engineer	45	26.95	17	10.18	62	37.13
Project Manager	6	3.59	0	0.00	6	3.59
Public service managers	7	4.19	3	1.80	10	5.99
Accredited Professional (HQE, BREEAM-AP...)	9	5.39	6	3.59	15	8.98
Academics	20	12.57	8	4.79	28	17.37
Others	3	1.80	1	0.60	4	2.40
By region						
Centrale region (Rabat Casablanca)	68	40.72	44	26.35	112	67.07
North region	13	7.78	7	4.19	20	11.98
Fez- Meknes region	7	4.19	5	2.99	12	7.19
South region	20	11.98	3	1.80	23	13.77
Engineering speciality: Civil engineering (construction, structure); energy, environment; other: urban planner, QHSE Engineer						

The 17% of respondents were younger practitioners in the sector, with less than 3 years of experience, 39% had between 3 and 10 years, 25% had between 10 and 20 years, and 25% had more than 20 years of expertise.



**Figure S1.** Years of experience of participants

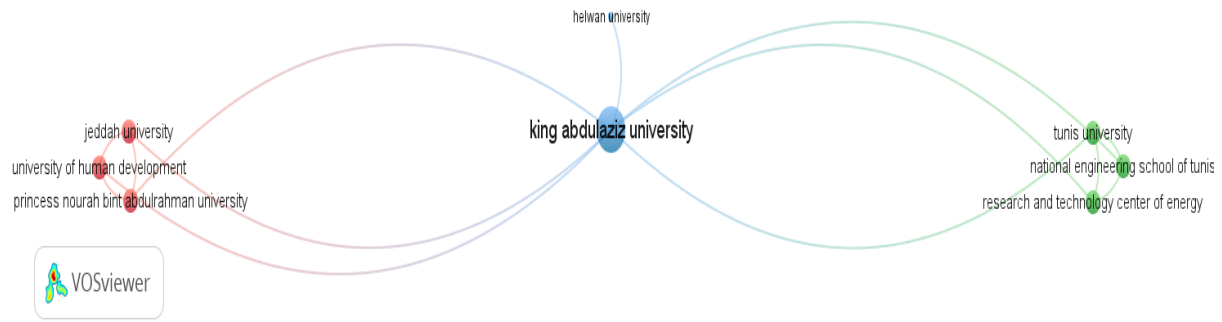


**Figure S2.** Network (Total link strength) of publishing scientific journals in the MENA region (2000-2021).

The network was generated using the "Total link strength" network function, based on the distance and size of the node which reflects the impact in GB research. The connecting lines show the citation links between journals, e.g. the journal *Building and Environment* shows a stronger citation link with the journal *Sustainable Cities and society* than the journal *Sustainability*. Therefore, even clusters and journals that are proximate to each other have stronger citation links that are singly located.

**Table S2.** Comparison of research areas in the MENA region, Africa, and the world.

Review	Keyword	Occurrences	Total link strength
Current study: MENA (2000-2021)	Sustainability	43	362
	Rating System	33	261
	Energy	32	273
	Survey	31	277
	Green building	30	252
A scientometric analysis and visualization of green building research in Africa (2000-2020) [1]	Sustainable development	82	293
	Sustainable construction	38	137
	Intelligent buildings	37	132
	Green building	26	87
	Energy efficiency	25	71
Scientometric review of global research trends on green buildings in construction journals from 1992 to 2018 [2]	Sustainability	149	119
	Green building	137	114
	Sustainable construction	113	68
	LEED	57	49
	Energy efficiency	46	42



**Figure S3.** Collaborative network of institutions in MENA region.

The three Tunisian academies have collaborated with two Saudi research units King Abdelaziz University and Jeddah University. They have also established research links with national institutes such as Princess Noura Abdul Rahman University and regionally with the Iraqi University of Human Development. Finally, King Abdelaziz University (KSA) cooperates with the different institutes of two clusters (red and green) and with the Egyptian Helwān University.

This is confirmed by the analysis of the country's scientific collaboration networks. This network was constructed in 25 countries, and total link strength values were used to identify the most influential in the network. The larger nodes represent higher values of weighted degree, and the lines indicate the cooperative relationships of each pair of countries.



**Figure S4.** Map of country co-authorship network based on "Total link strength".

## References

1. Oguntona, O.A.; Aigbavboa, C.O.; Thwala, W.D. A Scientometric Analysis and Visualization of Green Building Research in Africa. *J. Green Build.* **2021**, *16*, 83–86, doi:10.3992/jgb.16.2.83.
2. Wuni, I.Y.; Shen, G.Q.P.; Osei-Kyei, R. Scientometric Review of Global Research Trends on Green Buildings in Construction Journals from 1992 to 2018. *Energy Build.* **2019**, *190*, 69–85, doi:10.1016/j.enbuild.2019.02.010.