An explorative study on a university's outreach in the field of UN Sustainable Development Goal 2

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Contents

1. Executive summary

This research explores whether and how the societal impact of research can be demonstrated by using proxy measures such as mentions of research in mainstream news media, social media and in policy documents. We explore the use of these measures within the research domain related to SDG 2 as a way to: compare performance against peer institutes and researchers; explore correlations between news media mentions, social media mentions and other more traditional 'academic' impact indicators such as citation counts; and explore whether relative scientific quality or news media / social media attention increases the likelihood of being used in policy documents through a case study that focuses on a key policy document produced by the Food and Agriculture Organisation (FAO) of the United Nations.

Our results show that no clear relationship can be distinguished between scholarly output or various proxies of scientific quality with news media mentions. This result demonstrates that scientific quality does not necessarily translate into news media or social media mentions. Hence, universities and researchers need to actively invest in outreach to improve the contribution of research, researchers and research institutes to society. In addition, departments dealing with scientific benchmarking need to collaborate more closely with communication departments as universities may reconsider the way they organize their outreach to society.

Articles cited by the policy document had higher values for citation metrics and had more Mendeley readers, tweets, Facebook mentions, blog mentions and news mentions than articles in the reference set that this policy document would have sourced from. The higher number of social media and news media mentions for the FAO references could have contributed to their uptake by the FAO policy document. However, this higher number could also be a result of the higher scientific quality of the FAO references. Researchers and research institutes are advised to consider joining the writing committee of relevant policy documents for more influence on policy making. There is a benefit to both software developers and policymakers to improve the visibility of policy documents for analysis as the coverage of policy documents is still limited. New insights based on a comprehensive analysis of more policy documents could trigger institutes to actively re-think the way they interact with policy and policymakers.

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2. Introduction

Governments, non-profit and commercial organisations spend significant sums of money on research to address the challenges we face as a society. In response to increasingly complex societal challenges, research has become more collaborative, complex and open while funding has become more limited. As a result, more emphasis is placed on the societal impact of research endeavours, which challenges knowledge institutes to demonstrate their broader impact on society.

Measuring the 'societal' impact of research is an obvious and sensible way to demonstrate the significant benefits of ongoing investment in research and innovation. However, the reality of objectively measuring this impact in a reliable and effective way is difficult. An immediate issue which occurs is around the definition of 'societal impact of research'. Discussions about research impact started in 2005 in Australia after the introduction of the Research Quality Framework (RQF). Since then, countries like the United Kingdom, Ireland and the Netherlands have all used various definitions of societal impact and used different approaches to try to measure it. As indicated by an advice of the Royal Netherlands Academy of Arts and Sciences to the Dutch government in 2018, the impact of research on society is extremely diverse, often difficult to measure and can often not be linked directly to a particular research project[1].

Outside of the definition of what represents societal impact, there are substantial methodological issues which also need to be considered: 1. How to attribute an observed societal impact (e.g. a change in policy) to research; 2. How to determine counterfactual positions, i.e. would the observed societal impact have occurred anyway; 3. How to deal with the time lags between research and tangible outcomes, and the multiple stages in-between; 4. Where to focus the assessment, e.g. on a single publication, the scientific output of one researcher or an institution's entire research output[2]. Furthermore, collecting measures of inputs, outputs and outcomes from both a quantitative and qualitative perspective presents further challenges for all actors throughout the research ecosystem.

Wageningen University & Research (WUR) in the Netherlands is a leading university in the domain of agriculture[3,4]. Its 5,000 employees are working on a range of sustainability issues, including UN Sustainable Development Goal 2[5] (SDG 2) which aims to end hunger. From developing innovative agricultural technologies to working out ways to reduce food waste and increase food security, they aim to contribute to achieving SDG 2 by 2030. An important aspect of this research is to impact society and policy, but how can researchers determine the contribution of their work to a goal like SDG 2? In other words, how can researchers and institutes measure the societal impact of the research they conduct? And what can they do to increase its impact on society and policy?

This research explores whether and how the societal impact of research can be demonstrated by using proxy measures such as mentions of research in mainstream news media, social media and in policy documents. We explore the use of these measures within the research domain related to SDG 2 as a way to: compare performance against peer institutes and researchers; explore correlations between news media mentions, social media mentions and other more traditional 'academic' impact indicators such as citation counts; and explore whether relative scientific quality or news media / social media attention increases the likelihood of being used in policy documents through a case study that focuses on a key policy document produced by the Food and Agriculture Organisation (FAO) of the United Nations.

Our main research questions are:

1. Does scientific quality translate into uptake by news media and social media?
2. Do relative scientific quality, media attention or social media attention increase the likelihood of being picked up by a policy document?

3. Methods

3.1. SDG 2 publication set, key institutes and key researchers

SDG 2 aims to 'end hunger, achieve food security and improved nutrition, and promote sustainable agriculture' and has eight targets[5]. This project focuses on four of these targets (targets 2.1-2.4) since the remaining targets concern means of implementation to achieve these four targets. SDG targets 2.1-2.4 formed the basis for our definition of a keyword search string that identified academic publications, institutes and authors associated with this UN goal. This search string was generated using Fingerprint ® technology which generated an index of weighted concepts/keywords from the descriptions of SDG targets 2.1-2.4 using the Elsevier Fingerprint Engine ®. Several keywords were added based on expert judgment. The description of SDG 2.1, for example, mentions several aspects of food security without mentioning this term itself. All keywords were then tested individually and combined in order to produce a simple and reasonable definition of the SDG 2 research domain. The resulting search string consisted of the keywords "food security" (refers to SDG 2.1), "malnutrition" (refers to SDG 2.2), "smallholder" (refers to SDG 2.3) and "sustainable intensification" (refers to SDG 2.4).

The SDG 2 publication set was created by querying the Scopus ® database using the search string described above for the years 2014-2017, which resulted in approximately 23,500 publications. The subject area 'nursing' was excluded as this subject area mainly concerned studies on malnutrition of patients and was deemed out of scope for the study. A SciVal dataset was created for the publication set by exporting the results of the 2014-2017 keyword search in the Scopus database to SciVal. The SciVal dataset contained information on e.g. Citation Count, Field-Weighted Citation Impact and Views Count for these publications on SDG 2. This dataset was used to analyse the scientific performance of the publications, institutes and researchers in the SDG 2 domain.

A key defining feature of WUR's research profile in the SDG 2 field is its focus on both agriculture and nutrition. Therefore, peer institutes were identified as those with the largest number of publications (i.e. more than 200) in the SDG 2 publication set that had a similar profile as WUR (by reviewing the abstracts of the first 20 most recent publications of these institutes in the SDG 2 publication set). To cross-check the list of institutes, we also performed searches for each search term individually and focused on the five most important institutes to determine whether we missed one in the combined search. Again, the criterion of a focus on agriculture and nutrition research was maintained.

The SDG 2 publication set was also used to identify key researchers from WUR and their peers. In identifying key researchers from WUR, authors from various disciplines that are relevant for SDG 2 (e.g. plant sciences, human nutrition and social sciences) were selected from the authors with the highest number of publications in the SDG 2 publication set (i.e. more than 10). Peers of these researchers were identified as those with more than 25 publications and a discipline to match that of the WUR key researchers.

3.2. Media attention measurements

The Elsevier technology tools PlumX metrics and Newsflo were used to find news media and social media mentions associated with the SDG 2 publications, institutes and authors for the years 2014-2017, with data being retrieved in May 2018. PlumX metrics data was used to analyse societal impact (media attention) of publications, whereas Newsflo data was used to identify societal impact (media attention) of authors and institutes. Unless otherwise stated, detailed methodologies for research metric calculations can be found in the Elsevier Research Metrics Guidebook[6].

PlumX metrics was used to search for both news media and social media mentions of the Scopus generated SDG 2 publications. PlumX metrics were developed to track online engagement across a wide array of output types and online platforms. These metrics allow the measurement and analysis of additional interactions and engagement with research over and above the more traditional citation counts. This includes activity occurring on social media platforms, download and capture tools such as Mendeley and Github, usage data from repositories and publisher platforms, and mentions in news outlets. PlumX is able to use several different digital identifiers and the technology works to "match and merge" different identifiers for the same work or research artefact. For example, the proprietary technology can start with an organisation's research repository ID and is then able to locate a DOI and PMID, as well as publisher URLs, for the same research artefact. This technology allows PlumX to track different versions of the same work — the green open access, the pre-print and the published version — and gather and show all of the interactions with the research in question across multiple online platforms. PlumX metrics can currently track research interactions in over 50 different sources.

Newsflo is powered by news articles with coverage from over 45,000 (English-speaking) news outlets in over 20 countries including the USA, India, China, Brazil and all major European countries (aggregated via LexisNexis Metabase). For this investigation, Newsflo searched media mentions for the key institutes and authors associated with SDG 2 via a search string that combined keywords from the SDG 2 search query described above with official author and institute names, name variants and associated institutes when appropriate (Appendix 1 and 2).

3.3. SDG 2 policy document

We looked at the FAO document Nutrition and food systems[7] and the references to articles in this document (440 in total) as a case study. This document was selected as it includes all aspects of SDG 2 (i.e. a food systems perspective rather than a focus on only agriculture or nutrition). We used an index of weighted concepts for this FAO document that was generated using the Elsevier Fingerprint Engine ® to define a Scopus ® search string: TITLE-ABS-KEY ((food OR agriculture) AND (nutrition OR diet OR "food security" OR malnutrition OR obesity) AND NOT (disease OR cancer OR diabetes)). This search string was then used to identify a reference set for the articles referred to by the FAO document. By combining SciVal data for the FAO references and its reference set with data from PlumX Analytics we explored factors that may increase likelihood of being picked up by a policy document (e.g. Citation Count, social media mentions, geographic distribution of authors).

4. Results

4.1. Key research institutes and authors in the SDG 2 domain

Table 1 shows the key research institutes that were identified in the SDG 2 publication set. These research institutes were selected because their research profile matched that of WUR (focussing on both agriculture and nutrition), and because they had the highest scientific output in the SDG 2 domain or parts thereof (i.e. either in food security, malnutrition, smallholder and sustainable intensification). Similarly, key researchers of WUR and their peers are shown in Table 2. Key researchers from WUR were selected based on their scientific output in the SDG 2 publication set and on their scientific discipline (i.e. to reflect the diversity of disciplines that contribute to SDG 2). Peers of these researchers were identified as those with more than 25 publications and a discipline to match that of the WUR key researchers.

Table 1: Key research institutes in the SDG 2 publication set that were selected based on their contribution to the SDG 2 domain

Research institute	Country
Wageningen University	Netherlands
University of Queensland	Australia
International Food and Policy Research Institute (IFPRI)	United States
University of Copenhagen	Denmark
Cornell University	United States
Michigan State University	United States
Institut National de la Recherche Agronomique (INRA)	France
UC Davis	United States
University of Zimbabwe	Zimbabwe
Food and Agriculture Organization (FAO)	Italy

Table 2: Key researchers in the SDG 2 publication set that were selected based on their contribution to the SDG 2 domain

Name	Research institute	Peers
Ken Giller	Wageningen University & Research	Rattan Lal, Peter Windsor, Christian Thierfelder
Martin van Ittersum	Wageningen University & Research	Mario Herrero, Paolo D'Odorico
Laurens Klerkx	Wageningen University & Research	Matin Qaim
Jos Bijman	Wageningen University & Research	Matin Qaim, Paolo D'Odorico
Inge Brouwer	Wageningen University & Research	Tahmeed Ahmed
Tahmeed Ahmed	International Centre for Diarrhoeal Disease Research Bangladesh	Inge Brouwer
Rattan Lal	Ohio State University	Ken Giller
Matin Qaim	Universität Gottingen	Laurens Klerkx, Jos Bijman
Mario Herrero	Commonwealth Scientific and Industrial Research Organization	Martin van Ittersum
Peter Windsor	The University of Sydney	Ken Giller
Paolo D'Odorico	University Of California Berkeley	Martin van Ittersum, Jos Bijman
Christian Thierfelder	International Maize and Wheat Improvement Center	Ken Giller

4.2. Does scientific quality translate into uptake by news media and social media?

We first explore this research question using Newsflo data on news media mentions for key institutes and researchers before we turn to the PlumX data that connects social and news media mentions on publications in the SDG 2 publication set to other metrics.

Although WUR contributed most publications in the SDG 2 publication set, it did not receive most media attention (total number of media mentions found via Newsflo) (Table 3). An explanation could be that only English news media mentions were captured, which would result in more media mentions per article for institutes in native English countries. This can be seen for American institutes such as Cornell University, Michigan State University and UC Davis, but not for the University of Queensland (Australia), which indicates that the so-called media culture in different regions of the world also plays a role. IFPRI and FAO received most news media mentions as captured by Newsflo likely because their policy documents attract a lot of attention in news media. Overall, no clear relationship can be distinguished between scholarly output or various proxies of scientific quality with news media mentions (Table 4).

Table 3: News media mentions (Newsflo), Scholarly Output, Field Weighted Citation Impact, Citation Count and Citations per Publication for the institutes of interest in the SDG 2 publication set

Research institute	# news media mentions found on institute name and SDG 2 keywords using Newsflo	Scholarly Output in SGD 2 publication set	Field Weighted Citation Impact	Citation Count	Citations per Publication
Wageningen University	1929	489	3.56	8852	18.1
University of Queensland	1921	214	5.34	4472	20.9
University of Copenhagen	609	214	5.18	4764	22.3
Cornell University	5801	182	3.46	2778	15.3
Michigan State University	3564	168	3.03	2049	12.2
INRA	696	183	2.48	2811	15.4
UC Davis	3693	140	2.62	2691	19.2
University of Zimbabwe	533	97	1.03	545	5.6
IFPRI	8424	189	2.19	2078	11.0
FAO	91333	145	4.39	3015	20.8

Table 4: R-squared for relations of Scholarly Output, number of authors and several proxies for scientific quality with media mentions for the research institutes of interest in the SDG 2 publication set

Metric	R-squared for relation (based on linear regression) with media mentions (retrieved using Newsflo) for the institutes of interest
Scholarly Output	0.04
Number of authors	0.06
Field Weighted Citation Impact	0.06
Citation Count	0.07
Citations per Publication	0.08

Table 5: News media mentions (Newsflo), Scholarly Output, Citation Count and h-index for the researchers of interest in the SDG 2 publication set

	# news media mentions found on author name and SDG 2 keywords using Newsflo	Scholarly Output in SGD 2 publication set	Citation Count	*h*-index
Ken Giller	111	50	695	56
Martin van Ittersum	63	17	283	39
Laurens Klerkx	7	12	148	26
Jos Bijman	2	9	19	13
Inge Brouwer	10	-	-	-
Tahmeed Ahmed	142	44	814	30
Rattan Lal	1607	31	386	86
Matin Qaim	118	30	505	41
Mario Herrero	1458	29	879	44
Peter Windsor	238	23	123	25
Paolo D'Odorico	161	20	316	48
Christian Thierfelder	109	20	289	20

WUR researchers generally receive less news media attention than their peers (Table 5). Rattan Lal received most news media mentions, even though his scholarly output is lower than that of his peer (i.e. Ken Giller). Explanations for the overall lower number of news media mentions for WUR researchers could be English language bias, differences in media culture, lower scientific output or differences in outreach.

SciVal and PlumX metrics for the SDG 2 publication set are provided in Table 6. This Table shows that the average number of citations, journal Citescore and tweets are approximately 1.5-2 times higher for review articles than for regular articles. Figure 1 and Figure 2 show that we did not find any significant relation between social media or news media mentions and publication metrics like number of authors, FWCI, FWVI and journal Citescore. We also did not find a significant relation between news media mentions and Twitter mentions (Figure 3). This means that scientific quality (measured using various proxies) does not necessarily translate into news media or social media mentions.

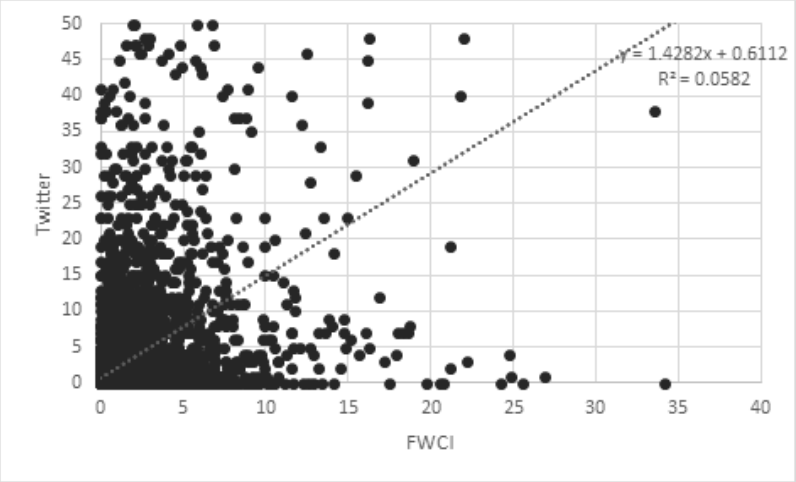

Figure 1: Relation between Field Weighted Citation Impact (FWCI) and Twitter mentions (retrieved through PlumX metrics) for articles in the SDG 2 publication set (note: similar results were also found for review articles or when using other proxy measures for scientific quality)

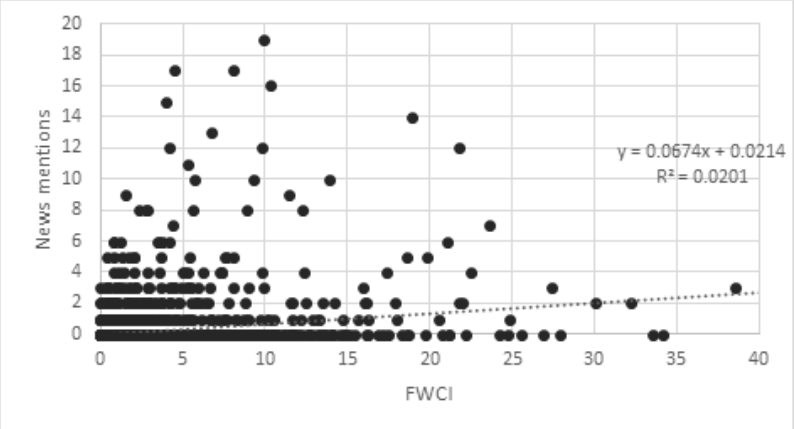

Figure 2: Relation between Field Weighted Citation Impact (FWCI) and news media mentions (retrieved through PlumX metrics) for articles in the SDG 2 publication set (note: similar results were also found for review articles or when using other proxy measures for scientific quality)

Table 6: Scopus, SciVal and PlumX metrics (averages) for the SDG 2 publication set 2014-2017

	Average number of authors	Average CiteScore 2017	#	FWVI	FWCI	Citations per Publication	Mendeley Readers	Average Tweets	Average Blog mentions	Average News mentions	Average Facebook Shares, Likes & Comments
Article	5.4	2.2	16290	1.5	1.3	5.3	27.5	3.2	0.1	0.1	16.0
Review	4.6	3.1	2715	1.7	1.3	9.8	47.1	6.9	0.1	0.2	16.0
Conference Paper	4.3	1.0	797	1.7	0.9	1.3	8.5	0.6	0.0	0.0	0.7
Book	2.3		217	1.7	0.7	2.3	43.1	0.4	0.0	0.0	2.2
Book Chapter	2.7	2.0	1553	1.6	1.1	1.0	6.3	0.1	0.0	0.0	0.3
Editorial	1.9	3.0	426	2.4	2.2	1.7	12.3	11.1	0.0	0.1	12.5
Letter	3.4	3.9	455	1.1	0.8	1.1	5.6	4.1	0.0	0.0	8.7
Note	2.7	4.2	511	2.6	3.6	3.4	19.5	19.3	0.0	0.2	28.9
Short Survey	5.0	4.3	148	2.0	1.2	3.3	19.6	12.5	0.1	0.2	9.6
Grand Total	4.9	2.4	23444	1.6	1.3	5.1	26.7	3.9	0.1	0.1	14.2

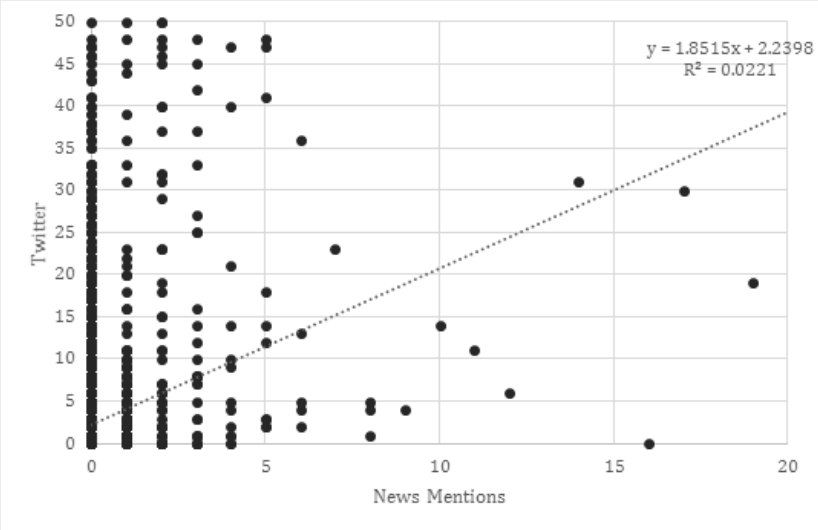

Figure 3: Relation between number of news media mentions and tweets (retrieved through PlumX metrics) for articles in the SDG 2 publication set

4.3. Do relative scientific quality, media attention or social media attention increase the likelihood of being picked up by a policy document?

Table 7 shows that the articles referenced in the FAO policy document[7] have higher values for the proxies of scientific quality (citation metrics) than articles in the reference set for this policy document (i.e. the reference set of publications that was generated in Scopus using a search string that was based on an index of weighted concepts which had been generated by applying Fingerprint ® Technology to the policy document). This could indicate that scientific quality had an effect on the likelihood that an article is referenced in the FAO policy document.

Table 8 shows that the FAO references had on average much more Mendeley readers, tweets, Facebook mentions, blog mentions and news mentions than the SDG 2 publications (Table 6). However it should be mentioned that the distribution of the FAO references was rather skewed. The higher number of social media and news media mentions for the FAO references could have contributed to their uptake by the FAO policy document. However, this higher number could also be a result of the higher scientific quality of the FAO references (Table 7).

Although WUR appears as the leading institute in the reference set for the policy document (Figure 4) it does not appear among the 15 most cited institutes in the FAO document (Figure 5). One explanation for this could be that the report focused more on nutrition (where WUR's profile is less strong than in for example agricultural sciences) than on other aspects of the food systems as the policy document's title implied (i.e. Nutrition and Food Systems). An alternative explanation could be that there have been no WUR-affiliated authors in the writing group of the FAO document, which then raises the question whether or not that has decreased the probability of Wageningen publications referred to by the FAO document.

Table 7: Proxies of scientific quality for references in the FAO policy document and its reference set

	Outputs in Top 10% Citation Percentile	Outputs in the Top 10% Journal Percentile by CiteScore	Citations per Publication	FWCI	Outputs in top 10% most viewed journals	Views per Publication	FWVI
References in FAO document (based on the time period 2013-2017)	69.5	67.6	109.8	15.61	69.9	112.2	6.54
Reference set for policy document (2014-2017)	13.8	30.3	5.8	1.31	22.6	23.4	1.59

Table 8: Number of Mendeley readers, tweets, Facebook mentions, blog mentions and news mentions (averages) retrieved through PlumX metrics for the articles and reviews referred to by the FAO policy document

	Total #	Mendeley readers	Tweets	Facebook Shares, likes & comments	Blog mentions	News mentions
Article	297	260.1	45.5	162.3	0.5	3.4
Review	143	471.5	40.6	158.1	1	2.6

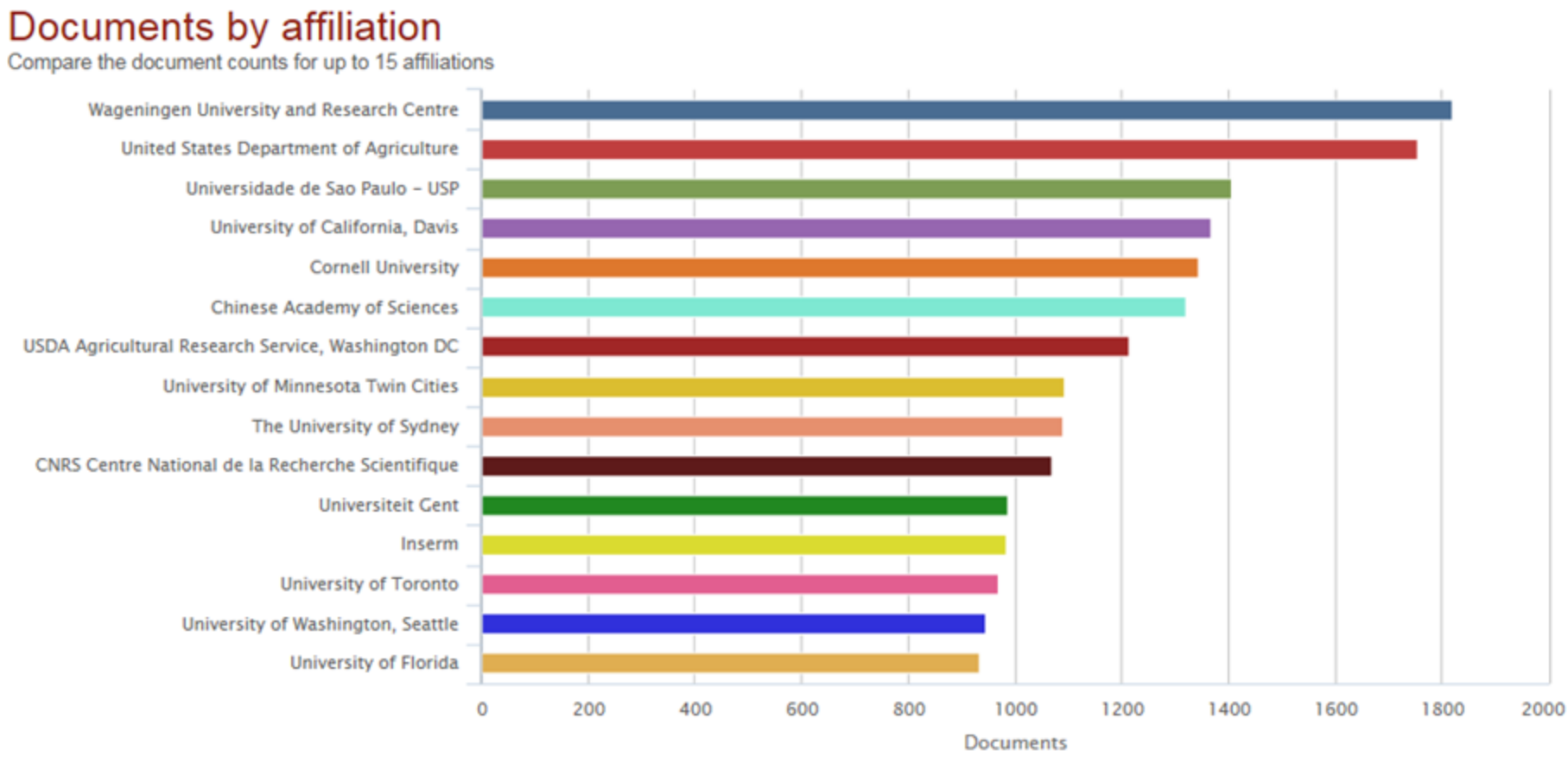

Figure 4: Top-15 research institutes in the reference set for the FAO policy document

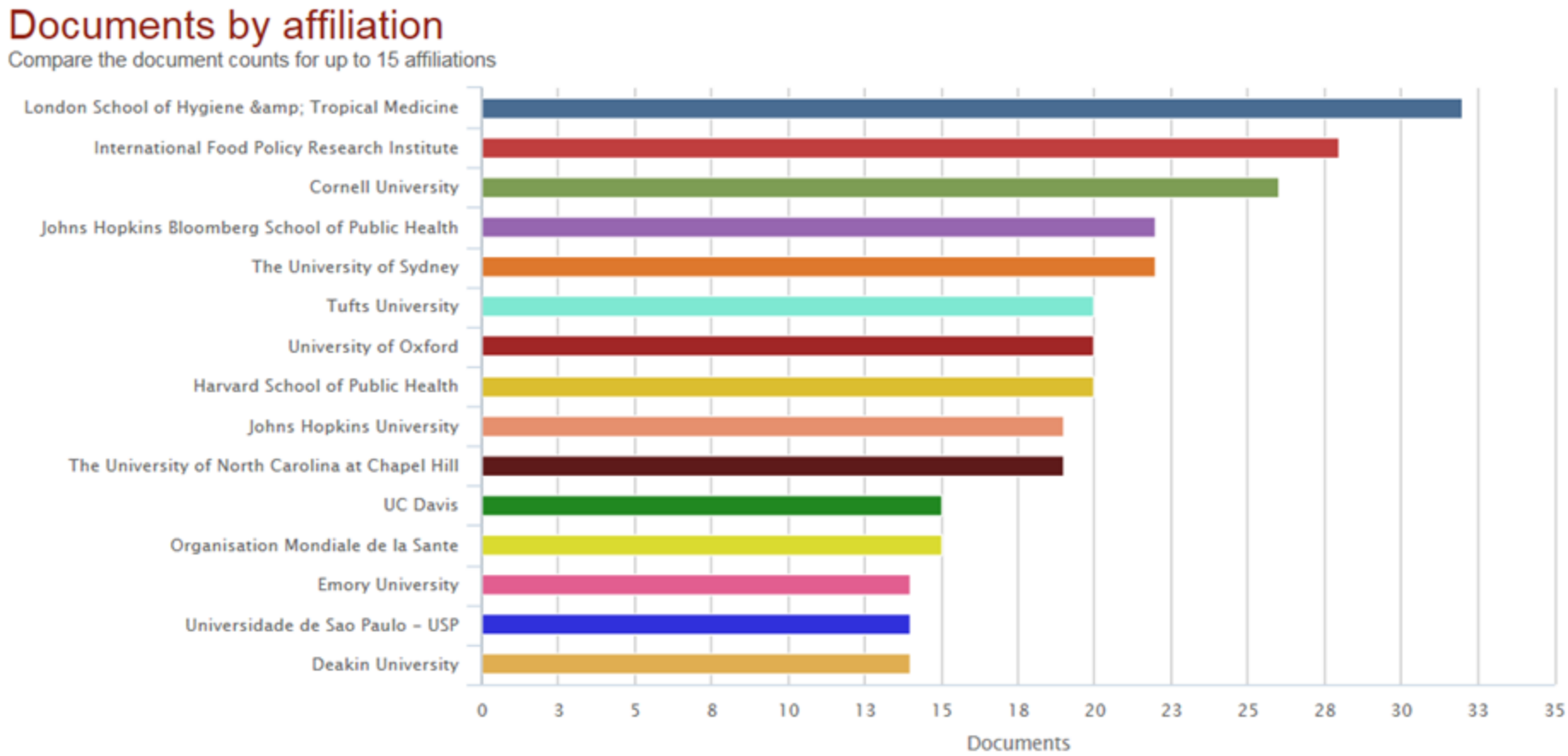

Figure 5: Top-15 research institutes in the references of the FAO policy document

5. Discussion and conclusion

Demonstrating and visualizing the societal impact of research becomes increasingly important. Research institutes like Wageningen University & Research (WUR) want to gain insight into the societal impact of their research and learn how this impact may be improved. However, determining societal impact is challenging since only proxies are currently available to measure certain aspects. This explorative study focuses on outreach of publications, key researchers and key institutes in the field of SGD 2.

Our results demonstrate that there is no clear relation between citation metrics (used here as proxy for research quality) with social media and news media mentions, two proxies of societal impact via media. Similar results have been reported using Altmetric data in Bornmann and Haunschild[8] and in Jabaley et al.[9] It can therefore be assumed that research quality itself is not sufficient for societal impact, which may be dependent on factors that could not be further explored in this study, such as active outreach to news media and social media by researchers or research institutes, and media culture.

We also did not find a clear relation between citation metrics, media attention and research being used for policy documents. The latter is considered a strong indicator of having societal impact through policy. We did observe that articles and reviews in the FAO document have a higher average rating with respect to both scientific quality and outreach than other articles and reviews in this field.

The exploratory nature of this study means that there are some limitations to the work presented. First, this study focused on WUR, which has a focus on both agriculture and nutrition in the SDG 2 domain. Therefore peer institutes, WUR key researchers and their peers were selected with a focus on agriculture and nutrition. This means that top institutes in the SDG 2 publication set that only focus on nutrition or agriculture were not considered peers of WUR and were thus not included in the analyses. Likewise, peers of the key researchers from WUR were selected based on their scientific prominence and on their expertise to match that of the WUR researchers. Second, the FAO policy document is only one of many policy documents that address SDG 2. Hence, the analysis of this policy document is an illustrative example. Third, a reference publication set was defined for this policy document using the Elsevier Fingerprint Engine ® and expert judgment. Still, this reference set may not match the publication set that was reviewed in drafting this policy document.

This study creates awareness about how scientific quality and societal outreach interact, illustrating that these domains are to some extent separated. This means that scientific quality does not necessarily result in attention on social media or news media. Hence, universities and researchers need to actively invest in outreach to improve the contribution of research, researchers and research institute to society. They could, for example, give digests of important research outcomes on social media or actively reach out to relevant policy makers. In addition, departments dealing with scientific benchmarking need to collaborate more closely with communication departments as universities may reconsider the way they organize their outreach to society.

Policymakers are considered a major stakeholder in the domain of the SDGs. Although there seems to be some relation between scientific quality, social media and news media with the likelihood of being picked up by a policy document, researchers and research institutes are still advised to consider joining the writing committee of the most relevant policy documents for more influence on policy making. In addition, there is a benefit to both software developers and policymakers to improve the visibility of policy documents for analysis as the coverage of policy documents is still limited. New insights based on a comprehensive analysis of more policy documents could trigger institutes to actively re-think the way they interact with policy and policymakers.

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Appendix 1

The Newsflo search strings that were used to find media mentions for the institutes are:

- "original name" + "keyword" ("SDG2" OR "Sustainable development goal 2" OR "food security" OR "malnutrition" OR "smallholder" OR "sustainable intensification")
- "name variant" + "keyword" ("SDG2" OR "Sustainable development goal 2" OR "food security" OR "malnutrition" OR "smallholder" OR "sustainable intensification")
- "acronym" + "keyword" ("SDG2" OR "Sustainable development goal 2" OR "food security" OR "malnutrition" OR "smallholder" OR "sustainable intensification")

The Newsflo search strings that were used to find media mentions for the authors are:

- "full name" + "affiliation"
- "full name" + "affiliation variant"
- “full name" + "keyword" ("Sustainable development goal 2" OR "food security" OR "malnutrition" OR "smallholder" OR "sustainable intensification")
- "name variant" + "affiliation"
- "name variant" + "affiliation variant"
- "name variant" + "keyword" ("Sustainable development goal 2" OR "food security" OR "malnutrition" OR" smallholder" OR "sustainable intensification")

Appendix 2

Newsflo search for SDG 2 authors

Full name	Name variant	Affiliation	Affiliation variant	Author ID
Ken Giller	K. E. Giller	Wageningen University and Research Centre	Wageningen	7005321356
Martin van Ittersum	M.K. van Ittersum	Wageningen University and Research Centre	Wageningen	56580453600
Laurens Klerkx	L. Klerkx	Wageningen University and Research Centre	Wageningen	13612931800
Jos Bijman	J.J. Bijman	Wageningen University and Research Centre	Wageningen	7003925912
Inge Brouwer	I.D. Brouwer	Wageningen University and Research Centre	Wageningen	55406812600
Tahmeed Ahmed	T.J. Ahmed	Nutrition and Clinical Services Division	Nutrition and Clinical Services Division, Dhaka	7202098286
Rattan Lal	R. Lal	Ohio State University		55444564800
Matin Qaim	M. Qaim	Universitat Gottingen	University Of Goettingen	9038441000
Mario Herrero	M. Herrero	Commonwealth Scientific and Industrial Research Organization	CSIRO	34770911400
Peter Windsor	P.A. Windsor	The University of Sydney	University of Sydney	8376518000
Paolo D'Odorico	P. D'odorico	University Of California Berkeley	UC Berkeley	7004259223
Christian Thierfelder	C. Thierfelder	International Maize and Wheat Improvement Center	CIMMYT	8516220100

Newsflo search for SDG 2 Institutes

University original name	Name variant	Relevant acronym	Subaffiliation?	Scopus affiliation ID	University original name
Wageningen University and Research Centre	Wageningen University	WUR		60004156	Wageningen University and Research Centre
University of Queensland	Univ of Queensland			60031004	University of Queensland
International Food Policy Research Institute		IFPRI		60000840	International Food Policy Research Institute
University Of Copenhagen	Copenhagen University			60030840	University Of Copenhagen
Cornell University	Cornell			60007776	Cornell University
Michigan State University		MSU		60031707	Michigan State University
Food and Agriculture Organization of the United Nations	Food and Agriculture Organization	FAO		60003553	Food and Agriculture Organization of the United Nations
INRA Institut National de La Recherche Agronomique	Institut National de La Recherche Agronomique	INRA		60020315	INRA Institut National de La Recherche Agronomique
University Of California Davis	University Of California	UC Davis		60014439	University Of California Davis
University of Zimbabwe				60033774	University of Zimbabwe
RIKILT, Institute of Food Safety		RIKILT	Wageningen University and Research Centre	60004544	RIKILT, Institute of Food Safety
ISRIC - World Soil Information		ISRIC	Wageningen University and Research Centre	60011905	ISRIC - World Soil Information
Institute for Horticultural Plant Breeding (IVT)		IVT	Wageningen University and Research Centre	60070181	Institute for Horticultural Plant Breeding (IVT)

ATO-DLO, Agrotechnological Research Institute		ATO-DLO	Wageningen University and Research Centre	60070182	ATO-DLO, Agrotechnological Research Institute
Research Institute for Plant Protection IPO-DLO		IPO-DLO	Wageningen University and Research Centre	60070232	Research Institute for Plant Protection IPO-DLO
DLO Institute For Forestry And Nature Research IBN-DLO		IBN-DLO	Wageningen University and Research Centre	60070243	DLO Institute For Forestry And Nature Research IBN-DLO
DLO-Institute for Agricultural and Environmental Engineering, IMAG-DLO		IMAG-DLO	Wageningen University and Research Centre	60070244	DLO-Institute for Agricultural and Environmental Engineering, IMAG-DLO
Wageningen International			Wageningen University and Research Centre	60026222	Wageningen International
University of Queensland-School of Medicine			University of Queensland	60087457	University of Queensland-School of Medicine
Health Interactive Technology Network			University of Queensland	60088907	Health Interactive Technology Network
Kobenhavns Universitet			University Of Copenhagen	60030840	Kobenhavns Universitet
Institute of Food and Resource Economics			University Of Copenhagen	107091355	Institute of Food and Resource Economics
Danish Centre for Forest, Landscape and Planning	Danish Centre for Forest		University Of Copenhagen	60033219	Danish Centre for Forest, Landscape and Planning
Nordic Institute of Asian Studies			University Of Copenhagen	60083205	Nordic Institute of Asian Studies
Center for Naturfilosofi og Videnskabsstudier			University Of Copenhagen	60083707	Center for Naturfilosofi og Videnskabsstudier
H. C. Orsted Institute			University Of Copenhagen	60033202	H. C. Orsted Institute
Panum Institute			University Of Copenhagen	60017344	Panum Institute

Niels Bohr Institute	University Of Copenhagen	60017041	Niels Bohr Institute
Boyce Thompson Institute for Plant Research	Cornell University	60015577	Boyce Thompson Institute for Plant Research
MBI International	Michigan State University	60014123	MBI International
MSU College of Natural Science	Michigan State University	60074041	MSU College of Natural Science
Centre Regional de la Recherche Agronomique de Settat	INRA	60005013	Centre Regional de la Recherche Agronomique de Settat
Agrocampus Rennes	INRA	60025758	Agrocampus Rennes
Unite de Recherches Zootechniques Pointe a Pitre	INRA	60072540	Unite de Recherches Zootechniques Pointe a Pitre
Ecologie Fonctionnelle et Ecotoxicologie des Agroecosystemes	INRA	60105989	Ecologie Fonctionnelle et Ecotoxicologie des Agroecosystemes
Institut Jean-Pierre Bourgin	INRA	60106020	Institut Jean-Pierre Bourgin
Unite mixte de recherche d'Agronomie	INRA	60106183	
Bordeaux Imaging Center	INRA	60106826	
Institute of Mining Research Harare	University of Zimbabwe	60034725	
University Lake Kariba Research Station	University of Zimbabwe	60060596	
Godfrey Huggins School of Medicine	University of Zimbabwe	60066846	