

Teaching and Educational Methods

AgEcon Search: Bringing the World to the Classroom

Linda Eells^a, Shannon Farrell^a, Julia Kelly^a

^aUniversity of Minnesota

JEL Codes: A2, A30, D63, Q00

Keywords: Bibliodiversity, equity, open access, open educational resources, publishing ecosystems, scholarly communication

Abstract

AgEcon Search (AES), the digital library for agricultural and applied economics, promotes diversity and equity in scholarly communication by bringing socioeconomically and geographically diverse perspectives into classrooms around the world. Freely available materials in AES can be used in place of textbooks or expensive journals from commercial publishers that are inaccessible in many classrooms due to cost barriers. AES promotes diversity in scholarly communications (bibliodiversity) as demonstrated by content such as theses from Africa providing diverse geographic perspectives, and journal articles reflecting gender perspectives or discussing rural issues in lower-income countries. AES also promotes equity in publishing, hosting papers from 88 organizations and publishers (including 33 journals) in the Global South, elevating and disseminating their content via indexes like Google Scholar and RePEc. These publications expose research by authors who may find it difficult to publish in commercial journals, but whose ideas can enrich the experience for students by introducing perspectives from and about regions outside the Global North. AES content promotes diversity and equity by offering agricultural and applied economics instructors and students free, open access (OA) to over 170,000 current and historical working papers, conference papers, journal articles, theses, and government documents from 71 countries on six continents.

1 Introduction to AgEcon Search

AgEcon Search (AES) is a nonprofit, permanent digital archive of the scholarly works of agricultural and applied economics researchers worldwide, including topics such as agribusiness, food security and supply, energy and natural resource economics, environmental economics, policy issues, international trade, and economic development. It collects, indexes, and electronically distributes full-text research papers, making them freely accessible and easy to find in internet searches. AES promotes geographic and socioeconomic diversity in agricultural and applied economics classrooms around the world, particularly in the Global South, by providing free access to literature that is often missing from the research corpus available to these students. This is partly due to the dominance of authors and editors from the Global North in the commercial publishing ecosystem, and to paywalls and cost barriers restricting access to literature for both authors and researchers in many parts of the world.

Built in 1995 as a cooperative project of the University of Minnesota Department of Applied Economics and the University of Minnesota Libraries, AES has evolved into a global resource with guidance from an international advisory board and partners including: Agricultural and Applied Economics Association (AAEA), African Association of Agricultural Economists, Australasian Agricultural and Resource Economics Society, Giannini Foundation of Agricultural Economics, International Association of Agricultural Economists (IAAE), and USDA Economic Research Service.

AES coverage is deep and broad, with over 170,000 freely available working papers, conference papers, journal articles, theses, and government documents (Figure A1 in the Appendix) in 26 languages from 71 countries on six continents. Content includes current documents as well as historical ones, spanning a period from 1914 to the present day. Current working papers and conference papers are

added as they are produced, and ongoing backfile digitization projects add to the historical content. Documents are added by universities, government agencies, research institutes, nongovernmental organizations, and professional associations. For example, the Collaborative Master's Program in Agricultural and Applied Economics (African Economic Research Consortium, Kenya) collection includes a growing corpus of theses that garner thousands of downloads every month. Conference collections from 67 professional societies worldwide include historic conference collections from, for example, the Caribbean Agro-Economic Society and the Farm Foundation (USA). Professional societies that post their current conference papers in AES include country groups such as the German Association of Agricultural Economists (GEWISOLA) and those with a broader scope (e.g., the AAEA and the IAAE) and local/regional U.S. societies (WAEA–Western Agricultural Economics Association). Resources in the repository are, therefore, reflective not only of the global historical context of an issue, but also of the most current work being done and presented at conferences.

While “gray literature” is not always recognized as an important information resource, testimonials from distinguished researchers speak to the unique and important role AES has for their students:

I introduce my graduate students to AgEcon Search and strongly recommend them to actively use this source to conduct their literature review. Because of the vast collection of the materials, AgEcon Search is highly valuable to agricultural economists and graduate students all over the world for their research work. —Steven Devadoss, Emabeth Thompson Endowed Professor, Texas Tech University (personal communication, November 2018)

Researchers, whether experienced or new graduate students, need to quickly find what research is already underway or has been completed in the topic area they are focused on. AgEcon Search is a key place to search if the topic is in agricultural, environmental or resource economics, or more broadly—applied economics. —Ross Cullen, Emeritus Professor, Lincoln University, New Zealand (personal communication, November 2018)

The quality of this type of content is particularly important also because instructors seek to direct their students to authoritative resources. In AES, all content must be part of a series, conference, or journal produced by an academic department, society, or organization that has already applied some level of review before the papers are deposited. Working with these organizations ensures that some form of review or vetting of the content has been done, with AES managers thus able to spend their limited resources on other priorities. Significant infrastructure and staff time are not required to organize and manage peer review of individual papers, as is the case with subject repositories like arXiv (<https://arxiv.org/>).

AES hosts many publications that may already be hosted on contributing organizations' websites, partly because they often are not elevated in search engine results and do not get the exposure needed to disseminate their articles to the international community. Further, many of these websites are not permanent and prioritize “current” content, so the publications hosted there are at risk for loss if not placed in a fixed repository. Some websites are archived in the Internet Archive (<https://archive.org/>), but that content is not exposed to search engines like Google and is not easily found even when directly searching that website.

AES thus adds value by gathering all of these articles and papers, hosting them on a repository with permanent web addresses, and adding metadata to increase findability. Detailed metadata is applied to every paper in AES, and all content is automatically harvested by indexes such as Research Papers in Economics (RePEc) and AGRIS (FAO). RePEc, “an initiative that seeks to enhance the dissemination of research in Economics and related areas ... to make research more accessible both for the authors and the readers,” uses the metadata from over 2,200 sources (such as AES) to build the

index (<http://repec.org/>). Both AES and RePEc are highly ranked by Google and Google Scholar, ensuring maximal exposure of AES content in search engine results. Exposing and disseminating content that is often excluded by curated indexes such as Scopus and Web of Science (Martín-Martín et al. 2019) greatly elevates the international discoverability of this research and these authors.

2 Diversity and Equity

AES promotes diversity and equity in scholarly communication by bringing diverse perspectives from many countries, particularly the Global South, into agricultural and applied economics classrooms around the world. In addition to diverse regional perspectives, AES content includes different types of publications produced by a globally representative group of authors, editors, and publishers. Instructors can use freely available materials in AES in place of textbooks or expensive journals from commercial publishers that are inaccessible in many classrooms due to the high cost. As the COVID-19 pandemic greatly increased researchers' reliance on e-resources, it became more important than ever to identify for students online resources that are comprehensive, global in scope, authoritative, and freely accessible. Subject repositories in particular provide highly discoverable, focused content to students, which is especially valuable in a discipline like agricultural and applied economics where content scope and type vary considerably relative to other disciplines. Digital libraries like AES bring high quality, socioeconomically and geographically diverse content into classrooms, without paywall barriers or article download limits.

2.1 Content

In applied economics, most research appears for the first time as a conference or working paper that is sometimes then further developed—with significant revision and editing by colleagues—into a formal journal article. Thus, AES serves a discipline with a strong preprint culture, unlike many disciplines that rely heavily on formal published articles, and its development and popularity are due to the importance of this literature to peer researchers around the world. AES content takes the form of preprints broadly defined (<https://en.wikipedia.org/wiki/Preprint>) and includes preprint working and conference papers that may someday disappear behind a paywall if they are subsequently published in a commercial or prestigious journal. It also includes articles in small journals published by academic societies, universities, and research institutes based in the Global South (e.g., *Bangladesh Journal of Agricultural Economics*, *Nigerian Journal of Rural Sociology*).

Of the 365 communities contributing content to AES, 88 (24 percent) are organizations or publishers from Africa, Asia, and South America. International use data reflects high global reach as well, with 63 percent of the 7 million visitors in 2021 coming from those regions. AES provides access to research relevant to students and researchers worldwide and accepts papers in any language—an important yet often overlooked component of this diversity. Fully 10 percent of the papers in AES are published in one of 25 languages other than English. Curry and Lillis found that although 9,000 peer-reviewed scholarly journals are published in languages such as French, German, Spanish, and Chinese, for example, “most of these journals are excluded from prestigious journal indexes, thus perpetuating the ideology that English is the global academic lingua franca” (Curry and Lillis 2018). Thus, the AES contributing community is truly international, disseminating research that reflects the perspectives of researchers from a geographically and socioeconomically diverse community (Figure A2 in the Appendix).

Papers in AES supplement and complement research published in the more “mainstream” commercial literature that is not readily available in many parts of the world due to paywalls and cost barriers both for readers and authors. Therefore, the use of AES in the classroom can ameliorate a northern bias and lack of availability of diverse and/or locally relevant content for students in some regions. “As infrastructures that underlie scholarly communications are never neutral, we need to be cognizant about biases that may further entrench inequity in whose knowledge is privileged and whose

knowledge is made invisible by the current system” (Shearer et al. 2020). By providing open access (OA) papers at no cost to users or providers, AES benefits agricultural and applied economists around the world. These benefits likely have the greatest value to lower income researchers and students because AES provides access to quality research for those who cannot afford paid access.

2.2 Publishing Ecosystem

A significant related advantage of fully OA, non-profit venues like AES is in providing authors from the Global South an outlet for their research, thus increasing the amount of relevant material from those regions that is available to student researchers. The journal literature in particular primarily reflects work being done in and by the Global North. Articles produced in higher income regions of the world dominate the formal international research literature. “A global North-South research gap still exists, with most scientific contributions originating from the U.S., the UK, Canada, and Australia ... while the total contribution of the world’s citations from Africa, South America, and Oceania is lower than 5 percent” (Skopec et al. 2020). One possible reason for this is reviewer bias, with Murray et al. (2018) finding that “[w]omen and authors from nations outside of North America and Europe were underrepresented both as gatekeepers (editors and peer reviewers) and authors” with “higher rates of [article] acceptance in the case of gender and country homophily.” Another reason is the application of bibliometrics that automatically confer advantage to northern publishers. Confraria, Godinho, and Wang (2017) sought to “understand the determinants of citation impact in the Global South, despite the fact that we analyze this by adopting indicators that are normally used to assess science in the Global North” (i.e., using data from the Web of Science). “Evidence has shown that these databases [Web of Science and Scopus] have limited coverage in the areas of Social Sciences and Humanities, literature written in languages other than English, and scholarly documents other than journal articles” (Martín-Martín et al. 2019). The result of inequities throughout the publishing system is that regionally relevant topic coverage may be limited for authors (and students) in the Global South.

Fortunately, fully OA repositories provide infrastructure and promote bibliodiversity in scholarly communications (Shearer et al. 2020), somewhat alleviating this North/South divide. AES seeks to open a window and disseminate research from lower income countries by hosting their small journals (Kelly and Eells 2016) and preprints. A conscious initiative to recruit small journals from underrepresented regions has been highly successful, with 23 percent of the 141 journals in the AES community published by organizations in sub-Saharan Africa, India, South America, and South Asia. These journals provide a valid dissemination venue for valuable research that would otherwise be unavailable or relatively invisible to the global research community. Small journals like these have very limited resources and sometimes do not even have their own website. AES provides a permanent home, a platform for dissemination, and the provision of detailed metadata that elevates these articles in search engine results. These features further increase students’ exposure to greater socioeconomic and geographic diversity in subject matter than is readily found in the commercial journal literature.

2.3 Authors and APCs

As detailed in a discussion of OA in Latin America, “[p]ublishing is dominated by Northern publishers, which disadvantages Southern authors through platform capitalism and open access models requiring article processing charges to publish” (Berger 2021). While large commercial publishers that dominate the formal international research literature lock most of their articles behind paywalls, many publishers now offer an OA option that has resulted in the publication of an increasing number of OA articles (Björk and Korkeamäki 2020). Although these publishers have been moving into the OA realm, as for-profit entities they only offer that access upon payment of Article Processing Charges (APCs) that must be paid by authors. APCs “effectively [shift] journals from a pay-to-read to a pay-to-publish model, which poses serious problems for authors in less well-funded disciplines or countries,” which raises “serious concerns ... about the implications for scholars in the global south and researchers in the social sciences”

(Meagher 2021). This special issue of *Development and Change* (52.2) delves into the history, infrastructures, and politics of OA as they apply to development research, with articles in the issue providing in-depth analyses of OA publishing in general and its implications to Southern researchers across the disciplinary spectrum.

A recent field study by Stich et al. of authors' willingness to pay (WTP) for OA publishing indirectly highlights part of the problem. They studied "243 economists in Germany, Austria, and Switzerland regarding their valuations of open access publishing in the 'Top 5' economics journals" (Stich, Spann, and Schmidt 2022), with this choice of participants automatically conferring a northern bias to the analysis. A large recent analysis of 37,000 articles published by Elsevier more specifically supplied empirical evidence that, despite the increasing move toward providing an OA option for authors, the required APCs for choosing that option are prohibitive for authors in low- and middle-income countries (Smith et al. 2021). The team was also "surprised at how ineffective waivers seemed to be" (Kwon 2022), noting that even if the authors' country was eligible for an APC fee waiver program, they rarely took advantage of it. Therefore, even though many publishers now offer an OA option, the requisite APC makes this access a one-way street, a "one-way movement of information from the developed to the developing world" (Kelly and Eells 2015). Also, the focus on OA as an option that can only be funded by APCs is itself problematic in ignoring the broader context of publishing ecosystem inequities around the world. As noted by Okune, "unless studies and policies pertaining to scholarly communications broaden out beyond discussions of business models and content, and turn their gaze on the established publishing infrastructures themselves, it would appear that OA systems could very well re-entrench long-standing colonial power imbalances" (Okune et al. 2021).

The positive result of OA publishing initiatives by large publishers is that students in the Global South have access to a growing slice of the literature historically stored behind a paywall. However, this slice is still small relative to the corpus available to more affluent researchers, and the articles published are predominantly authored by researchers from higher income countries. Smith et al. (2021) demonstrated that even researchers from low- and middle-income countries publish primarily in subscription-based titles. Researchers unable to scale that paywall may thus not be able to access and benefit from research being done even in their own region, or in other areas of the world that are similar to theirs in terms of environment, political climate, or socioeconomic status. This dynamic perpetuates inequities in the geographic and economic scope of research available worldwide regardless of the value or potential impact of that research in improving practices or conditions in these areas.

2.4 OA Options and Barriers

Many instructors at large institutions take for granted the access they have to quality resources and are not aware that these are not free or readily available to students in resource-poor parts of the world. Some index database producers such as JSTOR (2022a; <https://www.jstor.org/>) and CABI (2021; <https://www.cabi.org/>) attempt to address these inequities by offering some amount of content at no charge, and reduced fee structures geared toward lower income countries. However, *full* access is still fee-based, and some content remains behind a high paywall. The JSTOR Access Initiative (2022b; <https://about.jstor.org/librarians/fees/jai/>) offers lower income countries unlimited access to "a collection of..." resources in the database, implying that students and researchers in these countries still do not have access to the entire corpus of JSTOR material. Also, this special access must be requested at the institutional level, which is a barrier for individual researchers at universities and institutions regardless of location. Other supposedly OA sites also impose financial barriers and/or content coverage restrictions for students. The Social Science Research Network (SSRN) for example appears to be free, but it is in fact a subscription fee-based service now owned by Elsevier, whereby individuals can upload their papers for free, but an individual or institutional paid subscription is required to access most of their journal article content. As the COVID-19 pandemic swept the world, students at large universities with deep pockets benefited when their libraries crafted special, exclusive (to each university)

agreements with publishers and repositories (e.g., JSTOR and HathiTrust/Google Books at https://www.hathitrust.org/digital_library). These agreements were designed to open up access to resources that are normally restricted by institutional affiliations or by content-limiting subscription categories. However, these limited agreements did nothing to open up more content for students in middle- or lower-income countries.

A final barrier that AES attempts to bridge is for instructors in all regions of the world to more fully accept gray literature (as is much of the content found in AES) as an important and useful resource for their students.

For my students, AgEcon Search was a critical resource for their work, research, and source material for term papers, as well as me. What I used to tell the students (graduate and undergrad) was, look to the [mainstream] journals to see what has been published and reviewed, but this literature is a record of “what has happened,” perhaps a year or two ago, given the time needed to publish. On the other hand, what you see with AgEcon Search is “what is happening now,” what issues are attracting research interest. But you need to be transparent in your writing to make it clear that you are using “gray literature.” —John Henning, Professor (retired), McGill University, Canada (personal communication, November 2018)

Gray recognizes the value of various publication outputs and recommends “moving beyond the academic journal as the sole vehicle for scholarly publishing and developing processes to validate other genres of publications including reports by think tanks and organizations outside of the academy” (Okune et al. 2021). An early OA article suggested using content-management software to “facilitate not only open-access journals, but also working-paper series, conference organization[s], scholarly societies, and other forms of scholarly communication” (Conley and Wooders 2009). AES fully realizes that suggestion, and its use by instructors around the world can demonstrate the value of these other publications to their students.

3 Freely Available Tools in the Classroom

Over the last several years, the idea of using freely available materials in classes in place of textbooks has been growing in popularity (Lane 2008; Smith 2013). This not only saves students money but also allows instructors to customize their readings to their curriculum instead of simply finding a textbook that is a good but not a perfect fit. Many of these “open educational resources” or OER are electronic books that are produced purposely for classroom use, for example Michael Boland’s “Introduction to Cooperation and Mutualism,” which is available in both English and Spanish (Boland 2018).

AES managers first learned that instructors were using AES materials in place of textbooks in classrooms from agricultural economics professors in Africa, where the use of open resources has been encouraged for the past decade by groups such as OER Africa (<https://www.oerafrica.org/>) and Saide (<https://www.saide.org.za/>; Cox, Masuku, and Willmers 2020). Since that time, AES managers have promoted AES use as part of course materials and have received positive feedback from instructors in both Europe and North America about the usefulness and timeliness of the papers as well as the ease of use. As demonstrated by visits from over 10,000 users every day (Figure A3 in the Appendix), AES resources are clearly popular and discoverable in all regions of the world.

Instructors may be concerned about the quality of materials that are freely available. In the case of textbooks, they can use resources such as the Open Textbook Library (<https://open.umn.edu/opentextbooks/subjects/economics>), which includes reviews by others who have already used the text in the classroom for many of the books that are listed. For those interested in using papers from AES for course readings, all materials are submitted under the auspices of a professional association, academic department, nonprofit, or government agency, so they have already undergone some level of peer review.

Since most research in agricultural and applied economics appears first as a working paper or conference paper, and AES includes over 200 working paper series as well as up-to-date conference papers from most of the large professional associations worldwide, it is an excellent source of readings on the latest research. It is also a rich source of historical resources with the full collections of AAEA and IAAE conference papers back to the 1920s, and 15 journals that include papers dating back 50 years or more.

In addition, AES is a useful resource for instructors assigning specific readings for the entire class or asking students to search the literature for research on a specific topic. For assigned readings, AES works well with course management software such as Blackboard, Canvas, or Moodle. Persistent links appear prominently in each record, and there is no need for authentication since the papers are all freely available. Instructors can also create a list of readings within AES for a class by using the “Personalize” menu on the main page. One or more groups may be set up, and students who register for an account in AES can be added to groups. “Baskets,” which include one or more papers from AES, can be created for individuals or groups, and both instructors and students may add comments to individual papers within a basket.

AES is an important resource for agriculture and applied economics students to include among the databases that they search for class assignments that involve literature reviews. Instructors can include a link to it on their course syllabi, and students will appreciate the fact that all papers are available in full text. Also, as a free-to-user database, it will be available to all students after they graduate, no matter where they are employed. Since it includes the conference papers from many professional associations as well as many working papers series, very current research is covered. Beyond the simple search box, there are many effective ways to narrow a search in AES. These include the “Advanced Search,” which can be accessed via a link under the simple search box. It offers the ability to more easily combine words or phrases using the Boolean operators, “and,” “or,” and “not,” and to search by exact phrases; designate specific search fields (e.g., author, title, abstract); and specify a range of dates. Search results may be narrowed by publication type, journal name, or volume or issue using the facets listed to the left of the results list. In addition, results may be sorted by relevance, author, title, or publication date using the “Options” menu, which also allows the user to narrow their search results to those in a particular collection such as the IAAE or the *Brazilian Journal of Rural Economy and Sociology* (*Revista de Economia e Sociologia Rural*). Simple and advanced searching is also available within each collection by navigating to that collection using the “Browse Collections” feature. Students working on an assignment may also find the “Alert” feature useful. This lets signed-in users save a search and receive weekly or daily emails listing new papers that match their search parameters. Thus, using AES in the classroom provides benefits to students both in terms of content scope, and in providing functionality that enables them to more effectively perform their literature reviews and online research.

4 Conclusion

Digital libraries of OA material produced in (and reflecting perspectives from) *all* regions of the world are an essential component of the research literature. “Diversity” encompasses diversity of the regions that are the topic of the research, diversity in types of publications, and socioeconomic and demographic diversity of the authors, editors, and publishers of research. Fully OA repositories provide infrastructure and promote bibliodiversity in scholarly communications (Shearer et al. 2020), including contributions in any language. The mission of OA digital repositories like AES is to serve as a public good, providing benefits for all and high global value. Students are not limited to research from large publishers whose primary interest is in generating profits for shareholders, with authors and editors primarily based in the Global North. Instructors using AES resources in their classrooms expose their students to a corpus of quality research from and about all regions of the world, thus promoting global citizenship in students’ education.

About the Author: Linda Eells is an Associate Librarian with the Department of Applied Economics at the University of Minnesota. Shannon Farrell is a Librarian at the University Libraries of the University of Minnesota. Julia Kelly is a Librarian with the Department of Applied Economics at the University of Minnesota. (Corresponding author: Linda Eells, University of Minnesota, Department of Applied Economics. <mailto:lle@umn.edu>)

Appendix

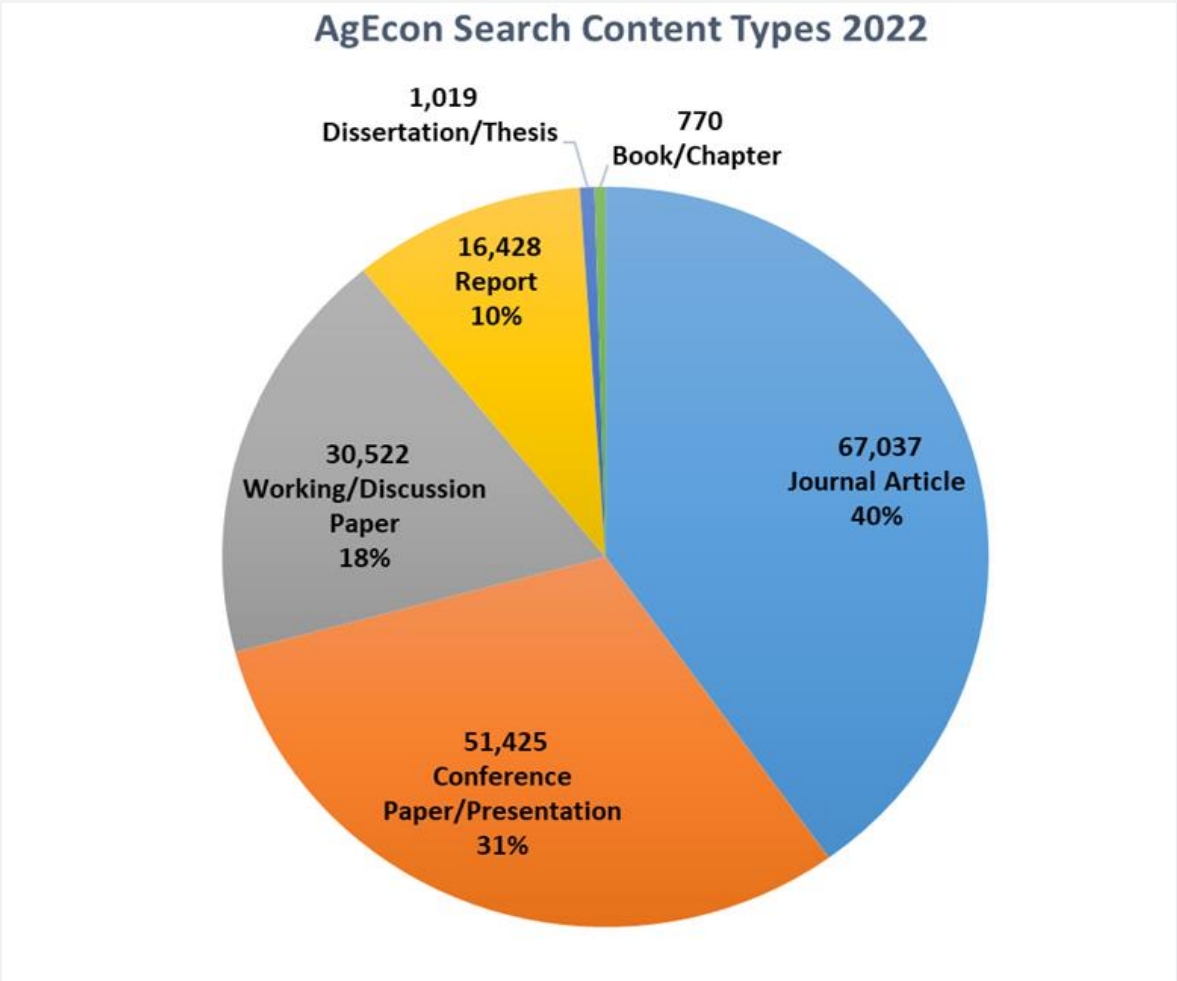


Figure A1: AgEcon Search Content Types 2022

Contributing Communities-Global Distribution
>300 community members

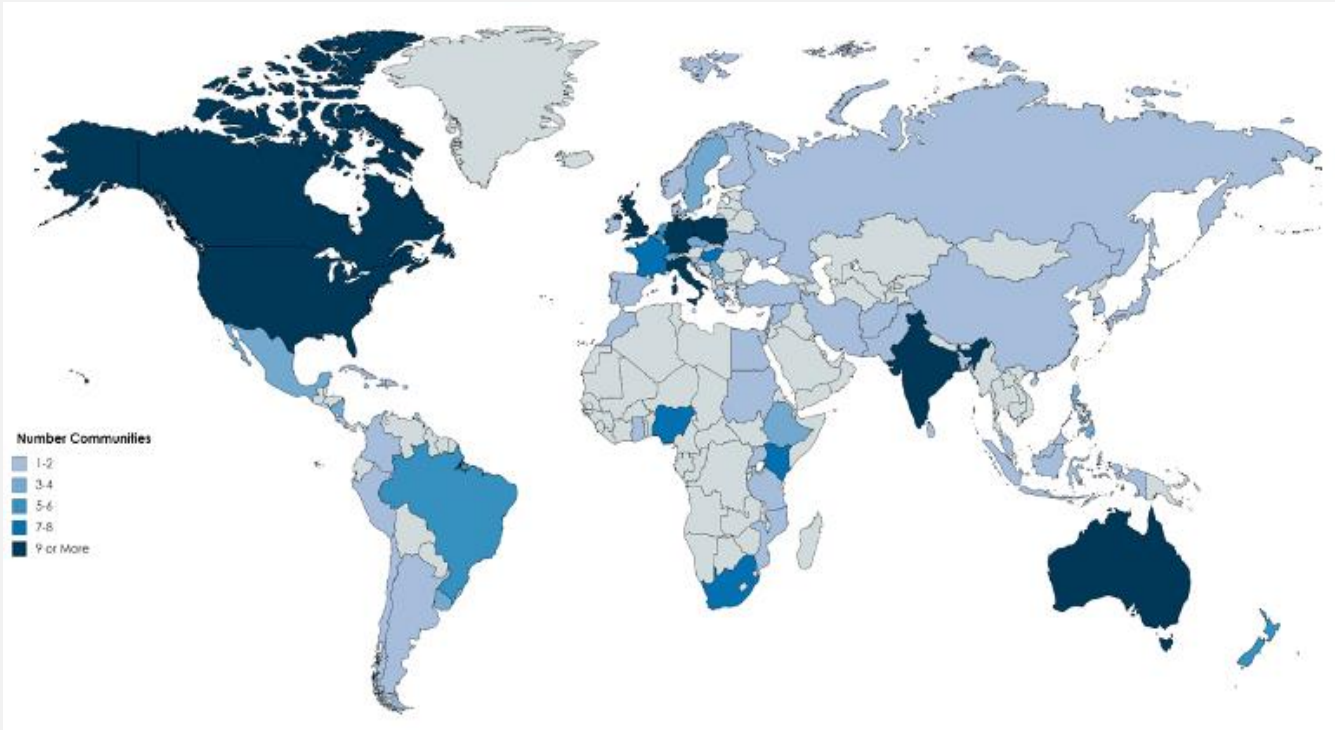


Figure A2: Contributing Communities–Global Distribution

AgEcon Search

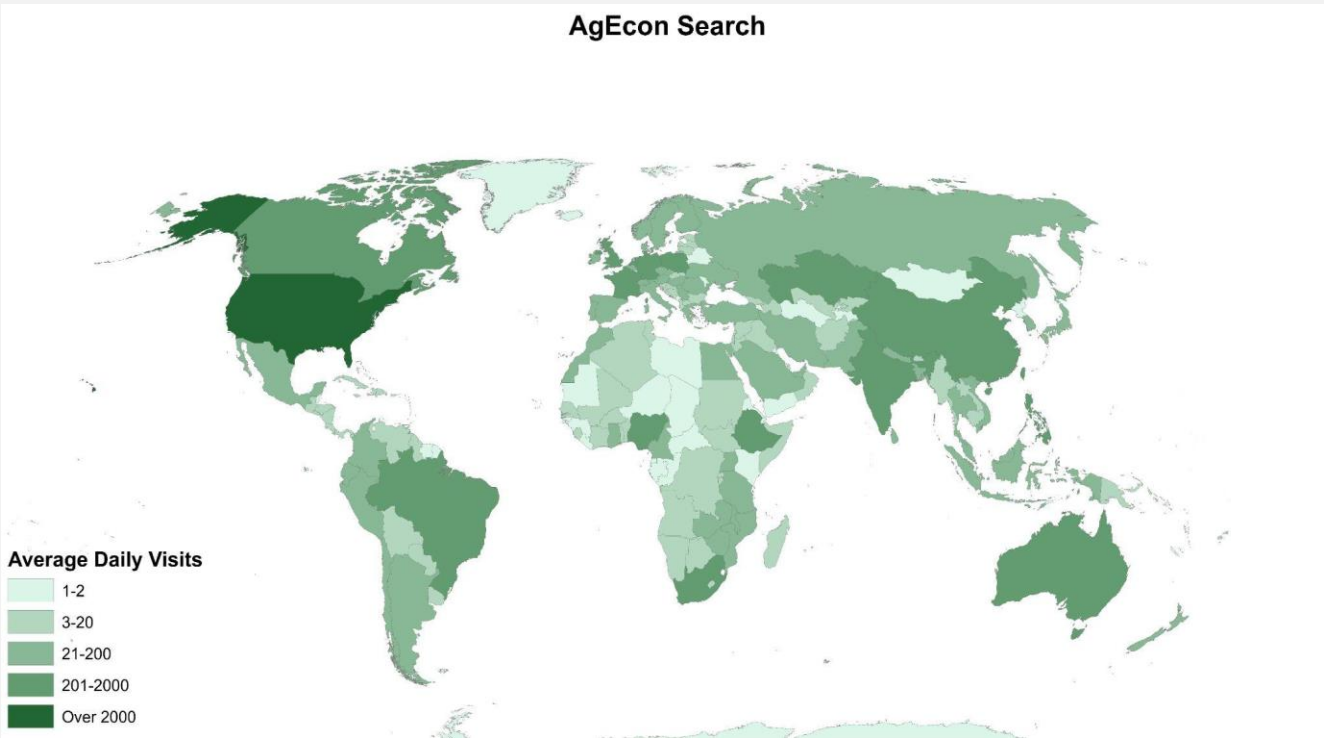


Figure A3: AgEcon Search Daily Visits

References

- Berger, M. 2021. "Biodiversity at the Centre: Decolonizing Open Access." *Development and Change* 52(2):383–404. <https://doi.org/10.1111/dech.12634>.
- Björk, B.-C., and T. Korkeamäki. 2020. "Adoption of the Open Access Business Model in Scientific Journal Publishing: A Cross-Disciplinary Study." *College & Research Libraries* 81(7):1080. <https://doi.org/10.5860/crl.81.7.1080>.
- Boland, M. 2018. *An Introduction to Cooperation and Mutualism*. Minneapolis: University of Minnesota Libraries Publishing. <https://publishing.lib.umn.edu/publication/an-introduction-to-cooperation-and-mutualism/>.
- CABI. 2021. <https://www.cabi.org/>.
- Confraria, H., M.M. Godinho, and L. Wang. 2017. "Determinants of Citation Impact: A Comparative Analysis of the Global South versus the Global North." *Research Policy* 46(1):265–279. <https://doi.org/10.1016/j.respol.2016.11.004>.
- Conley, J.P., and M. Wooders. 2009. "But What Have You Done for Me Lately? Commercial Publishing, Scholarly Communication, and Open-Access." *Economic Analysis and Policy* 39(1):71–88. [https://doi.org/10.1016/S0313-5926\(09\)50044-6](https://doi.org/10.1016/S0313-5926(09)50044-6).
- Cox, G., B. Masuku, and M. Willmers. 2020. "Open Textbooks and Social Justice: Open Educational Practices to Address Economic, Cultural and Political Injustice at the University of Cape Town." *Journal of Interactive Media in Education* 2020(1):2. <https://doi.org/10.5334/jime.556>.
- Curry, M.J., and T. Lillis. 2018. "The Dangers of English as Lingua Franca of Journals." *Opinion. Inside Higher Ed*. <https://www.insidehighered.com/views/2018/03/13/dominance-english-language-journal-publishing-hurting-scholarship-many-countries>.
- JSTOR. 2022a. "How to Register & Get Free Access to Content." Free Access to JSTOR. <https://support.jstor.org/hc/en-us/articles/115004760028-MyJSTOR-How-to-Register-Get-Free-Access-to-Content>.
- JSTOR. 2022b. "JSTOR Access Initiative." JSTOR Access Initiative. <https://about.jstor.org/librarians/fees/jai/>.
- Kelly, J., and L. Eells. 2015. "Global Scholarship: The Role of Subject Repositories in Advancing Research from the Developing World." *College & Research Libraries News* 76(5):265–268. <https://doi.org/10.5860/crl.76.5.9313>.
- Kelly, J., and L. Eells. 2016. "Institutional Repositories: Home for Small Scholarly Journals?" *D-Lib Magazine* 22(5/6). <https://doi.org/10.1045/may2016-kelly>.
- Kwon, D. 2022. "Open-Access Publishing Fees Deter Researchers in the Global South." *Nature*, February, d41586-022-00342-w. <https://doi.org/10.1038/d41586-022-00342-w>.
- Lane, A. 2008. "Widening Participation in Education through Open Educational Resources." In T. Lioyshi and M.S. Vijay Kumar, eds. *Opening Up Education: The Collective Advancement of Education through Open Technology, Open Content, and Open Knowledge*. Cambridge: MIT Press, pp. 149–163.
- Martín-Martín, A., E. Orduna-Malea, M. Thelwall, and E. Delgado-López-Cózar. 2019. "Google Scholar, Web of Science, and Scopus: Which Is Best for Me?" *LSE: Impact of Social Sciences* (blog), December 3. <https://blogs.lse.ac.uk/impactofsocialsciences/2019/12/03/google-scholar-web-of-science-and-scopus-which-is-best-for-me/>.
- Meagher, K. 2021. "Introduction: The Politics of Open Access—Decolonizing Research or Corporate Capture?" *Development and Change* 52(2):340–358. <https://doi.org/10.1111/dech.12630>.
- Murray, D., K. Siler, V. Larivière, W.M. Chan, A.M. Collings, J. Raymond, and C.R. Sugimoto. 2018. "Author-Reviewer Homophily in Peer Review." *Scientific Communication and Education*. Preprint. <https://doi.org/10.1101/400515>.

- Okune, A., S. Adebawale, E. Gray, A. Mumo, and R. Oniang'o. 2021. "Conceptualizing, Financing and Infrastructuring: Perspectives on Open Access in and from Africa." *Development and Change* 52(2):359–372. <https://doi.org/10.1111/dech.12632>.
- Shearer, K., L. Chan, I. Kuchma, and P. Mounier. 2020. "Fostering Bibliodiversity in Scholarly Communications: A Call for Action." Zenodo, April. <https://doi.org/10.5281/ZENODO.3752923>.
- Skopec, M., H. Issa, J. Reed, and M. Harris. 2020. "The Role of Geographic Bias in Knowledge Diffusion: A Systematic Review and Narrative Synthesis." *Research Integrity and Peer Review* 5(1):2. <https://doi.org/10.1186/s41073-019-0088-0>.
- Smith, A.C., L. Merz, J.B. Borden, C.K. Gulick, A.R. Kshirsagar, and E.M. Bruna. 2021. "Assessing the Effect of Article Processing Charges on the Geographic Diversity of Authors Using Elsevier's 'Mirror Journal' System." *Quantitative Science Studies* 2(4):1123–1143. https://doi.org/10.1162/qss_a_00157.
- Smith, M.S. 2013. "Open Educational Resources: Opportunities and Challenges for the Developing World." In M.S. Smith and K.M.A. Reilly, eds. *Open Development: Networked Innovations in International Development*. Ottawa: The MIT Press and International Development Research Centre, pp. 129–170.
- Stich, L., M. Spann, and K.M. Schmidt. 2022. "Paying for Open Access." *Journal of Economic Behavior & Organization* 200(August):273–286. <https://doi.org/10.1016/j.jebo.2022.05.023>.

5(2) doi: 10.22004/ag.econ.333521

©2023 All Authors. Copyright is governed under Creative Commons BY-NC-SA 4.0

(<https://creativecommons.org/licenses/by-nc-sa/4.0/>). Articles may be reproduced or electronically distributed as long as attribution to the authors, Applied Economics Teaching Resources and the Agricultural & Applied Economics Association is maintained. Applied Economics Teaching Resources submissions and other information can be found at: <https://www.aaea.org/publications/applied-economics-teaching-resources>.