

Sustainable Development- A Bibliometric Perspective

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Abstract

Technological advancements have made our lives very easy. But at the same time it has also raised environmental concerns which has challenged and created various environmental problems. Over the last years the society has felt a pressing need for sustainable development and therefore the governmental organizations as well as non governmental organizations are emphasizing on Sustainable development. This paper tries to review the existing literature using bibliometric analysis on Sustainable development and rechristens concept of Sustainable development. This paper also aims at identifying various challenges that are being posed to Sustainable development.

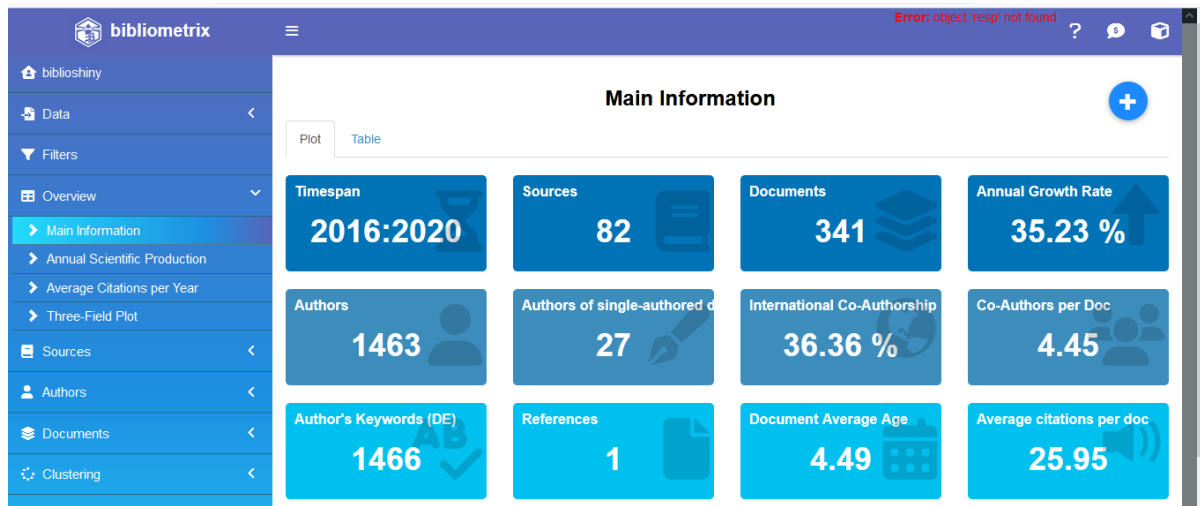
Introduction

In the recent years there has been a humungous change in the ecology-development concerns. In no time the concept of Sustainable Development (SD) has created a big concern. It has now become a hotcake for national and international organizations. It has also got a solid support from the environmentalists, non governmental organizations across the world."Sustainable development is simply concerned withis development that is aimed at fulfilling the present needs ,without affecting the ability of upcoming generations to cater and satisfy their own requirements."

This paper adds to the existing literature in the following manner. Firstly, it determines the previous literature that analyses the concept of sustainable development for the society.

Secondly, this study adds on to the current discussion on the topic of sustainability of the world. Third, it also explains the issues and hurdles in the path of sustainable development and also offers probable solution in order to eradicate these hurdles and challenges that are being posed to sustainability and sustainable development in order to maximize social welfare. The paper is being organized and structured in the given manner. The second section of the paper communicates the conceptual and theoretical framework of sustainable development. The third section of this paper emphasises on the international research and developments on sustainability and sustainable development. The fourth section presents some areas for future research. The sixth section presents the conclusion of the study.

Bibliometric Literature:

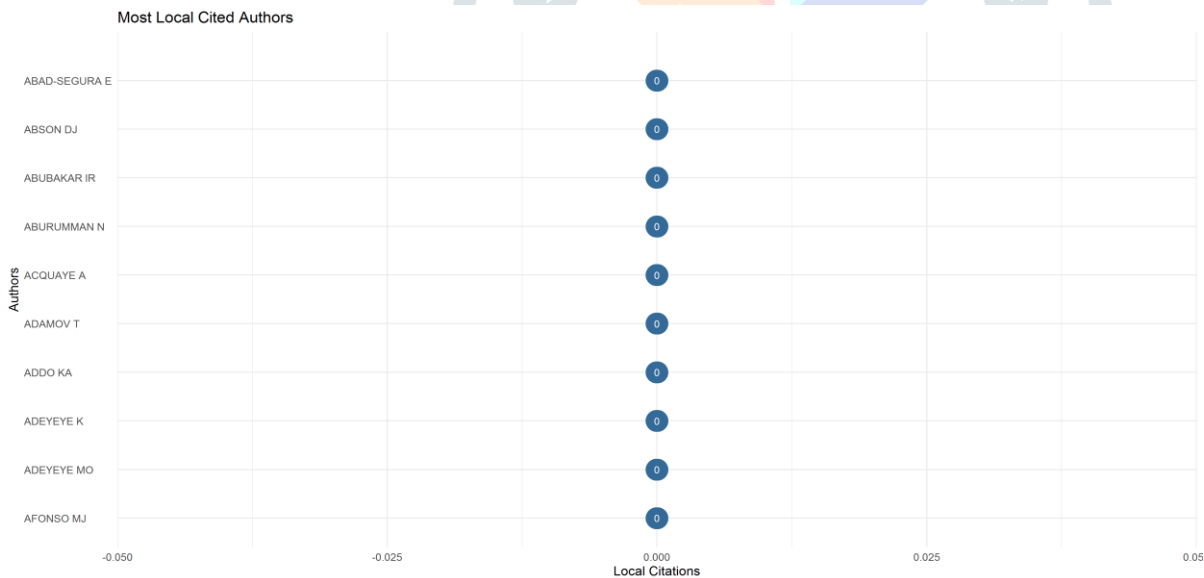


This figure encapsulates the data fetch from Scopus core collection databases. The dataset have 16672 documents from 2016 to 2020, heaving at an annual growth rate of 35.23%.

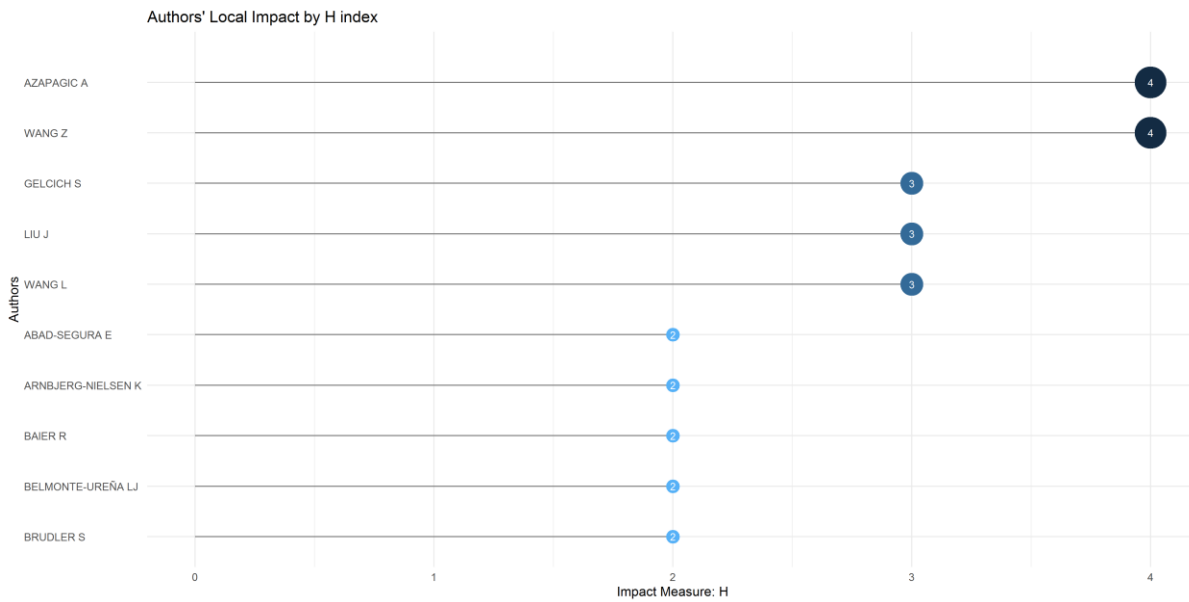
Researchers have find almost 16762 documents from Scopus from 2016 to 2020. The database is clean using PRISMA Technique and analyzed 341 documents using bibliometric literature review.

Most Cited Local Author:

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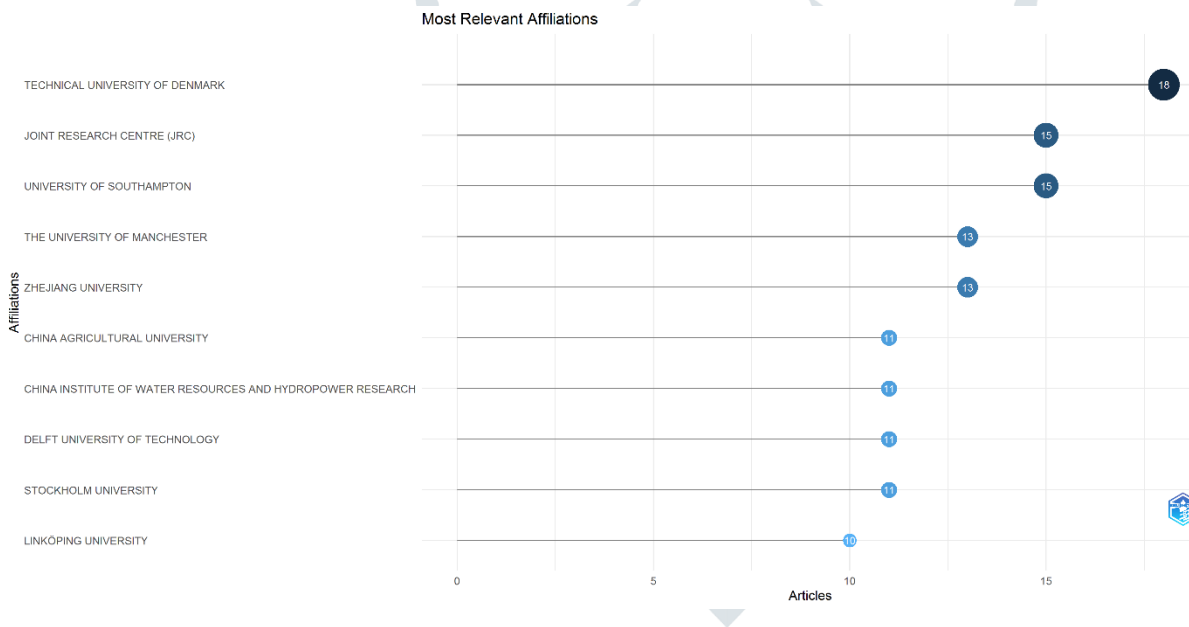


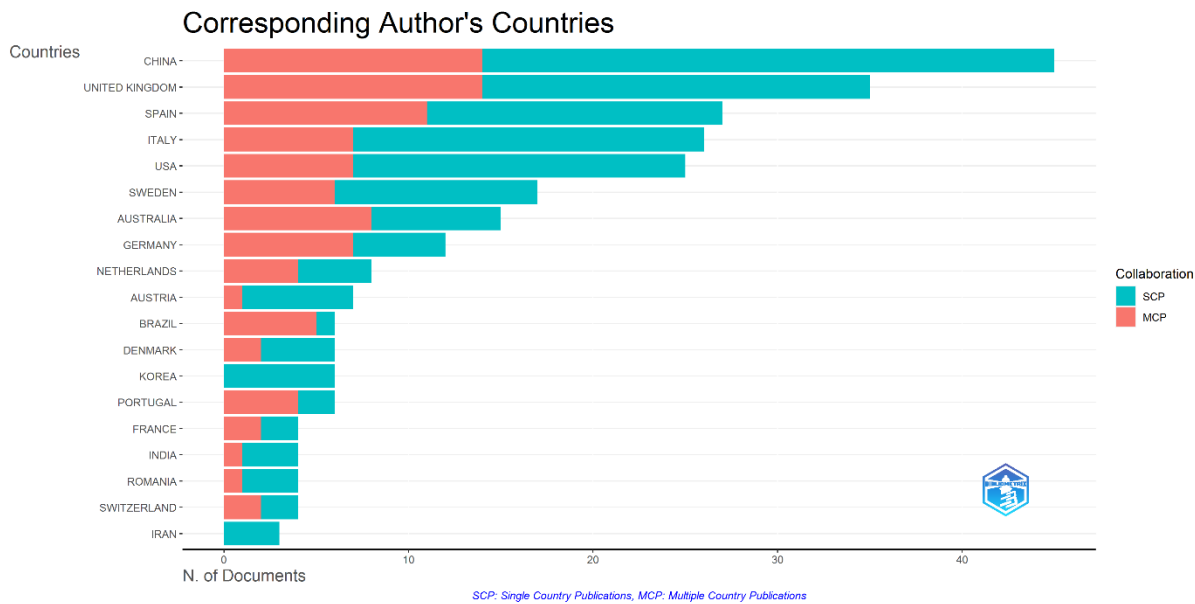
Authors' Local Impact: below picture shows the Author’s local impact of H Index AZAPAGIC A has the highest h index.



Authors' Local Impact

Most Relevant Affiliations: TECHNICAL UNIVERSITY OF DENMARK has the highest affiliation in this area that is 18.





Concept of Sustainable Development

A 1987 United Nations report titled "Our Common Future," now more often known as the "Brundtland Report of the Global Commission on Environment and Development 1987," provided the first description of sustainable development. According to its definition, sustainable development is described as development that satisfies current demands without jeopardising the capacity of future generations to satiate their own needs (United Nations 1987). Sustainability definition is a difficult issue. The term "sustainable development" was originally used in a 1987 United Nations study titled "Our Common Future," which is now more commonly referred to as the "Brundtland Report of the Global Commission on Environment and Development 1987." Sustainable development, according to its definition, is development that satisfies present demands without endangering the ability of future generations to meet their own requirements (United Nations 1987). The problem of sustainability definition is complex.

Sustainable development is a guiding principle that attempts to achieve human development objectives while allowing natural systems to support essential ecosystem and natural resources for people. A community where living circumstances and resources satisfy human needs without jeopardising the integrity and stability of the natural system is the desired outcome. Sustainable development was described as "development that meets the requirements of the present generation without compromising the ability of future generations to meet their own needs" in the Brundtland Report of 1987. The modern definition of sustainable development emphasises the development of the economy, the advancement of society, and the preservation of the environment for future generations.

Objectives of the Study

The research has been conducted to achieve following objectives:

1. To understand the concept of Sustainable development.
2. To review the existing literature on sustainable development using bibliometric analysis.
3. To identify the key challenges to sustainable development.

Research Methodology

The study has been done using bibliometric analysis. For this the existing literature has been taken through various databases like Scopus, Pubmed etc.

Research Design- The research design is descriptive in nature.

Conclusions and Way ahead

Those who support SD must choose between the impulse to take firm positions on important issues and the need to win widespread political approval and support. This dilemma affects all political activity and social change initiatives. SD is being marketed as the inevitable result of objective scientific analysis, practically a historical necessity, that does not contradict the deeply ingrained normative notion of progress as economic growth. This is a lesson from ecocodevelopment, which went towards the former. SD is an effort to have one's cake and eat it too, in other terms. There are various ways to modify the things that are wrong and need to be changed, thus it may be argued that this is in fact doable.

In reality, such articulation and definition are essential if SD is to avoid being either written off as another fad in development or coopted by forces hostile to changing the current quo. More specifically, advocates and analysts of SD must: (a) categorically reject any attempts (and temptations) to emphasise economic growth as a means of eradicating poverty and/or ensuring environmental sustainability; (b) acknowledge the internal contradictions and shortcomings of neoclassical economics, particularly as they relate to environmental and distributional issues; and (c) move away from complex mathematical models to more practical ones when conducting economic analyses.

Abad-Segura, E., de la Fuente, A. B., González-Zamar, M. -, & Belmonte-Ureña, L. J. (2020). Effects of circular economy policies on the environment and sustainable growth: Worldwide research. *Sustainability (Switzerland)*, 12(14), 1-27. doi:10.3390/su12145792

Abbas, J., Raza, S., Nurunnabi, M., Minai, M. S., & Bano, S. (2019). The impact of entrepreneurial business networks on firms' performance through a mediating role of dynamic capabilities. *Sustainability (Switzerland)*, 11(11) doi:10.3390/su11113006

Abubakar, I. R. (2017). Access to sanitation facilities among nigerian households: Determinants and sustainability implications. *Sustainability (Switzerland)*, 9(4) doi:10.3390/su9040547

Acelandu, M. I. (2016). Sustainability and competitiveness of romanian farms through organic agriculture. *Sustainability (Switzerland)*, 8(3) doi:10.3390/su8030245

Adamov, T., Ciolac, R., Iancu, T., Brad, I., Peț, E., Popescu, G., & Șmuleac, L. (2020). Sustainability of agritourism activity. initiatives and challenges in romanian mountain rural regions. *Sustainability (Switzerland)*, 12(6) doi:10.3390/su12062502

Adamowicz, M., & Zwolinska-Ligaj, M. (2020). The "smart village" as away to achieve sustainable development in rural areas of poland. *Sustainability (Switzerland)*, 12(16) doi:10.3390/su12166503

- Agirreazkuenaga, L. (2020). Education for agenda 2030: What direction do we want to take going forward? *Sustainability (Switzerland)*, 12(5), 1-13. doi:10.3390/su12052035
- Ahmed, F., Kousar, S., Pervaiz, A., & Ramos-Requena, J. P. (2020). Financial development, institutional quality, and environmental degradation nexus: New evidence from asymmetric ardl co-integration approach. *Sustainability (Switzerland)*, 12(18) doi:10.3390/SU12187812
- Akhanova, G., Nadeem, A., Kim, J. R., & Azhar, S. (2019). A framework of building sustainability assessment system for the commercial buildings in kazakhstan. *Sustainability (Switzerland)*, 11(17) doi:10.3390/su11174754
- Akhter, J., & Cheng, K. (2020). Sustainable empowerment initiatives among rural women through microcredit borrowings in bangladesh. *Sustainability (Switzerland)*, 12(6) doi:10.3390/su12062275
- Akram, M. W., Akram, N., Wang, H., Andleeb, S., Ur Rehman, K., Kashif, U., & Hassan, S. F. (2020). Socioeconomics determinants to adopt agricultural machinery for sustainable organic farming in pakistan: A multinomial probit model. *Sustainability (Switzerland)*, 12(23), 1-15. doi:10.3390/su12239806
- Al-Aboosi, F. Y., & El-Halwagi, M. M. (2019). A stochastic optimization approach to the design of shale gas/oilwastewater treatment systems with multiple energy sources under uncertainty. *Sustainability (Switzerland)*, 11(18) doi:10.3390/su11184865
- Ali, M. H., Zailani, S., Iranmanesh, M., & Foroughi, B. (2019). Impacts of environmental factors on waste, energy, and resource management and sustainable performance. *Sustainability (Switzerland)*, 11(8) doi:10.3390/su11082443
- Alipour, H., Safaeimanesh, F., & Soosan, A. (2019). Investigating sustainable practices in hotel industry-from employees' perspective: Evidence from a mediterranean island. *Sustainability (Switzerland)*, 11(23) doi:10.3390/su11236556

- Alkhani, R. (2020). Understanding private-sector engagement in sustainable urban development and delivering the climate agenda in northwestern europe—a case study of london and copenhagen. *Sustainability (Switzerland)*, 12(20), 1-35. doi:10.3390/su12208431
- Alkhayyal, B., Labib, W., Alsulaiman, T., & Abdelhadi, A. (2019). Analyzing sustainability awareness among higher education faculty members: A case study in saudi arabia. *Sustainability (Switzerland)*, 11(23) doi:10.3390/su11236837
- Alonso-García, S., Aznar-Díaz, I., Cáceres-Reche, M. -, Trujillo-Torres, J. -, & Romero-Rodríguez, J. -. (2019). Systematic review of good teaching practices with ICT in spanish higher education trends and challenges for sustainability. *Sustainability (Switzerland)*, 11(24) doi:10.3390/su11247150
- Al-Qawasmi, J., Asif, M., El Fattah, A. A., & Babsail, M. O. (2019). Water efficiency and management in sustainable building rating systems: Examining variation in criteria usage. *Sustainability (Switzerland)*, 11(8) doi:10.3390/su11082416
- Álvarez, B. M., & Cortes-Vazquez, J. A. (2020). "May the smoke keep coming out the fireplace": Moral connections between rural tourism and socio-ecological resilience in the EUME region, galicia. *Sustainability (Switzerland)*, 12(11) doi:10.3390/su12114602
- Alvarez-Meaza, I., Pikatza-Gorrotxategi, N., & Rio-Belver, R. M. (2020). Sustainable business model based on open innovation: Case study of iberdrola. *Sustainability (Switzerland)*, 12(24), 1-24. doi:10.3390/su122410645
- Alyamani, R., & Long, S. (2020). The application of fuzzy analytic hierarchy process in sustainable project selection. *Sustainability (Switzerland)*, 12(20), 1-16. doi:10.3390/su12208314
- Ambrosio Arias, A. G., Moreno Escobar, J. J., Padilla, R. T., & Matamoros, O. M. (2020). Historical-cultural sustainability model for archaeological sites in mexico using virtual technologies. *Sustainability (Switzerland)*, 12(18) doi:10.3390/SU12187337

- Ammirato, S., Felicetti, A. M., Raso, C., Pansera, B. A., & Violi, A. (2020). Agritourism and sustainability: What we can learn from a systematic literature review. *Sustainability (Switzerland)*, 12(22), 1-18. doi:10.3390/su12229575
- Antolín, J., de Torre, C., García-Fuentes, M. Á., Pérez, A., Tomé, I., Mirantes, M. L., & Hoyos, E. (2020). Development of an evaluation framework for smartness and sustainability in cities. *Sustainability (Switzerland)*, 12(12) doi:10.3390/su12125193
- Arias-Maldonado, M. (2016). The anthropocenic turn: Theorizing sustainability in a postnatural age. *Sustainability (Switzerland)*, 8(1) doi:10.3390/su8010010
- Ashford, N. A., Hall, R. P., Arango-Quiroga, J., Metaxas, K. A., & Showalter, A. L. (2020). Addressing inequality: The first step beyond COVID-19 and towards sustainability. *Sustainability (Switzerland)*, 12(13) doi:10.3390/su12135404
- Awais, M., Samin, T., Gulzar, M. A., & Hwang, J. (2019). The sustainable development of the china pakistan economic corridor: Synergy among economic, social, and environmental sustainability. *Sustainability (Switzerland)*, 11(24) doi:10.3390/su11247044
- Baek, S. G., & Kwon, H. -. (2020). Participatory planning through flexible approach: Public community facilities in Seoul's urban regeneration project. *Sustainability (Switzerland)*, 12(24), 1-17. doi:10.3390/su122410435
- Bagán, G., Tur-Porcar, A. M., & Llorca, A. (2019). Learning and parenting in spanish environments: Prosocial behavior, aggression, and self-concept. *Sustainability (Switzerland)*, 11(19) doi:10.3390/su11195193
- Bakker, S., Haq, G., Peet, K., Gota, S., Medimorec, N., Yiu, A., . . . Rogers, J. (2019). Low-carbon quick wins: Integrating short-term sustainable transport options in climate policy in low-income countries. *Sustainability (Switzerland)*, 11(16) doi:10.3390/su11164369
- Balasubramaniam, A., Paul, A., Hong, W. -. , Seo, H. C., & Kim, J. H. (2017). Comparative analysis of intelligent transportation systems for sustainable environment in smart cities. *Sustainability (Switzerland)*, 9(7) doi:10.3390/su9071120

- Bamwesigye, D., & Hlavackova, P. (2019). Analysis of sustainable transport for smart cities. *Sustainability (Switzerland)*, 11(7) doi:10.3390/SU11072140
- Ban, H. -, Choi, H., Choi, E. -, Lee, S., & Kim, H. -. (2019). Investigating key attributes in experience and satisfaction of hotel customer using online review data. *Sustainability (Switzerland)*, 11(23) doi:10.3390/su11236570
- Banyte, J., Šalčiuvienė, L., Dovalienė, A., Piligrimiene, Z., & Sroka, W. (2020). Sustainable consumption behavior at home and in the workplace: Avenues for innovative solutions. *Sustainability (Switzerland)*, 12(16) doi:10.3390/su12166564
- Baran, G., & Berkowicz, A. (2020). Sustainability living labs as a methodological approach to research on the cultural drivers of sustainable development. *Sustainability (Switzerland)*, 12(12) doi:10.3390/SU12124835
- Barisan, L., Lucchetta, M., Bolzonella, C., & Boatto, V. (2019). How does carbon footprint create shared values in the wine industry? empirical evidence from prosecco superiore PDO's wine district. *Sustainability (Switzerland)*, 11(11) doi:10.3390/su11113037
- Bemke-Świtilnik, M., Drabek, A., Kamińska, A. M., & Smoliński, A. (2020). Research collaboration patterns in sustainable mining-A co-authorship analysis of publications. *Sustainability (Switzerland)*, 12(11) doi:10.3390/su12114756
- Bergquist, D., Garcia-Caro, D., Joosse, S., Granvik, M., & Peniche, F. (2020). The sustainability of living in a "green" urban district: An emergy perspective. *Sustainability (Switzerland)*, 12(14) doi:10.3390/su12145661
- Bergstrom, R. D., & Harrington, L. M. B. (2019). Embedded in nature: Challenges to sustainability in communities of the greater yellowstone ecosystem. *Sustainability (Switzerland)*, 11(5) doi:10.3390/su11051459
- Bernardi, E., Carlucci, S., Cornaro, C., & Bohne, R. A. (2017). An analysis of the most adopted rating systems for assessing the environmental impact of buildings. *Sustainability (Switzerland)*, 9(7) doi:10.3390/su9071226

- Bertino, G., Fischer, T., Pühr, G., Langergraber, G., & Österreicher, D. (2019). Framework conditions and strategies for pop-up environments in urban planning. *Sustainability (Switzerland)*, 11(24) doi:10.3390/su11247204
- Biasutti, M., Concina, E., & Frate, S. (2019). Social sustainability and professional development: Assessing a training course on intercultural education for in-service teachers. *Sustainability (Switzerland)*, 11(5) doi:10.3390/su11051238
- Bieńkowska, A., & Tworek, K. (2020). Job performance model based on employees' dynamic capabilities (EDC). *Sustainability (Switzerland)*, 12(6) doi:10.3390/su12062250
- Bisaga, I., Parikh, P., & Loggia, C. (2019). Challenges and opportunities for sustainable urban farming in south african low-income settlements: A case study in durban. *Sustainability (Switzerland)*, 11(20) doi:10.3390/su11205660
- Bisht, I. S., Rana, J. C., Yadav, R., & Ahlawat, S. P. (2020). Mainstreaming agricultural biodiversity in traditional production landscapes for sustainable development: The indian scenario. *Sustainability (Switzerland)*, 12(24), 1-25. doi:10.3390/su122410690
- Blandón, B., Palmero, L., & di Ruocco, G. (2020). The revaluation of uninhabited popular patrimony under environmental and sustainability parameters. *Sustainability (Switzerland)*, 12(14) doi:10.3390/su12145629
- Bolívar, M. P. R., Galera, A. N., Muñoz, L. A., & Subires, M. D. L. (2016). Analyzing forces to the financial contribution of local governments to sustainable development. *Sustainability (Switzerland)*, 8(9) doi:10.3390/su8090925
- Boros, A., & Fogarassy, C. (2019). Relationship between corporate sustainability and compliance with state-owned enterprises in central-europe: A case study from hungary. *Sustainability (Switzerland)*, 11(20) doi:10.3390/su11205653
- Boto-Álvarez, A., & García-Fernández, R. (2020). Implementation of the 2030 agenda sustainable development goals in spain. *Sustainability (Switzerland)*, 12(6) doi:10.3390/su12062546

- Brettmo, A., & Williamsson, J. (2020). The role of 'influencers' as drivers of a more sustainable urban freight sector. *Sustainability (Switzerland)*, 12(7) doi:10.3390/su12072850
- Broccardo, L., Culasso, F., & Truant, E. (2017). Unlocking value creation using an agritourism business model. *Sustainability (Switzerland)*, 9(9) doi:10.3390/su9091618
- Brombin, V., Mistri, E., Feudis, M. D., Forti, C., Salani, G. M., Natali, C., . . . Bianchini, G. (2020). Soil carbon investigation in three pedoclimatic and agronomic settings of northern italy. *Sustainability (Switzerland)*, 12(24), 1-19. doi:10.3390/su122410539
- Brown, L. D., Atapattu, S., Stull, V. J., Calderón, C. I., Huambachano, M., Houénou, M. J. P., . . . Monzón, A. (2020). From a three-legged stool to a three-dimensional world: Integrating rights, gender and indigenous knowledge into sustainability practice and law. *Sustainability (Switzerland)*, 12(22), 1-24. doi:10.3390/su12229521
- Brus, J., Deutscher, J., Bajer, A., Kupec, P., & Olišarová, L. (2020). Monetary assessment of restored habitats as a support tool for sustainable landscape management in lowland cultural landscapes. *Sustainability (Switzerland)*, 12(4) doi:10.3390/su12041341
- Buchholz, H., Eberle, T., Klevesath, M., Jürgens, A., Beal, D., Baic, A., & Radeke, J. (2020). Forward thinking for sustainable business value: A new method for impact valuation. *Sustainability (Switzerland)*, 12(20), 1-16. doi:10.3390/su12208420
- Buil-Fabregá, M., Casanovas, M. M., Ruiz-Munzón, N., & Filho, W. L. (2019). Flipped classroom as an active learning methodology in sustainable development curricula. *Sustainability (Switzerland)*, 11(17) doi:10.3390/su11174577
- Burdová, E. K., Selecká, I., Vilčeková, S., Burák, D., & Sedláková, A. (2020). Evaluation of family houses in slovakia using a building environmental assessment system. *Sustainability (Switzerland)*, 12(16) doi:10.3390/su12166524

- Butler, R. W., & Szromek, A. R. (2019). Incorporating the value proposition for society with business models of health tourism enterprises. *Sustainability (Switzerland)*, 11(23) doi:10.3390/su11236711
- Cai, W., Yang, C., Bossink, B. A. G., & Fu, J. (2020). Linking leaders' voluntary workplace green behavior and team green innovation: The mediation role of team green efficacy. *Sustainability (Switzerland)*, 12(8) doi:10.3390/SU12083404

