



## Research article

# A study of poverty alleviation strategies for sustainable development: A scientometric analysis

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## ARTICLE INFO

## Keywords:

Bibliometric  
Poverty  
Poverty alleviation strategies  
Scientometric analysis  
Sustainable development

## ABSTRACT

**Purpose:** The present study aims to investigate the current and future trends in poverty alleviation strategies for sustainable development, show the gaps and propose the way forward for future research.

**Methods:** This research covers four decades from 1981 to 2023. We identified a corpus of 5,982 articles from the Scopus database using the bibliometric and scientometric methods. We excluded 653 to remain, with 5,329 fulfilling the conditions of non-duplicates, suitable authorship, and conform content. These documents include articles, reviews, journals, books and other publications in our study field. With the help of VOS viewer and R-Studio software, we have performed two significant tests: performance analysis and science mapping.

**Results:** Despite the poverty alleviation strategies for sustainable development that emerged in 1981, it has experienced steady growth from 2000 onwards and has reached the pick in 2022 with 316 publications. The most prolific countries are China, the USA and the UK. At the same time, the most contributing authors are Liu Y, Wang Y, and Lily, both from China and Ravallion, M from Australia. They have discussed more about poverty alleviation and poverty reduction. Furthermore, we realize that the household, remittance and land use have no connection with any item besides the government and IMF.

**Conclusion:** We have underlined the countries and authors that contributed the most and revealed the challenges in poverty alleviation via thematic mapping. Therefore, we recommend that future researchers, while keeping an eye on Africa, livelihoods, gender inequality, and India, focus more on poverty alleviation, China, and sustainable development. Special attention also must focus on the household, remittance, land use, government, and IMF and find ways to improve their role in poverty alleviation strategies for sustainable development.

## 1. Introduction

The present research is the first scientometric paper on poverty alleviation strategies for sustainable development. It covers four decades, from 1981 to 2023. The findings of this study will help improve poverty alleviation strategies in a way that will benefit the whole world's policymakers who intend to leave no one behind [1]. Thus, this paper will be a reference for scholars, governments,

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<https://doi.org/10.1016/j.heliyon.2024.e33469>

Received 1 November 2023; Received in revised form 20 May 2024; Accepted 21 June 2024

Available online 26 June 2024

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policymakers and all stakeholders in poverty reduction. Today, poverty remains a critical issue for the world population, where we still find more than two billion people in developing countries [2]. Currently, ten per cent (10 %) of the world's population faces extreme poverty, of which seventy per cent (70 %) are found in Africa [3]. Poverty has two major categories: absolute and relative Poverty [4]. In 2015, the United Nations adopted its SDG's first goal: "End poverty in all its forms everywhere" by 2030 [5]. However, only China has successfully achieved its poverty alleviation targets globally by implementing a fundamental strategy called Jingzhunfupin. This strategy includes implementing appropriate poverty identification, full support, correct management, and accurate follow-up to eliminate severe poverty in rural areas by the end of 2030 while others lag [6]. China had a wise dual rural-urban structure economy strategy. That boosted Chinese agriculture production intensive small and medium industries and fair fiscal resource allocation [7].

Referred to the poverty line of 3.2 US dollars, China's contribution to the total world poverty alleviation reached ninety-four point seventeen (94.17 %) per cent. The Chinese poor population decreased from 1.029 billion to 95.5 million, while people experiencing poverty had reduced from 2.9203 billion to 1.9365 billion. Regarding the 5.5 US dollar poverty line, China's poverty decreased from 1.11159 billion to 372.8 million, while the world's poor fell from 3.564 billion to 3.865 billion. Therefore, China's contribution role attained 465.6 per cent (4). The World Bank report shows that extreme poverty increased in 2020 for the first time in over 20 years, with 150 million since 2014 [8]. At the same time, India's approach was still primarily determined by path dependencies, capacity limitations, and broader shifts in foreign policy rather than being entirely directed by a strategy [9]. Similarly, Africa's food security, hunger, and undernourishment situation are alarming [10]. Thus, countries have to consider both socio-cultural and natural resources in addition to institutional resources to escape poverty [11]. It is the government's responsibility and stakeholders' poverty reduction policies makers to tackle poverty using various sustainable development strategies such as pro-poor tourism, which has a substantial positive impact on the economies of developing nations [12], agriculture modernization, environment protection, labor-intensive activities [13], and providing minimal direct assistance to the poorest families etc. [14]. Despite all the efforts in poverty alleviation for sustainable development, poverty remains a global critical threat to humanity [15].

This study aims to investigate the trend of poverty alleviation strategy for sustainable development, recognize the gaps and propose the way forward for future research.

Referring to the significant gaps in strategies for addressing poverty, we have run this study to propose new poverty alleviation strategies while shedding light on the following research questions.

**RQ1.** How did the world's poverty alleviation strategies for sustainable development work evolve?

**RQ2.** What are the most prolific articles, prominent authors, active countries, and top contributing journals and institutions in the literature on poverty alleviation strategies for sustainable development?

**RQ3.** What is the way forward for the future study perspectives of poverty alleviation strategies for sustainable development?

Answering the research mentioned above questions, we link with the following research objectives:

The first objective is to evaluate the evolution of the publication on poverty alleviation strategies for sustainable development (RQ1) using the Bibliometric method for data collection and the scientometric technique for data analysis using R studio and VOS viewer software [16] based on the Scopus data set. The second objective is to identify the most prominent articles, authors, countries, players and journals in poverty alleviation strategies for sustainable development (RQ2). The third objective is to suggest to policy-makers the themes that would be efficient for poverty alleviation strategies for sustainable development on which they should focus in their future strategy or research (RQ3).

Firstly, the Performance Analysis will analyse the Total publication (TP); then, three field plots cover the most influential countries, the most influential authors, the most prolific local journals, and the most relevant Affiliation and Word Dynamics. Secondly, we have conducted the science mapping, including the temporal and factor analysis. The Temporal analysis covers the following analyses: Tree map analysis, Network analysis which covers the Co-Occurrence Countries keywords, Network analysis comprising Co-citation sources keywords, Network analysis through Co-occurrence Autor keywords and Network analysis through Co-occurrence keyword analysis and Bibliographic coupling, which includes the bibliographic coupling with institutions and thematic mapping which is presented in the quadrant form. The top left corner represents the niche themes, the top right corner represents the motor themes, the bottom right quadrant represents basic themes, and the bottom left quadrant stands for declining themes, as seen in the results and discussion part. Ultimately, we carry out the Factor analysis, a statistical method that helps explore the clusters' interrelationships. The findings of this research will allow us to clearly list all possible strategies for poverty alleviation for sustainable development and give the way forward for future study. The number of publications changes yearly depending on the source, document types and the authors' collaboration. Thus, governments, the IMF, and the World Bank must fully contribute to the poverty alleviation process for sustainable development. Contrarily, nothing will change if every stakeholder in poverty alleviation for sustainable development keeps doing the way they have been. The study introduces poverty alleviation Strategies for sustainable development, the literature review on poverty and poverty alleviation strategies, methodology where we shed light on the data collection and cleaning process method and results and discussion.

## 2. Review of literature

### 2.1. Poverty

Poverty is a multidimensional and multiform [17]. Poverty means lacking clean water, food, medical care, decent education, dresses, and housing [18], according to A Pujara (2015). Poverty is a socioeconomic issue. He divides poverty into two important categories: extreme and relative [19]. Some characteristics of absolute poverty are lack of knowledge, intolerance based on religion

and culture, population growth, unemployment, and corruption [20]. Population in this category don't get support from the government or other stakeholders in poverty alleviation and will never overcome poverty. That is called the poverty trap [21]. Marxist scholars confirm that poverty is caused by lousy wealth distribution among the world population with the intention of some countries willing to get cheaper labour and raw materials [22].

On the other hand, poverty is due to the bad governance of corrupt countries without solid institutions to help the citizens build wealth by implementing economic policies instead of rooting their properties for their benefit [23]. Two significant ways of measuring poverty are the consumption index or poverty line approach and the income method [24]. During the 1980s, Poverty was defined as basic needs and vulnerability [25]. The poverty line has recently shifted to less than \$ 1.9, \$3.2, and \$ 5.5 per day, and those falling under this figure are considered poor [26]. Given that poverty and hunger are closely related issues, the World Food Agriculture Organization (FAO) currently reports that 815 million people worldwide suffer from hunger, accounting for 11 % of the world's population that is undernourished or experiences extreme poverty [27].

Similarly, today, though global agriculture produces sufficient calories, more than 800 million people are still hungry daily, and over 2 billion do not regularly have access to nutritious food. The effects of modern agriculture on the environment and public health are not well regulated [28]. However, the African population recently has excellent mobile broadband access, leading to the potential for digital financial services, the development of the informal economy, and, consequently, poverty reduction [29].

## 2.2. Poverty alleviation strategies

Poverty alleviation needs a combination of different approaches, including community-based initiatives [30]. The poverty alleviation strategy is to change the economic position of people experiencing poverty by allowing them access to finance and running income-generating revenue micro-projects [31]. Poverty alleviation is consistent rapid and sustainable development growth [32]. On the contrary, economic success alone does not always guarantee poverty alleviation [33].

Therefore, developing economic activities in cooperatives in favour of people experiencing poverty effectively alleviates poverty for sustainable development in the short run [34]. It requires facilitating, coordinating and integrating small and socio-economic entrepreneurs [35] by allowing them to engage in the country's economic life as experienced in Canada, Spain., Italy, India and Bangladesh [36]. Moreover, in the long run, asset-based community development (ABCD) revealed itself to be more effective and efficient as it helps beneficiaries to become economically self-resilient through the mobilization of existing assets and break the poverty cycle [37] by accessing tangible assets such as land, water, mineral or physical capital such as modern machines and livestock [38] or money that you earn from work as salary or bank loans [39]. Furthermore, the collaboration and complementarity or shared values turn into economic profitability [40] and the government spending components of GDP [41]. Government investment stimulates job creation and boosts production, reducing poverty [42]. The government assists and subsidises people experiencing poverty or invests in infrastructure and food production, increasing the employment rate and the output of poverty alleviation strategies [43]. Poverty alleviation resettlement is a widely adopted poverty alleviation strategy. It offers numerous opportunities and fresh perspectives for tackling poverty and the environment [44]. Through this strategy, the government hopes to raise the living conditions, incomes, and access to services and infrastructure for impoverished rural residents who reside in locations that are not considered capable of supporting sustainable lives through national programmes. Poverty Reduction Resettlement (PRA) is not limited to China. Many developing nations consider it a successful strategy for addressing extreme poverty [45]. However, several studies have documented significant detrimental effects on migrant workers' livelihoods. In addition to damaging the environment and public health in Northwestern Ethiopia, the PAR led to community tensions, conflicts, and environmental harm like deforestation [46]. Poverty alleviation resettlement is one of the strategies that succeed in China. In 2018, They resettled two point eight (2.8) million individuals and about 10 million disadvantaged people relocated between 2016 and 2020, according to the most recent government white paper [47]. To implement poverty alleviation strategies, the African Development Bank launched a digital financial inclusion facility to allow Africans access to the formal economy. Asian countries have made tremendous progress in that area. However, there are still

**Table 1**

Three stages of scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR) protocol.

Assembling	Arranging	Assessing
<p><b>Identification and Acquisition</b></p> <p><b>Domain:</b> Poverty alleviation strategies for sustainable development.</p> <p><b>Database:</b> Scopus</p> <p><b>Search Period:</b> 1981 to 2023</p> <p><b>Keywords:</b> Presented in Table 3</p> <p><b>The total documents</b> acquired from the assembling stage are n = 5,982</p> <p><b>Limitations:</b> Scope of Scientometric analysis precision and completeness of data in Scopus.</p> <p><b>Source of support:</b> No financial support was received for this study</p>	<p><b>Organization and Purification</b></p> <p><b>Subject area:</b> Poverty alleviation strategies for sustainable development: A Scientometric Analysis</p> <p><b>Document type:</b> Articles and reviews</p> <p><b>Source type:</b> Journals</p> <p><b>Language:</b> English</p> <p><b>Data cleaning:</b> 644 no-author documents and nine duplicate documents are removed from the corpus.</p> <p><b>Total documents</b> remained for analysis n = 5329</p>	<p><b>Evaluation</b></p> <p><b>Performance analysis:</b> Analysis of publication and citation trends and most influential authors, journals, publications, institutions, and countries to evaluate the performance of Poverty alleviation strategies for sustainable development</p> <p><b>Science mapping:</b> Temporal analysis, Thematic evolution, Bibliographic coupling and co-occurrence of author keywords to explore the themes in Poverty alleviation strategies for sustainable development.</p> <p><b>Future research scope:</b> analysis through thematic mapping.</p> <p><b>Software used:</b> Bibliometrix R and VOS viewer</p> <p><b>Reporting:</b> Figures, Tables and Words.</p>

**Source:** Self-constructed.

considerable gaps between rich and poor, men and women, rural and urban, due to wrong strategies or poor implementation in Asia and Africa [48]. The Netherlands seems to be the champion in poverty alleviation, with zero per cent extreme poverty since 1987 [49].

### 2.3. Sustainable development

Sustainable development means development that satisfies future demand without compromising the young generation to meet their own needs [50]. Sustainable development is all about using natural resources without compromising the needs of future generations [51]. Brundtland Report underlined that development must be sustainable for environmental areas and socio-economic perspectives [21]. Sustainable development requires world cooperation, as mentioned in MDG 8, which offers community-based poverty alleviation for sustainable development [52]. Therefore, sustainable development includes three dimensions: economic, social and environmental, commonly known as the triple bottom line, namely fair compensation, adding value to society and reasonable utilization of natural resources [53]. Any project intervention combining all these three sectors for the daily life of people with low incomes will lead to sustainable development without fail. It starts by achieving food security [54], resulting in productive jobs as a poverty alleviation tool for sustainable development [55]. Moreover, there is no one-size-fits-all solution for all countries. Thus, policymakers must refer to the local needs, conditions, and preferences in order to achieve the poverty alleviation strategies required for sustainable development [56] see Table 1.

## 3. Materials and methods

### 3.1. Data collection method and cleaning process

#### 3.1.1. Bibliometric method

The Bibliometric analysis is a literature review method launched in 1960 [57]. It is a data collection method that can objectively assess scientific and historical data [58] using robust software that identifies and compares the evolution of knowledge structure that other software would not [59]. It is systematic, transparent and reproducible [60]. Bibliometric analysis evaluates articles using statistical and mathematical techniques. Using citation mapping in bibliometrics can provide a statistical overview of the research topic and provide an understanding of its main areas of investigation [61]. Bibliometric methods provide quantitative data that help predict a specific topic's trends [62] or identify the trending topic in a given study area [63]. Bibliometric analysis is fundamental to discovering well-established fields' achievements and trend evolution [64] by establishing the relationship between research variables such as topics, authors, countries, and journals [65] using the Bibliometrix-R in other words called Biblioshiny-R and VOSviewer together [16]. The bibliometric method and VOSviewer help visualize the dynamism of the field of study following the scientific stages [66], as presented in Table 2. The bibliometric method collects data from a Scopus data set with the help of Bibliometrix-R software, then imports the Scopus file into an Excel file from which the data become able to be analysed using the scientometric techniques comprising the science mapping and the performance analysis as you can see the details in Table 5 of this research. This method follows the research-based practices and Rationales for Systematic Literature Reviews (SPAR-4-SLR) to guide the selection and procedures in data assembly, arrangement, and assessment [67].

#### 3.1.2. Assembling

Assembling is a protocol applied to get the related articles to evaluate the existing literature for review [68] in poverty alleviation for sustainable development published and indexed in Scopus. Referring to published articles is scientifically reliable as long as these papers have undergone a high-level peer review screening and met strict journal indexation standards compared to books, book chapters and conference proceedings. Assembling involves identification and acquisition, identifying the search domain, the database, the search period, the keywords, and the total papers acquired (62), as you see in Table 2.

#### 3.1.3. Arranging

Arranging is the second phase of the SPAR-4-SLR protocol, which includes organization and purification; in other words, it insists on the inclusion and exclusion criteria. The Bibliometric method codes the articles based on article title, journal title, author name, country of affiliation and author keywords. At the same time, purification refers to duplicated articles, and articles with a non-author name or irrelevant content are excluded [69]; see Table 2 showing organizing codes and organizing frameworks in the organization process, and articles type excluded and articles type included for purification [68].

**Table 2**

Search string related to poverty alleviation strategies for sustainable development.

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TITLE-ABS-KEY ("Poverty" OR "Poverty area" AND "Poverty alleviation") AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")) AND (LIMIT-TO (SUBJAREA, "SOC") OR LIMIT-TO (SUBJAREA, "ECON") OR LIMIT-TO (SUBJAREA, "BUSI")) AND (LIMIT-TO (EXACT KEYWORD, "Poverty Alleviation") OR LIMIT-TO (EXACT KEYWORD, "Poverty") OR LIMIT-TO (EXACT KEYWORD, "Poverty Reduction") OR LIMIT-TO (EXACT KEYWORD, "Poverty Determinant") OR LIMIT-TO (EXACT KEYWORD, "Rural Poverty") OR LIMIT-TO (EXACT KEYWORD, "Multidimensional Poverty")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j"))

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**Legend:** DOCTYPE: Document type, *ar*: articles, *re*: review, SUBJAREA: Subject area, SOC: Social sciences, ECON: Economics, BUSI: Business, j: Journals.

**Source:** Self-constructed.

### 3.1.4. Assessing

The assessing part of the Bibliometric method comprises the evaluation and reporting process. The evaluation covers the analysis methods and agenda proposal. You find performance analysis, science mapping, and future research scope there. During the reporting phase, we see the reporting conventions such as figures, tables, text (words), limitations, and the sources of funds [68].

With Bibliometric method, we have collected a rich corpus of 5,982 relevant articles related to “Poverty alleviation strategies for sustainable development: A Scientometric Analysis” with the help of the Bibliometrix-R software, commonly known as R-Studio or Biblioshiny-R, which collects data from Scopus database by combining the search string of articles’ title, abstract and keywords as presented in Table 3 and ended up with 5,329 after cleaning the Scopus file as shown in Table 3.

The next step is cleaning the data from Scopus by removing the topics with no author name and duplicate titles [70]. Bibliometric reviews must establish and document an extensive and transparent review process [67]. See Table 3 below.

## 3.2. Data analysis technique

### 3.2.1. Scientometric analysis

The scientometric analysis is a technique that can analyse a vast amount of literature [71] based on a Scopus data set with the help of software such as Microsoft Excel, R-studio, and VOS Viewer [72]. The Scientometric analysis technique aims to avoid bias, providing an excellent and target-oriented summary of existing literature (37) and allowing scholars to provide the concurrent research trend in a specific area and future orientation to achieve sustainable development [73]. The Scientometric analysis is a quantitative approach that helps to understand a particular area’s trend [64]. In other words, Scientometric analysis tracks the knowledge structure, the results of the most prolific topics, most prominent authors, and most prolific authors’ countries and publications in the study area [74]. The scientometric analysis helps examine the citation linkages and assess the impact of research to map a specific knowledge area with trends taken from the academic database [72]. We have run two primary analyses of the scientometric analysis technique: performance analysis and science mapping. These techniques cover many tests, but we have picked those that attract the interest of our objectives, as you see the details in Table 4 below.

The scientometric analysis technique builds a spatial relationship connection and dynamism among authors, articles, countries, institutions and many more [75]. The Scientometric Analysis technique analyses a vast amount of literature (65) imported from a Scopus file to an Excel file. The Scientometric analysis draws the trend, insights, intellectual framework and discoveries of unexplored specific sides in the field of study [76]. The Scientometric analysis technique is appropriate for analysing this study’s collected data from the Scopus database. Therefore, we have applied two significant analyses: performance analysis using Bibliometrix-R software and sciences mapping using VOS viewer software [77].

**Table 3**  
Summary of data collection methodology.

Method	Designation	Topic	Topic name
BIBLIOMETRIC METHOD	Topic, Scope and Eligibility	Topic Scope and Coverage	<b>A study of Poverty alleviation strategies for sustainable development</b> <b>Database:</b> Scopus <b>Search field:</b> Titles, Abstracts, keywords <b>Time frame:</b> All <b>Source types:</b> Journals <b>Document type:</b> Articles and review
		Keywords	TITLE-ABS-KEY ("Poverty" OR "Poverty area" AND "Poverty alleviation") AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")) AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "ECON") OR LIMIT-TO (SUBJAREA, "BUSI")) AND (LIMIT-TO (EXACT KEYWORD, "Poverty Alleviation") OR LIMIT-TO (EXACT KEYWORD, "Poverty") OR LIMIT-TO (EXACT KEYWORD, "Poverty Reduction") OR LIMIT-TO (EXACT KEYWORD, "Poverty Determinant") OR LIMIT-TO (EXACT KEYWORD, "Rural Poverty") OR LIMIT-TO (EXACT KEYWORD, "Multidimensional Poverty")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j"))
		Screening	Data extracted date Records identified Records removed Included

Source: Self-constructed.

**Table 4**  
Scientometric analysis.

Main techniques		Enrichment techniques
Performance analysis	Science mapping.	Network analysis
<p><b>. Publication related metrics</b></p> <ul style="list-style-type: none"> <li>- Publication trend in the area of poverty alleviation strategies for sustainable development <a href="#">Table 5</a></li> <li>-Total publications (TP) <a href="#">(Fig. 1)</a></li> <li>- Three field plots <a href="#">(Fig. 2)</a></li> <li>-Most influential countries <a href="#">(Fig. 3)</a></li> <li>- Most influential Authors <a href="#">(Fig. 4)</a></li> <li>- Most relevant Affiliation <a href="#">(Fig. 5)</a></li> </ul> <p><b>Citation related metrics</b></p> <ul style="list-style-type: none"> <li>- Most local prolific journals in poverty alleviation strategies for sustainable development show TC: Total citation, NP: number of published articles, PY: Publication per year. <a href="#">(Table 6)</a></li> </ul> <p><b>Citations and publication-related metrics</b></p> <ul style="list-style-type: none"> <li>-Word Dynamics <a href="#">(Fig. 6)</a></li> <li>-h-index (h) <a href="#">(Table 6)</a></li> <li>-g-index (g) <a href="#">(Table 6)</a></li> </ul>	<p><b>Citation analysis</b></p> <ul style="list-style-type: none"> <li>. Most influential publications:</li> <li>- Treemap analysis <a href="#">(Fig. 7)</a></li> </ul> <p><b>Co-citation analysis</b></p> <ul style="list-style-type: none"> <li>- Network analysis through Co-citation sources keywords <a href="#">(Fig. 9)</a></li> </ul> <p><b>. Foundational themes:</b></p> <ul style="list-style-type: none"> <li>-Thematic mapping or way forward (<a href="#">Fig. 13</a>)</li> </ul> <p><b>Bibliographic coupling publications</b></p> <ul style="list-style-type: none"> <li>. <i>Periodical or present themes:</i></li> <li>-Bibliographic Coupling with Institutions (<a href="#">Fig 12</a>)</li> </ul> <p><b>Co-word analysis</b></p> <ul style="list-style-type: none"> <li>. <i>Written content (words):</i></li> <li>- Network analysis through Co-occurrence keyword analysis <a href="#">(Fig. 11)</a></li> </ul> <p><b>Co-authorship analysis</b></p> <ul style="list-style-type: none"> <li>. Authors and author affiliation (institutions, countries):</li> <li>- Network analysis through Co-Occurrence Countries keywords <a href="#">(Fig. 8)</a></li> <li>- Network analysis through Co-occurrence Autor keywords <a href="#">(Fig. 10)</a></li> </ul>	<p><b>Clustering</b></p> <ul style="list-style-type: none"> <li>. Exploratory factor analysis:</li> <li>-Factorial analysis (<a href="#">Fig. 14</a>)</li> </ul> <p><b>Visualization</b></p> <ul style="list-style-type: none"> <li>. Bibliometrix R</li> <li>. VOS viewer</li> </ul>

Source: Self-constructed.

**Table 5**  
Main information.

Description	Results
<b>MAIN INFORMATION ABOUT THE DATA</b>	
Time span	1981 to 2023
Sources (Journals, Books, etc.)	947
Documents	5329
Annual Growth Rate %	10.33
Document Average Age	12
Average citations per doc	25.01
References	218,965
<b>DOCUMENT CONTENTS</b>	
Keywords Plus (ID)	5,844
Author's Keywords (DE)	7,727
<b>AUTHORS</b>	
Authors	9,135
Authors of single-authored docs	1,884
<b>AUTHORS COLLABORATION</b>	
Single-authored docs	2,170
Co-Authors per Doc	2.22
International co-authorships %	22.22
<b>DOCUMENT TYPES</b>	
Article	5,114
Review	215

Source: Self-constructed



**Table 6**  
Top journals in the area of poverty alleviation strategies for sustainable development.

Element	h_index	g_index	TC	NP	PY_start
WORLD DEVELOPMENT	78	129	20,136	293	1981
JOURNAL OF DEVELOPMENT STUDIES	35	66	4,551	95	1996
FOOD POLICY	30	59	3,519	65	1991
JOURNAL OF INTERNATIONAL DEVELOPMENT	30	45	3,053	159	1989
DEVELOPMENT POLICY REVIEW	28	51	2,992	108	1995
DEVELOPMENT AND CHANGE	23	47	2,247	48	1991
IDS BULLETIN	23	35	1,703	119	1991
JOURNAL OF DEVELOPMENT ECONOMICS	22	43	3,911	43	1990
SOCIAL INDICATORS RESEARCH	22	31	1,252	81	1996
HABITAT INTERNATIONAL	21	40	1,607	40	1995
DEVELOPMENT IN PRACTICE	20	34	1,783	140	1993
SUSTAINABILITY (SWITZERLAND)	20	33	1,587	121	2013
THIRD WORLD QUARTERLY	19	35	1,292	39	1998
WORLD BANK ECONOMIC REVIEW	19	29	2,992	29	1991
ECOLOGICAL ECONOMICS	18	29	1,153	29	1993
LAND USE POLICY	18	33	1,183	41	2003
SOCIAL SCIENCE AND MEDICINE	18	29	861	29	2006
ECONOMIC DEVELOPMENT AND CULTURAL CHANGE	17	26	1,322	26	1995
ENVIRONMENT AND URBANIZATION	17	34	1,526	34	1996
INTERNATIONAL JOURNAL OF EDUCATIONAL DEVELOPMENT	17	26	745	26	2002

TC: Total citation, NP: number of published articles, PY: Publication per year.

Source: Self-constructed.

#### 4. Results and discussion overview

##### 4.1. Performance analysis

##### 4.1.1. Publication trend in the area of poverty alleviation strategies for sustainable development

As discussed in the methodology part, the Scientometric analysis uses data collected from the Scopus data set. Referred to Table 2, Scopus utilizes the ABS-key search, which explains the combination of title + abstract + Keywords of the research topic. In that way, our ABS-key words were Poverty, poverty area and poverty alleviation. For document types, we looked at articles and reviews. Regarding the subject area, we have limited our search to social sciences covering economics and business. To refine our search, we

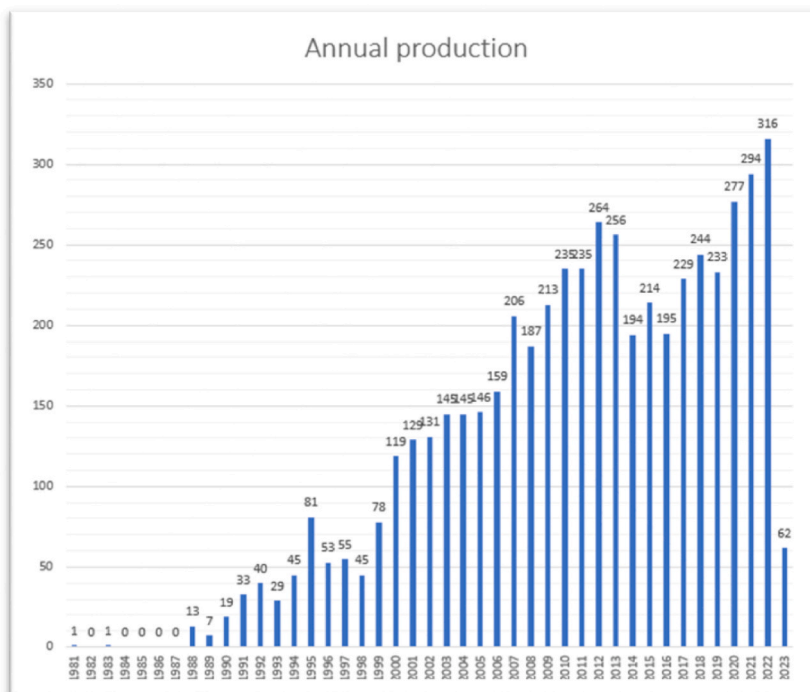


Fig. 1. Annual production.

have limited our search to the exact keywords and obtained the following keywords: poverty alleviation, poverty, poverty reduction, poverty determinants, rural poverty and multidimensional poverty, not to leave anything behind. Publication in the area of poverty alleviation strategies for sustainable development covered four decades from 1981 to 2023, and the number of publications varies yearly depending on the source, document content and the authors' collaboration, as dispatched in Table 5 below:

The above table shows that the poverty alleviation strategies for sustainable development have 5,329 known publications, of which 5,114 are articles and 215 are reviews. In the middle of May, there was a 10.33 per cent annual growth from 1981 to 2023. Nine thousand one hundred thirty-five authors (9,135) animated this topic with 1,884 single authors, while the single-authored documents are 2,170, giving an average of 2.22 co-authors per document and 22.22 per cent of international co-authorship.

4.1.2. Total publications (TP)

In response to the first research question (QR1), "How did the scientific work evolve in the area of poverty alleviation strategies for sustainable development in time and quantity of publications and citations?". Fig. 1 below presents the research trend in poverty alleviation strategies for sustainable development.

The scientific work in poverty alleviation strategies for sustainable development emerged in 1981 with one publication. It has taken a half-decade without any publication in this field. Real growth has been observed from 2000, with 119 publications per year, up to 264 in 2011, and a decrease of 194 in 2014. From there onward, the peak comes at 316 publications in 2022. That was a tremendous growth and brought us to respond to RQ1 related to how the poverty alleviation strategies for sustainable development scientific work evolve. Despite the efforts made in the area of poverty alleviation strategy for sustainable development, we are still experiencing extreme Poverty in some parts of the world as the future poverty alleviation projects for sustainable development tend to be complicated [78]. If no particular measures are taken now, the Millennium Development Goals (MDGs) will not be achieved by 2030 [27].

Therefore, we recommend to all stakeholders in the poverty alleviation sector for sustainable development to adopt new ways of solving poverty issues such as massive employment promotion projects, food security projects, profound corruption control, etc.

4.1.3. Three field plots

Three field plots indicate the relationships among three items using Sankey Plots, where the size of the nod depends on the size proportion of its value [79]. In our study, on the left side, you find the author's country; the middle row represents the author's name, while the right side stands for the keywords of the selected article for the analysis [57]. Fig. 2 below shows that most authors come from China and the USA. Their publications focused on Poverty, alleviation and poverty reduction, the three most prominent topics on the three-field plot graph. The most famous authors are Liu Y, Wang Y and Liy from China. These two countries have done more to alleviate poverty. China stands at the forefront and counts 60 per cent of the total authors in poverty alleviation for sustainable development, while other developing countries are lagging. We recommend to anybody willing to launch a poverty alleviation for a sustainable development project to refer to the Chinese or USA model.

4.1.4. Most influential countries

From sub-section 4.1.4, covering the most influential countries in the field of poverty alleviation for sustainable development, to sub-section 5.6, talking about the bibliographic coupling, reflect the RQ2 related to what are the most prolific articles, authors, countries, and top contributing journals in the literature on poverty alleviation strategies for sustainable development?

Therefore, the most influential countries referred to the type of publication in line to answer our second research question (RQ2): "Which are the most influential countries, authors, articles, and top contributing journals in the literature on poverty alleviation for

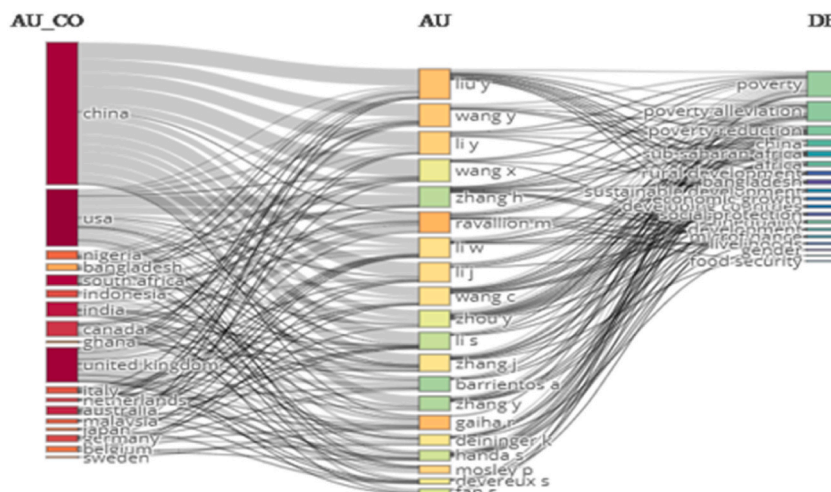


Fig. 2. Three-field plot.



sustainable development?”. Contrary to the three field plots, the most influential countries consider single and multiple-country publications. The USA ranks first in both cases with 575 articles and 157 articles, respectively, followed by the United Kingdom with 543 articles and 147 articles. China comes in third place, as shown in Fig. 3 below. In both cases, the number of articles for single-country publications is higher than for multiple-country publications. This shows us that most authors work independently rather than in collaboration.

The more a country is developed, the more research in poverty alleviation for sustainable development is done. Therefore, we suggest that developing countries do more research on poverty alleviation strategies for sustainable development if they want to rise out of poverty at any cost.

4.1.5. Most influential authors

Out of the twenty most influential authors in poverty alleviation strategies for sustainable development, we count RAVAILLION M, with 26 publications; Gaia R, 21 articles; and Liu Y, 18 articles.

Out of the top twenty authors, twelve are from China, meaning that 60 per cent of the most influential authors in poverty alleviation strategies for sustainable development from 1981 to 2023 are from China. This country is an excellent model for any country willing to improve its poverty alleviation strategies.

4.1.6. Most local prolific journals in the area of poverty alleviation strategies for sustainable development

To select the most prolific journals, we use h-index and g-index. The h-index is the measurement tool applied to evaluate the author’s performance based on quality and quantity by comparing publications to citations [80]. In other words, the h-index score is a scientific unit that measures the number of published articles compared to the frequency of authors’ citations. The h-index calculation refers to the quantity and frequency of cited publications (H) relative to uncited (or less frequently cited) papers [81]. Unlike the h-index, the g-index is evaluated based on the citations that a researcher’s papers have received. G-index insights citations from higher-cited papers to encourage less-cited articles to meet high levels of consideration [69].

Consequently, the g-index is higher than the h-index [82]. The g-index expresses citation frequencies received by an article of a specific author. The top g articles together get at least  $g^2$  citation. Assume that an author published has a g-index of 20, it means that he has published at least 20 papers and the 20 papers, taken as a whole, have acquired 400 citations [80].

At the first rank comes the “World development”, with 78 h-index and 129 g-index and 293 total publications with 22,136 citations since 1981. Moreover, the Journal of Development Studies, which started to publish in the field of poverty alleviation for sustainable development in 1996, counts 35 h-index and 66 g-index with 95 papers published and 4,551 citations. Then comes “sustainability (Switzerland)”, which started in 2013 and has scored 20 h-index and 33 g-index, 121 publications with 1,578 citations.

4.1.7. Most relevant affiliation

Out of the twenty-five most contributing institutions since 1981, ranked first comes NOTREPORTED with 136 publications, followed by the University of Manchester, which has published 108 articles. The third rank is for the World Bank, with 97 articles, followed by the University of Oxford, which has published 85 papers during the 42 years of our research study. After all, we only count three institutions from Africa, namely the University of Cape Town and the University of Pretoria, both from South Africa and the University of Ghana. The University of Cape Town has published 39 and 35 articles for the University of Pretoria and the University of Ghana, respectively. See Fig. 5.

We realize that the most contributing institutions are those companies from the United States in the first round, the United Kingdom

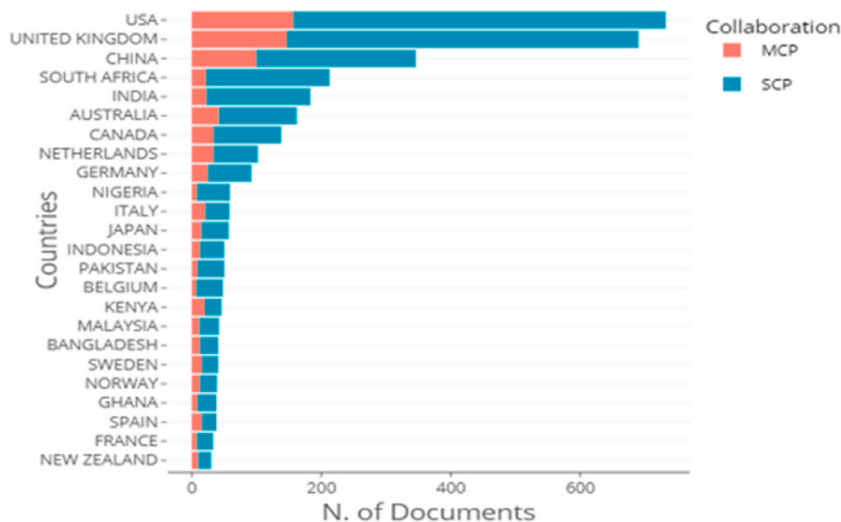


Fig. 3. Most influential countries based on the type of publications.

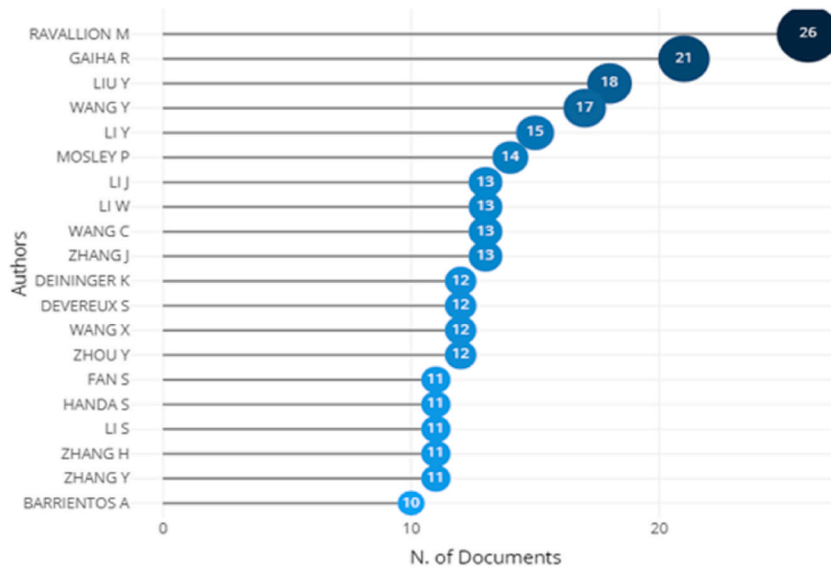


Fig. 4. Most influential authors.

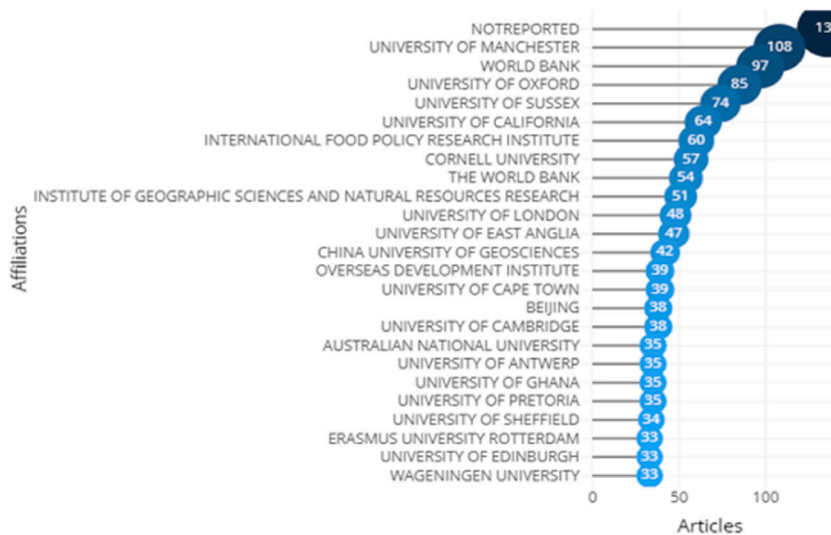


Fig. 5. Most relevant affiliation.

in the second round, and many more from the developed countries. In other words, the more set a country is, the more active it is in having institutions for poverty alleviation. Therefore, we encourage developing countries to actively participate in poverty alleviation activities because that is the only way to escape poverty. That gives us hope that alleviating poverty is possible because everything requires determination and consistent actions.

4.1.8. Word dynamics

The word cloud is the word frequency representation in the articles shown by the size of the word. It can be used as a proxy for the word’s importance in the literature [83]. From 1993 to 2023, all keywords in our research have known a positive and linear growth, particularly poverty alleviation, an exceptional trend where the term “poverty alleviation” appeared 4,505. It means that much work has been conducted in poverty alleviation, almost eight times that of other activities in this field. Moreover, we are still experiencing extreme poverty in many parts of the world except in China. GDP per capita increased from US dollars 156.4 in 1978 to US dollars 9, 770.85 in 2018, while other developing countries are lagging [7]. Poverty appeared 543 times compared to “Social policy”, which emerged with 537, and then came “Developing world”, which occurred 417 times. Related to countries’ name keywords and the number of publications that appeared, there is no significant difference in appearance frequency between Africa having 396 as a continent, China with 378 and India with 371, despite the big difference in the development between the three. Based on the graphic

below, poverty alleviation has known tremendous growth in its utilization compared to other terms present in the study from 1993 until 2023. Contrary to the dominance of the term poverty alleviation in research, poverty still devastating the big portion of the world’s population particularly in Africa [33]. See Fig. 6.

#### 4.2. Science mapping

##### 4.2.1. Temporal analysis

As shown in Fig. 7 below, the temporal analysis refers to the tree map analysis. It brings about the most cited articles in the field of study. Poverty alleviation was cited 4,505 times, which counts 29 % of the total citations. It means that poverty alleviation has caught researchers’ interest in finding a solution to the issue of poverty. At the second rank comes Poverty with 534 citations and social policy with 537 citations to make 4 per cent each, and at the third place, we have the developing world having 417 citations, economic growth with 415 citations and Africa having 396 citations with 3 per cent of total publications each. All these numbers covering each keyword show that scientists are active from each side of the world, working, by all means, to find a solution to poverty in all its forms. Moreover, I would recommend all stakeholders in this field learn from the Chinese model, which has produced miraculous results worldwide.

Though the research in poverty alleviation strategies for sustainable development started in 1981, it is by 2005 first quarter, poverty alleviation strategies for sustainable development had tremendous growth, with poverty alleviation being cited 4,505 times in the 2017 third quarter, meaning that it was in the centre of discussion for most of the stakeholders. Africa has 961 citations in general, of which 396 are on Africa in particular, 330 are on Sub-Saharan Africa, and 235 are for South Africa. Despite the efforts in poverty alleviation for sustainable development in Africa, Africa is still experiencing profound poverty. Therefore, I would recommend to African policymakers if they want to alleviate poverty, they first learn from the Chinese model that China has used to achieve its SDG goals. Second, we tell them to promote food security projects and build a peaceful and stable environment to provide economic stakeholders with a favourable business climate. The high frequency of the keywords justifies the importance of the topic in the centre of discussion of researchers worldwide trying to find a solution to the issue of poverty.

##### 4.2.2. Network analysis through co-occurrence countries keywords

The ten top contributing countries to poverty alleviation strategies for sustainable development are the United States of America, with 1183 publications and 42,464 citations, followed by the United Kingdom, with 965 documents and 36,609 sources; then comes China and India.

It is evident that the more the country is economically developed, the more it contributes to the field of study. Therefore, we would encourage developing countries to promote research in poverty alleviation strategies for sustainable development because the promotion of the study is the only way they will come to know the causes of their poverty, the barriers to their growth and set appropriate strategies to alleviate poverty.

##### 4.2.3. Network analysis through co-citation sources keywords

Every node indicates the occurrence of the keyword. The node’s size shows the frequencies at which the keyword has occurred, and the thickness of the link indicates how many times the keywords appeared together. The thicker the association among nodes, the more significant the co-occurrence between keywords [84]. Therefore, World Development appeared in cluster 15 with Development, the

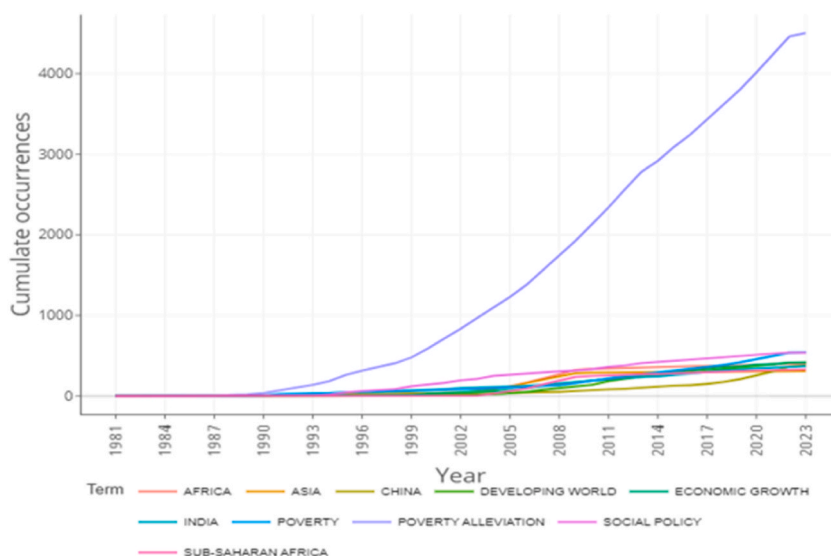


Fig. 6. Word dynamics.







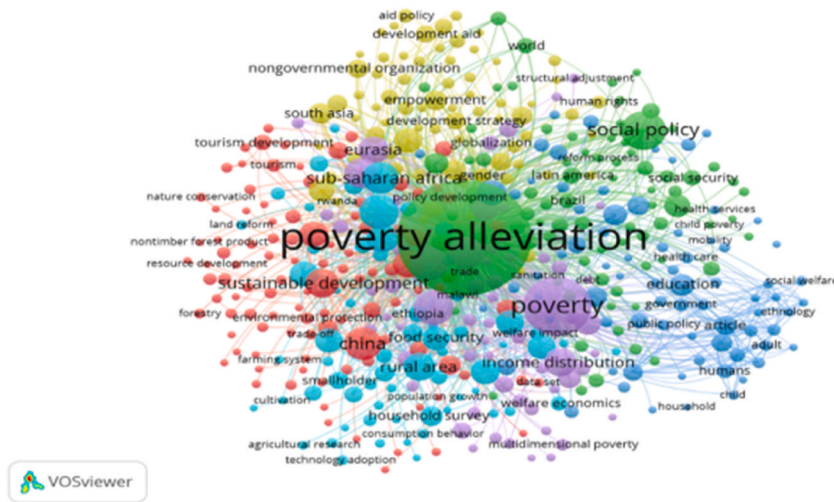


Fig. 11. Co-occurrence keywords.

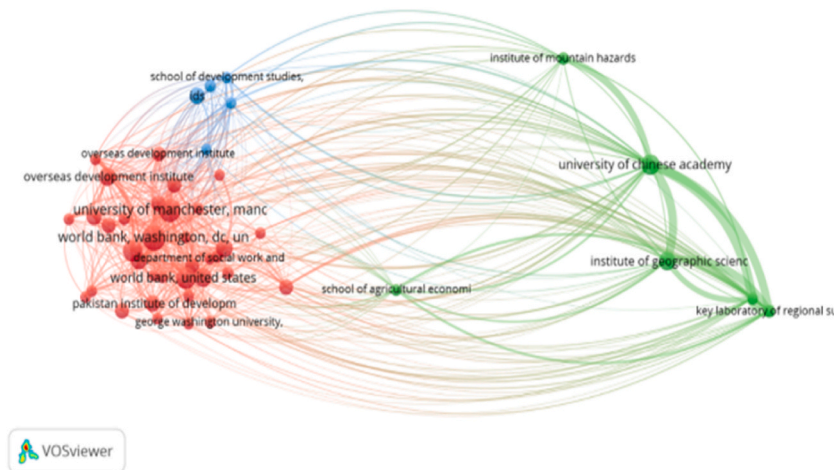


Fig. 12. Bibliographic coupling with the institutions.

that indicates that fewer poverty alleviation projects are happening in Africa than in any other part of the world. Thus, that links with why Africa is home to more than 70 % of the world’s poor [3]. We encourage Africans or anyone interested in poverty alleviation to pay more attention to Africa if we want to leave no one behind [85,86].

4.2.5. Network analysis through co-occurrence keyword analysis

Considering the twenty most frequent keywords, the VOS viewer gives us 460 items grouped into six clusters. Cluster One in red comprised 103 items with a high impact on China, sustainable development and sustainability. Cluster two in green, dominated by poverty alleviation, contains 79 articles and has poverty alleviation followed by social policy at the centre. As we have seen in the literature, the words in the co-words analysis are collected from the abstracts, author keywords or most influential articles [87]. Therefore, the figure below shows us that poverty alleviation was the most dominant within all articles and reviews collected in response to our second research question, namely: “Which are the most influential articles, authors, countries, and top contributing journals in the literature of poverty alleviation strategies for sustainable development?”. It has a strong relationship with poverty at the forefront, with social policy, China, sustainable development, and Sub-Saharan Africa in cluster one. Cluster two, in pink, is majorly represented by poverty. The last has a strong relationship with poverty alleviation strategies, social policy, economic growth, sustainable development, rural development, sub-Saharan Africa, South Africa and rural development.

However, we realize that household, remittance and land use have no single connection with any item. It means that the household is disconnected from poverty alleviation.

Therefore, this justifies the perpetual existence of poverty in society. That is the reason why we are still experiencing severe extreme poverty in many parts of the world today [88]. Furthermore, according to the results of this study, land use does not play a key role in



poverty alleviation strategies. By its definition, remittance is money sent in payment or as a gift by citizens living abroad [89]. Remittance is still unmeaningful in influencing poverty alleviation strategies; besides the government's role, the IMF and the World Bank have a weaker relationship with poverty alleviation strategies. Future researchers should focus on how the governments, IMF and the World Bank can fully contribute to the poverty alleviation process for sustainable development without fail by doubling or tripling their financial support to their partners or adopting new strategies by all means; otherwise, the SDGs will take a long time to achieve its targeted objectives.

Cluster three in Blue Sky comprises 76 items with the dominance of education, poverty determinants, economics and humans. Cluster four, in yellow, counts 72 articles with the governance approach, livelihood, non-governmental organization, development aid, and aid policy at the front. Cluster five, in pink, has 67 items and groups, such as poverty, poverty determinants, income distribution, World Bank, MDGs, economic growth, and the developing world. The sixth and last co-occurrence keywords are in blue by colour, have 63 items, and are dominated by Africa, Sub-Saharan Africa, agriculture, rural economy, household income, income, employment, and rural development.

### 4.3. Bibliographic coupling

#### 4.3.1. Bibliographic coupling with institutions

For this study, we have chosen to discuss the bibliographic coupling with institutions to know what institutions are more active in poverty alleviation strategies for sustainable development. Bibliographic coupling is a science mapping technique used when two articles have the same reference, assuming their content looks similar [90]. In other words, when two or more documents share bibliographical references, they are considered bibliographically coupled. Assume that both documents A and B cite document C; therefore, documents A and B are bibliographically coupled [91]. Bibliographic coupling identifies the semantic relationship between publications to uncover hidden research themes that drive future research orientations [92]. Bibliographic coupling importance is recognized by the number of references a group of documents shares, and it is assumed that a high coupling strength indicates a high degree of subject matter similarity [91]. The thickness and intensity of the edges indicate the importance to which these articles are similar [93].

The bibliographic coupling shows us that there are three clusters. The first one, red, groups the Overseas Development Institute, the University of Manchester, the World Bank in Washington and the Pakistan Institute of Development. The next cluster in green includes the Institute of Geographic Science, Institute of Mountain Science, Institute of Chinese Academy and Key Laboratory of Regional Sustainability. At last, the cluster in blue has the School of Development Studies at its centre. All these institutions meet on the same word development. It means that the world is highly concerned with development, tackling poverty through establishing better life programs and conducting initiatives to improve the human well-being index, directly affecting GDP per capita as the most used tool to measure poverty.

## 5. The way forward for future research or thematic mapping

The thematic map answers our third research question (RQ3): "What are the future perspectives research orientation of poverty alleviation strategies for sustainable development?". We have used the thematic author keywords to understand the niche, motor, basic, transverse, and declining themes in poverty alleviation strategies for sustainable development. Thematic mapping focuses on the spatial variability of a specific theme [94]. Thematic mapping has four corners, each representing a different theme. Those themes are classified based on four quadrants: the top left stands for the niche themes, the top right corner represents motor themes, the bottom right is Basic themes, and the bottom left is declining themes [95].

### 5.1. Niche themes

Niche themes are in the top left corner. This portion represents the significantly developed themes unrelated to the research area [96]. In the case of our research topic titled "Poverty alleviation strategies for sustainable development: A Scientometric Analysis", the niche themes have two keywords: "governance and public policy methods. These topics are highly explored and have less effect on poverty alleviation strategies for sustainable development. Moreover, they remain the main niche topics. Future study in these fields is encouraged for their high potential contribution to the plan for sustainable development that aims to alleviate poverty. It is now time for any institution willing to implement any project in poverty alleviation strategies for sustainable development to apply the principles of good governance and public policy output and grab their contribution as the essential pathway for enhancing inclusive and economic growth mainly due to the formal employment integration of the women and youth in both public and private sector [97].

### 5.2. Motor themes

Motor themes are in the top right quadrant. They have high centrality and impact [98]. There, we have Africa, livelihoods, gender, Poverty, inequality and India. They have a high relationship with poverty alleviation strategies for sustainable development. They are well-developed themes, serve as the foundation, and give insights into poverty alleviation strategies for sustainable development. It means that you find a high incidence of poverty in Africa and India characterized by increased inequality, particularly in gender (males and females) and livelihood. Therefore, future research on poverty alleviation strategies for sustainable development should unconditionally emphasize and borrow from these themes the successful approach to tackle the issues of poverty in all its forms without fail.

### 5.3. Basic themes

Basic themes appear in the bottom right quadrant of Fig. 13. This quadrant displays the themes that are not developed but have a high impact on poverty alleviation strategies for sustainable development, such as sustainable development, China, poverty alleviation, microfinance and development. These themes are transversal and have high centrality but have a low impact on the poverty alleviation strategies for sustainable development.

Consequently, China and other developing countries must continue applying the dual urban-rural poverty alleviation strategies for sustainable development to strengthen its achievement, as it has produced miracle results in China [99]. Microfinance and sustainable development themes such as food security, political stability, absence of violence, control of corruption, etc., should be central to poverty alleviation strategies. If not, no change will take place if all stakeholders don't improve how they have been doing. Consequently, we recommend that decision-makers and other stakeholders focus on these basic themes to strengthen future positive results in poverty alleviation strategies for sustainable development.

### 5.4. Declining themes

The lower-left quadrant is known as emerging or declining themes due to their low centrality and low impact. They are either falling themes or emerging themes [36]. They need further studies. The keywords in this quadrant are labour, livelihoods, poverty reduction, South Asia and multidimensional Poverty. These themes represent the possible research fields that could benefit from innovative and creative thinking in poverty alleviation for sustainable development. Labour, poverty reduction, and South Asia are declining themes, while livelihoods and multidimensional poverty are emerging themes. Moreover, they are fundamental themes in poverty alleviation for sustainable development, where each activity is monitored.

## 6. Factor analysis

The statistical factor analysis helps explore the clusters' interrelationships [64]. A line comes from each theme; then two clusters are joined, another two and so on. With the factorial analysis, we explored the relationship between the group of variables based on the Multiple Correspondence Analysis (MCA) methods. Each observation starts from a line; then two clusters are joined together, another two and so on. The first two linked themes fall under the same cluster [100].

Furthermore, Fig. 14 below shows us that cluster one groups together the articles human-focused on South Asia, Asia and Eurasia, which are linked to poverty reduction in India and Bangladesh. Based on multiple correspondence analyses, these countries face the same serious income issues as developing countries. In the same way, you will see that the closest cluster is the rural areas, which is directly connected to the cluster of unemployment, as you can see on this dendrogram. The longer the distance between the two clusters, the less significant the relationship between chosen topics. Assuming that we draw a line joining two clusters, China has a strong connection with income distribution and development, and these two have high centrality. However, they are in a relationship with another cluster whose dominant keyword is the household. The household is closely related to the household survey, which strongly relates to policy making. That justifies how China has managed to escape poverty. The factor analysis graph shows China has done the household survey. China has applied the dual rural-urban strategy based on its poverty alleviation strategies, taking the household as the family's foundation producing miracle results worldwide [7].

The factor analysis is required to avoid misleading conclusions. At the end of this factor analysis graph (on the right side), you see

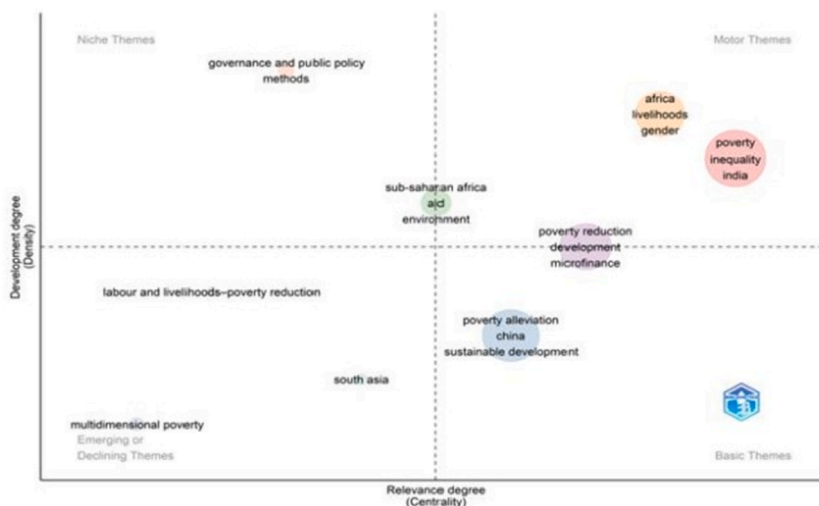


Fig. 13. Way forward.

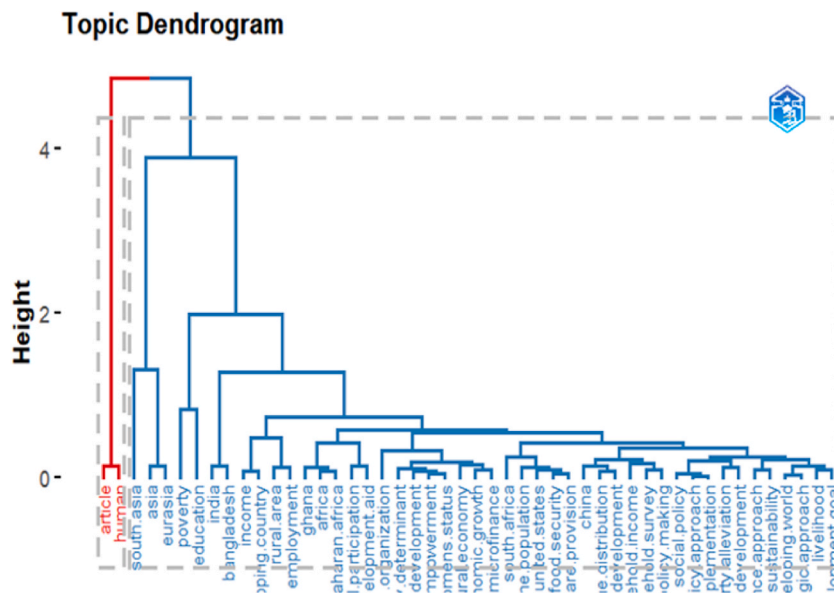


Fig. 14. Factorial analysis.

the developing world directly connected to the strategic approach. At the same time, livelihood and development goals join immediately. It means the developing world needs a strategic approach to overcome poverty, while the livelihood needs tangible poverty alleviation goals for sustainable development.

7. Conclusion

Studies on poverty alleviation strategies for sustainable development in the twenty-first century were increasingly carried out (Fig. 1) presents the annual production from 1981 to May 2023, where we embrace one publication per year to 316 per annum in 2022. Various topics were covered, such as poverty reduction, poverty alleviation, poverty determinants, and rural and multidimensional poverty. During this study, we learned about the factors contributing to success and those that lead to failure. A typical example is China, which has successfully achieved its poverty alleviation targets globally by 2021 by implementing a fundamental strategy called Jingzhunfupin, which refers to implementing appropriate poverty identification, full support, correct management, and accurate follow-up to achieve the aim of eliminating severe poverty in rural areas by the end of 202 in addition to rural-urban dual economic strategy, while other lag behind based on the 2020 World Bank report, the extreme poverty increased for the first time in over 20 years, with the total of about 150 million since 2014 [8].

Therefore, with the bibliometric method’s help, we had a rich literature corpus of 5,329 publications from the Scopus data set after data cleaning. This corpus became the basis of our Scientometric data analysis. We ran two significant analyses: performance analysis using R studio and science mapping using VOS viewer software. The trend analysis has helped us know that the poverty alleviation strategies for the sustainable development theme started growing incredibly in 2000.

Furthermore, through performance analysis and science mapping, we have underlined the most prolific topics, prolific authors, contributing countries, and leading journals on poverty alleviation strategies for sustainable development. The most co-occurred keyword is poverty alleviation. It has a strong relationship with poverty at the forefront, with social policy, China, sustainable development, and Sub-Saharan Africa in cluster one. That confirms that China is the world’s most active developing country in poverty alleviation using sustainable strategies while the Sub-Saharan African countries still struggle with poverty. The most famous authors are RAVAILLION M, with 26 publications; Gaia R, with 21 articles; and Liu Y, with 18 articles.

The most influential countries are the USA, China and the UK. At the same time, the top five leading journals are World Development, Journal of Development Studies, Food Policy, Journal of International Development, Development Policy Review and Development and Change. After all, we have realized that most authors work independently rather than in collaboration.

Consequently, China should not relax even though it has reached the SDG’s goals; more research must continue on poverty alleviation strategies for sustainable development and microfinance projects as the path to sustainable development. We call for all stakeholders, particularly governments, IMF, and the World Bank, to double their efforts in poverty alleviation for sustainable development; otherwise, no change will occur if they keep doing things as they have been. However, we have noticed that the household, remittance and land use have no direct connection with any item related to poverty alleviation strategies for sustainable development besides the government and IMF. Consequently, not only is remittance still unmeaningful in stimulating poverty alleviation strategies but the household is also disconnected from poverty alleviation strategies for sustainable development. Thus, that justifies the perpetual existence of poverty in most societies, as the literature has shown us that except for China, which has successfully

achieved SDG goals, most developing countries still struggle with poverty. Again, the literature says that the number of people living in extreme poverty increased by 150 million in 2020, which was never experienced before since 2014 [1].

The study's findings provide valuable insights for guiding and informing scholars, governments, stakeholders and policymakers on the area of intervention based on the thematic mapping (Fig. 13). As our contribution, this research study has underlined the most prominent gaps where the below mentioned players in poverty alleviation strategies for sustainable development lack their total contribution. The typical examples are the household, government, IMF, and World Bank, which show they are not delivering their best. This becomes the key factor justifying the failure of SDG's agenda to end poverty by 2030. To be effective, they would put in place accurate and sustainable strategies for sustainable development, like in China.

The Way forward for future researchers is that they should focus on how the governments, IMF, and the World Bank can fully contribute to the poverty alleviation process for sustainable development. Second, the niche themes are "governance and public policy methods. Due to the potential impact such topics could have on the field, future research in these areas is encouraged and could be fruitful for poverty alleviation strategies for sustainable development. Furthermore, we have motor themes. There, we have Africa, livelihoods, gender, Poverty, inequality and India. These themes have a high relationship with poverty alleviation strategies for sustainable development. They are well-developed, serve as a foundation, and have a high centrality with poverty alleviation strategies for sustainable development. Therefore, future research should focus on them. Then comes the basic themes. These topics are not explored much but have a high effect on poverty alleviation strategies for sustainable development, such as sustainable development, China, poverty alleviation, microfinance, and development. Future research should, therefore, focus on the concepts under these themes to strengthen the future positive results. Finally, we have the emerging or declining themes due to their low centrality and low impact. We have labour, livelihoods, poverty reduction, South Asia and multidimensional poverty. These themes remain highly important in poverty alleviation strategies for sustainable development. They need further studies.

Therefore, we recommend that the decision-makers and policymakers adopt appropriate poverty alleviation strategies for sustainable development, referring to the Chinese model. So far, this country stands at the forefront of poverty alleviation strategies for sustainable development. The China model, which made tremendous miracle progress, is nothing else than the rural-urban dual structure economy. This strategy allowed labour mobility from rural to urban, where they earned high wages, consequently increasing their income. Then, China had fewer people involved in unproductive agriculture, pushing them to improve their technology by acquiring the machinery to replace this labour force. That boosted Chinese agriculture production and intensive small and medium industries. With fair fiscal resource allocation, the Chinese government was the only country to achieve the SDG's goals and improve the social system characterized by economic growth by 2021 [7].

However, we have noticed that the household, remittance and land use have no direct connection with any item related to poverty alleviation strategies for sustainable development besides the government and IMF. Consequently, not only is remittance still unmeaningful in stimulating poverty alleviation strategies but the household is also disconnected from poverty alleviation strategies for sustainable development. Thus, that justifies the perpetual existence of poverty in most societies, as the literature has shown us that except for China, which has successfully achieved SDG goals, most developing countries still struggle with poverty. Again, the literature says that the number of people living in extreme poverty increased by 150 million in 2020, which was never experienced before since 2014 [1].

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## Funding

We declare that this research received no specific grant from any funding agencies.

## Data availability statement

The data availability is not applicable.

## CRedit authorship contribution statement

**Onesme Nzasabayezu:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Methodology, Formal analysis, Data curation, Conceptualization. **Senthil Kumar Jaya Prakash:** Writing – review & editing, Visualization, Validation, Supervision, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Rama Prasad M.V:** Writing – review & editing, Visualization, Validation, Supervision, Investigation, Conceptualization.

## Declaration of competing interest

The authors declare that they have not known any competing of interest to influence the work reported in this research paper.

## Acknowledgements

My acknowledgements go to the anonymous reviewers for their constructive comments. Once again, let me thank my supervisor, Dr. Senthil Kumar Jaya Prakash, Associate Professor, for his consistent support and guidance for the success of this scientific work.

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