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Adaptive Social Protection: A Systematic Literature Review and Research Agenda

Abstract

Adaptive social protection represents a novel form of approach that is more holistic in addressing issues related to disasters associated with climate change and social shifts. Adaptive social protection has resurfaced social protection as a new approach to assist an individual or society to mitigate vulnerability or potential harms related to poverty and climate change. Despite the necessity for enhanced comprehension of adaptive social protection approaches, there exists a dearth of scholarly research on this subject. This study strives to address this gap. Therefore, the primary objective of this research is to map the gaps in studies related to the topic of adaptive social protection, thereby enabling us to identify future research agendas. Through this article, we systematically review existing studies in social adaptive protection within two decades. 305 articles are categorized and analyzed using the SPAR-4-SLR protocol by Paul (2021) and employs the VosViewer 16.1.19 to scrutinize and dissect this topic in a bibliometric approach and map the distribution on authorship, countries, institutes, and keywords. We found that the existing publications in adaptive social protection primarily originated from the United States, United Kingdom, and Canada. By synthetically analyzing the keywords, the dominant hot spot of adaptive social protection research could be concluded as "adaptive management", "climate change", or "adaptation".

Keywords:

adaptive social protection; disaster management; climate change; bibliometric approach

Introduction

Adaptive social protection represents a groundbreaking and comprehensive strategy designed to address the complex issues emerging from

climate change and social transformations (Bowen et al., 2020). This innovative approach redefines traditional social protection by providing a new framework to help individuals

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and communities mitigate vulnerabilities and potential harms associated with poverty and climate change. As the latest global landscape, climate change, ecological upheaval, and increasing disaster, the new approach sets the new paradigm and discourses for social protection. The spreading of various natural disasters in the world as the result of extreme climate change has increased the intensity of crop failures, cyclones, floods, droughts, and other global disasters in recent decades (Suranny et al., 2022). The persistent rise in global temperatures, a pivotal aspect of contemporary climate dynamics, exacerbates the severity of natural disasters globally. This escalation is remarkably impactful on vulnerable populations, often amplifying pre-existing socio-economic and environmental challenges; these are typically groups with limited resources, inadequate infrastructure, or those living in high-risk areas (Thalheimer et al., 2022). Due to these conditions, more than 20 million people worldwide face a food crisis, lack of clean water, and a decent place to live (FAO, 2016). Consequently, the advent of a novel paradigm is imperative, one that comprehensively addresses and mitigates the vulnerabilities manifesting in societal structures owing to the incidence of disasters disproportionately affecting socially marginalized and less resilient groups (Daron et al., 2021).

Historically, approaches to addressing environmental issues have predominantly centered on environmental restoration, often overlooking the needs and well-being of the communities impacted by these environmental changes (J. D. Tenzing, 2020). In the context of environmental degradation, it is not only nature that requires protection, but also humans who need safeguarding from the consequences of climate change-induced disasters. This issue gained global attention when human security became a focal point for the United Nations Development Programme (UNDP) in 1994. In 1994, the United Nations Development Programme (UNDP) introduced the concept of human security, emphasizing that security should encompass not only protection from violence but also the safeguarding of individuals' well-being and dignity. This broader perspective aimed to address threats beyond traditional state-centric concerns, including poverty, environmental degradation, and economic instability (Gasper, 2022).

Social protection was formerly identified as a means to assist one-third of the world's vulnerable population in developing countries (Barrientos, 2017). The core of social protection is to establish the vulnerable community in lower-income countries (Lowder et al., 2017). Social protection has traditionally focused on strengthening economic, human, and social capital to promote economic growth, proponents of a 'rights-based' agenda emphasize issues of social justice and marginalization (Gentilini et al., 2011), the principle

underpinning social protection is to foster the transformative potential of eradicating structural inequality, which constitutes the fundamental source of poverty (Merrien, 2013). On the other hand, climate change, which causes disasters, is expected to disproportionately affect vulnerable groups, not only in developing countries but also worldwide, which are vulnerable to shocks and changes. Therefore, the notion of adaptive social protection has become a crucial paradigm in the dynamic field of global social policy, catering to the diverse issues caused by rapid societal transitions (Bowen et al., 2020). By providing a more dynamic, responsive method to protect vulnerable populations from the erratic effects of environmental and societal upheavals, this novel approach goes beyond conventional paradigms.

As this climate change worsens, social protection will encounter significant challenges in addressing climate change-related issues. The impact of climate change has been felt most strongly in vulnerable societies (Hallegatte et al., 2016). Policymakers, scholars, and the global community are currently collaborating to devise effective strategies for advancing social protection within the framework of climate change. Furthermore, the disasters caused by climate change are projected to have a more pronounced impact in the future (Mechler et al., 2015; Olsson et al., 2014). After this, the aforementioned circumstance may prove to be a decisive factor in the effectiveness of previous programs implemented, leading to a potential regression in poverty reduction.

Three separate but related domains; social protection, catastrophe risk reduction, and climate change adaptation, come together to form the foundation of adaptive social protection (Nalau et al., 2021). Adaptive social protection seeks to enhance resilience and flexibility to future hazards while also offering immediate relief in the wake of disasters through the integration of several domains. This strategy is a big change from

traditional approaches, which frequently work in silos and are therefore less able to address the complicated realities of the modern world. The International Labour Organization propagated a noteworthy social protection strategy through the widely recognized slogan "leave no one behind" (ILO, 2017).

Contemporary concerns, such as the increased frequency of extreme weather occurrences, altering economic landscapes, and growing disparities between rich and poor, highlight the need for a more varied and comprehensive approach to social security. In response, adaptive social protection places a strong emphasis on adaptability, education, and foresight. It aims to create mechanisms that are predictive in addition to reactive to current crises, empowering communities to more resiliently face and overcome hardships. Several studies have been carried out on social protection, there has been substantial progress in the evolution of social protection. It can be classified into two primary categories. The first group has a poverty reduction and humanitarian response focus (Gentilini et al., 2011), conversely the other prioritizes economic growth by employing approaches that emphasize equal rights (Haug et al., 2017).

The term 'adaptive social protection' first appeared in 1978, referring to the initiative to fortify social protection and the need to adapt existing approaches as part of efforts to protect against poverty resulting from climate change in the agricultural sector. (Davies et al., 2008). At its inception, the term 'adaptive social protection' was primarily associated with poverty reduction in agriculture. Notably, much of the groundwork for this notion originated in the United Kingdom, particularly through the efforts of Davies, who proposed incorporating social protection (SP), disaster risk reduction (DRR), and climate change adaptation (CCA) to alleviate poverty in the agricultural sector (Davies et al., 2008, 2009, 2013). In fact, social protection can serve as a

means of adaptation in the context of climate change-related disasters.

A previous study conducted by Conway (2011) examines the impact of climate change on vulnerable developing country agricultural sectors (Conway et al., 2011). Another study explores the vulnerability related to climate change, Ribot argues that discussions on vulnerability should not solely focus on poverty but also take into account the role of climate change in contributing to poverty in certain regions (Ribot, 2014). On the other hand, Ginson (2006) proposed a comprehensive approach to integrating social, economic, and ecological factors into decision-making processes. This holistic perspective encourages the consideration of all three factors equally (Ginson, 2006). In the context of the impact of climate change on diseases that affect individuals and occur simultaneously as an indirect consequence of climate change discussed by Bradley (1994), Foster (2015), and MacDonald (2015), climate change induces alterations in group behavior and triggers the development of specific illnesses that ultimately diminish life expectancy (Bradley et al., 1994; Foster et al., 2015; MacDonald et al., 2015). While climate change may result in income fluctuations and necessitate behavioral and pattern adjustments in certain economic sectors, its impact is particularly pronounced and substantial in the agricultural sector (Truelove et al., 2015), and the tourism industry. Both sectors have had to adapt to changing climate conditions, adopt new patterns, and make similar adjustments (Morrison et al., 2013).

The review of the database articles reveals that there has been no extensive study of adaptive social protection. The review and map of articles on adaptive social protection fields can provide researchers with a deep insight into this approach, and the gap in the research they have done before. Consequently, this article will investigate the following questions:

1. To what extent have studies on adaptive social protection been undertaken, and how have they been categorized?
2. To what extent does the current concept of "adaptive social protection" contribute to lowering the impact of climate change and disasters on global society?

This article plays an essential role in addressing the future positioning of adaptive social protection research by promoting research into the evolution of social protection since this approach still has considerable development potential to address present difficulties. The alteration of our perception regarding the functioning of social protection systems is poised to exert a transformative influence on the approach to disaster management. The incorporation of additional components, notably climate change, into the purview of social protection mechanisms is anticipated to facilitate an expanded perspective for policymakers.

This comprehensive literature review examines the application of adaptive social protection in various academic contexts, highlighting its extensive practical and theoretical usage. Recent studies have increasingly concentrated on the potential of adaptive social protection to inform policy-makers in formulating strategies for poverty alleviation and disaster risk management. This review endeavors to enrich ongoing dialogues by synthesizing and offering a critical analysis of existing research findings, as well as examining the integration of social protection policies with those aimed at managing climate-induced disasters. Moreover, this article seeks to bridge gaps in previous research on adaptive social protection and contributes to the discourse on its future implementation prospects.

The initial section of this article delves into the background and evolution of the adaptive social protection approach, offering a comprehensive review based on diverse literature and comparative studies. It explores the theoretical underpinnings

and historical development of this approach, setting the stage for understanding its significance in addressing contemporary challenges. The following section outlines the methodology for data collection, detailing the sources of data and the strategies employed to obtain a comprehensive database for this research. This part will discuss the techniques used to gather relevant information, ensuring the robustness and reliability of the data. Subsequently, the article will describe the analytical methods used to interpret the collected data. This section will provide a detailed explanation of the approaches and tools used to analyze the data, highlighting how the analysis contributes to the understanding of the adaptive social protection framework. Finally, the concluding section will present the results of the data analysis. It will summarize the findings concerning the core topics discussed in each subsection, providing insights into the effectiveness and implications of the adaptive social protection approach as informed by the data.

Methods

The methodology employed in this research involves a combined approach that integrates bibliometric analysis with a systematic literature review. This approach was selected for its ability to efficiently handle large datasets and draw general conclusions from data patterns identified through bibliometric tools. In this study, VosViewer 1.6.19 will be utilized as the bibliometric analysis tool to map and visualize the data. Subsequent in-depth analysis will be conducted using a systematic literature review, allowing the author to gain a deeper understanding of the most relevant articles related to adaptive social protection. This dual-method approach ensures a comprehensive analysis by combining broad quantitative insights with detailed qualitative evaluations.

Data Source and Search Strategy

Scopus is an expansive, all-encompassing, multidisciplinary, and globally influential academic

repository, housing many articles across diverse scientific domains, including the natural sciences, social humanities, multidisciplinary studies, engineering, and technology. This literature review strategically opts for Scopus as the primary data source, driven by its reputation for providing the most comprehensive and precise publications on adaptive social protection. The utilization of metadata retrieval and data mining within the Scopus platform serves a dual purpose: to ensure the avoidance of duplicative research on similar themes and to capitalize on Scopus's robust indexation and standardization, contributing to its commendable quality and reputation. This meticulous approach underscores the commitment to substantiating the relevance of the research findings within adaptive social protection.

For the initial stages of collecting data, researchers used the initial stage involved inputting keywords using the Boolean Operator "social protection" AND "adaptive social protection" AND "climate change" AND "poverty" on the Scopus database as it has reliable article credibility. Moreover, Scopus exhibits extensive coverage within the research domain under investigation, encompassing a diverse spectrum of scientific disciplines. This comprehensive inclusivity renders the Scopus database particularly pertinent for systematically delineating research efforts on adaptive social protection. It is worth noting that the indexation criteria upheld by Scopus exhibit elevated benchmarks for both scholarly journals and conference articles, thereby fortifying the overall publication standards. Furthermore, a salient attribute of Scopus lies in its proclivity to provide access to cutting-edge information. In addition to its commendable quality standards, the articles published in the Scopus database often manifest a considerable degree of novelty, subsequently garnering substantial recognition on a global scale.

Data Analysis

In this article, a bibliometric analysis approach is employed to delineate and identify pertinent research pertaining to adaptive social protection. Given the nascent nature of this concept, a scholarly examination is imperative to elucidate its evolution, as evidenced through research endeavors. Bibliometric analysis allows researchers to scrutinize vast volumes of data efficiently and effectively. It is like having a robust magnifying glass to delve deep into the wealth of information, enabling scholars to extract valuable insights precisely and quickly.

Bibliometric techniques enable the identification of prevailing trends and prospective research through examination of publication output, keywords, authors, institutions, and countries of origin (Chen et al., 2016). By applying a bibliometric analysis, we can achieve substantive development and progress, addressing academic lacunae and surmounting scholarly bottlenecks in this topic. The development of adaptive social protection traces its roots back to 1978, and with over 46 years of scholarly inquiry, a profound understanding of this malady has been attained. To comprehensively delineate the developmental history and current research landscape, we intend to employ Vosviewer software for rigorous bibliometric analysis. This methodological approach aims to systematically present research trends and focal points in a manner that is both scientifically rigorous and intuitively accessible, utilizing figures and tables. The resultant insights are poised to furnish substantial evidence crucial for informing the establishment of future academic guidelines and discerning emergent trends within the scholarly discourse. To complete this, Paul et al. (2021) have guided the SPAR-4-SLR systematic review, which outlines a framework for inaugural special issues. While the literature surrounding social protection is experiencing rapid growth, indicating its importance in the research sphere, there exists limited publication

on the subject of adaptive social protection. The SPAR-4 systematic literature review is presented in this study in Figure 1.

The bibliometric research in this article helps describe and map scientific knowledge in adaptive social protection with large data volumes from the Scopus database. The use of a bibliometric approach in this article can build a strong foundation for getting a general overview of the concept of adaptive social protection and can help researchers get an idea of knowledge gaps and obtain new ideas for research on the topic of adaptive social protection in the future. Apart from that, a bibliometric approach can help determine the position of research contributions in the future.

This article identifies 305 articles regarding social protection and adaptive social protection. The analysis was carried out using two different methods: quantitative analysis using the Vosviewer application, resulting in research mapping data taken from the Scopus database. Meanwhile, a qualitative assessment was carried out on the 11 most relevant articles from the previous abstract screening which were closely related to the desired topic. Qualitative assessment is based on assessing the relevance of the content, abstract, and suitability of the research topic to adaptive social protection. This analysis uses the guidelines approach of SPAR-4-SLR (Paul et al., 2021) to identify articles with the most relevant approach offered by Paul (2021).

To ensure data is not duplicated, Paul (2021) conducts a screening of the information obtained (Paul et al., 2021). The author evaluates the paper title and abstract to exclude irrelevant literature due to the focus on social and adaptive protection. In this process, the author excludes any data mining results that are not pertinent to the study at hand. Among other things, screening indicators were added, leading to the exclusion of 25 articles due to inconsistency between their abstract and content with the research topic, 7 articles due

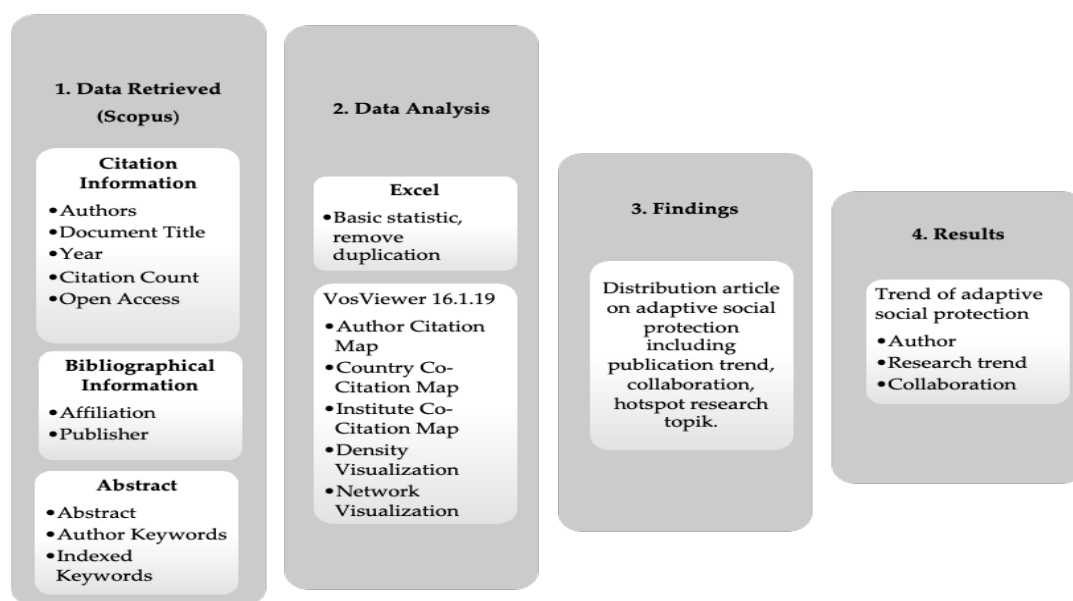


Figure 1. Research Methods
Source: Research Methodology, 2023

to a discrepancy in their research years, and 14 conference papers and 9 book chapters due to a mismatch in article types. Additionally, 8 articles written in languages other than English were also excluded.

The remaining text will be evaluated based on the author's selected keywords and index to determine the relevance of the topic being searched. The limitations of the study are the choice of years and the choice of relevant topics. Nevertheless, a limitation of the study is the use of a limited set of keywords for selection, which could potentially lead to the exclusion of pertinent publications from the database. The designated sample time period spans from 1978 to 2023, based on early articles that incorporated the social protection concept. An alternative explanation is that research absent from the Scopus database, such as dissertations, theses, and research notes, might not have been considered for inclusion in this paper. Consequently, forthcoming studies will likely utilize a broader range of databases.

Using the Scopus database as a secondary data source in adaptive social protection research is underpinned by a deliberate choice. The rationale behind incorporating meta-data analysis

lies in its capacity to harness summarized data from articles from databases on the expansive domain of adaptive social protection. This analytical approach not only affords researchers the advantage of working with comprehensive data summaries but also facilitates the acquisition of more expansive samples. In the context of this article, it enables the assembly of samples pertinent to adaptive social protection, spanning over two decades of research data and encompassing a more comprehensive array of countries of origin. Furthermore, the employment of meta-data analysis bestows upon this article a heightened capacity for generalization within adaptive social protection. This enhanced generalizability is achieved with an augmented level of research efficiency, thereby optimizing the research process's temporal and logistical aspects.

Results and Discussion

The findings of this study are segmented into five distinct sections. The initial section delves into the characteristics of the publication years of the acquired data, with a specific focus on the distribution of existing publications across the current year. The second section

directs attention toward the highest number of citations garnered by each contributor, thereby illustrating the profound impact of individual authors on their reputation and influence within the academic sphere. The third section elucidates the country of origin for each article, facilitating the mapping of contributions and stylistic variations in adaptive social protection across different nations. The fourth section delineates entities that have contributed most substantially to publications on adaptive social protection within a defined period. This approach enables a thorough assessment of institutions with the most significant contributions to the development of this particular field. The fifth section, centered around keywords, maps the conceptual landscape employed within the given topic. This strategic analysis aids in comprehending the core concepts and terminologies shaping the discourse on adaptive social protection.

Publication Year

In general, research on adaptive social protection has developed a lot in the last three decades, starting at least in 1993 and continuing to experience quite significant increases until 2023 (Figure 2). Between 1978 and 2023, the Scopus database published 305 articles on this

topic. Between 1978 and 2010, the number of scientific articles published concerning adaptive social protection consistently remained below ten. However, this gradually increased and peaked in 2022 with 35 articles. The findings suggest that scholarly attention on social protection and adaptive social protection has consistently grown since 2011. Adaptive social protection approaches have been formulated in developing countries by modifying social protection schemes and approaches in response to climate change since 2011 (Conway et al., 2011). This analysis yields a twofold message. On one hand, there is an increasing recognition that climate change factors must no longer be ignored in the implementation of social protection (Béné et al., 2018). The second study suggests that social protection could serve as a remedy and an approach to managing climate change-induced disasters (Celliers et al., 2013; Kuriakose et al., 2013).

These findings suggest that the future exploration and implementation of adaptive social protection policies present considerable scope for development. The article is particularly pertinent given the increasing prevalence of climate change-induced disasters affecting vulnerable populations. Despite ongoing debates regarding the definition of vulnerability, the potential

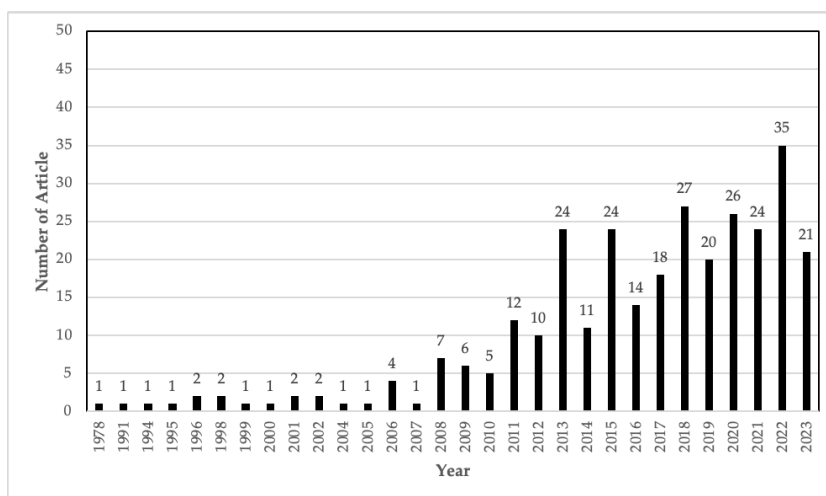


Figure 2. Annual publication related to adaptive social protection in the Scopus database, published from 1978 to 2023

Source: Scopus Database, 2023.

for this subject to evolve into a significant policy opportunity is notable. Furthermore, the anticipated variability in adaptive social protection strategies across nations, driven by distinct climate challenges, cultural factors, and diverse community needs, offers a platform for understanding regional differences and the specific challenges encountered

Authorship

Table 1 displays the top most frequently cited articles on the topic of social protection research from the Scopus database. The article by Conway (2011) has the highest number of citations (371) and examines the impact of climate change on vulnerable developing country agricultural sectors (Conway et al., 2011). The following study is the analysis of Ribot (2014),

which has been cited 336 times and explores the lack of vulnerability research. Ribot argues that discussions on vulnerability should not solely focus on poverty but also take into account the role of climate change in contributing to poverty in this region (Ribot, 2014). Ginson (2006) proposed a comprehensive approach to integrating social, economic, and ecological factors into decision-making processes. This holistic perspective encourages the consideration of all three factors equally (Ginson, 2006).

In the context of the impact of climate change on diseases that affect individuals and occur simultaneously as an indirect consequence of climate change discussed by Bradley (1994), Foster (2015), and MacDonald (2015), climate change induces alterations in group behavior and triggers the development of specific illnesses

Table 1.
Most cited article distribution

<i>Author</i>	<i>Cited By</i>	<i>Year</i>	<i>Title</i>	<i>Objection</i>
Declan Conway	371	2011	• Adaptation to climate change in Africa: Challenges and opportunities identified from Ethiopia	• The impact of Climate change in the agricultural sector
Jesse Ribot	336	2014	• Cause and response: vulnerability and climate in the Anthropocene	• Social protection as the result of climate change
Robert B. Ginson	298	2006	• Beyond the pillars: Sustainability assessment as a framework for effective integration of social, economic, and ecological considerations in significant decision-making	• Decision making
Robert H. Bradley, et al.	237	1994	• Early Indications of Resilience and Their Relation to Experiences in the Home Environments of Low Birthweight, Premature Children Living in Poverty	• Life expectancy and social protection
Michaels S.	183	2009	• Matching knowledge brokering strategies to environmental policy problems and settings	• Aid and public policy decision-making process
Adger W.N, et al.	163	2013	• Changing social contracts in climate-change adaptation	• Policy assessment in the context of climate change
Truelove H.B, et al.	127	2015	• A socio-psychological model for analyzing climate change adaptation: A case study of Sri Lankan paddy farmers	• Agricultural adaptation behaviour
Morrison C, et al.	126	2013	• Perceptions of climate change impacts, adaptation, and limits to adaptation in the Australian Alps: The ski-tourism industry and key stakeholders	• Climate change and tourism industry
Foster N, et al.	125	2015	• The economic burden of TB diagnosis and treatment in South Africa	• Social protection in certain illnesses caused by climate change
Petrasek MacDonald J, et al.	125	2015	• Protective factors for mental health and well-being in a changing climate: Perspectives from Inuit youth in Nunatsiavut, Labrador	• Climate change and mental illness

*Source: Scopus Database, 2023
Countries/ Territories*

that ultimately diminish life expectancy (Bradley et al., 1994; Foster et al., 2015; MacDonald et al., 2015). While climate change may result in income fluctuations and necessitate behavioral and pattern adjustments in certain economic sectors, its impact is particularly pronounced and substantial in the agricultural sector (Truelove et al., 2015), and the tourism industry. Both sectors have had to adapt to changing climate conditions, adopt new patterns, and make similar adjustments (Morrison et al., 2013).

To visualize the distribution of publications on social protection and adaptive social protection, we utilized a network analysis based on authors' affiliation by employing VosViewer 1.6.19. A network was generated, which included nodes and links representing author collaboration based on their respective countries of origin. The top 16 most productive countries for total publication are shown in Table 2. The most productive academic contributions were concluded in terms of total publication. The primarily productive countries are the USA (89), followed by the United Kingdom (53), Canada (23), Netherlands (22), Australia

(22), China (18), Germany (13), Sweden (11), South Africa (8), Italy (8), Switzerland (6), Spain (6), France (6), Norway (5), Bangladesh (5), Poland (5), and others (5). Most articles have been published in these countries.

Table 2.
The top 16 most productive countries/ territories

<i>Country/ Territory</i>	<i>Number of Results</i>
United States	89
United Kingdom	53
Canada	23
Netherlands	22
Australia	22
China	18
Germany	13
Sweden	11
South Africa	8
Italy	8
Switzerland	6
Spain	6
France	6
Norway	5
Bangladesh	5
Poland	5
Others	5

Source: Scopus Database, 2023

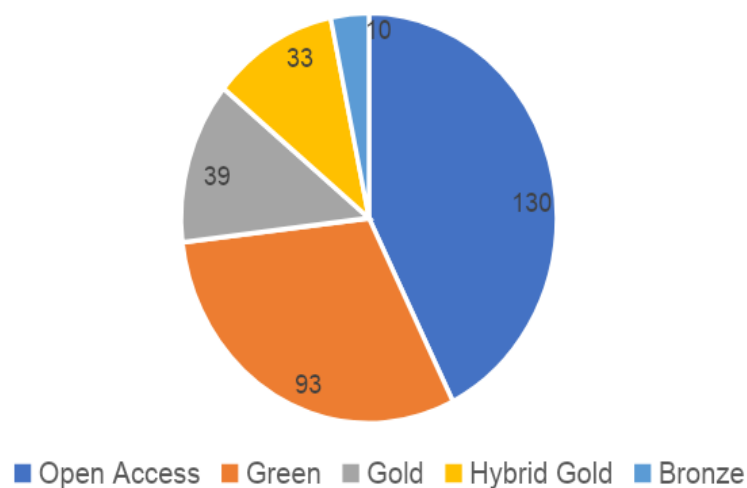


Figure 3. Country co-citation map related to adaptive social protection in scopus database, published from 1978 to 2023

Source: Vosviewer, 2023.

The countries of the authors in Table 2 were identified by analyzing the countries' co-citations within the Scopus database. The country with the greatest number of publications remains the United States, while the cluster of countries producing the four highest publication rates are all developed countries. This implies that the field of adaptive social protection is an intriguing area of research in developed nations, eliciting substantial interest from academic scholars. Only China in Asia features among the top 16 publications that revolve around the subject matter. The other region present in the top 16 publications concerning this theme is South Africa. The evidence suggests that adaptive social protection remains less prevalent in developing countries when compared to developed ones. However, studies have shown that developing countries situated along the equatorial belt will face direct repercussions from rising sea levels and climate change-related disasters (Dulal et al., 2014; Nur et al., 2017).

Institutions

Figure 4 highlights institutions that exhibit productivity and a strong commitment to addressing pertinent issues in the realms of social protection and disaster management. The foremost academic contributions, based on total publication frequency, depict ten institutions with the highest number of publications. The leader was the World Bank from the United States, with a total of six articles published. Wageningen University also published six articles, followed by Stockholm Resilience Centre and Columbia University with five articles each. Stockholm Universitet, University of California, Svriges Lantbruksuniversitet, University of Oxford, Monash University, and University of Guelph each published four articles. Overall, the majority of publications are primarily affiliated with universities in Europe and the United States, indicating a continuous and substantial interest in the subject within both regions.

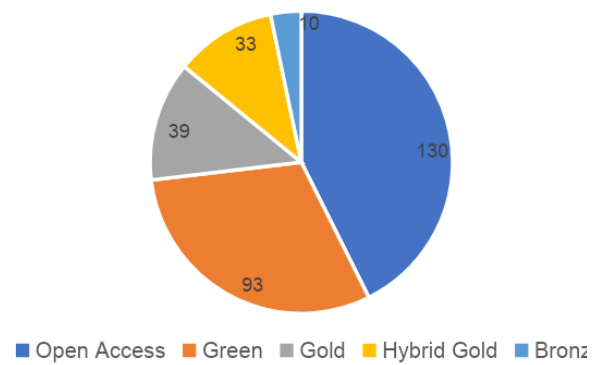


Figure 4. The Top 10 institutes with publication adaptive social protection based on scopus database, published from 1978 to 2023

Source: Scopus Database, 2023

Besides the provenance of the institution, the accessibility of research in this area plays a crucial role in determining the accessibility of articles on related themes. Upon analysis of the database, the outcomes indicate that out of a total of 305 articles, 130 are available via open access, 93 can be accessed as Green open access, 39 as Gold open access, 33 via Hybrid Gold, and 10 articles via Bronze open access.

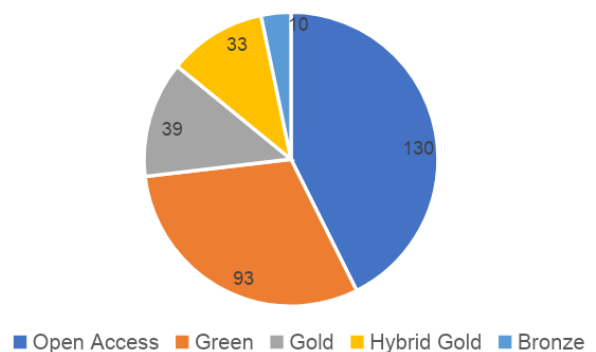


Figure 5. Type of publication in adaptive social protection based on scopus database, published from 1978 to 2023

Source: Scopus Database, 2023

Keywords

Scientific publications keywords can provide an overview of studies progress on a specific subject (Chen et al., 2016). The research used VosViewer 16.1.19 for data processing, and

the results are displayed in Figure 5. Technical term abbreviations are explained when first used, ensuring clarity. Each keyword node is interconnected with other concepts, forming distinct clusters represented in different colours. Each keyword node is interconnected with other concepts, forming distinct clusters represented in different colours. The language used is objective, value-neutral, and avoids biased phrasing. The text's structure is logical, with causal relations between sentences and paragraphs. Furthermore, the text complies with conventional academic structures and formal register. Each keyword node is interconnected with other concepts, forming distinct clusters represented in different colours. In this analysis, the concept network map comprises seven keyword clusters. Keywords with higher frequency are represented by larger nodes compared to those in the same or different clusters. Figure 4, for instance, depicts adaptive management as the keyword with the highest frequency, indicating a significant interest of researchers in this particular concept. Similarly, keywords with large nodes include "human", "climate change", and "adaptive management".

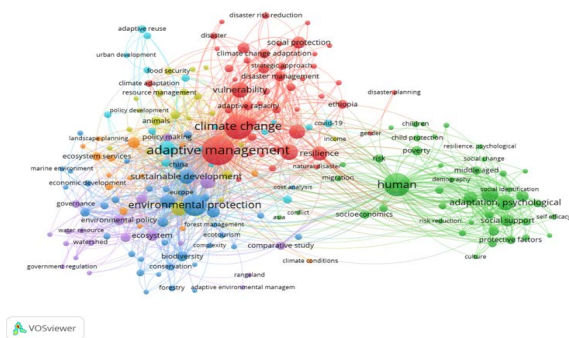


Figure 6. Keyword analysis in adaptive social protection based on scopus database, published from 1978 to 2023

Source: VosViewer, 2023

The red cluster indicates that scholars focused on researching "adaptive management", in addition to discussing "vulnerability", "disaster

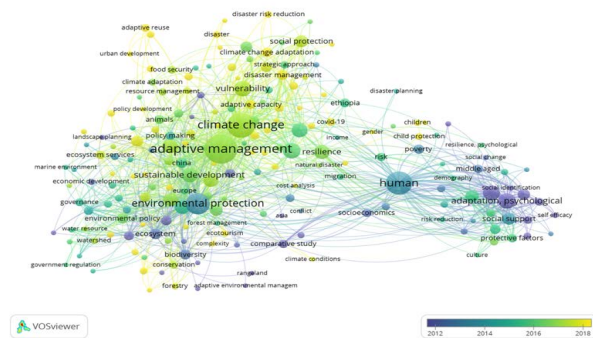


Figure 7. Overlay visualization in adaptive social protection based on scopus database, published from 1978 to 2023

Source: VosViewer, 2023

risk reduction", "climate change adaptation", "climate change", and "social protection". In contrast, the green cluster centred on the concept of "human", with scholars discussing it alongside "social support", "poverty", "child protection", and "risk reduction". In the yellow cluster, there is discussion on "resource management", "food security", and "policy development". The light blue cluster's articles cover "urban development", "adaptive reuse", and "food security". The dark blue cluster's discussion is closely linked to "environmental protection", "biodiversity", "ecotourism", and "conservation". Lastly, the purple cluster concentrates on "environmental policy", "water resources", and "government regulation". In the previous orange cluster, there was a discussion centring on "landscape planning", "ecosystems", and the "marine environment".

VOSviewer provides visualisation analysis and emphasises the graphical representation of bibliometric maps. The tool is particularly valuable for presenting extensive bibliometric maps in a comprehensible way (Eck et al., 2010). This involves conducting a visualisation analysis that considers the time frame of the research within a specific cluster. Figure 5 presents a contrast of colour differences, displaying the novelty timeline of the analysed keywords. According to the results of the analysis, the concept of adaptive social

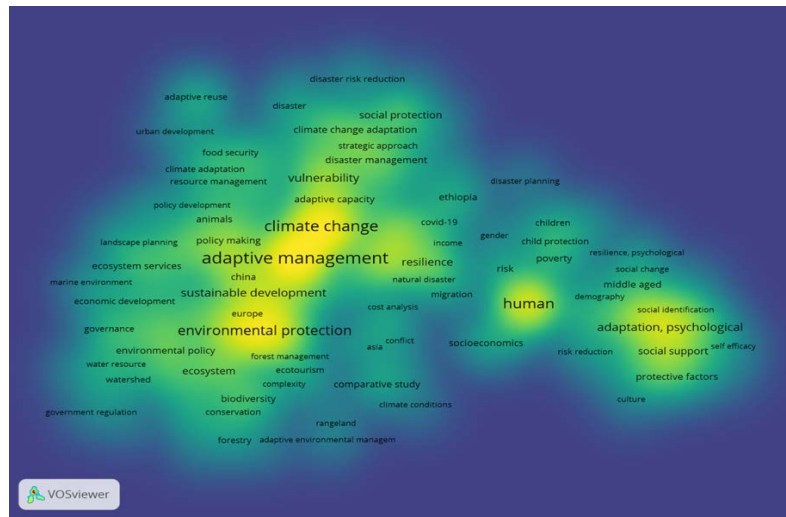


Figure 8. Density visualization in adaptive social protection based on scopus database, published from 1978 to 2023

Source : VosViewer, 2023

protection is labelled as new, illustrated by its light colour when compared to the "poverty" cluster. This novelty presents an opportunity for scholars to conduct further exploration of the theme (Ding et al., 2022).

An additional analysis conducted was a density visualisation, which illustrates the magnitude of the ongoing discussion on the current theme. Accordingly, the analysis shows that the term "adaptive management" bears the strongest density, depicting the continuing interest in research on the subject. In contrast, terms such as "poverty," "disaster planning," and "climate adaptation" have densities that are less prominent, corroborating that these topics do not attract as much interest as "adaptive management." The recognition that future climate risks will be exacerbated has stimulated the academic realm to explore optimal strategies for climate resilience and disaster management (Davies et al., 2008; J. Tenzing et al., 2022).

Social protection has grown steadily into a more complex and multidimensional framework. However, programs relating to social protection remain highly fragmented, with limited coverage of emerging climate and disaster risks. The progression of social protection approaches

from traditional framework to adjustments of climate risk component and poverty reduction. The significance of meticulously refining and creating keywords in academic publications cannot be overstated, as they serve as guiding beacons for research direction, academic topics, publication frameworks, and core theses. Incorporating co-occurrence and cluster analysis proves instrumental in unveiling research themes and hotspots within adaptive social protection. This analytical approach not only aids in comprehending the existing landscape but also provides valuable insights for researchers to explore evolving changes and emerging trends within the discipline. Furthermore, publications attaining the highest citation rates emerge as authoritative voices within a given field. Conducting bibliometric analysis on such highly-cited publications becomes paramount, as it describes critical scientific outcomes and facilitates a profound understanding of the most recent scientific dynamics within a specified timeframe. This strategic utilization of bibliometric analysis becomes a powerful tool for researchers, offering a comprehensive perspective on the evolving scholarly discourse in adaptive social protection.

Future Research Direction

In the current context, it becomes imperative to discern specific threats and opportunities, allowing for the formulation of adaptive social protection schemes tailored to the unique needs and challenges of diverse settings. Variances in threat patterns, geographical nuances, and community demographics significantly influence determining the most suitable program implementation within a community. Consequently, a meticulous and comprehensive investigation is indispensable, considering the distinctive conditions prevalent in each community. Therefore, a thorough examination is requisite before the design of a program, encompassing an assessment of threat exposure, the sensitivity of the subjects requiring protection, and the alignment of program capacity with the prevailing budget constraints. Subsequent research endeavors should aim to delineate how social protection schemes can extend problem assistance to safeguarded entities with a more multidimensional approach, thereby facilitating a dynamic and nuanced form of protection. Such research initiatives contribute to establishing international standards in designing and implementing adaptive social protection programs.

Given the escalating prevalence of diverse threats, the exigency for sensitivity in the mapping and adaptation of social protection is pronounced. Subsequent investigations are imperative to delineate a social protection model capable of reactively addressing immediate challenges to mitigate their prompt impacts. Concurrently, adaptive social protection must exhibit the capacity to contend with enduring issues such as health, livelihoods, poverty, and inequality. Thus, meticulous mapping is required to discern how social protection strategies can effectively integrate short-term issue-oriented responses and long-term problem-solving mechanisms. This multidimensional approach is pivotal in formulating comprehensive and resilient adaptive social protection systems.

The integration of adaptive social protection necessitates cross-sectoral collaboration, delineating roles and responsibilities, and fostering cooperation among various entities. In light of this imperative, further research is warranted to ascertain the impacts of long-term and short-term programs. A critical inquiry into whether these programs mutually influence each other or represent distinct variables is essential, particularly for countries concentrating on poverty alleviation as a primary objective of social protection. Implementation of adaptive social protection introduces additional threats and prompts a re-evaluation of existing threats, demanding focused research on best practices concerning institutional features with responsive governance. This entails not only reactive measures post-disaster but also proactive measures pre-disaster, encompassing disaster forecasting, early warning systems, and preparedness alerts. Such research endeavors contribute to developing international standards, ensuring the efficacy of adaptive social protection strategies in addressing evolving challenges and enhancing overall societal resilience.

Beyond institutional considerations, community preparedness, and potential threats, studies are pressing to address budgetary aspects of adaptive social protection. This necessity arises from the distinct capacities of each country to allocate budgets for such programs. Given the unique resource interests and allocations in each country, there is an imperative to conduct thorough threat mapping exercises and tailor adaptive social protection models accordingly.

The validation and design of strategies to counter threats cannot be undertaken within the confines of a single discipline. Collaborative efforts across various fields are essential, aiming to uncover best practices that align with the specific needs of each country. This multidisciplinary approach is pivotal in developing comprehensive and adaptable budgeting frameworks for adaptive

social protection, ensuring a nuanced and effective response to diverse challenges faced by different nations.

Conclusions

The awareness that the long-term consequences of climate change may result in severe catastrophes in the future has prompted the quest for methods that can offer emergency assistance to communities on both a global and individual level. Over recent decades, the literature on adaptive social protection has rapidly expanded, although few have undertaken to chart this research using a bibliometric approach. By attending to the pressing requirements of those impacted, adaptive social protection can mitigate the ongoing decline in their well-being and alleviate the enduring repercussions on their livelihoods. Furthermore, adaptive social protection can foster long-term resilience by allocating resources for productive investments and promoting the diversification of livelihood activities.

Understanding the evolution and future research direction in analyzing adaptive social protection and social protection itself is crucial for researchers, decision-makers, and institutions. Vosvierwer's review and a systematic literature review indicate that the research hotspot on this subject was between 2011 and 2023, and it is evident from the data presented that research on adaptive social protection will continue to grow at a rapid pace. Data from Scopus demonstrates that authors with high citations, namely Conway at 371, Ribot at 336, Ginson at 298, Bradley at 237, and Michaels at 183, among others in the field, can offer novel perspectives and broaden the research on adaptive social protection. Research on adaptive social protection has primarily originated from the United States, the United Kingdom, Canada, and the Netherlands. The main areas of interest in adaptive social protection research are "adaptive management", "climate change", and "adaptation"

from 1978 to 2023. These areas will continue to be key issues in adaptive social protection research in the future. The study's findings offer valuable insights into the research development process and analytical trends for those working in public policy and related fields. Such information can serve as a solid foundation for further research and understanding in these areas.

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