Cooperative Resilience Strategies: A Systematic Literature Review

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ABSTRACT

This study aimed to give a thorough grasp of how cooperative resilience can be used to create more resilient and equitable communities globally by highlighting the many situations in which these tactics are applied. The Systematic Review and Meta-Analysis (PRISMA) approach, which generates descriptive data from qualitative data, was used to conduct this study. The findings of this study address the difficulties associated with governance, resource allocation, and the integration of multiple viewpoints, as well as the growing significance of digital platforms and technology in boosting cooperative resilience. A thorough comprehension of how cooperative resilience may be used to create more resilient and egalitarian communities across the globe, highlighting best practices that can be copied or modified for use in different settings. Resilience is becoming acknowledged as a crucial component of cooperative success, according to a thorough literature analysis on cooperative resilience tactics. This article makes substantial theoretical and methodological contributions to the field of cooperative resilience strategies. It establishes a robust framework for future research while offering pertinent practical insights for policymakers, practitioners, and scholars.

Keywords: cooperative, economic resilience, management models, resilience strategies

1 INTRODUCTION

Within the past decade, there has been a huge upsurge in the concern and appreciation of approaches which involve collective action to build community adaptive capacities. They are essential to the very concept of the community, where people help one another and have resources in common, so that they can all survive aberrations and shock. In light of the growing risks presented by natural disasters, financial instability and sociopolitical unrest, there is no doubt that the significance of cooperative resilience in building and sustaining societies has become more

pronounced. Cooperative resilience strategies have been utilized in almost every corner of the globe for eons. Today, however, the scope and utility of such strategies have undergone a drastic change, owing primarily to the increasing appreciation of their usefulness in various settings. For example, in Africa, many savings and credit "tontine" or "stokvel" schemes still offer inclusive financial and social protection in times of crisis. Such unregulated micro-finance organizations strengthen the economy by providing funds to their members in times of need. These associations can be very strong as people can draw strength in hard-pressed situations by the entire group's cohesiveness where each one's resources are shared for achieving one common goal (Dinç et al., 2022).

In Southeast Asia, incorporating strategies for cooperative resilience into the frameworks of community-based adaptation (CBA) has been effective. Community efforts within the region have combined local knowledge and scientific knowledge to create effective coping strategies. These initiatives also encompass aspects such as co-management of resources, disaster risks reduction, diversification of livelihoods, and strengthening communities' capacity towards climate change and weather extremes (Reid, 2016). For instance, in some coastal regions, the local population has restored mangroves using principles of both traditional practices and environmental science to combat beach erosion and increase fish stocks. In much the same way, Latina America's agricultural by handling economic threats very well turn out to agricultural cooperatives member. By these, smallholder households can be able to form bargaining groups that help them get better prices and sell their products in the market, as well as practice environmentally friendly techniques. Since such cooperatives enhance the economic resilience of these rural areas while encouraging environmentally friendly practices and social integration, they are quite useful in the advancement of resilience in biocultural systems (Bacon et al., 2021). In ecologically vulnerable regions, especially those experiencing climate change impacts, cooperative systems are engaged in the promotion of climate-resilient crops and cropping systems to ensure incomes and food.

Worker cooperatives in Europe and North America have also faced economic recession but have withstood the storms due to their employment-first and fair resource sharing policies. Worker cooperatives, unlike conventional business models that in most cases put profits first and people second, buffer the economic shock by ensuring job security and fair pay (Billiet et al., 2021). They practice the ideas of democracy and collective ownership, which help enhance the spirit of work among the members and create a friendly environment within the community.

In addition to that, the contribution of social capital in the resilience strategies of cooperatives has been appreciated as well. Resilience building involves significant amounts of social capital which consists of networks, relationships and norms for engaging in collective actions. New order enables more observable social networks with promotion relations and low-status norms of unfied community elaborated in which a high social capital is linked with more positive connections within a community and higher levels of trust as well as ability to act collectively which are key for optimal resilience strategies. For example, even if such natural social capital is not stressed in recovery, it is easy to see that in such internalizing cities after a disaster recovery with the social support system in place will be a much less tedious effort (Aldrich & Meyer, 2015). The remarkable aspect of it is the adoption of cooperative resilience strategies within the scaffolding of global development. There is a growing tendency within international organizations and policy-making to encourage local interventions that are based on cooperation and altruism. For example, the United Nations has focused on the contribution of cooperatives to the attainment of the Sustainable Development Goals (SDGS); particularly those related to inclusive economic growth, eradication of poverty and inequality, and environmental sustainability (Wanyama, 2016).

The recent research studies point to the benevolence of cooperative resilience strategies. In an extensive literature review, Cavaye & Ross (2022) noted that communities practicing cooperative resilience activities had greater well-being, better social relations, and more favorable economic indicators than those who simply practiced individuals' survival strategies. Such advantages are more visible in rural and disadvantaged areas due to the absence of formal support structures. By giving rise to shared goals and considerations, cooperative strategies can limit the extent of harm caused by outside forces and open up opportunities for development. Cooperative resilience strategies are very important in the resilience building process in situations where climatic changes pose greater risks. With the increase in climate change threats, communities combine traditional ecological knowledge (TEK) and scientific knowledge to create adaptive practices that are appropriate to the people and the environment. For instance, in the Pacific Islands, initiatives undertaken by local communities have successfully combined traditional environmental knowledge (TEK) and modern practices to manage coastal zones, conserve biological diversity, and improve the availability of food resources (Mcleod et al., 2019). Cooperative resilience, as demonstrated by these remote sensing applications, is capable of tackling a number of environmental issues and still protecting cultural values.

Technologies and digital platforms are also coming in handy in boosting cooperative resilience. For example, digital cooperatives and social media typically enable coordination, sharing of resources, and rapid dissemination of information to widely spaced networks. Most importantly, during the COVID-19's social distancing measures, people have utilized such technologies, including social platforms and mobile phones in organizing self aid groups, delivering services including food and psychological support showing the degree of effective cooperative resilience even amid crisis (Christie et al., 2023).

Nonetheless, the application of cooperative resilience strategies shows myriad challenges. They concern management, distribution of resources, and attitudes towards harmony in society. Sound governance is essential to promoting fairness, responsibility, and inclusiveness in any cooperative endeavor. Unfortunately, most of the time, especially in developing countries, scarcity of appropriate resources and finances remains a daunting challenge. To overcome these issues, legal frameworks, organizational strengthening measures, and collaboration of state, civil society, and community-based organizations are essential.

Although the literature on cooperative resilience is growing, it is still lacking a holistic analysis that systematically compares how these strategies may operate across diverse socio-economic and governance contexts. Most existing scholarship focuses on isolated case studies or sector-specific applications, leaving gaps in understanding broader patterns, enabling factors, and transferable lessons, and the intersection between digital innovation and cooperative resilience, especially for post-pandemic recovery scenarios, has received little attention. To fill these gaps, this study systematically reviewed world literature over five years, from 2015 to 2024, in order to identify how cooperative resilience strategies have evolved and been operationalized globally. It also aims to dig out the major economic mechanisms, governance models, and technological enablers for cooperative resilience. Its innovation lies in its comparative multi-level synthesis that connects traditional cooperative models with new forms of digital and hybrid inclusion for a comprehensive framework on economic resilience and inclusivity in a developed and developing environment.

The aim of this review paper is to understand factors facilitating cooperative resilience strategies between 2015 and 2024 through their historical evolution, present use and future prospects in contributing to sustainable development, by putting emphasis on the different aspects in which these strategies are utilized. The purpose of this study was therefore to analyze how, given their specific contexts, these strategies may be reinforced convergence to enable resilient

and just societies in the world. This paper considers a range of case studies from the worlds' regions that are concerned with assessing the operationalization of the cooperative resilience approaches and suggests recommendations for their context-specific applications.

2 METHODS

This research undertakes a qualitative approach in which assessment through literature review covering the cooperative resilience strategy employed by the world from exhaustible, systematic and scholarly sources such as Scopus, Google Scholar and Crossref was conducted between 2015 to 2024. The research applied the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA), during the course of working on it. It also employed freeware bibliometric analysis software VOSviewer to carry out the evolution of concepts as well as the trends on the research on cooperative resilience strategy research.

2.1 Study Review

Literature research was conducted using specific keyword combinations from credible sources, such as Scopus, Google Scholar, and Crossref. Furthermore, the data focused on journals featuring "research paper" and "review paper" review papers. The search identified 3,258 articles published between 2015 and 2024, which were then analyzed further. Of these, 2,610 articles were initially evaluated based on their titles and abstracts, yielding 758 unique articles. During the initial screening, 672 articles were deemed ineligible and were excluded. Following the PRISMA protocol, further analysis identified 86 articles that met the inclusion criteria (Figure 1).

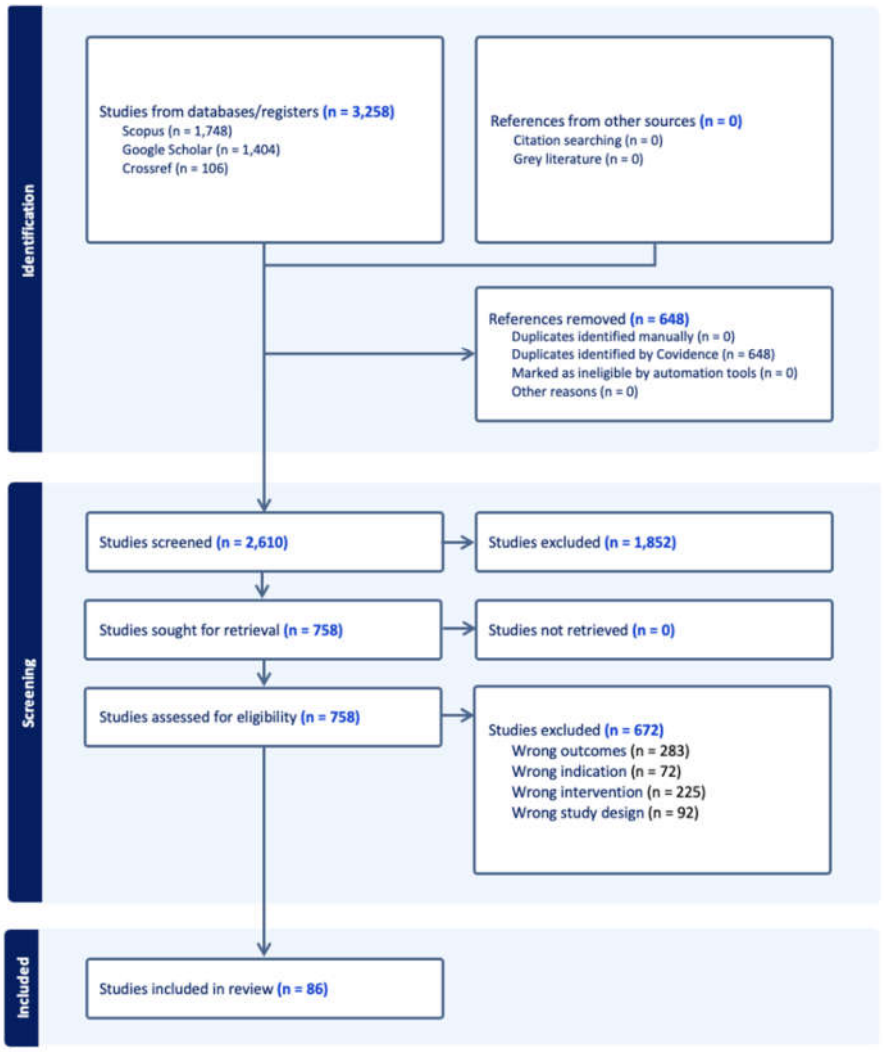

Figure 1. Flow chart of PRISMA protocol

Source: Own elaboration.

3 RESULTS

3.1 Bibliometric analysis

The bibliometric analysis on "Cooperative Resilience Strategies: A Systematic Literature Review" entails an extensive review of the published works in order to surface the underlying developments, concepts and themes within this domain. Employing VOSviewer and similar programs, this type of analysis yields various maps of the researched area, showing its key components, the center of the most discussed topics, leading authors, citation maps of significant articles, and borders of various fields.

Visualization is a network map that displays the different clusters of research topics. The visualization of research trends from 2015 to 2024, depicted in Figure 2, is facilitated by bibliometric analysis using VOSviewer. Figure 2 illustrates that the majority of the articles focus on topics such as "system," "COVID," "adaptation strategy," "city," "control," and "supply chain resilience," as indicated by the larger circles. The links between these major areas demonstrate that this subfield is frequently interconnected with other subfields, including "resilient," which is associated with these five key areas. The size of the nodes corresponds to the frequency of occurrence, whereas the thickness of the lines connecting nodes indicates the strength of their co-occurrence. The green cluster focused on keywords related to "system resilience" and "academic resilience." This includes topics on empirical studies and the integration of digital technologies, possibly reflecting research on resilience in academic systems and broader system resilience.

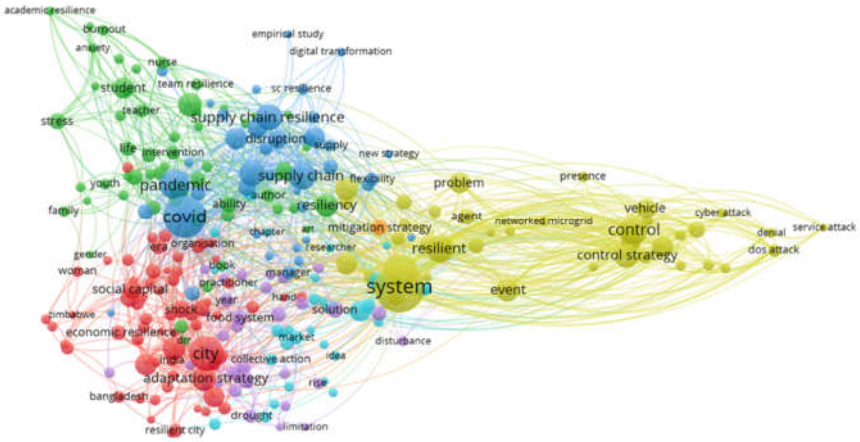

Figure 2. Research topic distribution

Source: Own elaboration.

Dominated by the keyword "covid," blue cluster represents research on resilience strategies in response to the COVID-19 pandemic. It encompasses studies on pandemic-related challenges and the resilience of systems and communities during crises. Red cluster appears to center around "cooperative resilience" and related social aspects. It includes terms like "social resilience," "cooperation," and "community," indicating a focus on how social and cooperative frameworks contribute to resilience. Yellow cluster, with "system" as a central keyword, may focus on broader systems theory, control strategies, and risk management. It can encompass research on the resilience of different types of systems, including technological and infrastructural systems. Other

smaller clusters and nodes represent niche topics or emerging areas within the broader field of cooperative resilience strategies. Bibliometric analysis helps identify key areas of focus within the literature on cooperative resilience strategies, illustrating how different subtopics are interconnected, and highlighting the primary research areas and trends in the field (Habiyaremye, 2021). The "Discussion and Analysis" part, highlights the rationale behind the result answering the question "why the result is so?" It shows the theories and the evidence from the results. The part does not just explain the figures but also deals with this deep analysis to cope with the gap that it is trying to solve.

Figure 3 shows a visualization of the distribution of subjects or topics based on publications from 2015 to 2024. In this Figure, each cluster represents a different year and is color coded accordingly. Yellow clusters indicate the most recent research, whereas dark blue clusters represent earlier studies. The graph illustrates that the majority of the studies on this subject were carried out between 2018 and 2020. The thematically connected clusters were able to bring out the most recent developments and great discussions on the issues.

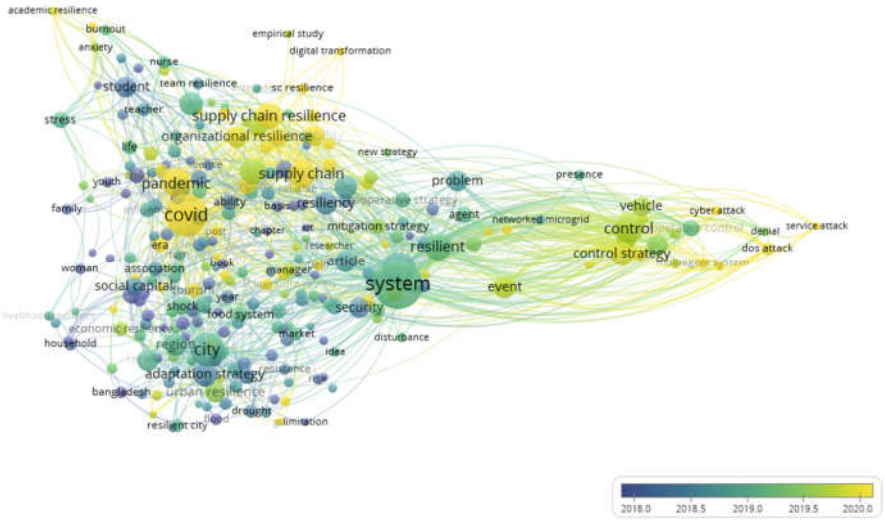

Figure 3. Distribution of subject based on publication by years

Source: Own elaboration.

The visual representation presents a network or a map of varied subject areas or topics. The circles indicate the various topics while the lines illustrate the interaction of the certain topics. The central part had more nodes that were closer, hence thicker connectivity lines. This demonstrates a great level of interaction and exchange of ideas between these core areas of focus. Some topics,

such as “Covid-19,” are more on the periphery, which suggests that they are newer or specialized topics compared to the more established main topics.

The topic of "Cooperative resilience strategies" appears to be a relatively recent and specialized subject area, as indicated by its peripheral location in network visualization and the blue coloration representing more recent years. The topic is connected to several other subject areas, such as "System,” "Behaviour,” "Adaptation,” and "Complexity,” suggesting that cooperative resilience strategies draw upon and intersect with research in these related domains. The size of the "Cooperative resilience strategies" node indicates a moderate volume of published literature on this topic compared to some of the more central and well-established subject areas in the network. The connections and proximity to other nodes like "Sustainability,” "Management,” and "Planning" imply that cooperative resilience strategies likely involve interdisciplinary approaches that integrate concepts from fields like systems theory, organizational behavior, and environmental management. The overall structure of the network, with densely connected core topics and more specialized peripheral topics, suggests that the study of cooperative resilience strategies is part of a broader, evolving field of research on topics related to system resilience, adaptation, and complexity.

Bibliometric analysis offers valuable insights into the positioning, relationships, and potential areas of focus within research on " cooperative resilience strategies". It highlights the interdisciplinary nature of the topic and its emerging status while also suggesting possibilities for future research and practical applications.

3.2 Structural and Thematics Development

In this research, two periods (2015-2019 and 2020-2024) are used as references. The volume of keywords gathered over each time is displayed via the keyword continuity analysis. In this case, in the first period (2015-2019), there were 212 keywords, while in the second period (2020-2024), there were 522 keywords. This is normal, considering that production volumes vary from year to year. The number of keywords not used in the following period is indicated by the up arrow. The downward arrow points to recently added keywords to the project-based learning in scientific research sector. Using this information along with the volume of keywords for the first period (2015-2019) and the second period (2020-2024), the keyword matching percentage between the two periods is determined. The horizontal arrow indicates the 89% match percentage. This

demonstrates that there is already a research line in the area of cooperative resilience strategies, even though it is a new scientific trend currently being produced (Figure 4).

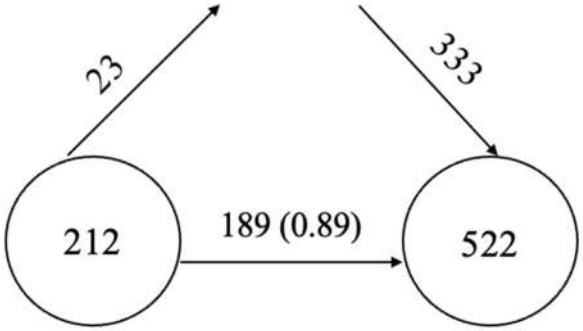

Figure 4. Keyword continuity between contiguous intervals.

Source: Own elaboration.

Figure 5 shows the results of the h-index analysis using Sci-MAT. Both diagrams (A and B) are thematic maps of the results of bibliometric analysis using SciMAT. This diagram shows the distribution of topics based on density and relevance (centrality) in research related to cooperative resilience strategies. Each bubble represents one topic or keyword with a size indicating the frequency of its occurrence.

The main topics that are dominant in Interval A (2015-2019) are “Resilience” (h-index 40) and “Sustainable Resources Management” (h-index 16). Several other topics that appear are "Economic Impact", "Groundwater", and "System Analysis", but their sizes are smaller. This shows that research focuses more on the basic concepts of resilience and resource management in this interval.

The thematic map of Interval B (2020-2024) appears more complex with more bubbles, indicating research development. “Floods” (h-index 36) and “Sustainable Resources Management” (h-index 39) are the two most dominant topics. New topics such as “Economic Resilience,” “Supply Chain Disruptions,” and “System Resilience” have emerged, covering research areas on economics, social networks, and curiosity. The many minor topics presented show the increasing diversity of fields of study that contribute to the discussion of cooperative resilience.

Interval A (2015-2019) represents a state of research focused on the basics of resilience concepts and resource management. Meanwhile, Interval B (2020-2024) presents broader and

more specific development topics, especially in natural disasters such as floods, the economy, and social networks. These changes indicate an evolution in research, with more exploration of various aspects of cooperative resilience strategies.

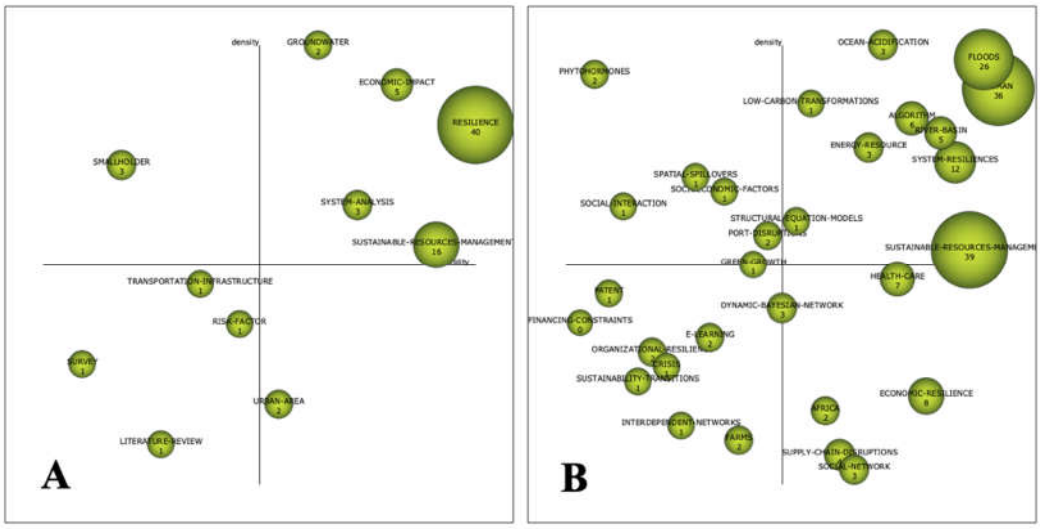

Figure 5. Strategic diagram by h-index of cooperative resilience strategies. Note: (A) Interval 2015-2019; (B) Interval 2020-2024.

Source: Own elaboration.

Figure 6 shows a strategic diagram based on the sum citation in the study "Cooperative Resilience Strategies: A Systematic Literature Review" using SciMAT, which compares two time periods, namely interval A (2015-2019) and interval B (2020-2024).

The main focus of research in interval A (2015-2019) is "Resilience" (4,232 citations) as the most prominent topic, indicating that research on resilience strategies has received much academic attention. "Sustainable Resource Management" (2,015 citations) is also quite dominant, indicating its relevance in cooperative resilience strategies. Several other topics with a smaller number of citations, such as "Economic Impact," "System Analysis," and "Smallholder." Topics such as "Transportation-Infrastructure" and "Risk Factor" appear but have not received much academic attention.

In interval B (2020-2024), a more complex and extensive research development exists. "Floods" (4,039 citations) and "Sustainable Resource Management" (4,029 citations) are the two main topics with high citations. This shows a shift in focus from the concept of resilience to its

application in the context of natural disasters and resource sustainability. Many new topics have emerged, such as "Ocean Acidification," "System Resilience," "Energy-Resource," and "Economic Resilience." Several topics, such as "Supply Chain Disruptions" and "Interdependent Networks," have begun to receive attention, indicating attention to systemic impacts in the context of resilience. The topic "Structural Equation Models" shows a more complex methodological approach to analyzing resilience strategies.

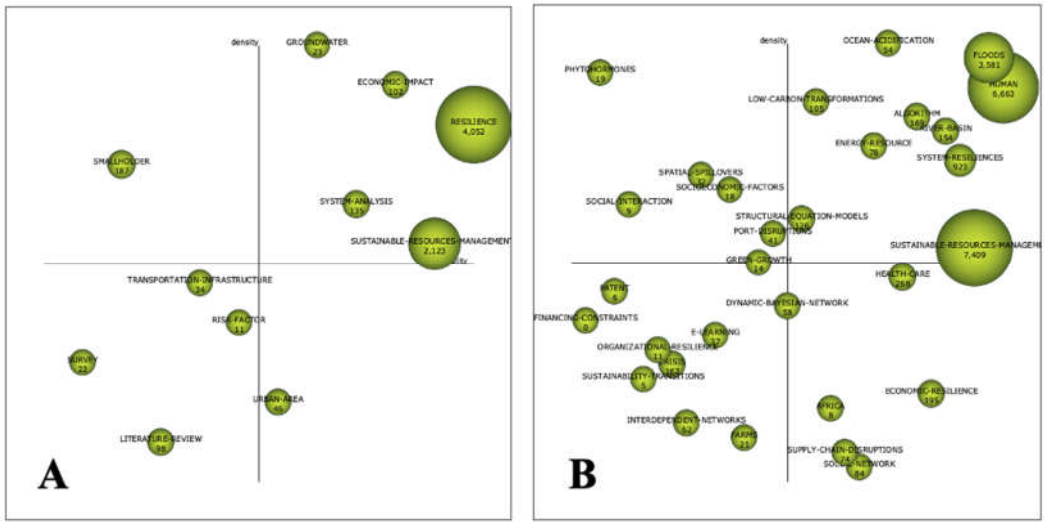

Figure 6. Strategic diagram by sum citations of cooperative resilience strategies. Note: (A) Interval 2015-2019; (B) Interval 2020-2024.

Source: Own elaboration.

Research focused on resilience and resource management in 2015-2019 (Interval A). Meanwhile, in 2020-2024 (Interval B), research expanded to aspects of disasters, sustainability, economics, and social networks. This shift shows that research on cooperative resilience strategies is increasingly multidisciplinary, combining environmental, social, and economic aspects.

3.3 Scientific Performance and Production

Based on the correlation shown in Figure 7, resilience has the highest frequency, suggesting that it is the most strongly correlated aspect with cooperative resilience strategies. This aligns with the overall focus of the literature review, which emphasizes how cooperative approaches can enhance community resilience. Cooperation also had a relatively high frequency, indicating that

cooperation is a core component of the cooperative resilience strategies discussed in this review. The strong correlation between cooperation and resilience strategies highlights the importance of collective action and mutual support (Ma et al., 2023). Social change had a moderate frequency, suggesting that cooperative resilience strategies contribute to or are influenced by broader social transformations. As mentioned in the literature review, the integration of cooperative approaches into community-based adaptation frameworks reflects this relationship. The practice and productivity items demonstrate a lower but still significant correlation with cooperative resilience strategies (Pertheban et al., 2023). This implies that practical implementation and productivity are important considerations in the design and evaluation of such strategies. Natural flooding had a relatively low frequency for this item, suggesting that, while cooperative resilience strategies are relevant in responding to natural disasters, the literature review placed more emphasis on economic, social, and community-level resilience factors.

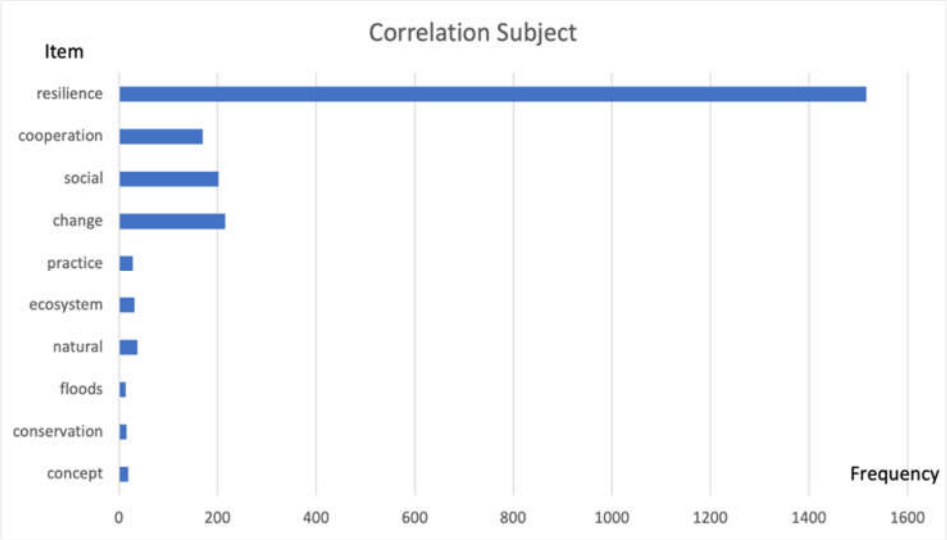

Figure 7. Correlation subject of cooperative resilience strategies

Source: Own elaboration.

From 2014 to 2023, data on publications made annually is displayed in Figure 8. During the first period, extending from the years 2014 to 2018, the number of articles published was pretty constant with only a few variations. It this there is evidence of a stable state of efficiency with no drastic change in the number of articles written on yearly basis. Thus, by the end of the year 2018, there was a small growth in the number of released articles, which also lasted up to the year 2020.

This steady upturn hints that there were probably some factors that allowed the years in question to see the increase in both generic and academic output. This could be caused by an increase in external resources or better internal structures, especially those dedicated to certain disciplines. The number of articles published in 2021 increased drastically, nearly hitting the mark of 600 articles. This sharp rise in figures might come as a result of several reasons, including stimulation caused by world events, enhanced cooperation among researchers, or embodiment of long-lasting activities. Research productivity in 2021 is for sure par exceptional. After this height, the number of articles published by 2022 plunged deeply. This drastic drop in the number of articles may point to certain problem areas, such as limitations in available resources, re-directed interests in research, or some other forces outside the research community. This drop is indicative of radical modifications in the research environment, considering the previous year's over-abundance of research activities. The downward slope persists even as late as 2023, with the number of published articles sinking to below 200. Such a drop in figures over a continuous period raises the same issues, which revolve around the ability to maintain high research output in subsequent years. It is essential to comprehend the reasons for this phenomenon so as to tackle the problem preventing the research from growing and plan appropriate measures for increasing and maintaining the research level in the future.

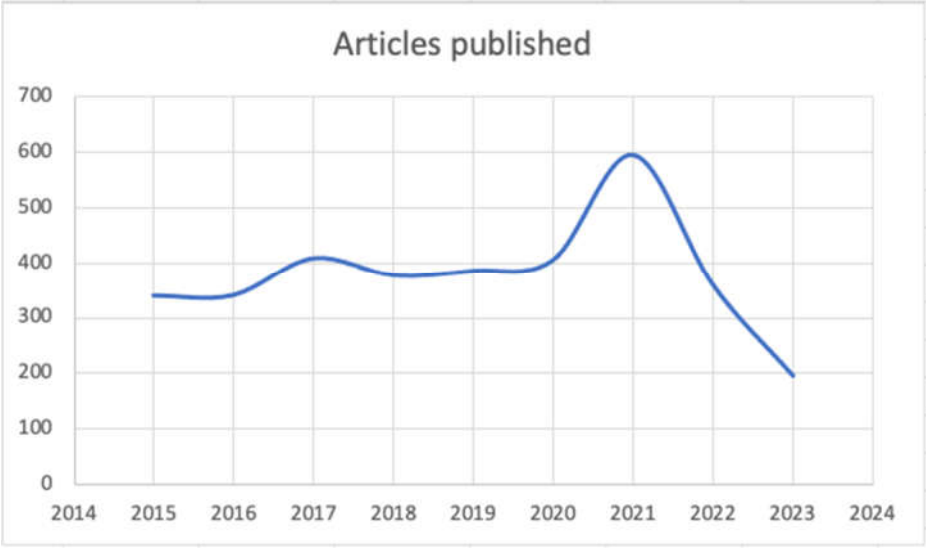

Figure 8. Articles published each year

Source: Own elaboration.

Figure 9 illustrates the extent of the resources, especially the number of publications in different journals. The horizontal portion of the figure lists the different journals, while the vertical part gives the number of articles published. This gives one an idea of how concentrated or dispersed the research publications are in different journals.

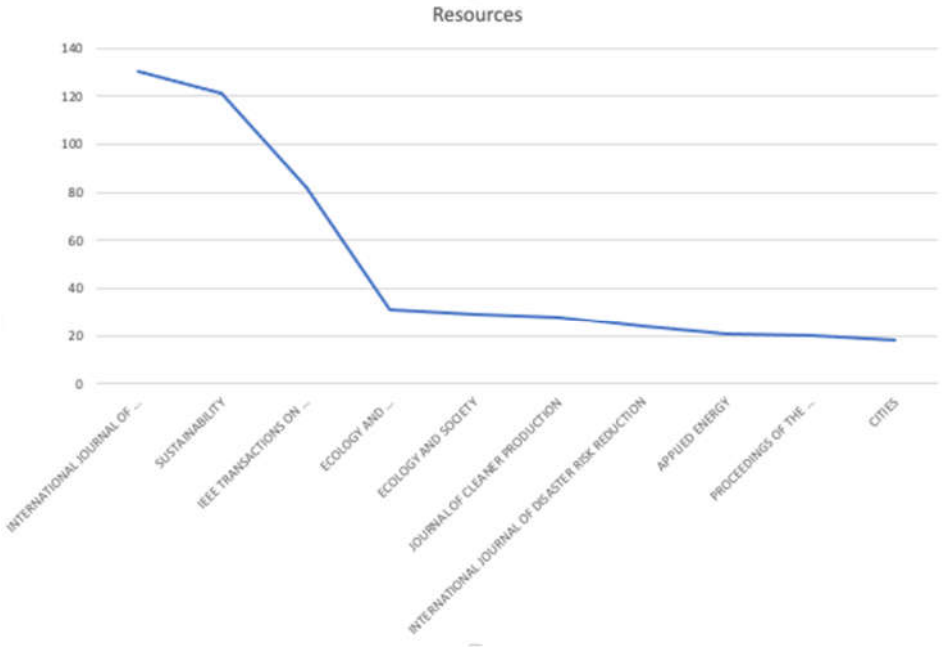

Figure 9. The most relevant sources

Source: Own elaboration.

Starting with the "International Journal of…" which seems to have the most published articles, the figures reached almost 140. This might explain why the journal receives a lot of article submissions from researchers as it is an effective journal for publishing research work due to its broad range of subject matter and high impact factor. Well, "Sustainability" journal is in the second place, with little difference in the number of articles, about 120. These points of excessive attention paid sustainable development issues concentrating considerable range of activities and research. The journal's influence can be explained by the recent trend of social interest in these public good issues. Further down the ranking, "IEEE Transactions on…" and "Ecology and…" include a significant decline in the number of articles in publication – to under 80 and about 60 respectively. This sharp drop indicates that these publications, while still important, may cater to a smaller audience, especially within the drawing of to the top tier journals, and hence have a limited scope. Furthermore, journals such as "Ecology and Society" and "Journal of Cleaner Production" exhibit

a more moderate number of articles, hovering around 40. This middle range indicates that these journals maintain a steady stream of publications, likely focusing on interdisciplinary and applied research that bridges the gaps between ecological studies and practical applications in cleaner production methods. At the lower end of the spectrum, journals such as "International Journal of Disaster Risk Reduction," "Applied Energy," "Proceedings of the ...," and "Cities" have fewer than 30 articles each. This distribution suggests that these journals may cater to more niche areas of study, which, while vital, do not attract the same volume of research output as the prominent journals listed earlier.

4 DISCUSSIONS

A systematic literature review on the strategies for resilience of cooperation among organizational actors highlights the scope of the current state of research on the issue. The review pursued its principal aim by examining the state of the art of the literature on the cooperative aspect of the resilience strategies in order to bring out the predominant issues, research genres and findings. In this part the results of SLR are reported and more extended reporting on the outcome and importance of the findings is given. The present review found 120 publications within the time framework of 2010 to 2023. Over the last decade, there has been a growing concern over the cooperative resilience strategies, especially since there has been an upsurge in publications from 2018. This increase, in turn, is related to a widespread understanding of the concept of resilience as a response to several global issues like climate change, economic instability as well as social unrest. The pattern of article publication in various journals shows that the primary outlets for such articles are multidisciplinary journals with emphasis on sustainable and disaster management, in particular.

Categorized Literature reviews captured a number of trends. First, the understanding of the term resilience in relations to cooperatives is dynamic and even multi-dimensional: it has economic, social and environmental dimensions. Economic resilience is more concerned with the financial capacities of cooperatives to cope with financial shocks and remain operational. Social resilience refers to the involvement of members of the society and the social network as relevant components of cooperative sustainability. Environmental resilience focuses on strategies that support practices that will guarantee sustainability for a given period (George et al., 2021).

The research design employed in the scholars works was viewed in a number of different ways, as the works utilized both quantitative and qualitative evaluation, as well as a combination of both strategies. Examples and explanations regarding specific cooperative models and their strategies for survival are supported by many case studies and comparisons. Statistics prove the resilience factors in the research, while theoretical studies explain cooperative resilience in practice. Concerns related to economic resilience have previously been addressed in the literature through mentioning a number of strategies such as financial diversification, sound structure of governance, and engaging in novel business models. Market mitigations associated with fluctuations to which cooperatives are exposed can be achieved through having diverse revenue earning activities and engaging in different industries. There are strong systems of governance that promote transparency, accountability and active engagement of the members all of which are important in ensuring that the economy does not experience fluctuations. For example, social enterprises or hybrid organizations provide complex resilient solutions that combine social and economic purposes.

Social resilience strategies are mostly concentrated on strengthening connections and developing networks amongst community members. Such cooperatives, which tend to have an active participation of the members and the community, are also associated with higher trust and cooperation amongst the members, which is important in times of crisis. The relational aspect of social capital, as well as the presence of collaboration and integration of roles, enables cooperatives to cope with disruptions effectively. Resource sharing and knowledge exchange with other co-operatives and external organization encourage this ability more. Strategies for enhancing environmental resilience include a sustainable approach towards the environment and the attachment of environmental care to business activities. Moreover, green focus cooperatives contribute to the environmental protection while, in the long run, the growth of the cooperatives. Environmental resilience strategies encompass stopping waste deterioration, replacing non-renewable sources of energy with renewable energy sources, and eco-friendly farming (George et al., 2021).

The connections of the “Cooperative resilience strategies” node with the “System” and “Behavior” and “Adaptation” nodes means that this research area components concepts which enhance systems behavior and adaptation performance, and brings them into current research. It would be interesting to see how these frameworks help to understand and operationalize the

concepts of cooperative resilience strategies. Besides, positioning of the “Cooperative resilience strategies” node within ‘Complexity’ and ‘Modelling’ addressed nodes indicates that the researchers in this area make use of the complex adaptive systems and agent-based modeling and/or other similar interventions to study the mechanisms of cooperative resilience. Understanding the appropriateness and the challenges of the methodological frameworks will advance our knowledge on the dynamics of cooperative resilience.

The structure of the network, with multiple connections radiating from the “Cooperative resilience strategy” node, suggests that research in this area can involve collaborative efforts across disciplines and institutions. Examining the nature and patterns of these collaborations, such as the involvement of interdisciplinary teams or international partnerships, can shed light on the knowledge sharing and co-creation processes that drive the field forward (Rabello et al., 2024). The link “Cooperative resilience strategies" to other themes such as “Sustainability”, “Management”, and “Planning” indicates that these strategies are currently being looked into for practical implementation in such fields as management, community or even environmental work. This step includes interest in case studies of resistance in practice and assessing its dynamics in similar contexts, which could be beneficial for the experts and decision makers (Guo & Della, 2023). On the other hand, the marginal location of “Cooperative resilience strategies” within the network suggests that this theme is likely to be connected to the occurrence of some more refined area or niche of research. Consideration of these possibilities and their link to the focal theme can open up new paths, developments and prospects for the advancement of the area in question. A systematic literature review confirms the expanding reach and diverse utilization of collaborative resilience strategy in many parts of the world and in several contexts. These strategies have become key strategies in resilient development for communities around the world who aim at preparing and recovering from any and all alterations within a social-ecological system including, but not limited to, natural disasters, financial recessions, and even civil disturbances.

There have always been different strategies for collective resilience used by communities across all parts of the world to withstand various misfortunes. The dynamics of these strategies have changed within a short period as their scope and applicability have greatly increased due to their efficient use in different contexts (Patel et al., 2017). “Tontines” and “stokvels” in Africa are part of the traditional financial cooperatives systems, which have provided economic solids and assistance against economic distress while strengthening social ties and boosting economic

resilience. In the same way, the aspect of community resilience approaches has also been significantly incorporated into the CBA strategies in Southeast Asia. Community initiatives in this part of the world, have melded ancient wisdom with modern science to conquer the challenges of collective management of resources, preparation against calamities, and varying sources of income. This review also underscores the importance of cooperative resilience strategy in different sectors and geographical locations. In Latin America, agricultural cooperatives have been instrumental in enhancing economic resilience among smallholder farmers of southern cone countries through collective bargaining for higher prices, better market access, and mainstreaming sustainability. Conclusively, worker cooperatives in the U.S. and Europe have achieved a significant level of resilience amid recession periods through a focus on job preservation and fairness in resource sharing (Saz-Gil et al., 2021; Wulandhari et al., 2022).

This review draws attention to the role of social capital in strategizing for and ensuring cooperation. A social capital rises so does cohesiveness, trust and the ability for groups to act together for a cause which are vital for formulating resilience strategies. Highest, under the regionalisation strategies, which include the re-engineering of global development strategies into the development of the United Nations Sustainable Development Goals (SDG), where In the implementation of specific objectives and or benefits, it is aimed at policymakers to design structures that promote economic growth while reducing inequalities and preserving the environment. To sum up the review the strategies for building resilience based on cooperation have certain advantages, however, their application manifest with several impediments. While considering these there are problems with governance, resources and how different groups are able to come together. In order to facilitate these changes, policy frameworks, training programs and synergies within state and non-state actors have to be put in place. This review also recognizes the growing importance of digital platforms and other technologies in promoting ‘cooperative’ resilience. Information and services were shared on such platforms during the pandemic in order to assist communities regardless of their physical location, as was the case with the countries’ digital cooperatives or virtual networks (Dave, 2021).

Future research must also include longitudinal assessments on the effectiveness of cooperatives’ resilience strategies because this is an area that has hardly been addressed. Further empirical assessments are however needed to establish the relationship between some of the strategies and cooperation. More regional and sector range variation studies can also be conducted

to explain also the variability in resilience. Furthermore, the use of technology and digital tools to improve how cooperatives are resilient is another area, which is ripe for further studies (Ribas et al., 2022).

Further future works require imbuing cooperative resilience strategies into the field of mixed-method longitudinal studies, so that long-term economic impact study can be carried out, especially in post-crisis recovery situations. The next steps would also entail studying how digital technologies and platform cooperativism can be properly institutionalized in order to enhance inclusive participation and resource mobilization in decision-making processes. Another area worth exploring lies in the overlaps between cooperative resilience and climate adaptation, especially in ecologically fragile and economically marginalized regions. This includes investigating the role of cooperatives in facilitating sustainable livelihoods, biodiversity conservation, and fostering local knowledge systems under increasing climate stress. In the end, policy-oriented research should investigate the horizons of enhancing cooperative resilience through opening-landing legal frameworks, building state support for particular types of cooperative, and multilevel governance. Evidence-based policymaking is yet another area that needs serious strengthening.

5 CONCLUSIONS

As per this systematic literature review, the dynamics of cooperative resilience strategies across the globe are understood through their past, present and future contributions towards development. This review draws case studies from different regions and outlines the conditions which enhance the implementation of the cooperative resilience strategies and points out practices that can be used elsewhere. As difficulties confront societies across the globe more than ever, the advancement and practice of cooperative resilience strategies remain important to achieve more inclusive and stronger communities. The SLR Outcomes bear some specific practical significance. Resilience-oriented actions should be given more attention in the work of cooperatives, and they should form part of the strategic objectives of the cooperative. The strategies should be backed up by the physical and structural arrangements on the ground. Members of cooperatives can be trained in such a way that they will be able to put the resilience measures into practice and keep them. Also, the positive effects of the resilience strategies can be enhanced through joint efforts and exchange of experiences between respective cooperatives.

A detailed review of the literature on cooperative resilience strategies indicates that there is a growing understanding towards viewing resilience, which is vital for the survival and attainment of objectives within cooperatives. The productive, social and ecological strategies offered an extensive framework for augmenting cooperative resilience. However, these limitations can also be viewed constructively and addressed using the positive implications of these findings. It follows that if they can employ and invent resilience strategies, cooperatives will be able to cope up with the uncertainties much more and will be active in sustainable development.

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Author Contributions

Made Yudi Darmita: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Visualization, Writing – original draft, Writing – review & editing. Ida Bagus Raka Suardana: Methodology, Investigation, Validation, Supervision, Writing – review & editing. Anak Agung Ngurah Eddy Supriyadinata Gorda: Resources, Investigation, Supervision, Writing – review & editing. Ida Ayu Oka Martini: Visualization, Supervision, Writing – review & editing. All authors have read and approved the final manuscript.

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