A Bibliometric Analysis and Visual Review of Housing Policy Framework Development Research

By Clinton Aigbavboa and Wellington Thwala | Peer Review

This study reviews housing policy framework development research published mainly in the Scopus database from 1994 – 2020 using a combination of bibliometric analysis and critical review. This study adopted a text mining tool, namely VOSviewer, to examine the bibliometric association in housing policy framework development research in a number of academic disciplines. Bibliometric analysis (publications per year, publications per country, co-author, co-citation, co-occurrence and their clusters) quantitatively visualized and critically reviewed housing policy research status quo and development. There is a wide range of housing policy framework development to solve the complex problem of housing in all developmental states. However, no studies exist that have scientometrically analysed and visualised the developments of housing policy specifically. While the phenomenon of urban and rural spatial divide is strongly pronounced in the developing economies in respect of access to socio-economic goods and services, the trend of the inadequately housed urban poor is increasing, with many citizens found in urban spaces as rough sleepers and mostly homeless (Tissington, 2010 & 2011).

For instance, rectifying the inherited inequality legacies of the apartheid state has posed a complex and challenging context for the delivery of daily

basic needs in South Africa. Considering the physical, economic, social, and political segregation of the apartheid agenda, meeting the demand for housing post the apartheid dark days has been a central developmental challenge since 1994 (Pottie, 2004; Aigbavboa, 2014). However, apartheid alone cannot be held responsible for the housing conditions in South Africa. Nevertheless, no account of housing policy and conditions can be credible if there is no reference to the apartheid legacy of South Africa and the colonial legacy of the African continent (Goodlad, 1996). Nevertheless, Wilkinson (1998) informed that the key dimensions of the current policy framework cannot be fully understood in isolation from an understanding of the legacy bequeathed by South Africa's peculiar history. In other words, the problems of the past have profoundly shaped the situation to which the present policy seeks to respond.

Housing policy is a guideline comprised of systems of courses of action, regulatory measures, laws and funding priorities provided by government through the negotiation of various bodies in a country as put together by the government. It is intended to meet the housing needs and demands of its citizens through a set of suitable approaches, including fiscal, institutional, legal and regulatory frameworks (Agbola, 1998). Housing policies provide a guide which defines action and sets goals and, in most cases, specifies strategies for achieving the goal (Jiboye, 2011). They further institute guidelines and limits for discretionary actions by individuals liable for implementing the overall plans of action (Olatubara, 2002). According to Duruzoechi (1999), some housing policy decisions (written or implied) prompt the activities of governments, whilst others are goal statements or prescriptions of elemental rules for the conduct of personal or organisational affairs. Housing policies are fundamentally necessary in any country as a guide for or the control of the various actors in the housing sector.

The centrality of debate in respect of the housing policy in South Africa has been hinged on the politico-economic background of the policies developed over time to support adequate housing. The policies have generally been described by some as an extension of World Bank neo-liberalistic frameworks, whilst others have termed these policies as economically conservative, according to Pottie (2004). However, the

South African housing policy mix is rather the result of assorted frameworks of international influences, as well as local and confined ingenuity. This is largely owing to the policy of spatial segregation in the apartheid state, which contributed to a policy which Gilbert (2004) defined as 'scan globally, reinvent locally' principles. It is evident that various World Bank policy elements comprise an integral part of the South African policy, such as the emphasis on incremental housing, economic conservatism, the once-off subsidy scheme, and the instrumental development of formal ownership (Marais and Botes, 2007). However, it should also be acknowledged that two important differences are discernible in the South African policy. Firstly, the South African policy suggests that only housing structures should be subsidised, whilst the World Bank policy suggests that only site and services should be subsidised. Secondly, as the South African policy has developed, an increasing emphasis has been placed on housing size – a factor which is considered as part of the World Bank policy (Marais and Botes, 2007).

It has been contended that the current South African housing policy is founded on the Reconstruction and Development Programme's basic-needs approach, which accentuates a limited offering to the disadvantaged of basic shelter and public services in addressing the socially unequal nature of the apartheid state. It should be noted that the overarching South African housing agenda has objectives that supersede this notion of conservativism that has impacted service adequate housing delivery. For example, the policy is strongly in support of housing stocks' contributing to the development of the national economy – this is a contested space as the availability of land is scarce in most cases. In line with the World Bank's

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framework of the 1990s, the South African housing policy is disposed to enable the housing markets to work; while the housing policy instruments were expected to contribute to the development of urban citizenship with the creation of new cities of home owners who would further develop a democratic and integrated society. It is imperative to note at this point that the details of the current housing policy in South Africa remain somewhat fluid as the overall policy framework has yet to be cast in its final statutory form. Considering the events of the past years and the high level of deprivation, unemployment, and inequality in the country, this on-going fluidity is for the most part indisputably due to the significant political changes that the country has undergone in the past few years, and the initial adoption of developmental policies that were confused with apartheid legacies.

Research Methodology

This study adopts the post-constructivist philosophical ideology, using an inductive approach. Text mining was used to construct meaning and understanding of the research productivity and the footprint of housing policy frameworks from 1994 to 2020. This study reviewed housing policy framework development research through the bibliometric analysis with the critical review of co-occurring keywords. The bibliometric analysis was used to map the housing policy knowledge areas, while the critical review, using the framework of Zhong et al. (2019), was used to categorize the research themes of the keywords clusters. For this study, publications under the subject areas were selected via a rigorous process using the Scopus database. Scopus, an Elsevier database, is one of the largest wide-ranging databases which comprehensively records abstracts and citations of peer-reviewed literature and quality web sources covering a different scientific domain (Guz and Rushchitsky, 2009; Hong et al., 2012). The database summarises the world's research outputs in multidisciplinary fields with built-in intelligent tools to track, analyse and visualise research.

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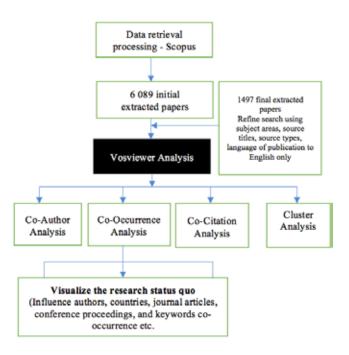

Figure 1: Outline of research framework.

Using the Scopus database, the following retrieval schema were entered into the Scopus catalogue: (TITLE-ABS-KEY) (housing policy) OR ('housing framework'). The 'TITLE-ABS-KEY' indicates either a journal or conference article title, abstract, and keywords. The associated papers were extracted through the specified words in the title, abstracts, and keywords for a complete retrieval of the data. The use of the schema increases the collection of comprehensive data from the database (Zhong et al., 2019). The search was limited to published journal articles and conference proceedings, while articles from books and chapters, including reviews and editorials, were excluded. Figure 1 shows the framework adopted for the study.

The choice for journal and conference proceedings selection was premised on the scholarly views that journals usually provide in-depth and highly quality information (Zheng et al., 2016; Aghimien et al., 2019), while the choice of conference proceedings is based on the view that conference proceedings in the human settlement and policy debate are a valuable source of materials, judging from the robustness of discussion and interest in the subject at conferences. However, other multidisciplinary researchers hold the same view of the importance of conference proceedings in their disciplines (Webster and Watson,

2002; Vuksic et al., 2018; Aghimien et al., 2019). The time span was limited to 1994 to 2020, considering the significant shift in housing policy in South Africa, as this period marked the beginning of a reconstruction process that defined the policy framework for all citizens. The initial search on the Scopus database produced 6 089 publications with the defined search schema. Thereafter, a thorough filtering process was conducted by excluding subject areas, source titles and source types that were not related to the search schema. The language of publication was limited to only English. A total of 1497 articles were finally extracted as a CVS file and used for the analysis.

To explore the trends in housing policy and framework research, this study adopted the VOSviewer text mining tool (Li et al., 2020), to analyse the bibliometric connections in housing policy and framework development, including co-authorship, co-occurring keywords and countries' activeness analysis. VOSviewer, according to Van Eck and Waltman (2014, 2020), is a software tool for creating maps based on network data and is particularly useful for visualising larger bibliometric networks and exploring the maps (Li et al., 2020). Any type of bibliometric network can be visualized using VOSviewer.

Bibliometric Analysis and Discussion
Publication per year

From the extracted 1497 articles, 1479 were journal publications, while 18 were conference proceedings.

Figure 2 shows the distribution of the 1497 retrievals from 1994 to 2020.

There are multiple peaks in the figure, with the notable period of reference being 2000 (52 publications), the year the Millennium Development Goals (MDGs) were announced, following the Millennium Summit of the United Nations in 2000, shortly after the adoption of the United Nations Millennium Declaration. The other points of references are 2004 (39 publications) when the global Cities Alliance Network was created; 2014 (89 publications); and 2015 (84 publications). 2014 was a year before the expiration of the MDGs, while 2015 was the year in which the MDGs were replaced with the Sustainable Development Goals (SDGs). The SDGs were set in 2015 by the United Nations General Assembly with the aim of achieving a better and more sustainable future for all by the year 2030. In 2019 (89 publications), five years after the SDGs, there was a rise in the number of publications, with the lowest period of publication being 1995 (24 publications).

The network of publication per country

The analysis of the network of publications per country, set with a minimum of three publications and two citations per country, highlighted 46 countries as meeting the threshold.
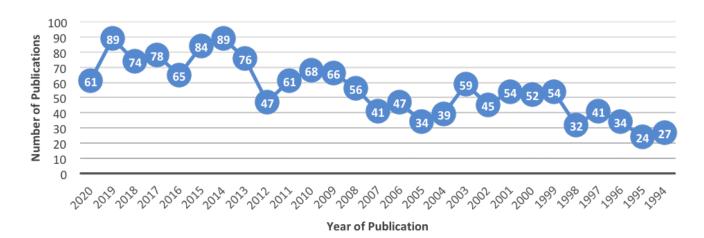

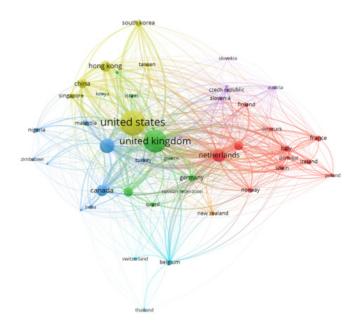*Figure 2: Publication per year, 1994–2020*

Figure 3: A network visualisation of number of publications per country

The set criteria of three publications and two citations per country prevented the possibility of overlap where articles have more than one country affiliation. The analysis of the network is shown in Figure 3. The top twenty-five leading countries for housing policy and framework research are listed in Table 1. The four leading countries on housing policy framework research are the USA (354 papers, 4906 citations), the UK (295 papers, 4178 citations), Australia (120 papers, 1423 citations) and the Netherlands (102 papers, 1803 citations). These figures reveal that these countries have made considerable impacts to housing policy development and housing delivery to their citizens. They are followed by Canada (74 papers, 1045 citations), Hong Kong (64 papers, 1179 citations), China (50 papers, 936 citations), South Africa (49 papers, 680 citations), Sweden (46 papers, 855 citations) and Germany (27 papers, 305 citations).

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Country of publication	Number of articles	Average citation
United States	354	4906
United Kingdom	295	4178
Australia	120	1423
Netherlands	102	1803
Canada	74	1045
Hong Kong	64	1179
China	50	936
South Africa	49	680
Sweden	46	855
Germany	27	305
South Korea	23	175
France	22	117
Italy	21	113
Belgium	17	307
Malaysia	17	214
Singapore	17	272
Ireland	14	99
Norway	14	242
Spain	13	114
Brazil	12	309
Nigeria	12	211
Taiwan	12	55
New Zealand	11	95
Finland	10	84
Israel	10	132
Turkey	10	70

Table 1: Number of publications per country

The sizeable amount of the connected articles in these countries shows that the study and conceptualisation of housing policy for the development and delivery of sustainable human settlement spaces and housing in these countries are advanced. Also, concerning international collaborations, researchers from South Africa in particular have widely collaborated with researchers from more than 39 of the 46 listed countries in Table 1. Notable countries of South African research collaboration are the USA, the Netherlands, Brazil, Zimbabwe, Kenya and Australia, amongst others.

The publication per document source

Table 2 shows the top twenty-five source journals for housing policy and framework research with at least one article. The Journal of Housing and the Built Environment published 152 articles (1890 citations) and has therefore published more housing policy papers than any other journal. This reveals that the journal has more authority and more popularity in this domain and is recognised by researchers, considering the open access opportunity for the publication of housing policy research. This is followed by Habitat International with 141 publications (3372 citations), Housing, Theory and Society (101 papers; 1925 citations) and the International Journal of Urban and Regional Research with 48 articles and 1629 citations. No South African journals featured on the journal list. The disparity between the total number of articles published and the citation numbers can be attributed to the impact factor measures of the journals, while some of the journals are published via the subscription model with the leverage for the researchers to explore the open access option where possible.

Publication source title	Document records – 1994 to 2020	Citation – 1994 to 2020	Journal Impact factor
Journal of Housing and the Built Environment	152	1890	1.481
Habitat International	141	3372	3.846
Housing, Theory and Society	101	1925	1.478
International Journal of Urban and Regional Research	48	1629	2.768
Journal of Urban Affairs	38	567	1.234
Journal of Urban History	26	231	0.416
Ahuri Final Report	25	117	0.167
Journal of the American Planning Association	25	659	2.719
Urban Policy and Research	24	417	1.667
Critical Housing Analysis	23	58	0.337
Critical Social Policy	22	393	2.185
Urban Affairs Review	21	693	2.081
International Development Planning Review	20	136	1.738
Planning Perspectives	16	90	0.356
Urban Geography	15	357	3.567
Built Environment	14	118	1.060
Geoforum	14	129	2.926
Urban Research and Practice	14	91	2.100
Town Planning Review	13	107	0.760
European Planning Studies	12	120	2.690
International Planning Studies	12	152	2.690
Journal of Planning Education and Research	12	195	2.328
Netherlands Journal of Housing and the Built Environment	12	50	1.481
Planning Practice and Research	12	136	1.500
Third World Planning Review	12	115	1.738

Table 2: Number of publications per source

Analysis of co-authorship per country

For scientists working in the housing policy and framework space, collaborations with other researchers provide opportunities to strengthen their science by collectively conducting peer-reviewed publications with a greater chance of success with varied perspectives, thus leading to a better problem-solving approach in society. When researchers publish findings of their research projects in peer-reviewed journals and in conference proceedings, the scientific community and society at large is given the opportunity to assess the findings of housing policy thinkers. Likewise, other housing policy scholars are provided with theoretical foundations to repeat the research, build on the findings, and verify the published results. Also, skills, knowledge and techniques are shared, which mutually benefits all collaborators to become better housing policy thinkers.
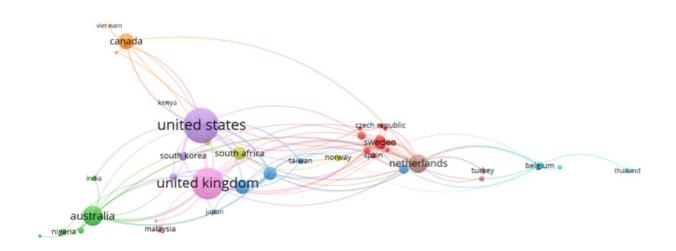

Figure 4: A network visualisation of co-authorship per country

Using the text mining tool (VOSviewer), the co-authorship of housing policy and framework scholars per country was assessed. The minimum number of publications per country was set at a minimum of two publications per country and 10 citations, highlighting five countries who meet the threshold and who are actively collaborating. Figures 4 and 5 show that the countries with the highest number of collaborations and research productions are the USA, the UK, Canada, Australia and the Netherlands. However, the figures further show that South Africa is actively collaborating with these high productivity countries, with a significant collaboration footprint as well as publishing with Brazil, China, Greece and Norway.
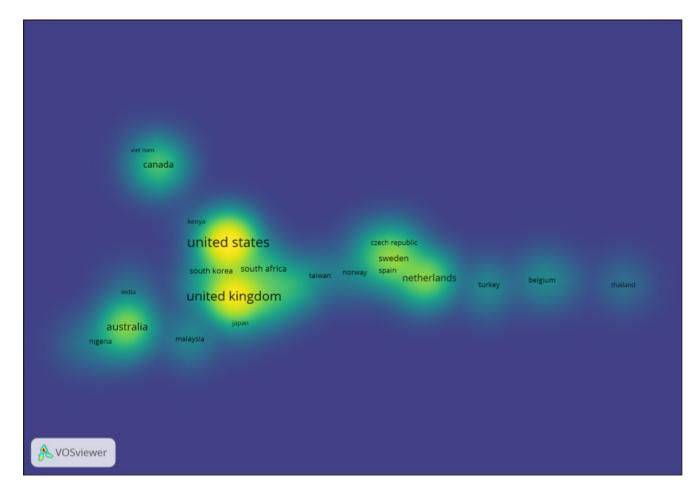
Figure 5: A density visualisation of co-authorship per country

Analysis of co-occurrence of keywords

Research keywords in housing policy research represent the emphasis and direction of the domain and likewise assist in tagging vital themes in housing policy thinkers and scholars. The analysis of keyword occurrence in housing policy framework research revealed the hot topics in the knowledge field over a specific timespan. The minimum number of keywords to be extracted was set at five (5), this being the default considering the large data used for the study and in line with previous students (Aghimien et al., 2019). From the 4 000 keywords represented in the data set, 447 met the threshold for further analysis. Further in the analysis, some generic terms and names of countries and geographical regions were removed. Subsequently, 334 keywords were used for the final analysis and grouped into eight clusters. According to Van Eck and Waltman (2014), the closer the keywords are to each other, the higher their occurrence. Also, the large node size in Figure 6 (the network visualisation map for the keywords) indicates a high concentration of the keywords, while a thick association link represents a tight association between two or more keywords (Li et al., 2020).
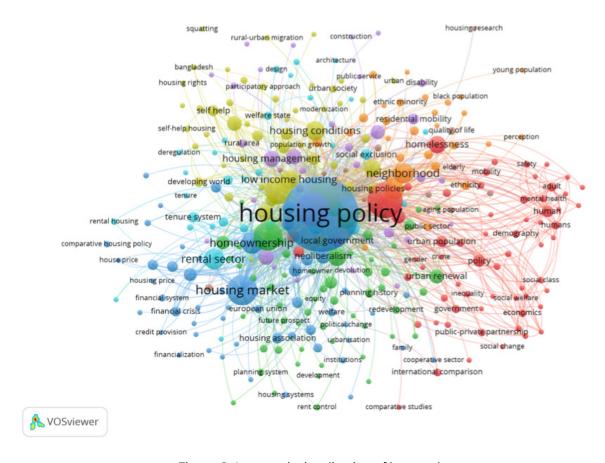
Figure 6: A network visualisation of keyword occurrence

Figure 6 reveals that the most frequent keywords are 'housing policy', occurring 1048 times; 'housing', occurring 229 times; 'social housing', occurring 211 times; 'urban housing', occurring 183 times; 'housing market', occurring 170 times; 'affordable housing', occurring 154 times; 'housing provision', occurring 135 times; and 'homeownership', occurring 92 times. These keywords and others are grouped into clusters. The findings of the critical review of the network and density visualisation maps were used to categorise the semantic themes hidden in the textual (Chen and Morris, 2003; Zhong et al., 2019) data set of the keywords. According to Olawumi and Chan (2018), the critical review of cluster analysis of keywords enables researchers to categorise a sizeable amount of research data into unique groups for ease of discovery of research themes, trends and their associations. Eight themes were originally discovered from the analysis of the data from the cluster analysis. However,

only seven of the clusters were strongly connected to the intellectual structure (Chen, Ibekwe-Sanjuan and Hou, 2010) of housing policy framework research after a critical review. One cluster contained co-occurring keywords in other clusters and was dropped from further analysis.

Cluster 1
Social Cohesion and Equity:
The first cluster contained 62 keywords that have an occurrence of five keywords and above. The keywords in this cluster were found to have a significant link to the main word of housing policy as shown in Figure 6. The most notable keywords in this cluster are 'policy', 'political systems', 'public policy', 'socioeconomic characteristics', 'demography', 'social class', 'social justices', 'social policy' and 'social support'. The cluster keywords further support the idea that the primary purpose of housing policy is the provision of access to

the cities. Housing policies must be inclusive to cater for the needs of the urban poor, the youth, the ageing population as well as the creation of inclusive cities where all can live in harmony and with equal rights.

Cluster 2

Urban Housing Development:

This cluster contained 59 co-occurring keywords that were also strongly linked to the main keywords in Figure 6. Some of the keywords in this cluster are 'urban planning', 'urban history', 'urban policy', 'urban regeneration', 'zoning policy', 'zoning systems', 'inclusionary housing', 'colonialism', 'gentrification', 'reform process', 'displacement', and 'equity', amongst others. This cluster shows that every housing policy should have concrete rules and legislations for the development of the state. Moreover, the defined national urban housing policies should support urban governances, capacity and institutional development to enable equitable reforms in any national state.

Cluster 3

Homeownership:

This cluster contained 52 co-occurring keywords supporting the housing policy keyword. Some of the co-occurring keywords are 'housing association', 'housing subsidy', 'institutional reforms', 'liberalisation', 'neoliberalism', 'policy reforms', 'welfare', 'welfare economies', 'welfare provision', and 'political economy', amongst others. There is a strong correlation between homeownership ideology and political attitude (Ronald, 2008) as no meaningful discussion on homeownership will be complete without a thorough understanding of state power and social change. There is considerable evidence in literature suggesting that the states and all ethnic and political groups recognise the importance of promoting homeownership as ownership diminishes autonomy in the political (Ronald, 2008). Hence, housing policies must promote homeownership as it is the dream of citizens to own homes and it is often desirable.

Cluster 4

Housing Right:

This cluster contains 51 co-occurring keywords also linked to the housing policy and framework. Some of the keywords are 'urban areas', 'urban housing', 'urban poor', 'urban society', 'urbanization', 'housing conditions', 'housing projects', 'human rights', 'informal settlement', 'local participation', 'post-apartheid', 'right to the city', 'low-income population', amongst others. The right to housing is a basic human right contained in the Constitution and international human rights instruments (UN-Habitat, 2014). The right to housing ensures that citizens are free from inclement weather and they have a 'roof over their heads'. The right to housing also ensures that citizens have an adequate measure of quality of life and that they live in a safe place in peace and dignity without the fear of eviction. The right to housing is also connected to the broader discussion of economic empowerment. When the right to housing is not realised, citizens' fundamental human rights are violated. Globally, the right to housing is enshrined in Article 25 of the Universal Declaration of Human Rights, as well as in Article 11 of the International Covenant on Economic, Social and Cultural Rights. Likewise, the Africa Charter on Human and People's Rights recognises the dignity of all, noting that everyone is equal before the law and has an equal right to the protection of the law. Notable amongst the keywords is 'post-apartheid', a period that marks the transition of the South African state to a redefinition of its approach to housing provision for all its citizens. The post-apartheid state revised the Constitution to enshrine the right to housing. For instance, Section 26(1) of the Constitution of the Republic of South Africa, Act 108 of 1996, guarantees everyone's right of access to adequate housing, while Section 26(2) informs that the South African state must take reasonable legislative and other measures within its available resources to progressively realise this right (Dugard et al., 2016). Connected to the housing right is Section 26(3) which prohibits all indiscriminate evictions and proclaims that no citizen of the new South African state may be 'evicted from their home, or have their home demolished, without an order of court made after considering all the relevant circumstances' (Dugard et al., 2016).

Cluster 5

Housing Policy Reforms:

This cluster contained 33 co-occurring keywords. The associated keywords are 'governance approach', 'planning practice', 'policy change', 'policy implementation', 'decision making', 'devolution', 'disability', 'policy making', 'public service', 'rural area' and 'rural planning', amongst others. By its nature, a housing policy must be progressive with the fundamental tenet and ability being to guide and

direct housing delivery reforms in a state. Significant progress has been made in most national states; however, much is left to be desired as the state of global slum dwelling and homelessness continues to increase. Housing policy must not simply be about the provision of shelter but should be reformed to serve as a tool for the upliftment of citizens and an integrated approach to build human capital and stimulate economic access for the owners (Schill and Wachter, 2001).

Cluster 6

Housing Tenure Systems:

This cluster has 33 co-occurring keywords. The occurring keywords are 'legislation', 'migrants', 'private renting', 'privatization', 'property market', 'property right', 'rental housing', 'renter housing', 'renter sector', 'social exclusion', 'social security', 'tenure system', and 'state role', amongst others. Housing tenure includes all approaches used in a state for use by the citizens to access housing. A housing policy framework must address the issue of tenure to enable various accesses to housing in an incremental manner. The improvement of tenure security is vital as tenure has been linked to community satisfaction and participation (Archer et al., 2012).

Cluster 7

Public Housing/ Residential Segregation:

This cluster has 30 co-occurring keywords that include 'ethnicity', 'ethnic minority', 'housing vouchers', 'immigrants', 'immigrant population', 'public sector', 'civil rights', 'race', 'racism', 'racial segregation', 'social segregation', 'segregation' and 'residential segregation'. Housing segregation has been used over time by white ethnic groups in almost

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every state as a tool of supremacy, thus posing a threat to racial equality in the new world. There is no policy that limits a minority group in terms of housing segregation, which is also the major driver of racial disparity in wealth. While the ownership of a home and the right to housing are not a panacea for eliminating systemic racial inequality, housing policy-makers and researchers must use policy reforms to amend for past and presents harms by proposing and promulgating new housing policies to expand access to housing for all (Danyelle & Maxwell, 2019). For instance, in May 2018, the World Bank informed that South Africa remains the most economically unequal country in the world, due to high poverty levels amongst the black population, owing to the persistence of spatial segregation.

Conclusion

In most nations, housing policies are becoming increasingly integrated with a wide range of social and economic objectives, which means that housing policy is reaching further down than was the case in past decades. Also, the literature informs that a housing policy that has broad goals is much more multifaceted than one that solely emphasises housing for a certain sector of the economy. This study conducted a bibliometric review of housing policy research to visualise and analyse the link in housing policy framework development research in a number of academic disciplines. A total of 1 497 articles published from 1994–2020 were extracted from the Scopus database. On the basis of the mined Scopus database, articles, co-authorship, co-occurrence/co-occurrent keywords, the number of publications and documents per country, and the number of publications per sources were analysed using VOSViewer, to categorise the association in housing policy framework development research. Cluster analyses of the co-occurrence keywords were critically reviewed to define the research themes.

The analysis presented in this study can provide housing studies and policy scholars and practitioners with a robust insight of housing policy research trends between 1994–2020, as the study identified the key areas of focus in the housing policy framework development domain. The scope of the study is limited owing to the use of only the Scopus database. However, Scopus is a database from Elsevier, and is one of the largest wide-ranging databases which

comprehensively records abstracts and citations of peer-reviewed literature and quality web sources covering various scientific domains. Overall, the collected articles reflect the journals of housing policy research framework development since 1994.

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