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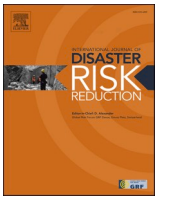

Variations in COVID-19 interventions: A systematic review and meta-ethnography of government policy responses and characteristics in eastern Africa

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ABSTRACT

A plethora of policies were used to contain COVID-19. However, there is limited understanding of the policies, their timing, and their characteristics in eastern Africa. We systematically analyzed COVID-19 policies, described their characteristics, and assessed their opportunities and challenges across the eastern Africa region. We searched multidisciplinary electronic sources for policies pertinent to COVID-19 in eastern Africa published between December 1, 2019 and December 31, 2021. We extracted the data into an EndNote library and screened it using predetermined criteria. Thereafter, we analyzed the data using a meta-ethnographic framework and assessed the quality of policy documents using the logic of events framework. Our search yielded n = 20,593 documents of which n = 66 met our inclusion criteria. Three main themes of social protection, mitigation of social-economic impacts, and prevention and control of COVID-19 emerged. The three themes had nine subthemes. Statutory and non-statutory policy measures were used concurrently in response to the COVID-19 pandemic. However, the policies infringed on civil liberties and human rights, were politicized, and caused social-economic decline. Delineating COVID-19 from politics and synchronizing policies across the region will balance health and social-economic risks.

1. Introduction

The emergence of Coronavirus 19 (COVID-19), which quickly spread across the world and became a global pandemic in early 2020, has created enormous challenges for global health and social-economic systems. However, the pandemic's health and social-economic effects have differed across regions and countries due to differences in health systems, economic strength, and governance [1]. Unfortunately, these three pillars remain weak in sub-Saharan Africa. For example, in some countries such as Burundi, Tanzania, and Zambia the political will to fight the pandemic was lacking and leaders in these countries underplayed the threat caused by the disease

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[2]. In addition, efforts to control the disease were undermined by weak public health capacities, rampant corruption, and the erosion of political trust [3].

Globally, various containment measures were quickly put in place to reduce COVID-19 infection rates. The containment measures were multidimensional public health measures such as health system strengthening, hygiene, sanitation and testing, surveillance, and the suspension of people's freedoms and rights. However, estimating the infection rates in Africa region remains a daunting challenge due to limited laboratory capacity and clinical diagnostics, difficulties in contact tracing, the diversity of populations, and the dynamics of vulnerabilities [4]. Emerging data suggests by October 30, 2022, Africa had only 9.4 million confirmed cumulative cases compared to 265.2 million cases in Europe, 181.9 million cases in the Americas, 98.7 million in the western Pacific, 60.6 million in South-East Asia, and 23.1 million in Eastern Mediterranean regions [5].

This study is concerned with the eastern Africa region, which reported low numbers of cases of COVID-19 [4]. Governments across the region scrambled to prevent and control the spread of the disease and its devastating effects. Most of the governments' preventive approaches involved urging their citizens outside of the country to return home, putting in place quarantine mechanisms for travellers, closing international airports and borders, and increasing hospital bed capacity, mass sensitisation programmes, and lockdowns [6,7]. The absence of a coordinated intercountry framework during the early days of the pandemic left each country seeking policy interventions to protect its citizens regardless of the interdependence of their economies and their people, and the challengingly porous borders across the region [8]. Later, as more information about COVID-19 became available, regional governments put in place different preventive policy responses to curb the spread and manage the disease. In addition, a regional framework was developed under the leadership of the Africa Centres for Disease Control and Prevention to coordinate information and resource-sharing across the continent [8].

Public health policy is critical in resolving health crises and the associated social and economic effects. Therefore, it is important to have an in-depth understanding of the COVID-19 policy interventions, their purpose, and their implementation. The context of the COVID-19 pandemic emphasizes the need for evidence-based public health policy because it underlines the role of government intervention [9]. Policy scholars suggest that a policy can be viewed as either hard or soft. Hard policies are underscored by legislatory and regulatory (statutory) authority with the ability to penalize non-compliance [7,10]. Soft policies are not regulated (non-statutory) and come from voluntary decisions, reports of government decisions, advocacy messaging, advice, and recommendations premised on attracting the goodwill of the intended audience to observe and uphold them [11]. Differentiating between hard and soft policies enables comprehension of policy instruments and their prospective outcomes. The COVID-19 pandemic policy regimes across the eastern Africa region were in the context of weak healthcare systems and the policy framework sought to emphasize prevention and control of the spread of the disease and its socio-economic effects [8,12]. The policy regimes ranged from extreme hard policies (i.e. curfews and lockdowns) enforced by armed forces to soft policies (i.e. government recommendations and investments in socio-economic sectors) to prevent the spread of the disease and reduce the potential socio-economic decline associated with the pandemic.

The application of hard and soft policies in tandem suggests desperate efforts to address the risks associated with COVID-19 based on sanctions and appeals to personal responsibility. It also points to a tension in balancing risk exposure and the responsibility delegated to every member of society (i.e. personal responsibility) [9]; the greater the risk, the greater the reliance on power and authority to suppress the risk. Authority and power are means to shape the collective behaviour necessary for society's desired common interests and are informed by circumstances and cultural context [13]. Authority and power are moderated by brokers who balance political and public interests, resulting in policy discourses that can be generally accepted or contested if there is an imbalance. Sokołowski [7] argued that hard COVID-19 policies are characterized by government rules and regulations demanding total compliance rooted in regulatory processes; however, the author did not explore the non-regulatory aspects of government interventions. Thus, policy uptake can be anchored on the threat of sanctions and/or inclusivity, persuasiveness, and relevance to society's needs.

For the purpose of this study, we adopt the Centres for Disease Control and Prevention (CDC) [10] definition of policy as "a law, regulation, procedure, administrative action, incentive, or voluntary practice of governments" (p. 1). The CDC further argues that public health policy development encompasses the implementation of voluntary or mandatory interventions that promote behaviour change and improvements in public health outcomes [10]. This systematic review comprehensively classifies documents of governments' decisions such as regulations, statutory acts and reports on governments' voluntary decisions, and commitments towards combating COVID-19 as policy documents.

This systematic review focuses on identifying the differences and similarities between governments' approaches to the pandemic across the Eastern Africa region. Our study adds a comparative policy analysis to the existing literature on the COVID-19 pandemic. We explore the different COVID-19 policy regimes by governments across the eastern Africa region, which is important in developing evidence-based strategies to deal with health hazards. The aim of this review is to systematically undertake an inventory of COVID-19 policies, describe their timing and characteristics, and assess the opportunities and challenges associated with their implementation across the eastern Africa region. This systematic review does not evaluate policy implementation or effectiveness, which are beyond the aim stated above. Policy effectiveness takes longer (years or decades) to occur. Implementation during COVID-19 was compounded by many social economic and political factors, and competing interests and stakeholders. Thus, policy implementation and effectiveness cannot occur if the capacity to develop policy is inexistent or flawed. Most governments were unprepared and lacked experience to respond to the outbreak [14]. Hence, understanding how policies were developed is the first step to evaluating their implementation and effectiveness.

There is a plethora of literature associated with COVID-19. However, gaps remain, especially in understanding consolidated policy responses and inherent capacities across the eastern Africa region; this study addresses this gap. We define eastern Africa as a

geographical region comprised of the countries of British Indian Ocean Territory, Burundi, Comoros, Djibouti, Eritrea, Ethiopia, French Southern Territories, Kenya, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Reunion, Rwanda, Seychelles, South Sudan, Uganda, Tanzania, Zambia, and Zimbabwe [15]. Our review addresses the question: *Did governments in the eastern Africa region have the capacity to develop fit-for-purpose COVID-19 policies in a timely manner?* Answering this question provides understanding of the region's fight against COVID-19.

2. Methods and design

This systematic review is presented in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (S1). The PRISMA statement is a checklist comprised of 27 essential items for ensuring reporting transparency [16]. A PRISMA flowchart (Fig. 1) below summarizes the study search, screening, eligibility, and inclusion processes undertaken. The systematic review was registered by PROSPERO international prospective registry for systematic reviews (reference number CRD42021267586).

2.1. Types of studies targeted

We sought to include all documents that either are policies or deal with policies put in place as a response to COVID-19 across the region. Our study purpose required broad literature inclusion criteria because the COVID-19 pandemic is a global health burden.

2.2. Inclusion and exclusion criteria

Studies were included if they: 1) were COVID-19-related policies such as laws, regulations, and government actions and commitments published between December 1, 2019 and December 31, 2021; 2) were reports of government COVID-19-related policies including peer-reviewed and grey literature; 3) were written in English and their full texts were available and accessible; and 4) were from countries located in the United Nations geographical region of eastern Africa. Reference lists of documents were screened to identify relevant documents; those that met the criteria were included in this study. A search log capturing all activities relating to literature searching, screening, and inclusion/exclusion was maintained for transparency.

Our exclusion criteria were: 1) government documents outside the stated time frame; 2) documents whose subject matter did not

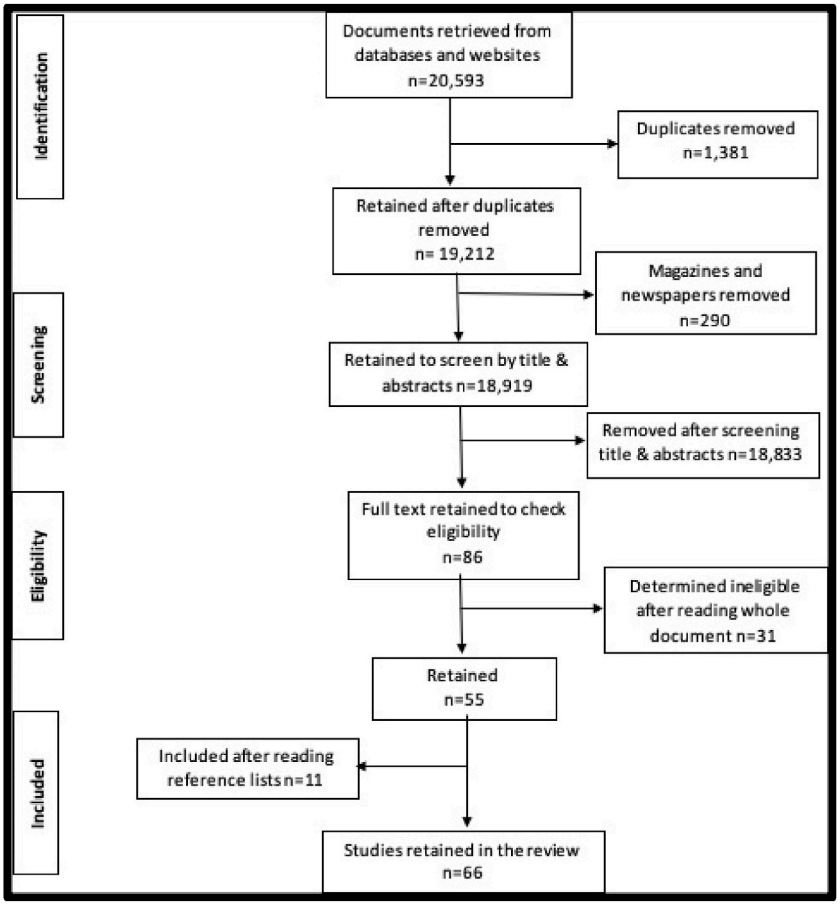

Fig. 1. Study PRISMA flowchart.

cover the countries of interest; 3) documents published in languages other than English (as we did not have the expertise, financial, or logistical capacity to search, retrieve, and translate literature published in other languages into English); 4) reviews, editorials, press releases, protocols, communiques, letters to the editor, and opinion pieces; 5) parliamentary Bills and debates; and 6) documents that did not deal with policies to combat COVID-19.

2.3. Study setting and participants

This study is set in the eastern Africa region as delineated under the United Nations geographical regions. We did not apply any demographic variables to limit study participants except that participants were from the countries classified as part of the eastern Africa region.

2.4. Outcomes of interest

The main outcomes of interest were the availability and accessibility of policies and whether the policies were designed to build resilience to COVID-19. We sought to understand the drivers and barriers to resilience and recovery from the COVID-19 pandemic. Nonetheless, all outcomes, including unintended ones, are reported in this review.

2.5. Search strategy

We searched bibliographical databases and various governments and organizations' websites using the following search terms with subject heading truncations (*) and Boolean operators:

[COVID-19 OR Coronavirus disease 2019 OR 2019 novel coronavirus OR COVID-19 pandemic OR coronavirus pandemic OR SARS-CoV-2].

AND

[policy OR Policie* OR rule *OR regulation* OR guideline* OR convention* OR method * OR law* OR bylaw* OR framework*]

AND

[Eastern Africa region OR East Africa OR British Indian Ocean Territory OR Burundi OR Comoros OR Djibouti OR Eritrea OR Ethiopia OR French Southern Territories OR Kenya OR Madagascar OR Malawi OR Mauritius OR Mayotte OR Mozambique OR Reunion OR Rwanda OR Seychelles OR South Sudan OR Uganda OR Tanzania OR Zambia OR Zimbabwe].

The search terms were amended as appropriate while searching key organizational websites of interest other than bibliographical databases.

2.6. Databases searched

We searched for COVID-19 literature published between December 1, 2019 and December 31, 2021 in the following bibliographical databases: Medline, CINHAL, EMBASE, ProQuest, Web of Science, Scopus, and Science direct. The bibliographical databases were supplemented with the multidisciplinary databases and organizational websites of the following: African Union, Africa Centres for Disease Control and Prevention, African Development Bank, World Health Organization (WHO), World Bank, UNICEF, East African Community, Southern African Development Community, Common Market for Eastern and Southern Africa, COVID Law Lab (available at: https://covidlawlab.org/), International Monetary Fund COVID-19 policy tracker, and government websites to identify policy documents. In addition, the first 20 pages of Google Scholar were searched and enabled the capture of snapshots of all viewable search hits; this approach is well-established and widely applied in scientific studies [17,18]. We also searched the references of included documents and sought information from experts.

2.7. Data extraction and screening

Studies, reports, and government documents were retrieved from databases/websites into an EndNote library and screened by title to eliminate duplicates. Thereafter, the documents' abstracts, introductions, or preambles were screened for their relevance to the study purpose. Documents retained after screening of abstracts were subjected to full reading of their text to determine their eligibility and those that met our criteria were retained for inclusion (Fig. 1). The search, extraction, and appraisal of documents were undertaken by one author and independently verified by a second author. Both authors read through the reference lists of the retained documents to identify any further relevant studies. A third reviewer adjudicated the differences that arose between the work of the first two authors and gave a verdict on the final studies for inclusion. Data extracted into EndNote was tabulated using a uniform data-extraction tool to capture key information on document characteristics (e.g. author and date, country, thematic area, policy category, and intervention). In addition, relevant findings were identified and analyzed according to the research question to address the gap identified in the existing literature.

2.8. Quality assessment

We used von Wright's logic of events framework to assess the quality of the documents. The framework suggests that human action is driven by wants, aptitudes, opportunities, and responsibilities, and that their interplay changes circumstances, creating new opportunities for further action within the context of existing wants, aptitudes, and responsibilities (the logic of events) [19]. In other words, human action creates new opportunities that generate subsequent events. Accordingly, personal wants are subservient to political goals, responsibilities are subservient to institutional or societal obligations, and policymakers' aptitudes are an integral part of organizational resources. The opportunities relate to public goodwill and the political environment, which are critical policy elements in the realization of the desired behaviour change [20]. Von Wright's framework has seven domains that address policy accessibility (n = 1 item), policy background (n = 4 items), policy goals (n = 6 items), resources (n = 3 items), monitoring and

Table 1
Included policy characteristics and focus.

Thematic area	Policy interventions and sub-themes	Setting	Author and year
Government-initiated social-economic mitigation strategy **(n = 15 soft, n = 3 hard policies)**	Policies to strengthen health systems were: • Fiscal support to health systems focused on suspension of customs duties and value-added tax on medical supplies, equipment, and pharmaceuticals. • External borrowing to procure medicines, vaccines, testing equipment, reagents, and personal protection equipment. • Fiscal allocations to accelerate local manufacturing of pharmaceutical products. Policies to support the continuity of macro-economic growth trajectories were: • Tax interest waivers, deferrals, reductions for hard-hit sectors (i.e., tourism, education, transport, manufacturing, and construction). • Amnesty for businesses on outstanding tax debts and penalties, and income tax. • Waivers on raw material import duties and on electronic money transfers (to discourage use of cash). • Increased international reserves to preserve macroeconomic stability. Policies to protect businesses and jobs were: • Wage subsidies to support continuity of small-scale businesses. • Frozen, deferred, and/or restructured loans and loan-interest repayments for local businesses. • Foreign exchange rate flexibility control to cover shortfalls in foreign exchange, reduced cash reserve requirements for foreign currency and local securities deposits. • Increased private sector lending facility for businesses. • Accelerated local manufacturing to substitute for imports.	Burundi, Comoros, Djibouti, Ethiopia, Kenya, Malawi, Mauritius, Mozambique, Rwanda, Zambia, Zimbabwe, Uganda, Somalia, South Sudan	IMF (2022a) [25], IMF (2021a) [26], IMF (2022b) [27], IMF (2021b) [28], IMF (2022c) [29], IMF (2022d) [30], IMF (2022e) [31], IMF (2022f) [32], IMF (2022g) [33], IMF (2022h) [34], IMF (2022i) [35], IMF (2022j) [36], IMF (2022k) [37], IMF (2022l) [38], McDade et al. (2020) [39], Gov of Zambia (2020b) [40], Gov of Mauritius (2020a) [41], Lashitew & Socrates (2020) [42].[a]
Social protection **(n = 15 soft, n = 2 hard policies)**	Policies to promote food access were: • Reduced and/or suspended duties and restrictions on food imports. • External borrowing to increase fiscal allocation to food aid and cash vouchers to increase food access for the poor, elderly, disabled, and refugees. • Allowances to the most vulnerable people to ease food access. • Increased government expenditures to boost nutrition, food security, agricultural subsidies for rural farmers, and livelihoods. • Reduced taxes on mobile small money transactions to protect the majority poor who rely on them for daily expenses. • Reduced price gouging and hoarding of food commodities. Policies to protect against homelessness were:	Ethiopia Kenya, Malawi Madagascar Mauritius, Mozambique, Rwanda, Uganda, Somalia, Zambia, Zimbabwe	IMF (2021b) [28],[a] CBK (2021) [43], CBK (2020a) [44], CBK (2020b) [45], IMF (2022c) [29],[a] IMF (2022d) [30],[a] IMF (2022f) [32],[a] IMF (2022g) [33] [a], IMF (2022j) [36],[a] IMF (2022k) [37],[a] IMF (2021a) [26],[a] Ouma (2021) [46], Pruce (2020) [47], Tallio (2021) [48], Chipenda & Tom (2021) [49], Gov of Zimbabwe (2020b) [50], Gov of Zimbabwe (2020c) [51].[a]

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Table 1 (*continued*)

Thematic area	Policy interventions and sub-themes	Setting	Author and year
	• Deferred mortgage and rent payments for residential accommodation. • Waived utility fees during COVID-19 lockdown periods to ease suffering. • Banned/suspended evictions of tenants and mortgage defaulters during lockdowns. Policies to create employment opportunities were: • Eased access to pension funds to stimulate self-employment and livelihoods. • Empowerment funds for rural farmers and youth groups for income-generation and employment opportunities. • Labour-intensive public work schemes that provided the most vulnerable groups with employment. • Training and skilling of the unemployed and casual labourers.		
Prevention and control of the spread of COVID-19 **(n = 1soft, n = 40 hard policies)**	Policies for prevention and control of COVID-19 through suspension of freedoms and rights were: • Declarations of states of emergency, imposing dusk-to-dawn curfews (with contextual variations) that banned people movement between places except for essential service workers such as security, food suppliers, health, and utility workers, who were allowed to move in execution of their work during curfew hours. • Stay-at-home rules that prohibited people movement beyond places of abode and/or specific geographical boundaries. • Prohibition of international travel for passengers and exempting cargo transport. • Quarantine facilities to detain (for 14 days) incoming international passengers and people with COVID-19 symptoms and those known to have been in contact with infected people. • Prohibition of public gatherings for any purpose (inclusive of worship), in-house social ceremonies and meetings, sports, recreation, entertainment, and hospitality activities that required the assembly of patrons. Policies to promote hygiene and sanitation were: • Rules for transportation and burial/cremation of remains of people suspected to have died of COVID-19 and mandatory reduction of public transportation vehicles' carrying capacity to 50% for lockdown periods. • Compelling of service providers to provide alcohol-based sanitizers and/or water and soap for handwashing at entrances and exits of premises.	Ethiopia, Kenya, Malawi, Mauritius, Seychelles, Zambia, Zimbabwe, Uganda	Gov of Ethiopia (2020a) [52], Gov of Ethiopia (2020b) [53], EPHI (2020) [54], Gov of Ethiopia (2020c) [55], Gov of Kenya (2020a) [56], Gov of Kenya (2020b) [57], Gov of Kenya (2020c) [58], Gov of Kenya (2020d) [59], Gov of Kenya (2020e) [60], Gov of Kenya (2020f) [61], Gov of Kenya (2020g) [62], Gov of Kenya (2020h) [63], Gov of Kenya (2020i) [64], Gov of Kenya (2020j) [65], Lashitew & Socrates (2020) [42], Schenck et al. (2020) [66], Gov of Malawi (2020a) [67], Gov of Malawi (2020b) [68], Gov of Mauritius (2020b) [69], Gov of Seychelles (2020a) [70], Gov of Seychelles (2020b) [71], Gov of Seychelles (2020c) [72], Gov of Seychelles (2020d) [73], Gov of Seychelles (2020e) [74], Gov of Seychelles (2020f) [75], Gov of Seychelles (2020g) [76], Gov of Zambia (2020a) [77], Gov of Zambia (2020c) [78], Gov of Zambia (2020d [79], Gov of Zimbabwe (2020a) [80], Gov of Zimbabwe (2020c) [51] Gov of Zimbabwe (2020d) [81], Gov of Zimbabwe, 2020e [82], Gov of Zimbabwe, 2020f [83], Ugandan Gov, 2020a [84], Ugandan Gov, 2020b [85], Ugandan Gov, 2020c [86], Ugandan Gov, 2020d [87], Ugandan Gov, 2020e [88], Ugandan Gov, 2020f [89], Ugandan Gov, 2020g [90].

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Table 1 (*continued*)

Thematic area	Policy interventions and sub-themes	Setting	Author and year
	• Establishment and enforcing of social distancing i.e. maintaining 1.5–2 m between people in public places or seeking services. • Enforced wearing of a nose and mouth covering (mask) in public places including indoors and outdoors. • Sequestration or disinfection of luggage and personal effects, and evacuation of homes of individuals infected. • Reduction of taxes on disinfectants, soaps, and sanitizers. Surveillance and testing policies were: • International travellers to present a negative polymerized chain reaction (PCR) test certificate issued within 48 h prior to arrival at a border post or airport. • International arriving passengers to self-report for mandatory quarantine and to incur the associated costs. • Citizens to isolate and self-report if suspecting infection or exposure to COVID-19. • Reporting people suspected of COVID-19 infection to health authorities, seeking testing services, and avoiding infecting other people. • Health personnel entering private premises to search for suspected COVID-19 cases, causing decontamination and/or evacuation of the premises. • Health and law enforcement officials enforcing compliance.		

Note: CBK = Central Bank of Kenya; EPHI = Ethiopian Public Health Institute; Gov = Government; IMF = International Monetary Fund.
[a] N = 10 policies addressed more than one theme.

evaluation (n = 7 items), public opportunities (n = 2 items), and obligations (n = 2 items), resulting in a total of 25 items. The items were each scored with yes (1 point) or no (0 points), giving a possible score range from 0 to 25. We applied von Wright's logic of events framework because it was fit for the purpose and because none of the included policy documents were peer-reviewed studies. JKK and BH independently rated the included policy documents for quality. Tertiles were used to split the data into three groups: 1 = insufficiently developed; 2 = moderately developed; and 3 = well developed, and Cohen's kappa coefficients with quadratic weights and proportions of agreement were calculated to report inter-rater reliability. Cohen suggested that kappa (k) results can be interpreted using the following threshold values: no agreement (κ values ≤ 0); none to slight agreement ($0.01 \leq \kappa \leq 0.20$); fair agreement ($0.21 \leq \kappa \leq 0.40$); moderate agreement ($0.41 \leq \kappa \leq 0.60$); substantial agreement ($0.61 \leq \kappa \leq 0.80$); and almost perfect agreement ($0.81 \leq \kappa \leq 1.00$). Cohen's kappa discounts the prospect of raters' agreement by chance and weights their discordance according to the magnitude of the difference in the raters' scores [21].

2.9. Data analysis

Included policy documents were diverse, with varying methods and outcomes, which limited statistical aggregation of the data. Therefore, we applied Noblit and Hare's meta-ethnographic approach complemented by a descriptive narrative of the findings to address the diversity [22]. This approach enabled us to reduce the potential for duplication and produce a higher level of analysis [23]. The following steps were undertaken in the meta-ethnographic approach: the first step involved grasping the included documents' contents and concepts by reading and re-reading the documents while identifying metaphors and/or themes and extracting the relevant data verbatim. Secondly, we undertook a thematic synthesis of each document's key concepts to develop categories from the main concepts and themes (first-order constructs) identified. The categories denote related themes and concepts, and initially included health, economic, and relief provision. These categories were reviewed and discussed to establish their relationships and a similar process was undertaken for second-order constructs. The third step involved translating the retained policy documents and comparing the extracted concepts and metaphors of one policy document to those of another. However, this was a long and tedious process given the number (n = 66) of policy documents included (Table 1). Thus, we chose one policy document from Kenya which was ranked high on the quality assessment scale and compared its themes and concepts with those of another highly ranked policy document from

Seychelles. The outcome of the synthesis of the two documents was used as the index to compare and contrast each of the remaining policy documents, as prescribed by Noblit and Hare [22]. Indexing is often used in systematic reviews and meta-ethnographies, and is credited with producing strong synthesis outcomes [24]. Lastly, we conducted a higher order of interpretation to filter translations into lines of argument regarding whether the policies promoted resilience to COVID-19. The first author carried out data analysis in consultation with the three other authors.

3. Results

Our review is reported based on the established PRISMA guidelines [16]. The PRISMA checklist is appended (S1). The results of this study are clustered in the three strands of: characteristics of documents; quality of documents; and thematic outcomes.

3.1. Characteristics of included policy documents and their distribution

Our search yielded 20,593 documents of which 66 met our inclusion criteria (see Fig. 1). All the included documents met our definition of policy. Among the retained policy documents, n = 23/66 were soft policies and n = 43/66 were hard (statutory) policies. Of all identified policies, 66, five (n = 1 soft, n = 4 hard) were from Ethiopia [28,52–55], 17 (n = 6 soft, n = 11 hard) from Kenya [39,42–46,56–65,91], three (n = 1 soft, n = 2 hard) from Malawi [29,67,68], three (n = 1 soft, n = 2 hard) from Mauritius [31,41,69], seven (n = 0 soft, n = 7 hard) from Seychelles [70–76], nine (n = 2 soft, n = 7 hard) from Uganda [36,48,84–90], six (n = 2 soft, n = 4) from Zambia [34,40,47,77–79], and eight (n = 2 soft, n = 6 hard) from Zimbabwe [35,49–51,80–83]. The countries of Burundi, Comoros, Djibouti, Rwanda, Madagascar, Mozambique, Somalia, and South Sudan had one (n = 1 soft) policy each [25,27,30,32,33,37,38,92]. All hard policies were government documents, while some of the soft policies were reported by agencies such as the International Monetary Fund (n = 14/66) [25–38] and the Japan International Cooperation Agency (n = 1/66) [66]. The remaining six (n = 6/66) were cases studies of government policies [39,46,47] and a policy document from the Central Bank of Kenya [43–45]. All the policy documents included came into effect after the declaration of COVID-19 as a global pandemic.

3.2. Policy development

Hard policies from Ethiopia [52–55], Kenya [56–65], Malawi [67,68], Mauritius [41,69], Seychelles [70–76], Uganda [84–90], Zambia [40,77–79], and Zimbabwe [50,51,80–83] were developed by relevant government authorities (i.e. legislative assemblies and/or ministries of health, transport, finance, internal affairs) and the policies were reported by their respective governments. However, one of the included policy documents, analyzing the impact of statutory lockdown policies in Kenya, was developed and reported by a foreign thinktank [42]. Additionally, none of the governments self-reported their development of non-statutory policies except the government of Kenya, which developed and reported its fiscal and monetary policy interventions through the Central Bank of Kenya [43–45]. Other governments' non-statutory policies were compiled and reported by an international aid agency [66], European universities and thinktanks [39,46–48], and the International Monetary Fund [25–38], which made the policies accessible. Furthermore, social policy interventions from Burundi, Comoros, Ethiopia, Malawi, Mozambique, Somalia, South Sudan, Uganda,

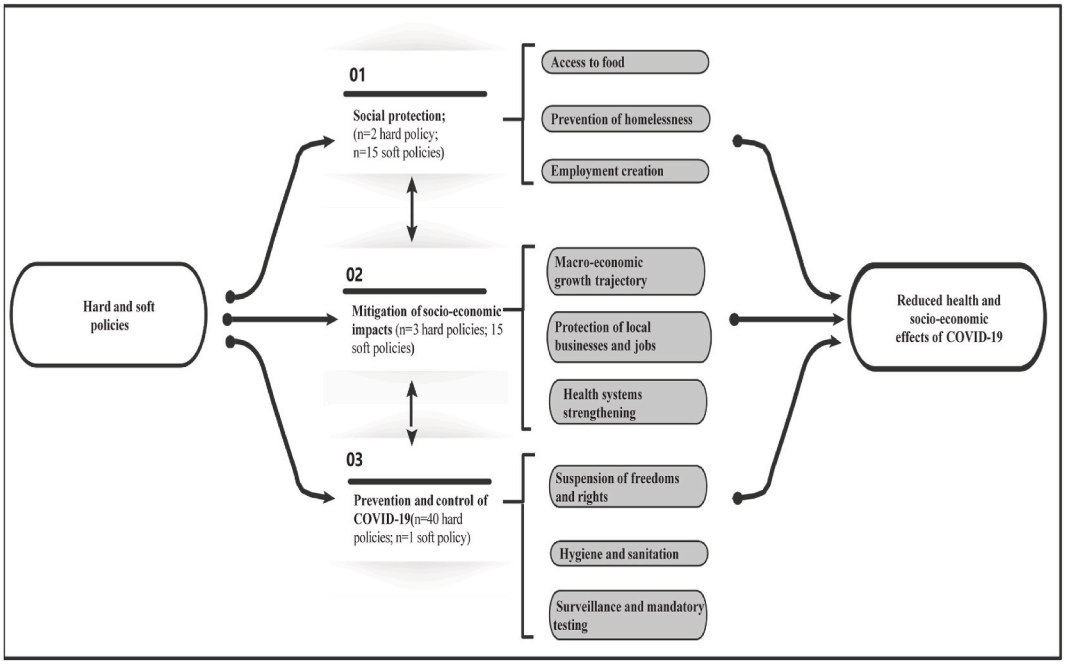

Fig. 2. Framework for description of findings. N = 10 policies addressed more than one theme.

Zambia, and Zimbabwe required donor funding to actualize [25,26,28,29,32,36–38,47,49].

3.3. Quality of included policy documents

Based on our quality assessment framework, n = 4 policy documents were identified to be of insufficient quality, n = 44 policy documents were noted to be of good quality, and n = 18 policy documents were observed to be of excellent quality. Our results show that most of the policy documents (n = 55) included did not articulate policy alternatives, n = 60 were silent on their costing, n = 60 were unclear on whether they had independent bodies to evaluate them, n = 62 were not based on evaluation data either before they came into effect or during their lifetime, n = 59 were silent on confounding factors, and n = 58 did not recognize or address stakeholders' concerns. The inter-rater quadratic weighted kappa was 0.95 ($0.81 \leq \kappa \leq 1.00$) and the proportion of agreement was 99.2%, suggesting excellent agreement.

3.4. Thematic outcomes

Three (n = 3) primary themes and nine (n = 9) sub-themes emerged from our meta-synthesis of the included policy documents (Fig. 2). The primary themes were: 1) social protection, which was identified in n = 17 (n = 15 soft, n = 2 hard) policies; 2) mitigation of social-economic impacts, embedded in n = 18 (n = 15 soft, 3 hard) policies; and 3) prevention and control of the spread of COVID-19, addressed n = 41 (n = 1soft, n = 40 hard) policy documents. Ten (n = 10) policy documents addressed more than one theme (Table 1) [26,28–30,32,33,36,37,42,51].

Social protection had three sub-themes of access to food, prevention of homelessness, and employment. Mitigation of social economic impacts encompassed three sub-themes, namely, maintaining macro-economic growth trajectory, protection of local businesses and jobs, and health system strengthening. Prevention and control also had three sub-themes: suspension of freedoms and rights, hygiene and sanitation, and surveillance and mandatory testing. The themes and sub-themes are summarized in Fig. 2 below.

3.4.1. Social protection

Twelve out of 21 countries and territories across the region had policies that directly addressed social protection of the most vulnerable society members through welfare support during the difficult periods of lockdown [27–32,34,36,45–51]. The most common social protection policies were: access to food through food vouchers, food distribution, and cash transfers to the most vulnerable households; classifying of food markets, vendors, and transporters as essential workers; reducing or waiving taxes on food imports and agricultural subsidies; prevention of homelessness and price gouging; and employment creation for the poorest people. However, the interventions were limited to the time of lockdowns and were exclusive to the few most vulnerable people.

3.4.1.1. Access to food. Access to food was implemented through provision of food vouchers and direct food distribution to the most vulnerable citizens. Food vouchers and food distribution to vulnerable households were undertaken by n = 7 out of n = 21 countries and territories, Ethiopia, Madagascar, Rwanda, Uganda, and Zambia, to address food insecurity resulting from lockdowns. However, the interventions were noted to be insufficient, especially in Rwanda and Uganda, where door-to-door food distribution was carried out by the military in Uganda and by community leaders in Rwanda who were also responsible for beneficiary selection. We found cash-transfer schemes were implemented in Kenya, Madagascar, Malawi, Mozambique, Rwanda, Zambia, and Zimbabwe. The cash-transfer schemes targeted the most vulnerable people such as widows and orphans to meet their basic food needs [29,30,39,45,49]. The cash-transfer schemes were the main pillars of the protection policies in the abovementioned countries. In addition, Kenya, Rwanda, Malawi Uganda, and Zimbabwe classified food markets, vendors, and transporters as essential workers to allow constant food access throughout the lockdown periods. Additionally, Comoros, Kenya, Mozambique, Rwanda, and Somalia implemented tax cuts and/or waived taxes on food imports. Furthermore, agricultural subsidies were provided by governments in Comoros, Ethiopia, Kenya, Malawi, and Zambia to boost food production [26,28,29,34,36,45,47].

3.4.1.2. Prevention of homelessness. Our data analysis suggests that Comoros, Ethiopia, Mauritius, Mozambique, and Zimbabwe implemented rental and mortgage payment deferral schemes for people adversely affected by the pandemic to prevent homelessness accruing through people losing their homes due to inability to pay their due debts incurred in the acquisition of homes. In addition, these countries implemented policies to prohibit hoarding of essential commodities, price gouging, and rental hikes for homes during lockdown periods [26,49–51,55,69,82,83].

3.4.1.3. Employment creation. The governments of Kenya and Uganda undertook policies to support casual workers who depended on daily wages. These governments expanded their pre-existing labour-intensive work schemes to absorb more casual workers who were out of work [36,46]. The schemes provided marginal income opportunities for sustenance through lockdown periods.

3.5. Mitigation of social-economic impacts of COVID-19

Governments in eastern Africa undertook various policy interventions to mitigate the social-economic impacts of the pandemic.

3.5.1. Maintaining macro-economic growth trajectory

The countries of Burundi, Comoros, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Somalia, South Sudan, Uganda, Zambia, and Zimbabwe undertook special fiscal and monetary interventions to stem the negative impacts of the pandemic and maintain their pre-COVID-19 economic growth trajectories [25–41,43–45,69,80]. The fiscal policies undertaken included delayed or deferred tax payments, tax reductions on personal incomes (income tax) and fees on social contributions, waivers on levies on imported food and medical supplies, and on critical export commodities such as minerals [25,26,28,30–32,34,36,37,39,77]; reduced and or waived value-added tax on locally manufactured medical goods and commodities [32,34,39,41]; and waived fees on automated teller machine transactions, mobile phone money transactions, cash transfers, and other electronic transfers (electronic

money) [25,29–31,33,34].

The monetary policy interventions observed were the provision of liquidity to commercial banks to enable easy access to liquidity and remain afloat in the hard-hit sectors of tourism and transport, prevent bankruptcy, and stimulate borrowing to spur economic growth in Comoros, Ethiopia, Kenya, Malawi, Madagascar, Mauritius, Mozambique, Rwanda, South Sudan, Uganda, Zambia, and Zimbabwe [26,28–35,37,38,43–45]. The same countries and Somalia provided credit guarantees, subsidization, and restructuring of loans to defer and/or waive payments by borrowers in hard-hit sectors and to encourage lending and stimulate economic growth [25,26,30–34,36,45]. Other such policies observed included short-term reduction of central bank lending rates [26,29,32,34,35,45] and control of foreign exchange to cover foreign-exchange shortages resulting from slowed economic growth and decline of the tourism industry in Comoros, Madagascar, Mauritius, Mozambique, Zambia, and Zimbabwe [26,30–32,34,35].

We also observed in some policy documents that the governments of Burundi, Comoros, Ethiopia, Malawi, Mozambique, Somalia, South Sudan, Uganda, Zambia, and Zimbabwe sought large sums of money in the form of loans and grants to mitigate the impacts of the pandemic and keep their economies afloat [25,26,28,29,32,36–38,47,49].

3.5.2. Protection of local businesses and jobs

We observed that policy interventions to protect local enterprises and jobs through the adjustment of working hours, waiving of workers' rights, pay cuts, encouragement of teleworking (working from home), and/or subsidizing of salaries were undertaken in Burundi, Kenya, Mauritius, Uganda, and South Sudan [25,29,31,38,39,41,48,66]. In addition, Ethiopia, Kenya, Malawi, and Uganda mandated employee rotation in the workplace and other hygiene practices to minimize the risk of infection and cascading negative effects on jobs [29,36,55,88]. Furthermore, vulnerable informal workers who depended on casual work in Ethiopia and Uganda were protected through the creation of labour-intensive community-based projects and regulation of employers who relied on casual workers (i.e. factories and construction sites) with standards that enabled workers to remain at work sites (i.e. not commuting from home) for weekly shifts [28,88].

3.5.3. Health system strengthening

Data suggests that health system strengthening to build up weak healthcare systems was another COVID-19 countermeasure undertaken by 13 out of the 21 countries and territories of the eastern African region [25–32,34,36,37,39,40,49–51,66]. Policies undertaken to strengthen health systems included swift procurement, stocking and distribution, and fiscal allocation to locally produced and imported pharmaceutical supplies and those required for COVID-19 prevention and healthcare [28,34,37,39,40,49–51], exempting local factories and transporters of medical supplies from lockdown rules, and prohibiting hoarding of the medical supplies needed to prevent and control COVID-19 [50,51,82]. Other health system strengthening interventions included fiscal allocation to COVID-19 biomedical research and exempting of research institutions involved in COVID-19-related research from lockdown rules [48,49,51,82]. We also noted intentional recruitment, training, and incentivizing of health personnel to increase and improve healthcare capacity to deal with COVID-19 patients in hospitals. For example, Burundi recruited 116 doctors and 116 nurses to boost its healthcare capacity and Zimbabwe provided a tax-free allowance for frontline workers and a one-off professional support allowance worth 10,000 Zimbabwean dollars to incentivize frontline health workers [25,49].

3.6. Prevention and control of COVID-19

Our analysis suggests that governments in the region independently undertook a combination of interventions to prevent and control the spread of COVID-19. The interventions are clustered under the four sub-themes of health system strengthening, suspension of freedoms and rights, hygiene, and surveillance, as elucidated below.

3.6.1. Suspension of freedoms and rights

Policy interventions limiting freedoms and rights were observed in n = 43/66policy documents [26,27,29,30,33,34,36–38,42,48,50,51,54–65,67–69,71–77,79,81,82,85–90]. The policies curtailing freedoms and rights included the declaration of a state of emergency or state of disaster, closure of international borders, lockdowns and curfews, quarantine and isolation, and prohibition of public gatherings. The governments of Ethiopia, Madagascar, Mozambique, and Zimbabwe declared states of emergency/disaster and Seychelles, Uganda, and Zambia declared COVID-19 a notifiable disease. The declarations empowered governments to undertake swift extraordinary measures such as the suspension of freedoms and rights in order to limit the spread of the pandemic [30,32,52,53,74,78,80,84].

Burundi, Ethiopia, Djibouti, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Somalia, South Sudan, Rwanda, Seychelles, Uganda, Zambia, and Zimbabwe enacted policies to close their international border crossing points, airports, and seaports to curtail freedom of movement across their borders [25,26,29,31–34,37,38,51,55,69,71–75,85,87].

Exemptions to international travel were later granted to humanitarian workers using United Nations humanitarian flights, emergency travel, and commercial cargo transportation across land borders and through seaports with strict health screening at border entry points [37,38,74,75,82,85,87].

Lockdowns and curfews were common policy interventions observed in the reviewed policy documents. Lockdowns were widely used by 14 out of 21 countries across the region to impede the travel and movement of people as a strategy to contain the spread of the COVID-19 virus among local populations [26,27,29,33,34,36–38,42,51,56,58,60–65,82,88,90].

In addition, curfews were implemented to regulate movement outside people's ordinary place of residence or any place where an individual was permitted to reside overnight for the period of the curfew [27,38,51,64,68,86,88,90]. Hours of curfew varied between countries. For example, in Uganda curfew hours were from 19:00 h to 6:30 h and were later changed to start from 21:00 h to 5:00 h, while in Kenya curfews started at 19:00 h to 5:00 h and were subsequently changed to start from 21:00 h to 5:00 h [64,87]. People

involved in essential services such as the armed forces, emergency workers, food vendors, and health workers were exempted from curfew and lockdown regulations during their course of duty.

We observed quarantine and isolation were important elements drawn on in the prevention and control of the pandemic spread [29,33,38,51,54,55,57,67–69,72,73,76,77,82,85,86,89]. Most of the policy documents had a prerequisite of a 14-day quarantine period at a gazetted place for international inbound passengers. Additionally, non-travellers who were known close contacts of people infected with the virus and people who tested positive for COVID-19 were also detained in quarantine facilities [38,57,82,85,86,89]. People who were suspected to be infected with COVID-19 but tested negative were required to isolate from home or in a gazetted area for a period of 14 days. In Malawi and Uganda, people detained in quarantine were given prophylaxis treatment; however, the type and combination of prophylaxis treatment remain unclear [68,89]. In addition, international travellers arriving in a country were required to cover the cost of quarantine in government-designated facilities [29,38,55].

We identified prohibition of public/social gatherings in n = 15 policy documents from 13 out of 21 countries across the region [29,37,38,48,50,54–56,59,71,79,81,82,86,87]. Social/public gatherings of more than two people outside the home environment were banned to prevent the spread of the disease. However, some variations were observed in different countries' policy documents. For example, the Seychelles government prohibited all forms of assembly except for the exclusive purpose of travel or seeking medical assistance and subject to compliance with social or physical distancing and hygiene rules [71]. In Ethiopia and Mozambique, all social and public gatherings except for funerals and weddings of not more than 50 individuals were prohibited. Also prohibited were in-house parties, ceremonies, and holiday-related social events with individuals other than family members. In Kenya, Uganda, and Zambia, all social gatherings including marriage ceremonies were prohibited except for funerals, where the people gathered were not to number more than 10, 15, or 5, respectively, and subject to compliance with hygiene and sanitation rules [59,77,86]. In addition, all public meetings including political rallies, conferences, educational (including schools and higher institutions of learning), cultural, and spiritual gatherings were banned. The prohibition of gatherings was stringent in the first half of 2020 and subsequently eased in the second half of the same year, except in Uganda where the conditions remained the same until the end of 2021.

3.6.2. Hygiene and sanitation

Social distancing, handwashing and sanitization, and wearing of nose and mouth coverings (masks) were critical policies against COVID-19. We found n = 14 policy documents emphasized keeping a social distance of 1–2 m between persons in public spaces [32,33,37,38,41,51,54,55,59,65,66,68,71,81]. Social and/or physical distance was mandatory in public spaces and was measured in terms of the distance between individuals [51]. There were variations in the recommended physical distance; for example, in Ethiopia the recommended social and physical distance was indicated to be two adult strides between persons, in Somalia a distance of 2 m was mandated between two individuals in public places, and in Kenya, Malawi, and Zimbabwe a 1-m distance between persons was recommended [37,51,54,59,67]. Governments mandated owners of businesses, workplaces, and other service premises such as food outlets and grocery stores, and drivers and conductors of public transport systems, to enforce social distancing.

Mandated handwashing with water and soap or using alcohol-based hand sanitizers was observed in n = 10 policy documents [25,32,33,40,51,54,55,59,65,69,81,82]. All business premises such as supermarkets, health facilities, public transport providers, and others were tasked to provide sanitizing facilities at their entrances and exits, and individuals seeking services were required to submit to handwashing with soap or use of alcohol-based sanitizers. Notwithstanding handwashing, mandated wearing of masks in public places was observed in n = 15 policy documents from Djibouti, Ethiopia, Kenya, Malawi, Madagascar, Mauritius, Mozambique, Rwanda, Somalia, South Sudan, Zambia, and Zimbabwe [27,30,32,33,36–38,54,55,59,65,68,69,81,90]. For this study, masks are nose and mouth coverings approved by local authorities. The recommended masks ranged from those locally handmade from cotton cloth to industrially made surgical masks.

Safe disposal of human remains of people who died of or were suspected to have died of COVID-19 was another policy intervention used to contain the spread of the disease. This policy intervention was observed in policy documents from Ethiopia, Kenya, Malawi, Seychelles, and Uganda [54,57,59,68,71,86,89]. There were variations in the disposal process; for example, the Kenyan and Seychelles governments recommended internment or cremation within 48 and 24 h from death, respectively, and that the process be supervised by government health officials [59,71].

3.6.3. Surveillance and mandatory testing

Mandatory testing was a critical policy component in the prevention and control of the pandemic observed in n = 21 policies from 16 out of 21 countries and territories of the eastern Africa region [25–27,30–33,36–38,40,41,48,54,55,66,67,81,82,85,86]. Overall, COVID-19 testing was required of people who undertook international travel, were in quarantine and/or isolation, or who self-reported or were suspected to have been close contacts of known cases. In addition, Zimbabwe required COVID-19 testing for people returning to work after a lockdown period and for people involved in exercising or competing at low-risk sports venues [81,82]. Kenya, Malawi, Zambia, and Uganda undertook surveillance testing in hotspots [47,57,68,86]. Furthermore, only Malawi had a policy of providing mandatory prophylaxis treatment to anyone who tested positive for COVID-19 [68]. Additionally, only Ethiopia, Kenya, Mauritius, and Zimbabwe had policies that directly mentioned the laboratory diagnosis of PCR or rapid diagnostic testing (techniques for the accepted types of COVID-19 tests) [31,54,66,82].

4. Discussion

COVID-19 caught the world unprepared for the pandemic it has turned out to be and generated much anxiety. Countries undertook different approaches and strategies to combat the disease. High-income countries quickly rolled out mass vaccinations as soon as vaccines became available. Low-middle-income and low-income countries like those in the eastern Africa region lagged far behind due

to limited access to vaccines and other curative therapeutics. Nonetheless, countries in the eastern Africa region implemented various policies that primarily focused on preventive measures. This makes our study a vital piece of evidence that systematically summarizes the policies undertaken in the early days of the COVID-19 outbreak to provide insight into how the nations in eastern Africa intervened amidst constraints to prevent catastrophic outcomes as evidenced in other regions such as Europe and the Americas [93].

We noted frequent policy updates and revisions across the region (Table 1), which suggests the highly evolving nature of the pandemic that required commensurate action to match the unfolding situation. We also noted many similarities; for example, lockdowns, dawn-to-dusk curfews, tax cuts, and increasing access to liquidity were applied across the region. In addition, hygiene policies such as social distancing and mask wearing, and surveillance were also comparable across the region. However, there were small differences in policy application; for example, in Ethiopia the recommended social distance was 2 m, while in most other countries it was 1.5 m. The countries of Kenya, Malawi, and Zambia supported livelihoods and social protection through interventions such as waiving and/or reducing transactional costs for mobile money payments and other electronic money transfers to disincentivize the use of cash transactions. Other countries such as Burundi, Ethiopia, Mauritius, and Uganda prioritized interventions to support firms and employment through waiving of personal and corporate income tax, and/or provision of wage subsidies to prevent massive layoffs.

Hard policies (n = 43/66) were the most common across the region and most were dated earlier than soft policies. Most of the hard policies (except two) included in this study focused on public health containment measures implemented at different times across the countries, suggesting the absence of intercountry synchronization of action in the early days of the pandemic. The scramble to roll out public health containment measures that infringed on civil liberties also suggests that governments quickly recognized their inadequate resources and expertise to address the magnitude of the pandemic [8]. For example, WHO estimated five intensive care (ICU) bed units per million people in 41 sub-Saharan African countries at the time COVID-19 first broke out [94]. Later, a regional framework spearheaded by the Africa Centres for Disease Control and Prevention was tasked to provide technical support, lead the collaboration with other international organizations involved in fighting COVID-19, and coordinate information-sharing. The Africa Centres for Disease Control and Prevention also ensured equitable distribution of resources and sought to optimize economies of scale in procurement and distribution of drugs, test kits, medical equipment, vaccines, and other health products (i.e. that were in short supply) required to prevent the spread and treat COVID-19 [8,95]. Notwithstanding the regional framework, the soft policies, especially those addressing the social-economic impacts of the pandemic, lasted longer than the hard policies consistent with the long social-economic impacts of the pandemic.

We identified several welfare policies, but most were insufficient in time and scope to stem hunger and poverty, and to promote recovery. For example, the Ugandan government undertook door-to-door food distribution to 1.5 million people in the greater Kampala metropolis during the lockdown. The food comprised maize flour, beans, and salt, and was hand-delivered to homes by soldiers without basic training in relief operations; any other form of relief distribution of items such as food was banned [48]. The food distribution carried out by security forces was undermined by significant delays, poor-quality supplies, lack of comprehensive criteria for beneficiary selection, and corruption [96]. Also, many more vulnerable people in urban areas were excluded from the food aid within Kampala city and other urban areas. This finding is consistent with the findings of earlier studies that pointed out the exclusion of vulnerable urban populations such as refugees and queer people from government food-distribution interventions [96,97]. Similarly, the Kenyan cash-transfer policy was based on minimal state provisioning and was exclusive to fewer beneficiaries than those who actually needed it [46]. Other countries such as Rwanda and Zimbabwe had comprehensive interventions consisting of food aid, cash transfers, healthcare financing, pension support, and other allowances for the most vulnerable people [33,49]. The Zambian intervention focused on cash transfers consisting of an equivalent of USD22 monthly (for six months) to meet the minimum food needs of the most vulnerable people. In addition, agricultural subsidies and entrepreneurial start-up funds were distributed to farmers and youth groups, but were also inadequate [49]. The food and cash distributions were vulnerable to political manipulation by the incumbent governments, especially in Uganda and Zambia, where the interventions coincided with election periods. This finding confirms previous studies that highlighted the politicization of COVID-19 social policy interventions [98,99].

Lockdowns and curfews were popular policies undertaken by the authorities across the region. However, the implementation of lockdowns differed from country to country in terms of curfew times and geographical areas. Kenya, Madagascar, and Rwanda locked down specific geographical areas to limit the movement of people into and out of the areas but allowed free movement within the areas. For example, Kenya locked down the geographical areas of Mombasa, Kilifi, Kwale, and Nairobi, and Rwanda locked down Kigali alongside other districts considered to have high levels of COVID-19 infection [33,60–63]. Uganda, Zimbabwe, and Zambia implemented total lockdowns across the board during the same period. Evidence suggests that infection and transmission rates eased significantly, especially during total lockdowns [100].

Lockdowns, curfews, and physical/social distancing rules limited freedoms and rights but helped to contain the spread of the pandemic. However, the same policies were instrumental in the incumbent governments consolidating their grip on power while curtailing opposition groups and violating rights and civil liberties [101]. The media highlighted violent crackdowns and killings by government armed forces enforcing lockdowns, curfews, and social distancing protocols across the region [102]. The pandemic outbreak coincided with election periods in Ethiopia, Malawi, Uganda, and Zambia, and provided the opportunity for governments to ban political campaigns and/or postpone elections [102]. Notwithstanding politics, the prolonged shutdown of key sectors like education (i.e. schools and higher institutions of learning) without viable learning options was a severe blow to learners with unintended consequences such as high numbers of teenage pregnancies and school dropouts [29,103]. Furthermore, emerging evidence suggests that some learners were unable to return to school post-lockdown due to a variety of factors such as truancy [104]. Uninterested students (truants) and those exposed to child labour to supplement household income, child marriage, and trafficking remain unable to return to school [105].

Overall, eastern Africa was constrained by weak health systems; for example, Kenya had only 21 laboratories capable of performing

PCR testing and 518 ICU beds while Uganda, like many other countries, had much fewer (i.e. nine laboratories and 55 ICU beds) by early 2020 [66]. The poor health systems were exacerbated by limited availability of medical supplies and poor public funding. The region was at the tail end of COVID-19 vaccination due to lack of access and poor logistics. However, there were a few exceptions; the countries of Rwanda and Mauritius were among the first in the region to undertake mass vaccinations as early as February 2021 targeting 60% of their populations [31,33]. Other countries followed with lower targets (i.e. 20% of their populations) starting with high-risk populations with donated vaccines mostly from the Global Alliance for Vaccines and Immunisation (GAVI), COVID-19 Vaccines Global Access (COVAX), and WHO alliance, which enabled the governments across the region to shift from confinement by mid-2021. However, vaccination intervention remained below targets across the region due to inadequate access throughout 2021.

Hygiene, especially washing of hands with soap or using alcohol-based sanitizers, was a critical intervention across the board and was promoted at a macro level through fiscal allocations to water, detergents, and hand sanitizers [25,29,31,40]. At a micro level, authorities regulated hand hygiene. The responsibility to comply with handwashing and/or sanitizing was entrusted to owners of premises to locate handwashing/sanitizing facilities at entry and exit points where people converged for business, work, or shopping. Health messaging promoting hand hygiene was displayed in strategic locations to remind people to adhere [54]. Studies suggest that washing hands with soap and running water is a more effective hygiene practice than using sanitizers; however, when the latter are alcohol-based and if used correctly in the appropriate volume, they can remove micro-organisms [106].

Most of the social-economic policy interventions were undertaken with support from donor institutions who funded the interventions and authored and made the policies accessible. The involvement of foreign donors in social policy development and reporting suggests limited government capacity to independently undertake social policy processes. Notwithstanding the limited capacity, the social policy funding details were mainly accessible through the donor institutions and third parties, while recipient governments remained quiet about the grants and the debts incurred. This suggests a lack of transparency and accountability in the management of COVID-19 funds and may be a strong factor in the widely reported stealing of COVID-19 funds undermining the fight against the pandemic [3].

The absence of hard policies located in some of the study countries does not imply those countries did not have such policies but instead points to the inaccessibility of such policy documents (i.e., the policies were not in the public domain and/or were in languages other than English).

5. Policy implications

This review seeks to generate an intellectual discussion of governments' COVID-19 policy interventions. There is a likelihood of future outbreaks of COVID-19 or other viral infections that will require robust approaches to quickly contain their spread. There is an urgent need to review existing policies, consolidate what worked, and discard aspects that did not work well. New policies that strengthen transborder coordination and separate policy intent from political interests are necessary to address future pandemic threats. Such policies should be backed by implementation strategies that balance desired health outcomes, civil liberties, and social-economic risks. Further research is urgently required to evaluate the effectiveness of the existing policies and their implementation, and to generate the necessary evidence to inform policy redesign across the region.

Our systematic review has applied well-known and validated tools to synthesize evidence from the substantial pool of literature and to frame a way forward that will improve understanding of the COVID-19 policies and practices across the eastern Africa region. This study is limited by the paucity of government documents and, as such, we included documents from secondary sources such as IMF policy summaries and case studies from various sources which provided high-level situational reports of government policy interventions. In addition, inaccessible policy documents and those in other languages than English were excluded as we did not have the resources or linguistic expertise to translate them into English. Notwithstanding our linguistic limitations, we have explored a wide range of literature to capture and include as many policies as possible to overcome the limitation.

6. Conclusion

Since the declaration of COVID-19 as a global pandemic, governments across the eastern Africa region have undertaken stringent statutory policy measures in tandem with soft policies to counter and control the spread of the disease. However, the measures have infringed on civil liberties and human rights and drawn much criticism due to their high-handedness and often violent implementation, and their use for power and control. The pandemic imposed a double social-economic and public health burden on these economies and their endemically weak healthcare systems, compounded by rampant corruption and weak governance. We posit that the hard and soft policy interventions worked in tandem and were necessary to mitigate the pandemic disaster in poorly prepared and ill-equipped countries. Further interrogation is necessary to understand the long-term effects of the policies across the region.

Author contributor statement

JKK and AMNR conceptualized and designed the study. JKK carried out the data search, extraction, quality appraisal and synthesis. RAM reviewed, analyzed and verified the data. BH provided critical input into the data synthesis. JKK drafted the manuscript. RAM and BH reviewed the draft. AMNR reviewed the manuscript for intellectual content and interpretation of findings and supervised the study. All authors approved the final version of the manuscript for submission.

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Ethical approval

No ethical approval was required, as this research utilized publicly available secondary data.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijdrr.2023.103909.

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