

Assessing the state-of-the-art in community engagement for participatory decision-making in disaster risk-sensitive urban development

Abstract

Vulnerable communities are often marginalized in the decision-making process in urban development due to barriers to community entry and challenges for community engagement. The state-of-the-art on these constraints' limits to a specific region, state, or a context; thus, the knowledge is scattered and not forming a global perspective on how and why communities' engagement in urban development has been hindered. Having a sound understanding of the existing barriers and challenges to community inclusive decision-making process is paramount for finding solutions for transforming current practices towards equitable urban development. Accordingly, this comprehensive, structured literature review aims to consolidate literature of the current challenges and barriers to community-driven decision-making in urban development and of the potential solutions to overcome them. A structured literature review covering indexed publications from 2010 to 2020 was carried out to identify and classify barriers/challenges and solutions that exist at present. Following a systematic filtering process, a total of 63 out of 1324 research contributions have been considered for an in-depth analysis. The study found 48 barriers and challenges regarding the current context, available infrastructure for community engagement, and current decision-making processes. Of all, the lack of communities' knowledge and awareness, absence of meaningful community engagement, and ill-defined aims and purpose of community engagement were identified as the topmost constraints. By synthesising the current research, the study found that these barriers can potentially be overcome through attitude transformation and capacity building of both community and professionals, investment in community engagement, and changes to present stakeholder engagement processes and policies.

Keywords: Challenges; Barriers; Community engagement; Participatory decision-making; Disaster; Risk-sensitive urban development.

1. Introduction

The idea of inclusive development involving communities rides high on the international agenda, following the publications of the United Nation's Sustainable Development Goals in September 2015, the Sendai Framework for Disaster Risk Reduction 2015-2030, and the Habitat III New Urban Agenda in 2016. As mentioned in [1], community engagement can be considered as a "purposeful process which develops a working relationship between communities, community organisations and public and private bodies to help them to identify and act on community needs and ambitions". Even though many vulnerable communities are facing the full force of many catastrophic events, only a few attempts have been made in involving vulnerable communities [2] to utilise their experience in developing risk mitigation plans and risk responsive developments. For instance, local communities are largely involved in adaptation rather than in mitigation with few training sessions on increasing the community's awareness of, and preparedness for, disasters [3]. Most of the current decision-making processes are top-down and employ a top-down process which alienates local community members [4]. The local communities are considered as beneficiaries and not as participants in risk-sensitive urban development activities. As a result, government policies are being implemented giving little consideration to local knowledge of vulnerable communities [3, 5]. Consequently, community knowledge and their concerns of disaster risks in the locality are being ignored in urban planning and development projects [3, 6, 7], hence failing to capture

1 locally significant factors. This state poses a challenge for achieving equitable and sustainable
2 developments that address the concerns of vulnerable communities since only the
3 governmental strategies which are typically concerned with economic growth are given
4 priority. In this regard, countries should introduce and enforce processes that allow citizens,
5 including vulnerable groups, to participate in development planning and policymaking [8, 9].
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7 Even though the research based on Group Model Building [10-13] and Community Based
8 System Dynamics [14-17] have shown the potential to engage communities in development
9 agendas, it is evident that the practical inclusion of vulnerable communities in decision-making
10 is still insignificant. Therefore, involving vulnerable communities and employing a multi-level
11 stakeholder collaborative process to build consensus have become pressing challenges in
12 current DRR and urban planning & development projects [18].
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14 Despite the recent focus on urban DRR and increasing investments for urban development
15 projects and smart cities, only a handful of studies have focused on community inclusive
16 developments. Even though many researchers have investigated barriers and practical
17 challenges to participatory decision-making, these studies are predominantly focused on
18 region-specific or context-specific challenges without a global perspective and no prioritisation
19 of these constraints. Therefore, a comprehensive understanding of existing barriers to
20 community entry and issues and challenges in productive community engagement in urban
21 planning and development still warrants a proper investigation. This structured literature
22 review, therefore, aims to fill this gap by consolidating the state-of-the-art of barriers and
23 challenges in participatory decision-making, which can be taken as the basis for future research
24 to address these findings through community inclusive urban development projects. The
25 current study aims to identify an index of barriers and challenges and the potential solutions
26 for overcoming them through a structured literature survey. It is hoped that this study will
27 provide a sound foundation for further research and development in the field of community-
28 driven participatory approaches for promoting equitable urban development solutions.
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38 **2. Research methodology**

39 **2.1 Scope of research and search strategy densification**

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43 Initially, the research question of “What are the prevailing barriers and challenges limiting
44 vulnerable communities’ involvement in the planning and development process of urban
45 projects?” for this study was developed using the PICO (Population, Intervention, Comparison,
46 and Outcomes) approach [19]. Although it was first applied in clinical trials, the PICO
47 approach provides a sound basis for formulating the research question and defining the
48 keywords for the literature survey from the terms included in the research question. Following
49 the PICO approach, the first step was to construct a logic grid (Table 1) and conduct an initial
50 search using the key terms in the grid. Alternative terms or synonyms for the identified concepts
51 were then identified by scanning the titles and abstracts of retrieved articles in this initial search
52 to populate a comprehensive logic grid (Table 2).
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58 *Table 1: Initial logic grid aligned with the PICO elements of the review question*
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Population	Intervention	Comparator	Outcome
<u>urban projects</u>	<u>community involvement</u>	<u>planning process</u>	<u>barriers</u>
		<u>development process</u>	<u>challenges</u>

Table 2: Logic grid with identified keywords added

Population	Intervention	Comparator	Outcome
<u>urban projects</u>	<u>community involvement</u>	<u>planning process</u>	<u>barriers</u>
		<u>development process</u>	<u>challenges</u>
urban area*	human involvement	decision making	socio-economic factors
sustainable development*	local participation	decision-making	
urban development*	community participation	governance approach	
land use planning	community engagement	infrastructure planning	
cit*	community driven	planning process	
residential development*	community-driven	police*	
smart cit*	community-based	procedure*	
urbanisation	community based	adaptive management	
	focus group*	[it]	
	civil society		
	community-based		
	participatory research [IT]		
	community development		
	[IT]		
	citizen science [IT]		
	participatory research [IT]		

Placing the terms into a logic grid illustrates how the related concepts or synonyms have been combined to construct the final search string [20]. This grid provides a comprehensive search strategy consisting of both keywords/free-text words and index terms [20]. Accordingly, the index terms related to the PICO terms of the study were searched from the list of keywords offered by the initial literature search. See the keywords with ‘[IT]’ in Table 2 for the index terms identified. As the final step in developing key terms for the search, search-field descriptors and wildcard characters were applied to the identified keywords and index terms in the logic grid (wildcards are indicated by the ‘*’ sign in Table 2).

Once all the search terms were collected and finalized, the final search strategy was developed. Initially, the key terms and synonyms in the logic grid were combined using Boolean operators: ‘OR’ to combine words/phrases within a column; ‘AND’ to combine words/phrases in different columns. Subsequently, the second search was undertaken across all the selected citation databases with the use of the developed search strategy depicted in Figure 1.

(barriers OR challenges OR socioeconomic factors) AND (“community involvement” OR “human involvement” OR “local participation” OR “community development” OR “urban population” OR “citizen science” OR “civil society” OR “community participation” OR “community-based participatory research” OR “community-based” OR “focus group*” OR “participatory research” OR “community engagement” OR “community-driven” OR “community driven” OR “community based participatory research ” OR “community based”) AND (planning OR development OR “decision making” OR “governance approach” OR “adaptive management” OR “infrastructure planning” OR “planning process” OR “police*” OR “procedure*” OR “decision-making”) AND (“urban projects” OR “urban area*” OR “sustainable development*” OR “urban development*” OR “land use planning” OR cit* OR “residential development*” OR “smart cit*” OR urbanisation)

Figure 1: Literature search strategy developed for the study.

Once the final search was conducted, the search strategy was further refined by selecting relevant filters under search fields, publication year, subject/research area, document type, and language (see Table 3).

Table 3: Filters assigned for the literature search

Categories	Filters
Search fields	Title, Abstract, Keywords
Publication year	From 2010 to 2020
Subject/Research area	Social science, Social work, Sociology, Social issues, Psychology, Arts and Humanities, Urban studies, Development studies, Decision making
Document type	Article, Proceedings paper
Language	English

2.2 Literature search

The next step of the structured literature review involved the selection of databases. Since the use of high-ranking and indexed scholarly journals and conference proceedings are recommended [21], the search was conducted within two highly recognised citation databases: Scopus and Web of Science. These databases allowed a literature search within a broad range of international scientific journals such as Cities, Community Development, and Sustainability, as well as in high-ranking conference proceedings. Furthermore, a Google search was also conducted to identify non-journal sources such as periodic reports issued by subject-related organisations. Finally, all the records generated from the above-mentioned databases were imported to the Endnote software for screening and systematic analysis.

3. Results of the literature search

The complete search found 1,324 records: 1,307 journal articles and conference proceedings from the Scopus and Web of Science citation databases and 17 records from the Google search. From these records, 13 duplicate records were removed, and 575 records were selected after a full-text search. Preliminary screening of these full-text articles, using the titles, keywords and abstracts found 250 of them to have no relevance to participatory approach AND urban

development. Following the preliminary screening, a final screening was conducted in order to include only the articles that meet the following criteria: (1) deals with challenges, barriers, issues, and best practices for community participation; (2) explicitly focuses on the importance of inclusive developments and community empowerment methods/tools/approaches to overcome existing barriers and challenges to community participation in risk-sensitive urban developments. During this screening process, contributions that discussed participatory approaches in other research areas such as food security and agriculture, health and medical topics, transportation, and waste management were excluded. Furthermore, the articles that were related to participatory approaches but did not offer a meaningful discussion on challenges, barriers, issues and/or solutions to overcome them were also excluded. This screening process resulted in 63 research contributions for further in-depth analysis. The depth of the literature search is presented in Figure 2 below, according to the preferred reporting of items for systematic reviews and meta-analyses (PRISMA) method proposed in [22].

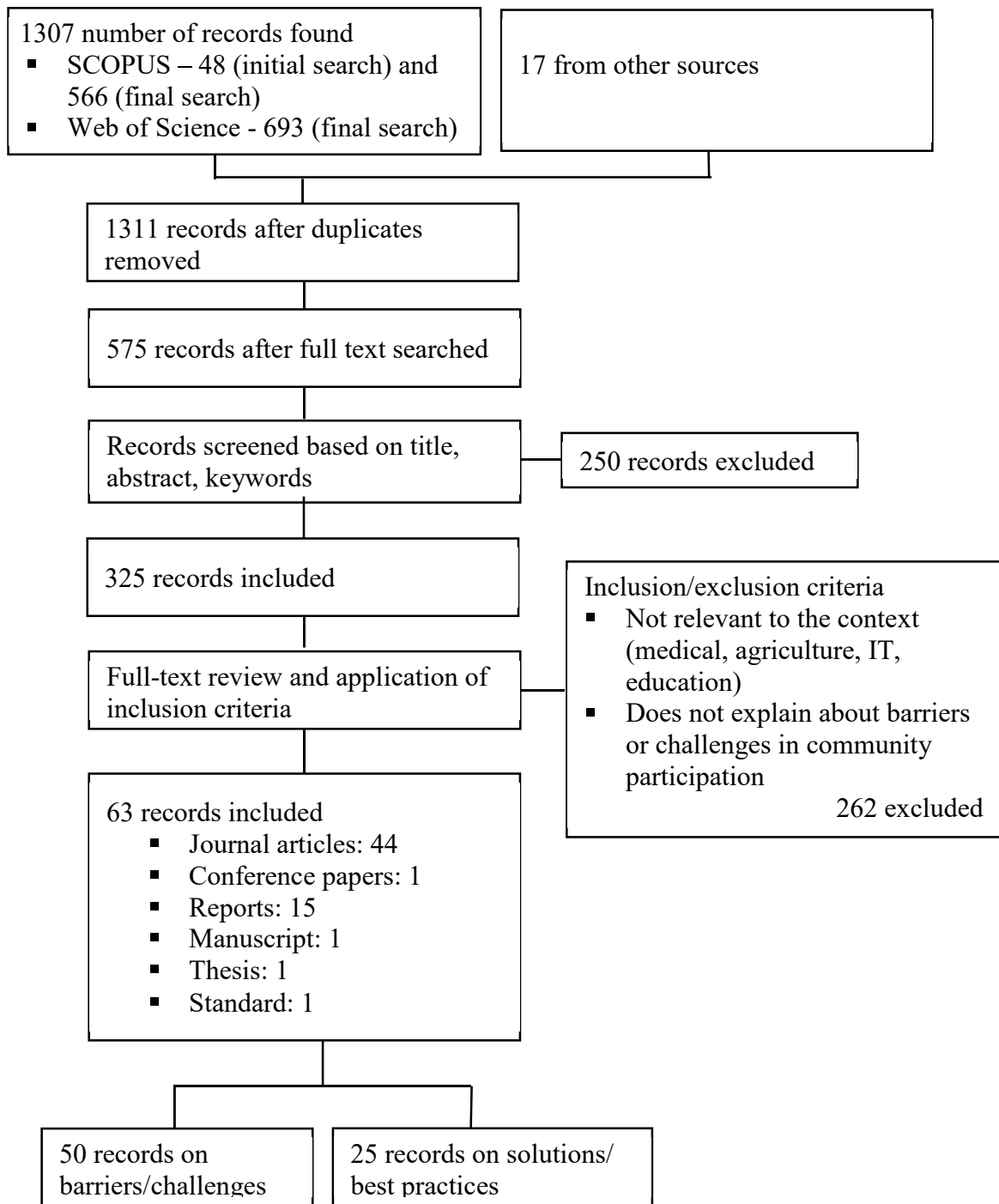


Figure 2: Flow diagram of the study selection

Classification of the study selection according to the type of document, with their year of publication, is presented in Figure 3.

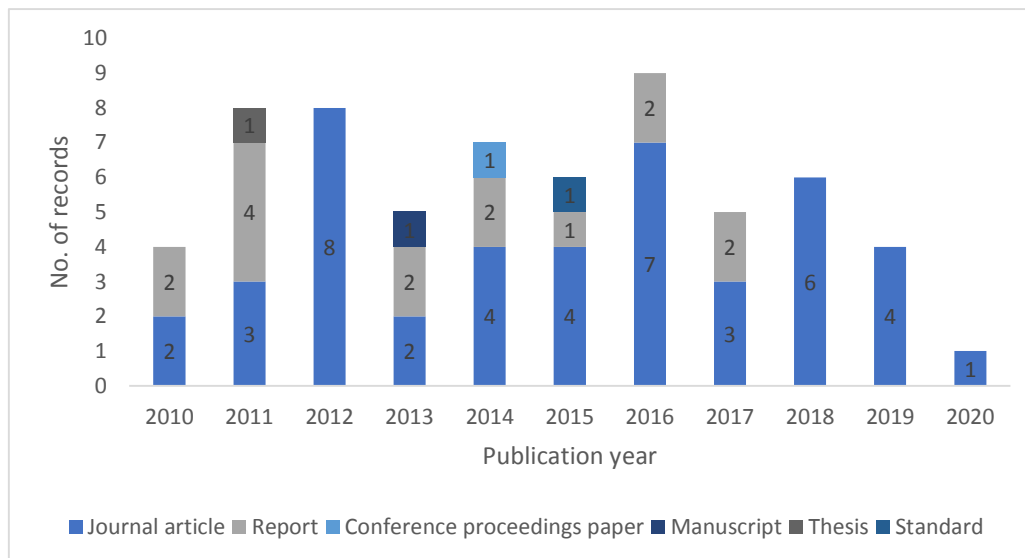


Figure 3: Analysis of research contributions utilised in the in-depth analysis

As observed above, the total of 63 records (regarding community engagement) utilised in the in-depth analysis can be classified into 44 journal articles, 15 reports, 1 conference paper, 1 manuscript, 1 thesis, and 1 standard for community engagement. In terms of year of publication, most of the publications were published in 2016 (14%) while 2011 and 2012 have the second-highest number of publications (13%).

4. Findings and the Discussion of the structured literature review

As the next step of the structured literature review, the search results were analysed and synthesized to extract the state-of-the-art knowledge on (1) barriers and challenges to community entry and engagement in risk-sensitive urban planning and development, and (2) solutions and best practices to overcome constraints for inclusive urban planning and development. The outcome of this analysis is presented in the following section.

4.1 Barriers and challenges to community entry and participatory decision-making in risk-sensitive urban development

The structured literature survey conducted revealed 48 barriers and challenges that constrain community entry and engagement in participatory decision-making in risk-sensitive urban planning or inclusive developments. Observing the nature and similarities of the barriers and challenges identified through the structured literature review, these constraints were classified into seven themes under three specific areas: (1) context, (2) infrastructure, and (3) process. The barriers/challenges found were analysed based on the number of citations and ranked according to the percentage of citations derived for each barrier/challenge. Table 4 below presents the barriers and challenges identified, together with the results of the analysis.

Table 4: The key barriers and challenges to community entry and engagement in risk-sensitive urban planning and development

Area	Theme	Barrier/Challenge/Issue	Sources	Number of citations		Rank
				Quantity	%	
C	Community capacity	1. Lack of communities' knowledge and awareness of urban development plans, formal development procedures, and benefits of community participation	[5, 23-34]	13	26%	1
		2. Consultation fatigue due to lack of communities' interest in engagement	[35-41]	7	14%	6
		3. Lack of capacity (individuals' lack of interpersonal skills and/or self-confidence) within community organisations	[23, 33, 34, 42, 43]	5	10%	8
		4. High levels of poverty that exist within most community members inspire them not to attend in engagement activities	[41, 44-48]	5	10%	8
		5. Low levels of literacy and numeracy and the dominance of oral culture among communities	[24, 26, 27, 29, 47]	5	10%	8
		6. Cultural norms and life circumstances (inconsistency with community traditions)	[6, 27, 29, 42]	4	8%	9
		7. Negative community perceptions of participation in the planning system	[24, 28, 43]	3	6%	10
		8. People reluctant to engage due to inability to attend meetings/training caused by physical impairment, and lack of consciousness caused by mental impairment	[42]	1	2%	12
O	Quality of existing inter-communities and between communities and policymakers relationships :	1. Absence or lack of meaningful engagement with community	[23, 33-35, 38-40, 44, 46, 47, 49, 50]	12	24%	2
		2. History of poor relations of communities with decision-makers and urban planners	[23, 33, 34, 40, 46, 47]	6	12%	7
		3. Community engagement is considered as a threat by communities due to discrimination, fear of exposure to authorities (over drug use, immigration status, or stigmatising illness), and engagement is seen as diverting existing funding into other initiatives	[33, 34, 41, 51]	4	8%	9

4.	Communities' lack of trust, respect, and confidence in the planning system	[29, 31, 37]	3	6%	10
5.	Poor community leadership that does not give feedback to community members	[52, 53]	2	4%	11
6.	No fair representation from communities	[35, 54]	2	4%	11
7.	Competing agendas across stakeholders within partnerships	[33, 37]	2	4%	11
8.	Limited understanding of the roles and responsibilities of participants	[37]	1	2%	12
9.	No recognition of community rights and responsibilities by decision-makers	[37]	1	2%	12
10.	Some community members (political followers) involved in informal political networks to gain own personal benefits rather than having a collective and long-term approach for urban development	[32]	1	2%	12
1.	Continuous top-down and centralised management of government authorities	[6, 25, 33, 41, 54-58]	9	18%	4
2.	Lack of organisational commitment for engaging communities	[26-29, 33, 36, 37, 59, 60]	9	18%	4
3.	Absence of accountability: although governments have an obligation to inform participants how they use inputs received through engagement, this is not fulfilled	[37, 52, 61]	3	6%	10
4.	Lack of understanding of community engagement tools and techniques for specific circumstances	[40, 45, 50]	3	6%	10
5.	Professionals' lack of knowledge and skills in participation techniques and participation competences	[40, 62]	2	4%	11
6.	Official attitudes towards seldom-heard people	[42]	1	2%	12
7.	Professionals' inflexibility in terms of finding a common agenda with the community	[36]	1	2%	12
I	Investment in				
N	infrastructure				
F	and planning				
1.	Lack of appropriate training for professionals to conduct community engagement and development programmes	[24, 26, 28, 29, 31, 33, 37, 60, 63]	9	18%	4

R	to support	2. The information gap between citizens and the government: citizens' lack	8	16%	5
A	community	awareness of government meetings, familiarity with government	[24, 26-28, 30, 45, 52, 64]		
S	engagement	officials, or knowledge about government affairs			
T		3. Limited financial resources for supporting community participation	7	14%	6
R			[6, 26-28, 31, 40, 62]		
U		4. Limited resources for participation: lack of knowledgeable and	6	12%	7
C		experienced professionals, venues, and material for workshops	[26-29, 36, 54]		
T		5. Lack of communication channels between decision-makers and	6	12%	7
U		community	[6, 26-28, 31, 64]		
R		6. Rural isolation due to weak community infrastructure: poor roads and	5	10%	8
E		transportation	[6, 38, 45, 52, 65]		
		7. Lack of participation mechanisms to achieve consensus in an efficient	3	6%	10
		manner	[26, 28, 66]		
		8. Lack of dedicated staff to engage with communities	3	6%	10
		[33, 34, 67]			
		9. Lack of technology for supporting effective community participation	1	2%	12
		[43]			
		10. Lack of appropriate training for communities for engaging with	1	2%	12
		decision-makers in the urban development processes	[33]		
		1. The aim and purpose of engagement are ill-defined, with a lack of	10	20%	3
		clarity (mixed messages), a lack of transparency and confused	[2, 25, 28, 29, 33, 36, 37, 52, 56, 68]		
P		expectations			
R		2. Limited time is given for building trust, establishing participatory	8	16%	5
O		suggestions, and achieving results	[25-28, 33, 37, 60, 68]		
C	Stakeholder	3. Complexity of current decision-making process due to inevitable	7	14%	6
E	engagement	tensions between stakeholders	[24, 26, 28, 29, 31, 37, 63]		
S	process	4. Weak administrative structure in local government to support	5	10%	8
S		community participation	[24, 26-28, 40]		
		5. Uncoordinated national development policies	2	4%	11
		[58, 69]			
		6. No meaningful evaluation of community transformation and project	2	2%	11
		success	[43, 53]		

7.	Conflicts between objectives set by governments and the needs of local communities	[37]	1	2%	12
1.	Some communities are excluded due to improper event logistics	[26, 28, 29, 33, 36, 43, 68]	7	14%	6
2.	The information provided cannot be clearly understood by the general public: use of scientific language and inconsistent use of terminology	[24, 26, 29, 31, 36, 37]	6	12%	7
3.	Unequal community representation due to the existence of partisanships between government and community representatives	[33, 34, 37, 40, 43, 45]	6	12%	7
4.	Some communities are excluded due to cultural and language issues	[33, 34]	2	4%	11
5.	Excluding seldom-heard people and not encouraging apathetic majority for engagement	[33, 60]	2	4%	11
6.	Exclusion of community champions or leaders due to administrative delays	[33]	1	2%	12

Inclusive and accessible practice

4.1.1 Context-specific barriers and challenges

As observed from Table 4, 25 out of the 48 barriers (which is the highest number of barriers per area) were identified as context-specific barriers. These constraints were further classified into three main themes: community capacity (8 barriers), quality of existing relationships (10), and organisational culture, attitudes, and knowledge (7). Among the eight barriers associated with the community capacity, the lack of communities' knowledge and awareness of urban development plans, opportunities, and formal development procedures [5, 23-34] is prominent (and is the most cited barrier), causing communities to be disengaged from participation. In this regard, Protik and Nichols-Barrer [30] stated that most urban people have no idea about the discernible impacts of community engagement in urban development plans. Consultation fatigue, due to a lack of communities' interest in engagement [35-41], is the second top barrier with communities and causes the public to not to take part in decision-making in sustainable development plans. Three further challenges: a lack of capacity within community organisations [23, 33, 34, 42, 43]; the high levels of poverty that exist for many community members [41, 44-47], and low levels of literacy and numeracy and the dominance of oral culture among communities [24, 26, 27, 29, 47] were identified as the next set of barriers hampering community engagement. Other barriers to participatory approaches in urban development (due to incapacities and incapability exist within communities) are cultural norms and life circumstances [6, 27, 29, 42], negative community perceptions of participation in the planning system [24, 28, 43], and people reluctant to engage due to an inability to attend meetings/training caused by physical impairment and/or a lack of consciousness caused by mental impairment [42].

The lessons learnt and negative experiences from previous and ongoing inclusive development projects such as CH4LLENGE [36] point out 10 key issues with current relationships among communities, urban planners, and government. The absence or lack of meaningful engagement with communities in the context of urban development (especially with communities that have been marginalised and excluded) [23, 33-35, 38-40, 44, 46, 47, 49, 50] is the most highlighted challenge in this theme as well as the second top barrier from the whole set of barriers and challenges identified for community-driven decision-making for risk-sensitive urban developments. These marginalised community groups include the ageing population, people with disabilities, seldom-heard youth, and minority groups [45]. However, as a contradictory view, [39] opined that it would be a mistake to assume that these marginalised groups would all be willing to engage with planning if the barriers were removed. It can be further commented that there is no reason to suppose that the seldom-heard would be more motivated to participate than the apathetic majority [37]. Six research contributions have highlighted that there are poor relations of communities with decision-makers and urban planners [23, 33, 34, 40, 46, 47]. For example, a lack of a participation tradition is evident in Eastern European countries in particular, where institutional cultures still place a low priority on participation rather than allowing citizens and stakeholders to actively contribute to the urban planning process and form its outcomes [40]. Similarly, the participation of displaced communities in resettlement planning is also extremely limited, with city officials undertaking the whole process and only coming to the communities during displaced community registration [47]. In addition, some

1 communities consider community engagement as a threat due to discrimination, fear of
2 exposure to authorities (concerning drug use, immigration status, or stigmatising illness), and
3 they see engagement as a means of diverting existing funding into other initiatives [33, 34, 41,
4 51]. Apart from these highly cited barriers, there are seven barriers that represent the quality of
5 existing relationships among communities and communities with decision-makers and urban
6 planners. They are communities' lack of trust, respect, and confidence in the planning system
7 [29, 31, 37]; poor community leadership [52, 53]; unfair community representation [35, 54];
8 competing agendas across stakeholders within partnerships [33, 37]; both the communities'
9 and the organisers' limited understanding of participants' roles and responsibilities [37]; no
10 recognition of community rights and responsibilities by decision-makers [37], and some
11 community members being involved in informal political networks to gain their benefits rather
12 than having a collective and long-term approach for urban development [32].
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17 In terms of organisational context, dominant organisational cultures, officials' negative
18 attitudes and bad practices constrain communities' participation in sustainable development
19 projects. From the seven barriers gathered under the organisational culture, attitudes, and
20 knowledge, two of them are ranked in the fourth place when viewing all the 48 barriers
21 identified. Firstly, there is the factor current continuous top-down and centralised management
22 of government authorities [6, 25, 33, 41, 54-58] causes resistance to sharing power and control
23 with community actors [54]. Secondly, many researchers [26-29, 33, 36, 37, 59, 60] stated that
24 the existing organisational commitment for community engagement is extremely low. It is
25 evident that for some developers and local authorities, engagement is too often a matter of
26 managing expectations rather than evidence of a real commitment to reach out to communities
27 and to listen and respond to what is said [37]. Furthermore, there is not much evidence of a
28 willingness to change policies or amend development proposals to reflect the views of
29 communities [37]. Fung [55] also is of the opinion that current procedures only have an
30 extremely limited discussion on the role of third-sector organizations (such as voluntary
31 associations, non-governmental organisations (NGOs), community organizations, and non-
32 profit organizations) in supporting community development activities. Other barriers classified
33 under this theme include professionals' lack of understanding on community engagement tools
34 and techniques for specific circumstances [40, 45, 50]; professionals' lack of knowledge and
35 skills on participation techniques and participation competences [40, 62]; official attitudes
36 towards seldom-heard people [42], and professionals' inflexibility in terms of finding a
37 common agenda with the community [36].
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47 **4.1.2 Infrastructure related barriers and challenges**

48 In addition to the above discussed critical context-specific barriers and challenges to
49 community-driven decision-making in risk-sensitive urban development, the study gathered
50 another 10 barriers relating to the infrastructure for community engagement. These barriers and
51 challenges lean more towards investments in infrastructure and planning to support community
52 engagement. Of these constraints, the most cited barrier in this theme is the lack of appropriate
53 training for professionals to conduct community engagement and development programmes,
54 particularly with regard to training on how to incorporate communities in participation
55 mechanisms [24, 26, 28, 29, 31, 33, 37, 60, 63]. Therefore, the literature emphasizes that more
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1 investments are needed for professional capacity building and development programmes.
2 Secondly, current community representation in urban development processes has been
3 hindered due to the less information being available to the citizens [24, 26-28, 30, 45, 52, 64];
4 most particularly, information on government meetings and familiarity with government
5 officials, and knowledge about government affairs [30]. It is further argued that these
6 information are not presented well due to ineffective methods of disclosing information and
7 the difficulty of obtaining information at the local level [26-28, 31]. Limited financial resources
8 allocated for community participation [6, 26-28, 31, 40, 62] is highlighted as the second top
9 barrier under investments. Fulfilling budgetary requirements is key to the success of any
10 implementation. In addition to financial investments, there is also limited availability of other
11 resources required for community participation. These resources include a lack of
12 knowledgeable and experienced professionals as well as venues and material for workshops
13 [26-29, 36, 54]. Poor community engagement is further exacerbated by weak communication
14 channels, particularly, between decision-makers and communities [6, 26-28, 31, 64]; rural
15 isolation due to weak community infrastructure; poor roads and transportation [6, 38, 45, 52,
16 65]; a lack of participation mechanisms to achieve consensus in an efficient manner [26, 28,
17 66]; shortage of dedicated staff to engage with communities [33, 34, 67]; unavailability of
18 appropriate technology for supporting effective community participation [43], and a lack of
19 appropriate training for communities for engaging with decision-makers in urban development
20 processes [33].
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29 **4.1.3 Process centred barriers and challenges**

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31 The third area on process consists of 13 barriers to community entry and challenges for
32 community engagement in sustainable development plans. Seven out of 10 barriers are
33 gathered under the theme of the stakeholder engagement process while the rest of the barriers
34 (6 barriers) are listed under inclusive and accessible practice. Many researchers are of the view
35 that the aim and purpose of community engagement are ill-defined due to lack of clarity (mixed
36 messages) and lack of transparency: consequently, these status quo cause confused
37 expectations [2, 25, 28, 29, 33, 36, 37, 52, 56, 68]. Of all the 48 barriers identified, this is the
38 third most cited challenge for community engagement. Additionally, current engagement
39 processes provide communities with only a limited time for building trust with decision-makers
40 and urban planners to establish participatory suggestions and achieve results [25-28, 33, 37,
41 60, 68]. This may discredit any efforts taken for participative decision-making and thereby
42 wipe out the informed engagement of communities. It is known that current decision-making
43 processes in city developments are hugely complex and, therefore, some tensions and conflicts
44 of interests are inevitable [24, 26, 28, 29, 31, 37, 63]. Such tensions are ranked as the third
45 challenge within stakeholder engagement processes. Although 4 out of the 7 barriers have been
46 cited less, it is noted that existing stakeholder engagement processes are less effective due to:
47 weak administrative structures in local government to support community participation [24,
48 26-28, 40]; uncoordinated national development policies [58, 69]; an absence of meaningful
49 evaluation of community transformation and project success [43, 53], and conflictive
50 objectives between governments and communities [37].
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1 Improper coordination of event logistics [26, 28, 29, 33, 36, 43, 68] is the most commonly cited
2 challenge for inclusive and accessible practice. In particular, some people cannot physically
3 reach the planned venues for community participation due to geographical boundaries [33, 68]
4 and limitations relating to access (e.g. transport, event timing, safety, and accessibility to the
5 location of meetings) [26, 28, 29]. Inclusive and accessible practice is further hindered when
6 the information is not provided in a format that can be clearly understood by the community in
7 order to understand what is being proposed and thus contribute effectively [36, 43].
8 Incomprehensible information provided to participants is often hard to understand due to
9 technical language and the inconsistent use of terminology [24, 26, 29, 31, 36, 37]. The next
10 most argued challenge in this theme is failures in the community participation structure [43].
11 Overlooked participation, the exclusion of seldom-heard people [37, 45], unrepresentativeness
12 and partisanship among community representatives [33, 34] cause an imbalance of
13 stakeholders in the participatory process. Furthermore, such an imbalance can occur between
14 interest groups (who can strongly communicate their opinion) and weaker community members
15 (who have difficulties in communicating their interests in the process) [40]. Alongside the
16 above discussed commonly cited barriers and challenges to inclusive and accessible practice
17 in the participatory decision-making of risk-sensitive development projects, the study found
18 another three challenges which are less cited. These challenges are the exclusion of: some
19 communities due to cultural and language issues [33, 34]; seldom-heard people and not
20 encouraging the apathetic majority for engagement [33, 60]; and community champions or
21 leaders due to administrative delays [33].
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30 **4.2 Solutions and recommended best practices to overcome barriers and challenges in** 31 **inclusive urban developments** 32

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34 The study found several possible solutions and recommended best practices to overcome some
35 of the barriers discussed in Section 4.1. These solutions and best practices are listed in Table
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Table 5: The recommended solutions and best practices for overcoming barriers and challenges to inclusive urban developments

Area	Theme	Barrier/Challenge/Issue	Solutions/Best practices
		Communities themselves reluctant to engage due to incapacities associated with them. These incapacities mainly include psychological/internal factors; the level of knowledge, awareness, and skills; negative thoughts; consultation fatigue; physical and/or mental impairment.	<ul style="list-style-type: none"> ▪ Community training to involve citizens in formal government procedures [66] ▪ Early advertising of engagement opportunities through multiple channels to increase awareness [33] ▪ Educate communities of the importance and benefits of participation and let them feel that the processes are transparent and worthy of their trust [36] ▪ Conduct community development programmes to overcome poverty [70] ▪ Offer additional incentives such as welfare facilities to participate [37]
		Negative experiences from previous participatory decision-making events make both communities and decision-makers less interested in community engagement. This factor represents untrustworthy relationships: among different types of stakeholders; between communities, between communities and decision-makers and urban planners.	<ul style="list-style-type: none"> ▪ Establish working groups to identify barriers to involvement in planning [37, 49, 71] ▪ Communicate regularly to discuss the scope and potential influence of the participation process [2, 36] ▪ Implement the knowledge-based urban development (KBUD) paradigm to increase trust [72] ▪ Third-party rights of appeal for communities should be introduced to empower communities [2, 71] ▪ Community councils should be given a statutory right to be consulted on development plans to address the power imbalance between communities and decision-makers [71] ▪ Develop a strong social capital (e.g. improved communication and cohesion between different groups residing in one settlement, strengthening existing or establishing new social networks such as self-help groups, youth clubs etc.) [6]
C	Quality of existing relationships: inter-communities and between communities and policymakers		
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T			
		Organisational boundaries and little experience in working across scales make professionals physiologically and practically backward in accepting community representatives within decision-making in government procedures.	<ul style="list-style-type: none"> ▪ Decentralised decision making, with responsibilities spread over different stakeholder organisations [40] ▪ Implementing a multi-disciplinary approach that takes into account the dynamic relationship between the bottom-up and top-down dimensions [73] ▪ A continuing commitment to early engagement of communities in planning [71, 74] ▪ New institutional discussion forums operating on urban scales are required for effective participation [75]
	Organisational culture, attitudes, and knowledge		

		<ul style="list-style-type: none"> ▪ Offering opportunities for community decision-making and partnerships [50] ▪ Public bodies must demonstrate a willingness to trust the public and take the results of participation seriously [36] ▪ Strengthen accountability and inclusiveness by devolving authority to the local level communities and their representatives [75] ▪ A review of the skills and participation competences of the administration [40] ▪ The identification of relevant experts from various disciplines to ensure the quality of decisions [40] ▪ Implement the main elements of effective community engagement such as inclusion, support, planning, working together, methods, and communication, as suggested in local and international Community Empowerment Acts [37]
I		Use of citizen science to identify community challenges and solutions [76]
N		Allocate enough time and resources to sustain communication channels between different community groups [66]
F		Use mass media (e.g. newspapers printed in main local languages) as an important information channel and agenda-setter [77]
R		Use social media and mobile applications as a means of communication [43]
A	A lack of financial investment as well as limited resources (such as experienced personnel, information, communication, and technology) constrain the successful implementation of community engagement.	Establish a fixed budget for community participation [2]
S		Personnel, time, and financial resources need to be reviewed and assessed [40]
T		Use of horizontal initiatives such as shared funding among departments to encourage collaborative working [52]
R		Provide a forum to encourage dialogue, share information, and create strategies and actions that promote rural development [52]
U		Investment in improving human capital (e.g. providing education and vocational training and increasing awareness) [6]
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P	The existing engagement process appears to be complicated with ill-defined aim and objectives, no proper timeline, weak administrative structures, and policy breakdowns.	Planners and policymakers should not set unrealistic targets for participation [37]
R		Related laws and regulations regarding the community participation process in the municipal processes and services should be issued [66]
O		Ensure giving sufficient time for obtaining the results from new participatory organisations for sustainable development [2, 35]

C

- Use of three key measures for the evaluation of community suggestions regarding urban development: (1) public satisfaction; (2) a better final product; (3) community empowerment [43]
- Communities should be empowered to bring forward local place plans, and these plans should form part of the development plan [71]
- Use of quantitative participatory methods and participatory numbers to identify appropriate stakeholders [7]
- Stakeholder mapping for integrating different forms of knowledge [7, 40, 76, 78]
- Implementation of co-production models [79, 80]
- Focus on making the planning process more accessible, user-friendly and relevant [37]
- Generate community engagement processes that can adapt to a variety of urban, regional and rural settings [38]
- Careful preparation of the consultation process [40]

E

- Consider (a) the timing of events, childcare provision, wheelchair access and transport, and (b) how events are publicised, how the material is distributed, jargon-free language, braille and large print formats, translation into other languages [36]
- Using familiar places and creating an informal atmosphere [33]
- The community engagement activity needs to go out into the community [43]
- Plain language and provision for non-native language speakers [33]
- Determine: who should be involved; what form of participation is appropriate, and when to involve [36]

Community participation structures finalised by decision-makers are not always productive since they have the potential to exclude some communities due to event logistics, partisanships, cultural and language discriminations, and administrative delays.

Inclusive and accessible practice

1 Among the solutions mentioned to overcome the incapability and incapacities that exist with
2 communities, the most significant actions to be taken are (a) to conduct training for
3 communities on formal government procedures, and (b) to practically focus on participation
4 strategies in municipal planning and budgeting processes [66] to improve community
5 knowledge. Early advertising of engagement opportunities through multiple channels [33] is
6 suggested to improve community awareness of the purpose of, and the community's role and
7 responsibilities in, inclusive developments, and how they can be of benefit to communities.
8 While there are no simple answers to problems of consultation fatigue, interest will probably
9 increase to the extent when people see the relevance to them of participating and feel that the
10 processes are transparent and worthy of their trust [36]. Community involvement in urban
11 development interventions also entails some costs in terms of their time, labour and resources.
12 Consequently, this circumstance limits the participation of poor communities in urban
13 development initiatives especially when such involvement requires a cash contribution [52].
14 The study conducted by [70] strongly indicated that the interventions of community
15 development programmes through the formation of community organisations can significantly
16 decrease the prevalence and depth of poverty. Local governments can provide financial or other
17 forms of incentives for community members to encourage their participation [37].

18 Furthermore, a few solutions were found to improve the quality of existing relationships: inter-
19 community, inter-departmental, and between communities and decision-makers and urban
20 planners. Working groups can be established to facilitate the representation of various
21 community and institutional stakeholders in development processes to improve the quality of
22 community engagement [37, 49, 71]. In addition, regular communication is required to discuss
23 the scope and potential influence of the participation process [2, 36]. It is suggested that the
24 implementation of the KBUD (knowledge-based urban development) paradigm [72] not only
25 increases community trust but it also eliminates negative perspectives on participatory
26 approaches. KBUD perspectives can inspire city authorities to put technology at the service of
27 the public to motivate socio-economic interactions and propel the city into its knowledge-based
28 future (e.g. e-governance, equal access, and knowledge of ICT usage) [72]. Socio-economic
29 networks can either directly or indirectly engage the public in knowledge-intensive activities
30 and, in return, foster public trust [72]. In addition, third party rights of appeal should be
31 introduced [2, 71] and community councils should be given a statutory right to be consulted on
32 development plans [71] in recognition of community rights and responsibilities. The literature
33 indicates a diminishing of links among different community sectors and, therefore, it is
34 necessary to take measures to strengthen the social capital [6]; for example, improve
35 communication and cohesion between different groups residing in one settlement, and
36 strengthening existing or establishing new social networks such as self-help groups and youth
37 clubs etc.

38 Existing top-down governance and organisational boundaries is a highly cited barrier in the
39 organisational context, and many researchers have suggested implementing a decentralised
40 decision-making system, with responsibilities spread over different departments, as a potential
41 solution to address this barrier [40]. A multi-disciplinary approach that takes into account the
42 dynamic relationship between bottom-up and top-down dimensions is needed to understand
43 the contemporary challenges to participatory decision-making [73]. A multi-disciplinary
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1 approach draws attention to the interaction between top-down factors (as normative pressure
2 from global society) and bottom-up factors (as localised political challenges) and the potential
3 tensions and trade-offs that exist between them [73]. A continuing commitment of
4 professionals with new institutional forums operating on urban scales may be required [74] for
5 effective inclusive decision-making. It is, furthermore, important to develop professionals'
6 attitude regarding offering opportunities for a community to take part in decision-making and
7 partnerships [50] and to trust the public and take the results of participation seriously [36]. As
8 a solution to current issues with accountability, powers of authority can be devolved to local
9 level communities and their representatives to strengthen accountability and inclusiveness [75].
10 The skills and competences of administrative people are required to review, and to identify,
11 areas to be developed and experts from various disciplines (such as community engagement,
12 community empowerment and participatory approaches) should be recruited to ensure the
13 quality of decisions taken and meaningful engagement with the public [40]. As most nations
14 do not have a national Act on community engagement, it is recommended to take measures to
15 implement the main elements of effective community engagement as put forward by
16 international community empowerment Acts [37] which would promote six elements:
17 inclusion, support, planning, working together, methods, and communication.
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24 A lack of appropriate training for professionals to conduct community engagement and
25 development programmes was found as the most cited barrier within an infrastructure setting
26 for community participation. Therefore, it is important to organise frequent professional
27 development programmes for decision-makers. It is recommended that investments should be
28 made in improving human capital (e.g. providing educational and vocational training and
29 increasing awareness) [6] for both professionals and communities. It has been recommended
30 that the information gap between communities and administration can be addressed by
31 applying citizen science approaches since these approaches can help to generate more equitable
32 and cooperative relationships between experts and laypeople [76]. It is further suggested that
33 communication should be reinforced within communities (as well as between communities and
34 decision-makers and urban planners) by allocating enough time and resources to sustain
35 communication channels [66], and by using mass media [77], social media and mobile
36 applications [43]. Additionally, even though it is a challenging task to determine and retain a
37 sufficient amount of capital to support community involvement in urban development, it is
38 recommended to have a fixed budget for such a project [2]. It is suggested that there should be
39 a review and assessment of personnel, time, and financial resources [40] periodically, while
40 the issue of limited resources can be further managed by implementing horizontal initiatives,
41 such as shared funding among departments [52]. The rural isolation of some communities can
42 be addressed by introducing a forum to encourage dialogue, share information, and create
43 strategies and actions that promote rural development [52].
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53 Of all the process-centred barriers and challenges, the most highlighted barrier is the unclear,
54 non-transparent and confused aim of community engagement, which can be solved by
55 introducing clear laws and regulations for the community participation process [66]. It is also
56 important to set more realistic targets for participation [37] and allocate enough time for
57 community participation [2, 35]. In addition, the stakeholder engagement processes should be
58 armed with an effective method of evaluating public satisfaction, the equitability of the final
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1 product, and community empowerment [43] so that the value of participatory approaches can
2 be measured and demonstrated. Furthermore, communities should be empowered to bring
3 forward local place plans, and their plans should form part of the development plans [71]. In
4 addition, the current participatory processes can be further improved by the pre-determination
5 of correct stakeholders with the use of quantitative participatory methods (such as ranking,
6 counting and scoring, enumeration, mapping, piling, timeline and calendar, pair-wise ranking
7 and matrixes, measuring, and Venn diagrams) for the better integration of top-down and
8 bottom-up actions in DRR [7]. Early participatory mapping [7, 40, 76, 78] and the
9 implementation of core-production models [79, 80] will help to integrate different forms of
10 knowledge for the successful accomplishment of inclusive developments. It is further
11 recommended to make the planning process more accessible, user-friendly and relevant [37],
12 to generate community engagement processes that can adapt to a variety of urban, regional and
13 rural settings [38], and to undertake a careful preparation of the consultation process [40] to
14 improve stakeholder engagement processes.
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20 In terms of inclusive and accessible practice, there is a big emphasis on running engagement
21 events at convenient times and places, in conjunction with offering childcare and other facilities
22 such as wheelchair access and transport [36]. To reduce the financial burden, planners should
23 seek to bring community engagement activities to community places [43]. It is further
24 recommended to use familiar places and create an informal atmosphere to make communities
25 feel at ease [33]. In addition, plain language and provisions for non-native language speakers
26 will increase community understandability and inclusivity. Moreover, it is a crucial need to
27 have an inclusive participation structure and, therefore, it is recommended to determine early
28 on who should be involved, what form of participation is appropriate, and when to involve
29 participants [36].
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35 **5. Conclusions**

36
37 This research set out to conduct a comprehensive, structured literature review to establish a
38 sound understanding of the current challenges and barriers to community-driven decision-
39 making in disaster risk-sensitive urban development, and the potential solutions to overcome
40 them. The study found forty-eight (48) barriers and challenges with regard to inclusive
41 development related to community engagement under the categories of context (community
42 capacity, quality of existing relationships, organisational culture, attitudes and knowledge);
43 infrastructure (investment in infrastructure and planning to support community engagement),
44 and process (stakeholder engagement process, inclusive and accessible practice). Among these
45 barriers, the lack of communities' knowledge on how best to engage in participatory decision-
46 making in development processes as well as a lack of awareness of the benefits that they can
47 gain through community engagement was the most highlighted barrier. The second most cited
48 constraint was the absence or lack of meaningful engagement with communities by the
49 decision-makers. Ill-defined aims and purpose of community engagement, as well as a lack of
50 clarity, a lack of transparency and confused expectations exist within present stakeholder
51 engagement processes, came as the third top obstacle with regard to the inclusion of vulnerable
52 communities in urban development.
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1 The study observed that the solutions for addressing context-specific barriers should be
2 targeted at transforming the attitude and capacity building of both communities and
3 professionals in community-driven participatory urban development. The study highlighted
4 that most of the barriers are context-specific and, therefore, more efforts are needed to improve
5 the community and organisational context. The study uncovered that there is an urgent need
6 for building the organisational capacity of decision-makers to support the effective
7 implementation of participatory decision-making to achieve equitable outcomes in urban
8 development. The organisational context should be transformed by incorporating bottom-up
9 dimensions instead of having dominant top-down governance, and decision-making and
10 management powers should be decentralised with responsibilities spread over different
11 stakeholder organisations. The infrastructure-oriented barriers should be addressed by
12 investing in supporting community engagement activities, appointing experienced personnel
13 to handle the engagement process, and establishing better communication channels with
14 communities. Furthermore, the process-related barriers need to be addressed by strengthening
15 the participatory element within the current urban development processes and policies as well
16 as including the appropriate stakeholders who can bring multi-disciplinary knowledge to the
17 engagement process to achieve equitable results. This research also showed that there is a lack
18 of legislative enactments or standards for community engagement. Therefore, it is vital to make
19 laws for public participation in decision-making while creating new, sensible policies and
20 reviewing existing processes for required changes. However, attempts to realize community
21 participation in current legislations have failed to adequately address the underlying factors
22 such as clearly defined roles and functions of community representatives, effective and
23 accountable channels for participation for communities to engage with government bodies, and
24 training and capacity building needs of community representatives, which are crucial for
25 promoting effective participation and enactment of legislations [81]. Legislative enactments
26 which are exclusively designed for community engagement in urban development projects
27 should specify how and in which level the public participation is expected and meaningful,
28 depending on the nature of development (i.e. residential, commercial, industrial or public
29 infrastructure) as well as in which phase the community representatives need to be engaged in
30 the planning process [82, 83].

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32 Figure 4 below captures the barriers and challenges that were identified during this study and
33 the nature of the solutions that need to be undertaken for implementing an inclusive and disaster
34 risk-sensitive urban development that can result in an equitable outcome for vulnerable
35 communities.
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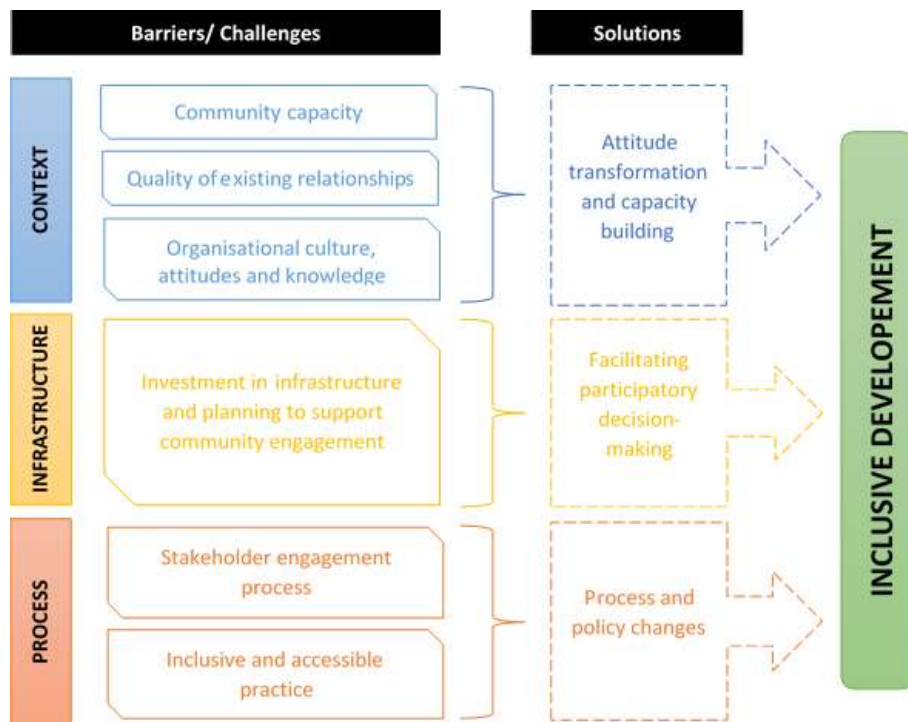


Figure 4: Conceptual model for achieving inclusive developments through addressing associated barriers and challenges

As shown in Figure 4, the solutions identified have grouped in to three categories such as attitude transformation and capacity building, facilitating participatory decision-making, and process and policy changes. It is clear that these key groups of solutions identified are challenging and costly in implementation. Furthermore, implementing community-engaged decision-making approaches for urban development may inopportune for many more years due to adverse influences of prevailing Covid-19 outbreak and resulting global economic recession. For example, participatory approaches may be discouraged due to social distancing and public gathering restrictions imposed while finance for infrastructure development and planning support for community engagement would also be limited by the current global economic recession. Public interest in collaboration may also be derelict due to loss of social gathering platforms. Therefore, there is a need to investigate innovative approaches that exploit social media and other digital applications in facilitating community engagement. However, care need to be taken to ensure that vulnerable communities have access to such digital platforms as well as adequate knowledge in using such digitally driven community engagement solutions to avoid further exacerbation of the current situation. Furthermore, the recent movements against racial discrimination has amplified the complexity in handling community engagement without prejudice [84]. Therefore, much attention need to be given in managing the community engagement activities with a clear understanding of the sensitivities associated with racial discrimination.

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