



# Sustainability justice: a systematic review of emergent trends and themes

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Received: 16 February 2024 / Accepted: 13 August 2024  
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## Abstract

There is a growing importance of understanding the connection between sustainability and justice. We have conducted the first robust mixed-methods review of the burgeoning academic literature on sustainability justice. Our analysis spans literature from 2013 to 2023, drawn from the databases of Web of Science and Scopus. We use a scientometric approach to identify key literature for a more detailed qualitative analysis. This dual approach uncovers key trends and themes in sustainability justice. The review identifies works that delve into the themes of environmental, social, and economic justice, pinpointing a need to amplify Global South voices, narratives, and insights for a comprehensive understanding of sustainability justice. The findings indicate a pressing need for integrating economic aspects with social and environmental factors, advocating for more focus on transformative justice.

**Keywords** Sustainable development · Sustainability · Sustainable development goals (SDGs) · Environmental justice · Social justice · Economic justice

## Introduction

Justice considerations have an ever-increasing role in the discourse around sustainability matters (Menton et al. 2020; Maluf et al. 2022; Rockstroem et al. 2023). Existing literature has more forcefully directed its attention to the combination of sustainability and justice across multiple disciplines and sectors (de Boon et al. 2022; Jbaily et al. 2022; Singh et al. 2022; Roy et al. 2023). According to Web of Science, academic articles featuring the terms “sustainability” and

“justice” in the title, keywords, and abstract have increased fourfold since the adoption of the sustainable development goals (SDGs) in 2015. The production of this extensive body of literature has, however, not yet led to a critical analysis on the key agents, concepts, and policies featured in research at the intersection between sustainability and justice. This article aims to fill this gap by arguing for more critical reflection on what can be named as sustainability justice research.

Sustainability science and justice theory are the twin pillars of sustainability justice research. The two concepts of “sustainability” and “justice” have each been subjected to detailed academic analyses in a variety of disciplines. On the one hand, sustainability is a term that has taken on different meanings over time. At first, sustainability served as a synonym to sustainable development—the latter being defined as social, economic, and environmental development that meets our needs without compromising the ability of future generations to do the same. Later, different schools of thought have shaped the sustainability concept with more or less emphasis on the green element of sustainability. For this study, we adopt the foundational principles of inter-generational social, economic, and environmental (anti)-development that underpins the conceptual dissonance in the field. In terms of justice, on the other hand, we focus on its distributive and

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procedural tenets, as conceptualised by Rawls (1971) and Nozick (1974). “Understanding justice and its relationship with sustainability” offers more clarity on this point.

Against this background, this article reviews the burgeoning academic literature on sustainability justice. To do so, we adopt a two-stage mixed-methods research approach. The first stage comprises a scientometric analysis (Sooryamoorthy 2020; Li et al. 2021; Luo et al. 2022), which is a quantitative method that examines citation metrics to identify patterns and trends within a literature set (Ivancheva 2008). We use it here to identify a sample of literature to analyse in depth. This analysis looks at all articles published in the 2013–2023 period on sustainability justice to identify the most cited articles broken down by year, which then become subject to further quantitative investigation, as explained in “Methods”. The second stage involves conducting a review of these selected articles to interpret their content qualitatively. This type of review is increasingly common in social sciences, similar to, for example, systematic reviews (Kivimaa et al. 2017; Jenkins et al. 2020, 2021; Sapiains et al. 2021) and focuses not so much on methods or techniques, but more so on identifying any underlying themes within the studied topic. Accordingly, this empirical method allows us to better understand the leading patterns and content of the emerging field of sustainability justice.

## Understanding justice and its relationship with sustainability

### Philosophical underpinnings of justice

Distributive and procedural justice are two foundational concepts of justice. Central to the intellectual debate between John Rawls and Robert Nozick, these concepts provide a robust framework for evaluating fairness. Rawls (1971), in his seminal work “A Theory of Justice”, advocates for distributive justice, which emphasises the fair allocation of resources and benefits amongst all members of society. Rawls' second principle asserts that social and economic inequalities should be arranged to benefit the least advantaged members of society. In contrast, Nozick's (1974) “Anarchy, State, and Utopia” presents an alternative conception of distributive justice. It favours a libertarian approach where the distribution of resources is just if it arises from just patterns of acquisition and voluntary exchange. This leads to a focus on distributing resources and benefits.

These considerations are present in sustainability matters, too. For instance, consider the implementation of renewable energy projects. Distributive justice would demand that the benefits of such projects, such as job creation and cleaner air, are shared equitably amongst all communities, especially those historically marginalised. Procedural justice, on the

other hand, requires that the decision-making processes concerning the placement and development of these projects involve transparent, inclusive, and participatory mechanisms. This exemplified in global sustainability initiatives. The United Nations' sustainable development goals (SDGs), for example, explicitly recognise the need for both fair distribution of resources and inclusive institutions at all levels (Menton et al. 2020). By embedding these principles into sustainability frameworks, we can better address the multi-dimensional aspects of justice.

### Expanding justice scholarship through application

The expansion of justice-focussed studies has significantly reshaped our understanding of equitable resource distribution and the processes required to achieve it. Empirical field-based explorations have explored how such ideas are interpreted in a multitude of sectors and contexts leading to applied frameworks such as environmental, climate, energy, water, and food justice (amongst others). These applications result in new considerations, often termed as tenets of justice, most notably distributional (Baró et al. 2019), procedural (Marques et al. 2015), recognition (Willand et al. 2023), and restorative justice. Recognition justice is a tenet of justice that emphasises the need to acknowledge and respect the diverse identities, cultures, and experiences of all individuals within a society (Schlosberg 2013). Restorative justice, on the other hand, focuses on repairing the harm caused by harmful behaviour through cooperative processes that include all stakeholders (Mayer et al. 2022). Originating from law and crime, restorative justice seeks to bring about reconciliation between victims, offenders, and the community. We will focus in this review on the distributional and procedural justice tenets as explained in “Philosophical underpinnings of justice”, rather than recognition or restorative justice. This is in keeping with existing systematic reviews in the field (Lamb et al. 2020; Gupta et al. 2022). We expand further on this choice in “Methods”.

A pivotal observation within this academic proliferation is the reinterpretation of the original political philosophical frame of distributive justice to distributional justice within applied justice literature. Applied studies have expanded the distributive definition to include a spatial dimension, which more often refers to distributional justice as a result. This perspective examines not only the fairness of resource allocation but also the geographical implications of where these resources are distributed, such as in Fang et al. (2023), Liljenfeldt and Pettersson (2017), Yenneti and Day (2016), Dobbs et al. (2023) and Gurney et al. (2021). An illustrative example of this shift can be seen in the focus on distributional justice within geography and environmental studies. Researchers now scrutinise how resources are allocated across different regions, highlighting the disparities caused

by geographical and socio-economic factors. The fundamental role of geography in this context has become indispensable in propagating justice-based research. This means that distributional justice is not only a matter of equitable resource sharing but also an issue of spatial equity.

Applied empirical studies have also encouraged scholars to consider the objectives of justice interventions. This has led to the development and application of concepts such as affirmative justice, prohibitive justice, and transformative justice. Affirmative justice refers to the application of more rights to ensure fair treatment and opportunities for all individuals (Tormos-Aponte et al. 2021). Prohibitive justice involves implementing more laws and regulations to mitigate the negative impacts of existing policies and practices. For example, stringent environmental laws aimed at reducing pollution reflect prohibitive justice to force industries to operate within safe limits to protect public health and the environment (Lawrence and Ahrén, 2016). Transformative justice addresses the root causes of injustice by fundamentally altering societal structures and systems. Empirical studies in this field (Daly 2001; Newell et al. 2021) focus on comprehensive reforms that promote lasting equity and justice.

Our focus in this paper is on the two foundational tenets in applied justice research, namely distributional and procedural justice, and the objectives of justice interventions. These are necessary restrictions to make justice operationalisable given the large number of analysed articles that tie together sustainability and justice.

### Towards sustainability justice

Despite being markedly distinct, the concepts of sustainability and justice are interrelated. Their relationship can be both reinforcing and conflicting. A positive interaction is realised when the pursuit of sustainable goals contributes positively to the aim of intra-generational justice. A negative one is when sustainable action leads to unjust outcomes, such as when particular groups bear a heavier burden (Bullard 1994). It is against this background that sustainability justice research aims to investigate how to strengthen a positive interaction and realise societies that are both sustainable and equitable. Interest is growing for a deeper understanding between the two conceptual areas.

In fact, the main advantage of a sustainability and justice approach precisely lies in the integration of intra- and inter-generational justice in the pursuit of development whilst balancing its social, economic, and environmental pillars. There is much debate on what social, environmental and economics mean in sustainability research, for example, one may compare the different approaches of Godin et al. (2022) and Sareen and Nordholm (2021). We focus here specifically on the justice aspects of each term as used by others (Thaler

et al. 2018; Siciliano et al. 2019; Laasasenaho et al. 2022) and when/how authors use them. In this way, sustainability justice research adopts a more integrated framework as compared to those concepts with narrower scopes, such as environmental justice, energy justice, just transition, and climate justice. Environmental justice, for instance, prioritises the environmental dimension whilst considering the social and economic aspects as consequential outcomes of environmental actions (Schlosberg 2013). Conversely, sustainability justice—which is our focus in this paper—affords equal weight to all three dimensions. Moreover, the SDGs have provided further impetus to sustainability justice research by introducing broad, yet tangible metrics for success (Diaz-Sarachaga et al. 2018; Lafortune et al. 2020), especially considering the role played by SDG 16—‘Peace, Justice, and Strong Institutions’ (Menton et al. 2020).

This leads us to the following three research questions:

RQ1 Who are the agents (both in terms of authors and the actors that these authors refer to) that operate in the intersection of sustainability justice?

RQ2 What types of concepts do authors use when discussing sustainability justice?

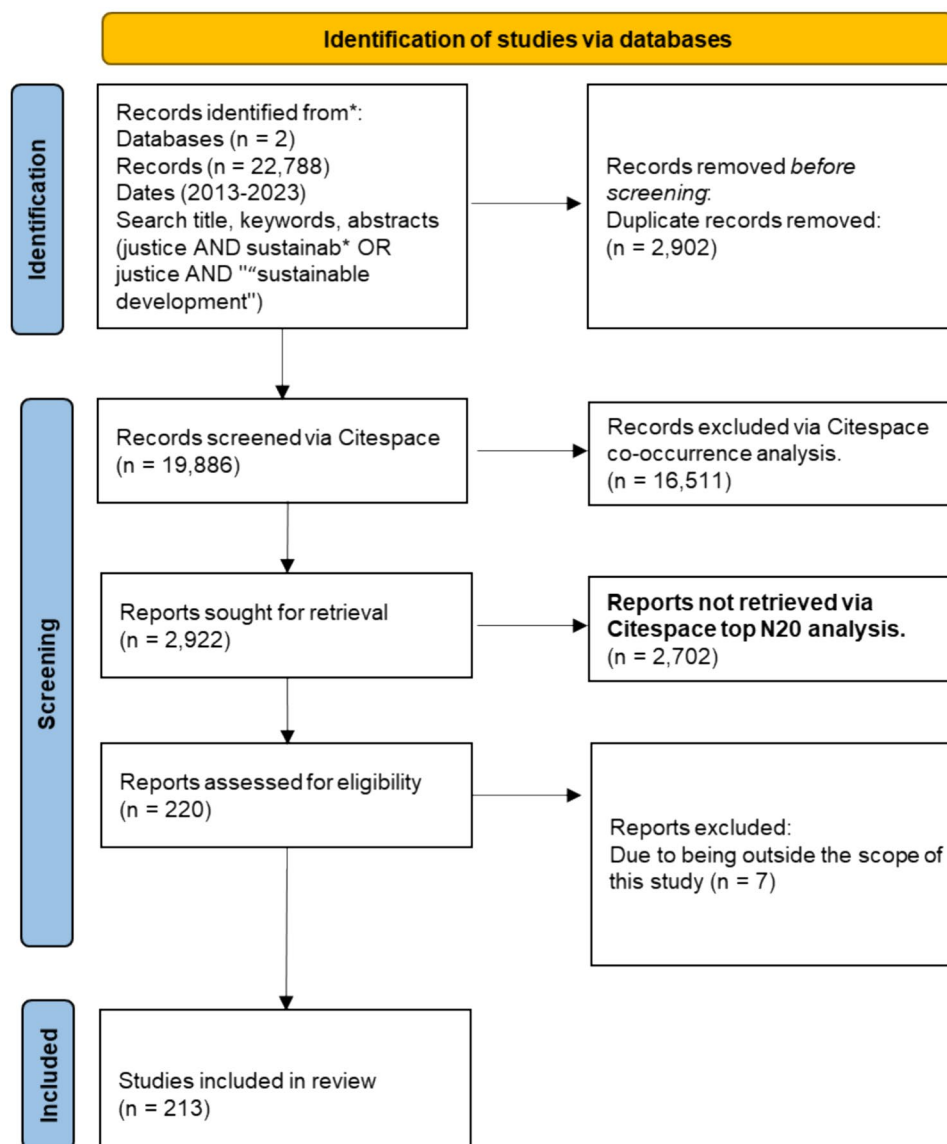
RQ3 What policy recommendations do studies in sustainability justice develop and to what SDGs do they most relate?

### Methods

This study focussed on sustainability justice, so the core research strategy involved employing a variety of relevant keywords and their variations (via using the wildcard “\*”) in articles’ titles, abstracts, and keywords. The topic query applied to search for literature includes *justice AND sustainab\* OR justice AND “sustainable development”* with material type limited to Article and Review and language only set to English. We only considered peer-review literature, excluding conference proceedings and book chapters. Therefore, by limiting this search to the abovementioned material type, the academic rigour of sources included in this study increases. We limited the search string to the 2013–2023 period to focus on the most recent publications. The research workflow set out in Fig. 1 began with the initial data collection through Web of Science and Scopus as the two main databases. Compiling a dataset of academic articles retrieved through the titles, keywords and abstract searches resulted in 22,788 articles in total for the 2013–2023 period. Duplicate sifting found the same 2902 articles on Web of Science as in Scopus, which we then removed from the next stage of screening.

We used Citespace bibliometric networks to implement a scientometrics approach and identify key themes.

**Fig. 1** PRISMA flowchart: this diagram shows the process of identifying the final 213 articles that were analysed in this study in line with PRISMA's transparent reporting of systematic reviews (Page et al. 2021)



Specifically, CiteSpace's co-occurrence network for keywords provided insights into sustainability justice, including key concepts and research scope. By collecting and analysing frequencies of terms/phrases in the selected articles via the Citespace online tool,<sup>1</sup> dominant themes of justice emerged as “environmental justice”, “social justice”, and “economic justice” (see Appendix 1—where further explanation of the process and tools are available). We identified from this a smaller set of 2922 articles that engages with these themes. To select relevant articles from this sub-set for qualitative analysis, CiteSpace was used again to identify the Top N20 from each year within the dataset (2013–2023), resulting in 220 articles. Top N20 is a selection of the top 20

levels of most cited or occurred items from each slide (i.e. each year for the time-frame). These papers served as the basis for the qualitative analysis. Details about our scientometric analysis, which we used to identify the papers that were reviewed, can be read in Appendix 1.

We develop our qualitative analysis through an interpretative approach, which entails an examination of data to discern underlying meanings, patterns, and relationships. Similar to Normann and Tellmann (2021), the emphasis of this approach is on researchers analysing texts through coding and interpretation. We use this approach to then quantify the key qualitative observations, rather than conduct a discourse analysis of quotations. For the qualitative analysis, we created a Zotero collection with these 220 articles. We excluded any articles that did not focus sufficiently on environmental,

<sup>1</sup> Citespace is freely available at <https://citespace.podia.com/>.

social, and economic justice (in total, seven). The remaining 213 articles were chosen for bottom-up qualitative coding.

The categories used in coding include basic bibliographical details such as author names, publication date and (only) corresponding author location. The analytical categories are found in Appendix 3 codebook. In addition, the authors developed more analytical categories in line with the research questions, i.e. agents (split into protagonists and antagonists), concepts (distributional, procedural or both) and policies. For example, we divided this group between actors as protagonists and those who are presented in the literature as antagonists. We classified these actors as belonging to the public (e.g. government), private (e.g. entrepreneurs) and societal (e.g. activist organisations) sectors. The public sector ranged from national government, e.g. the UK government in Cotton et al. (2014) or the Ravalomanana government in Wolford et al. (2013), to local government (Tornaghi 2014). There were fewer concrete instances of private company examples such as Cisco and Hitachi (Datta 2015), Dow Chemicals (Davies 2018) or Pegah Golpayegan Company (Jouzani and Govindan 2021). A plethora of examples are evident on societal actors from globally recognised organisations like Global Witness (Martinez-Alier et al. 2014) to individual activists like Enric Duran part of the Datalan degrowth movement (Demaria et al. 2013).

Two researchers independently assessed each paper according to these assigned categories. Inter-coder reliability was assessed using Cohen's Kappa of 0.83. Reliability was assessed by the lead author on an ongoing basis across a 6-month time-frame, who met the two researchers on a weekly basis to discuss any issues. In line with this qualitative interpretive phase of research, the researchers used the codebook to then judge instances of when a paper engaged with a particular SDG, or for example, affirmative, prohibitive, or transformative justice. The weekly meetings then discussed how each researcher went about defining such instances. The coded data were then descriptively analysed in Excel whilst Datawrapper was used to develop visualisations following best practice guidelines (Metze 2020) designed to ensure simple, easy-to-understand figures using consistent colours throughout.

This research is not without its limitations. First, in terms of our overall approach, the constraints of the scope of this paper resulted in an inability to present a comprehensive scientometric analysis. Future research can broaden the scope, for instance, by covering a larger sample—but our focus here is on identifying thematic trends. The space limitations necessitated our focus on the use of scientometrics for the selection of papers. Further analyses, such as keyword co-citation and scientific collaboration, are suggested for future studies. Second, the analytical methods employed in the research also bear limitations. An exhaustive qualitative discourse analysis was not conducted, as the paper's focal

point lay in analysing key themes and descriptive statistics. The quantitative coded data were not subjected to statistical analysis but was instead utilised for extrapolating key themes from the descriptive statistics. Third, and from a conceptual perspective, we limit our focus to distributional and procedural justice as the core themes identified in the review. As explained in “Expanding justice scholarship through application”, we do not focus our review in the plethora of other aspects of justice including recognition or restorative justice. This was also a necessary decision to make the project feasible and able to incorporate the fullest analysis possible. These limitations in the analysis warrant a careful interpretation of the findings.

## Results: emergent trends

This section presents the main findings of the bottom-up coding process of the selected 213 papers in sustainability justice based upon each of the three research questions.

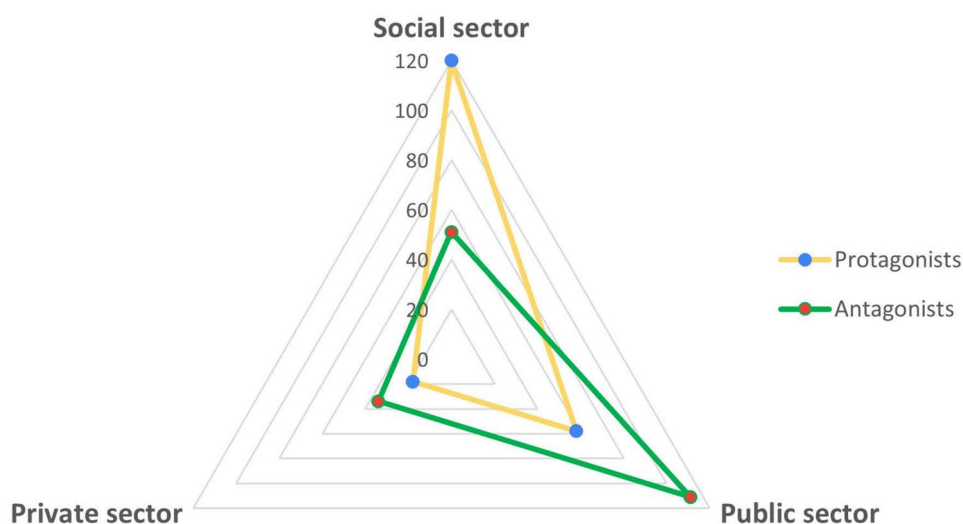
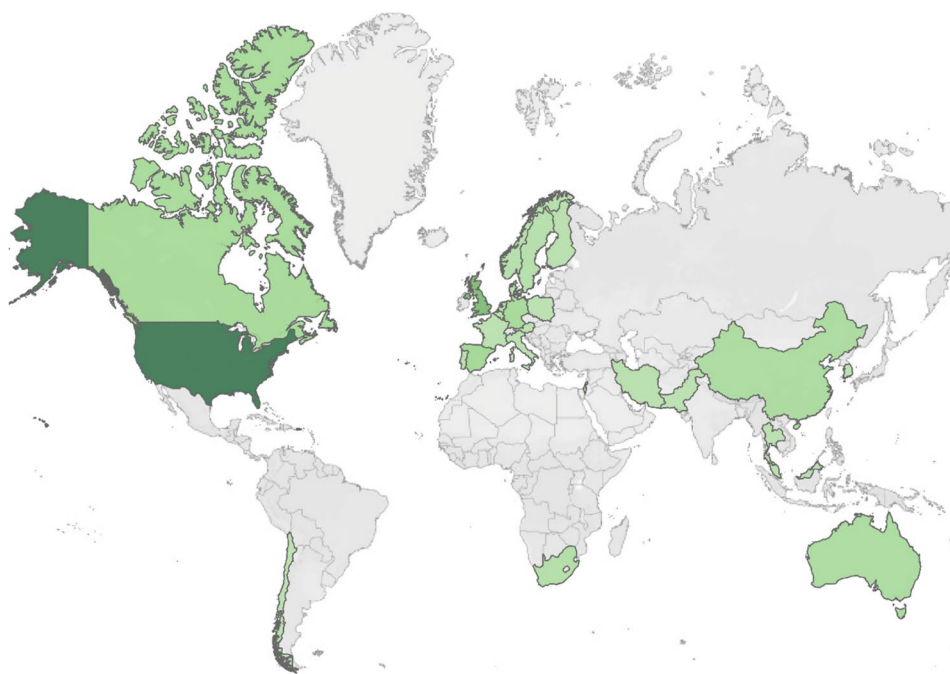
### Agents in sustainability justice

The first question aims to identify the agents in sustainability justice research. Whilst doing so, it distinguishes between the authors and what actors these authors refer to. Regarding the former group, the data presented in Fig. 2 reveals a stark global divide when it comes to the locations of corresponding authors. An analysis of the geographical location of the authors showed that there is an over-representation of corresponding authors based in North America and Europe. With 87 authors located in the United States, 33 in the United Kingdom, and only 9 from Germany, Europe and North America dominate the landscape with over three-quarters of all corresponding authors. Other regions such as Asia, Africa, and South America remain underrepresented with small but noteworthy numbers from countries such as South Africa (4), Iran (2), Malaysia (2), Thailand (1), Pakistan (1), and Chile (1).

Of those published papers on these topics, 118 were non-empirical (theory, perspectives, reviews), whilst 61 used quantitative methods and 34 qualitative methods. Amongst these papers, 56.12% were focussed solely on Global North contexts, whilst just 10.72% focussed on a Global South context—with the remaining 33.16% made up of a mixture of both North and South contexts. This indicates that areas outside of Europe and North America are less studied, meaning research at the intersection of sustainability and justice has focussed less on the Global South.

The second part of the first question aims to identify the actors that authors of sustainability justice literature refer to. Figure 3 provides a graphical representation of the number of instances where a protagonist or antagonist

**Fig. 2** Location of authors: a global map showing the number of corresponding authors in each national territory. The darker the colour, the more authors are located in that country



**Fig. 3** Protagonists vs antagonists in the studies: a radar chart showing the relative number of instances wherein a protagonist or antagonist in the studies covered are from the public sector, private sector, or social sector. The radar chart presents the relative performance of key values compared to a centre point—with the end points show-

ing the number of studies that mentions each actor type. Light green lines show the frequency of instances where an article mentions key protagonists—with blue points at each end of its triangle showing its respective weightings in relation to one another and the antagonist triangle

appears in sustainability justice studies. A protagonist is understood to be a ‘good guy’ pursuing a more sustainable outcome. The antagonist is the opposite. The public sector includes codes for policymakers, educators, government, and public institutions, whilst the private sector is derived from codes that include companies, entrepreneurs, healthcare providers and legal professionals. Last, the social sector originates from codes such as third

sector organisations, NGOs, community organisations and activists.

Protagonists from the social sector account for 61% of the sample, whilst the largest bloc in the antagonists (56%) belong to the public sector. Overall, the dominant type of social sector representations of key protagonists was activist organisations and urban-based communities. There were many examples of such representations. Resistance

to Coastal Gas Link pipelines by “#ShutDownCanada” was outlined in Gillborn et al. (2018). Datta (2015) presents, for example, JAAG activism in Dholera as slowing down urban-based inequalities in the face of “smart city” programmes. In both cases, the public sector is presented as an antagonist. For Gillborn et al. (2018), it was the ineptitude of the public sector to stop private sector advances, with several examples of even public sector support. For Datta (2015), the public sector was more overtly driving social inequalities. This was a pattern that emerged across our sample. From the protagonist–antagonist analysis, it is also possible to note that there is a glaring lack of focus on the private sector, which plays a secondary role in sustainability justice studies (Scheyvens et al. 2016). The key division in our sample between protagonists and antagonists comes down to community vs politics. This observation suggests that this sample considers (municipal) governments and local organisations to be the key agents of sustainability justice. This is because the former make the decisive changes on matters of sustainability (Glover et al. 2020; Rice et al. 2022) whilst the latter promote sustainability justice in the political arena (Slater 2014; Rotz et al. 2019).

### Concepts in sustainability justice

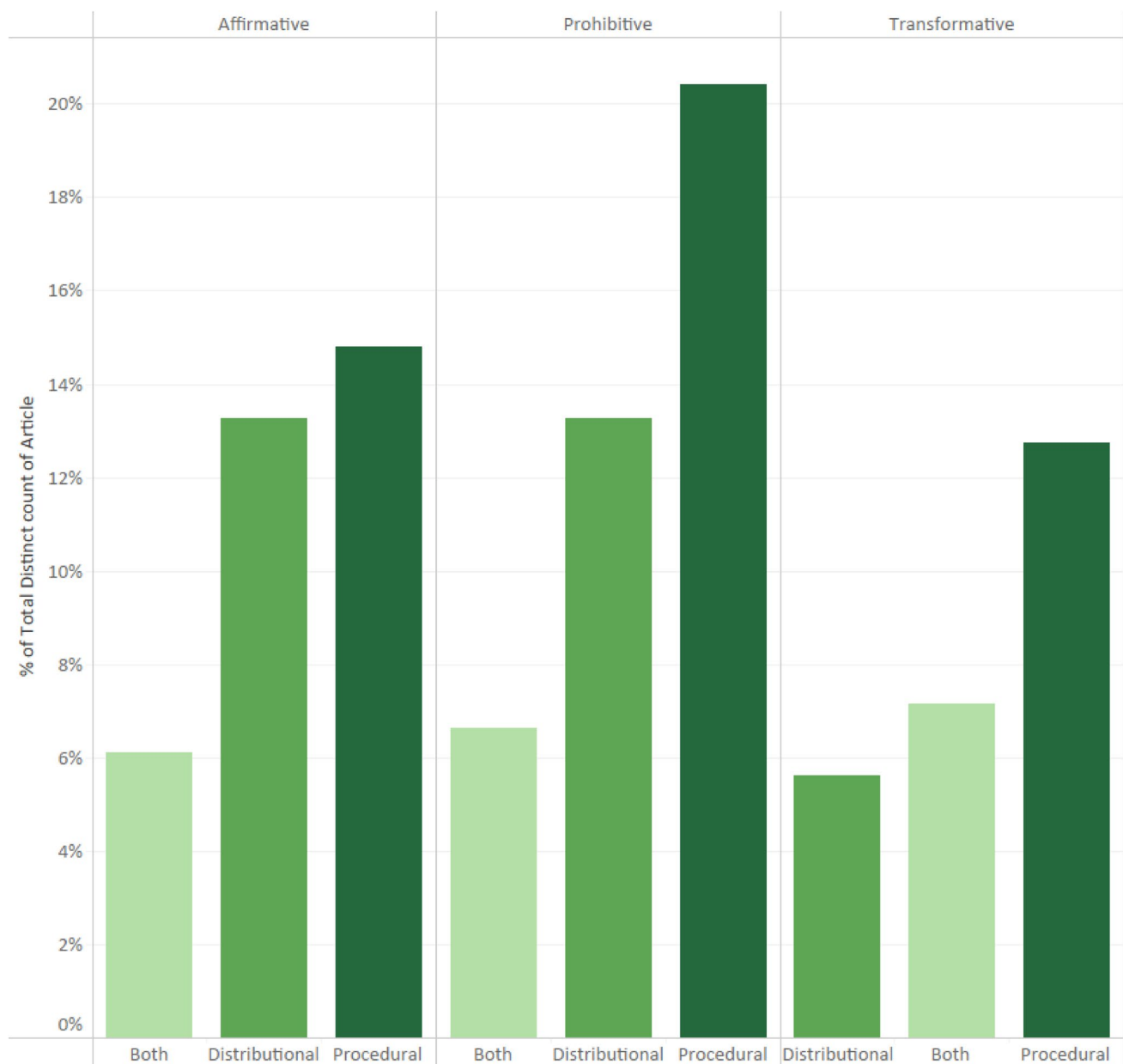
The sample reveals a dominance (47% of instances, compared to 32% for distributional and 19% for both) of procedural justice as a guiding concept, particularly for prohibitive justice (42%). There is an under-representation of transformative justice studies (only 25% of all studies), with most articles (75%) focussing on affirmative and prohibitive justice. When both distributional and procedural justice are examined, it is more likely that some attention is paid to transformative justice. However, further research on a larger sample would be necessary to confirm this finding. Figure 4 shows the dimensions and tenets of justice that feature in the sample. Affirmative and prohibitive conceptions receive more attention than transformative ones. An example of affirmative concepts was evident in Hoffmann (2019) where a case for positive intervention is repeatedly made for ensuring equality in multiple examples of data and AI policies. Prohibitive examples include Angelovski et al. (2016) who examine and suggest amendments to land zoning and development regulations in risk prone areas, which in their research includes Dhaka, Metro Manila and Medellin. Hou and Li (2017) present some clear examples of transformative conceptualisations around policy and behaviour change and the Chinese approach to pesticides. This suggests that although there are some attempts to integrate multiple approaches into one project, e.g. (Jenkins 2018; McCauley and Heffron 2018; Kronenberg 2020), they remain in the minority compared to those studies prioritising either affirmative or prohibitive dimensions.

Figure 4 shows a side-by-side bar chart of the number of instances where the concepts of environmental, social and economic justice were found, revealing that environmental justice was by far the most prominent framing used by scholars. The authors engage primarily with either procedural or distributional justice considerations, e.g. (Nassauer and Raskin 2014; Meyfroidt et al. 2022). In Fig. 5, the social aspect of sustainability garnered the second-highest focus amongst our sample group, where procedural justice considerations are more frequently discussed over distributional ones, e.g. (Au 2016; Kim and Park 2017). Another important observation is that economic justice is almost completely ignored within this sample, but where it is examined, procedural justice considerations prevailed over distributional ones, e.g. (Rupp and Mallory 2015; Stahl et al. 2020).

### Policies in sustainability justice

The third research question aims to identify the policy recommendations that studies in sustainability justice draw. Figure 6 shows a tree map that reveals the relative number of instances where each category of policy recommendation occurred throughout the sample. Reframing public debate emerged as the leading policy recommendation, accounting for 17.35% of all policy recommendations in the sample. The thrust of the argument is that formal policy structures are insufficient in themselves and require engagement from stakeholders to solve inequality on various levels, e.g. (Luna and Luker 2013; Schlosberg 2013). Burke and Stephens (2017) argue, for example, for new policy instruments in the regulation of fossil fuel trade to disincentivise existing subsidy structures. Following this, meaningful collaboration was a second leading policy recommendation with 16.33% of the sample suggesting different ways for including affected communities in decision-making processes, such as encouraging decision makers to co-create their solutions (Jamal and Higham 2021) rather than asking them if their proposed solutions are right or wrong. Fan et al. (2017) detail how participatory inclusion in mapping is used by planners in the urban periphery of the Shanghai metropolitan area, detailing less successful examples in Chongming and Jinshan.

The remaining policy recommendations split widely across other categories. Policy reform is the only category that engages with concrete proposed instruments for changing political structures, for example changing flood risk warning systems in policy (Banzhaf et al. 2019). Examples range from degrowth policies encouraging economic responsibility, prevention measures aimed at early intervention and detection, recognition of impacts on minorities through mandatory minimums, reframing public debate to address misconceptions, and promotion of novel research in these themes. Overall, the literature lacks specific and



**Fig. 4** Dimensions of justice: a side-by-side bar chart illustrates the number of instances featuring justice dimensions per justice tenet in the sample. The justice are defined as distributional and procedural, whilst the justice dimensions consist of affirmative, prohibitive, and

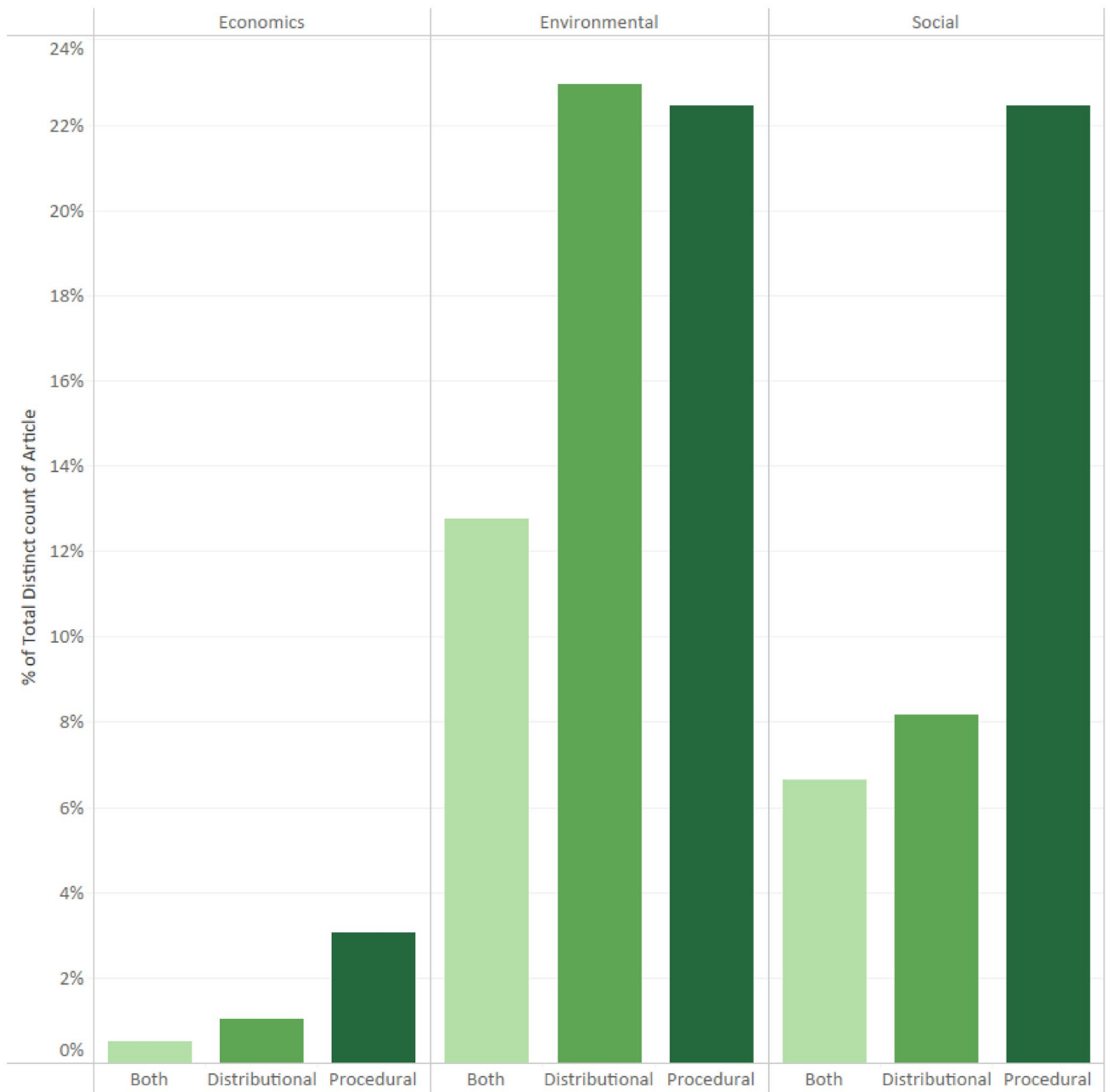
transformative justice. The X-axis displays the justice tenets for each justice dimension (the latter indicated at the top of the chart), whilst the Y-axis indicates the number of instances by article. Each justice tenet has different hues of green for data visualisation purposes

detailed tools that would be useful in achieving genuine change through policymaking. We found that 72% of articles reviewed offered some type of policy recommendation. Most articles analysed present a rigid critique of existing deficiencies in sustainability justice, whereas formal policymaking (mentioned in 24% of articles reviewed) as a potential route to achieving desired results which could not be achieved otherwise does not receive sufficient attention in our sample.

We found that the sample group of sustainability justice literature mainly focuses on three SDGs (see Fig. 7). This

includes SDG 11 sustainable cities and communities, SDG 10 reduced inequality, and SDG 3 good health and well-being. Whilst education was the dominant theme in the scientometric stage 1 of the methods, it was not as clear in the discussion on the SDGs since only 6.63% of the sample focuses on SDG 4 quality education. Some notable exceptions, amongst others, in our sample include a national level study on education practices in Australia (Keddie et al. 2022) and a wider reflection on transformative education (Filho et al. 2018). It was the fourth highest policy sector





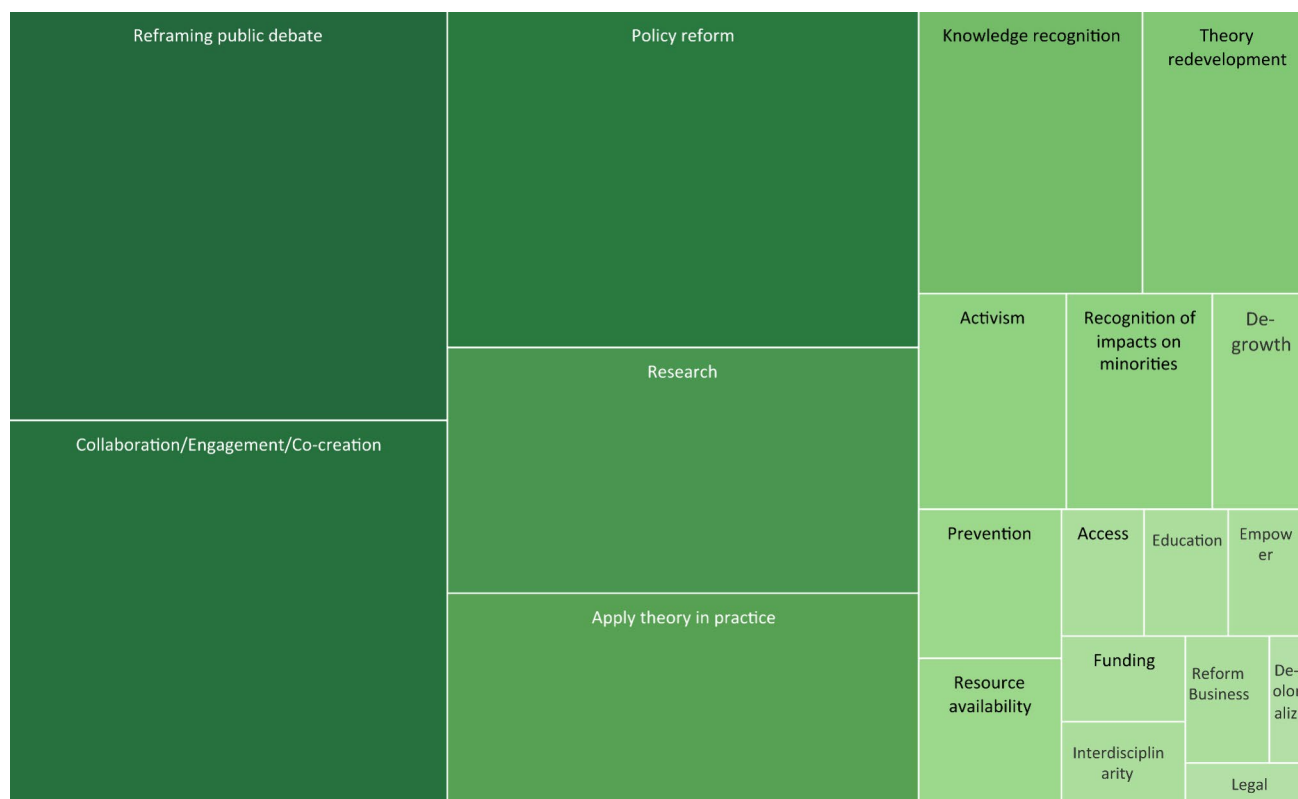
**Fig. 5** Justice tenets: a side-by-side bar chart illustrates the number of instances featuring justice in the sample. The justice tenets are defined as distributional and procedural justice, whilst the areas of justice are economics, environmental and social. The X-axis displays

the justice tenets for each area (the latter indicated at the top of the chart), whilst the Y-axis indicates the number of instances by article. Each justice dimension has different hues of green for data visualisation purposes

(out of 20 identified), though this is not shown in our visualisation here.

Figure 7 shows no clear instance of an article with engaging with SDG 1 ending poverty or SDG 5 gender equality. However, one should acknowledge that ending poverty and gender equality were present throughout the sample, e.g. (Schipanski et al. 2016; Fukuda-Parr and McNeill 2019). No single article was focussed only on

these two themes. Overall, these results show that although this sample group focuses on three SDGs—sustainable cities and communities, reducing inequality and good health and well-being—it also engages with a wide range of other goals. This observation has a double-edged meaning since it both highlights the diversity of thought within sustainability justice and points to some key areas that require more research.



**Fig. 6** Policy recommendations: a tree map highlighting the relative number of instances where each category of policy recommendation occurred throughout the sample where policy recommendations were present (i.e. 72% of all articles). The policy recommendations coded include calling for greater access to justice, more activism, applying theory more collaborative initiatives, a focus on decolonisation, degrowth strategies, better education, empowerment policies, promotion of renewable energy, more interdisciplinarity, greater knowledge

recognition, more effective legal remedies, policy reforms, prevention of inequalities, recognising impacts on minorities and vulnerable groups, reforming companies, reframing public debate, more targeted research, increasing resource availability, and theory redevelopment. The larger the box, the more instances the policy recommendation was mentioned. The darker the colour, the greater the number of policy recommendations

## Key themes for future research

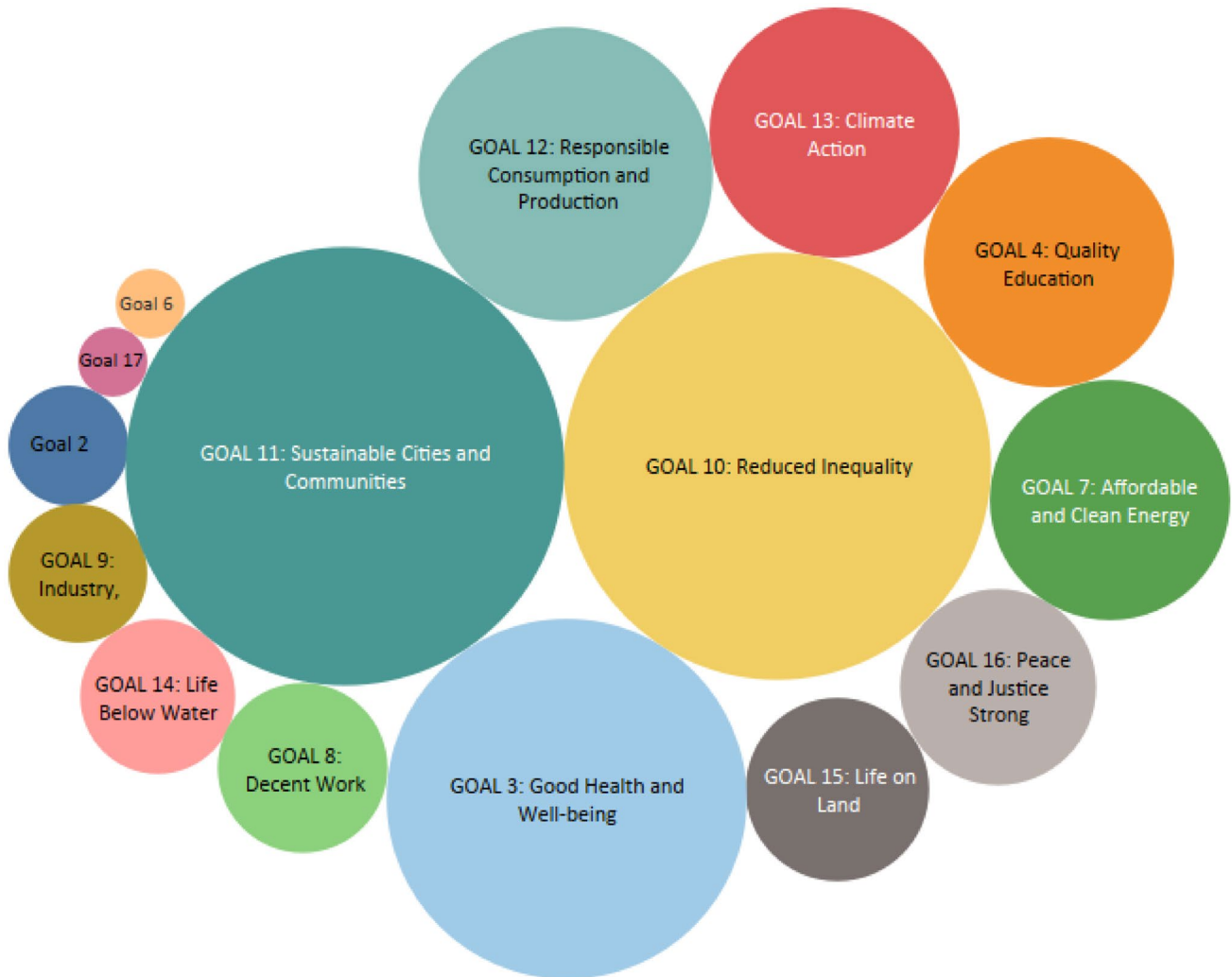
This section outlines three key themes that are currently on the fringes of the analysed body of literature, but they are deserving of further exploration. These key themes should indeed play a more prominent role in the sustainability justice literature and complement the emergent trends that we identified in the previous section. Specifically, these key themes are (1) the inclusion of perspectives from the 'Global South' in the existing literature, (2) the push for transformative justice integrating economic considerations with social and environmental ones, and (3) the establishment of effective policy instruments and mechanisms to mitigate inequalities. We outline each below.

### Global south voices, stories and insights need foregrounding

The review of sustainability justice research reveals a lopsided perspective which neglects the insights, stories, and

perspectives from the Global South. This myopic approach has been pervasive throughout our reviewed sample, and it is only through the conscious effort to seek Global South voices that this cycle can be broken (Ako 2009; Agyeman 2014; Banerjee 2018). As such, sustainability justice should engage more and actively include Global South perspectives. To illustrate this point, our results showed that over three-quarters of corresponding authors in our sample were based at universities in the Global North (although not always themselves from Global North contexts). 118 articles studied Global North contexts, whilst only 24 articles focussed on Global South contexts, leaving 71 papers that combined both. This shows that there are far fewer studies using a fully Global South or even global perspective than those based solely on a Global North viewpoint.

More Global South-based research has the potential to drive new understandings. There are, for example, three key sustainability justice junctures that emerge in our Global South research sample. 'Land grabbing and state power' is the first juncture. Wolford et al. (2013) in our



**Fig. 7** Sustainable development goals: a packed bubbles visualisation depicting the relative number of instances where each article was coded for addressing a particular SDG. We coded for the most prominent connection for each paper, with SDG 1 and SDG 5 not appearing in our dataset. We used larger circles to indicate the more frequent

instances of SDG mentions. To denote this wide-ranging variability, we used an individual colour for each SDG. The figure is ordered with the most prominent SDGs in the centre, moving out sequentially to the least prominent, showing the dominance of SDG 11, 10, 3 and 12 in our sample

sample concretise this juncture with insights from multiple Global South contexts, including Colombia, Brazil, India and Vietnam. Colonialism is a driver of this juncture raised throughout the sample, including, for example, several African case studies in Martin et al. (2016). ‘Gender and the physical environment’ emerge throughout this sample as a second critical juncture for our Global South literature. Goldsmith et al. (2022) cover, for example, the impacts of the Indian Ocean tsunami of 2004 on degrading gender issues. Exposure to environmental toxins in India, Indonesia and the Philippines is reflected from a gender lens in Di Renzo et al. (2015). Bennett et al. (2021) raise examples of women being excluded from the Blue Growth

policy drive in many parts of Africa. ‘Education and conflict’ are the third juncture. The two are raised together in many instances in our sample. Jost (2019) raises for example the caste system as reinforcing violence and education inequalities. Similarly, the lack of education focus drives conflict in, for example, Brazil (Banks et al. 2015).

Including more voices from the Global South into studies related to sustainability justice is not just a matter of simply recognising these perspectives—it holds potential for advancing our understanding of critical topics related to environment and climate change where existing knowledge may be incomplete or outdated without access to these additional insights.

## Transformative justice engagement with economics urgently needed

The concept of sustainability justice seeks to address systemic inequalities and their root causes to create societies that are both sustainable and equitable. This calls for more radical and transformative thinking than currently is the case, with particular emphasis given to procedural and distributive justice, where most potential for future research is clear from this sample through engagement with citizen assemblies or mini-publics (Reysen and Katzarska-Miller 2013; Fung 2015) or more radical assessments of burden and benefit re-distribution (Loos et al. 2014; Zwartveen and Boelens 2014; Andersson et al. 2019).

One area where this kind of transformative thinking in future studies might prove beneficial is the economic justice and sustainability, which has yet to receive due attention in the literature on sustainability justice in comparison with the environmental or social justice. To overcome this deficit, initiatives like those proposed by Venter et al. (2020) suggest that green infrastructure should be included within instruments of economic development and distributive justice towards dismantling racial, economic, and green Apartheid in South African cities. Such approaches not only have the potential to provide greater sustainability solutions over the long term but could also help reduce disparities between haves and have-nots, both within countries and across geographical regions. As a major driving force for global inequality and environmental degradation, more radical changes in the global socio-economic system are needed to address matters of sustainability jointly with justice.

### Instruments and mechanisms, not just reframing and researching

Future research in sustainability justice should identify, examine, and propose concrete mechanisms or instruments for change. It is clear from the sample that there is a focus on ambiguous recommendations that amount to reframing debates or working better together, without providing details of how this should be achieved. For example, Ziervogel (2017) rightly calls for rights- and justice-based approaches to resilience to be moved onto policy agendas, but does not specify what actions should be taken. This is not an exception, but the norm in this sample. This lack of detail might be resolved through more collaboration with legal, economic, and hard policy disciplines, allowing greater insight into where reform can begin and concrete proposals for action.

In addition, there was an overall under-representation of rural examples or case studies (Rotz et al. 2019; Dube 2020; de Boon et al. 2022) which often resulted in a narrowing of focus to urban or international based policy reform ideas. Rural perspectives can bring unique insights into potential

policies and methods of change. This can, for example, be seen in the work of Singh et al. (2022), which examine the impact of hydropower on rural populations in India and makes detailed proposals for legislative changes within the country, building a multi-criteria decision-making model.

Whilst descriptive research should continue to play a prominent role in understanding the foundations and unearthing the dynamics of sustainability justice research, it would be important to make explicit what the concrete change mechanism is or should be. This could take various forms, such as physical infrastructure projects, economic investments, educational initiatives or establishing government partnerships with local communities. Context matters. Legal and policy reforms are not always the only appropriate avenue for genuine change, especially in the countries of the Global South, and alternative methods may provide greater insight into how to achieve sustainability justice at a grassroots level (Boamah 2020).

## Conclusions

This contribution systematically reviewed how the current literature on sustainability and justice has been developing. Such an analysis has two main benefits. First, from a theoretical perspective, this contribution develops a more grounded conceptual framework on the connection between sustainability and justice research, and how future research can be embedded into that framework. Second, from a practical perspective, it outlines what considerations from both the sustainability and justice literature should be taken into consideration by contemporary policy debates, such as the ongoing climate change debate.

Several key emergent trends and themes can be distilled from the foregoing analysis. These include examining how the Global South can actively contribute to discussions on sustainable justice initiatives within the emerging context of technological shifts and increasing climate breakdown. Further inquiry could also explore how existing and emerging Global South institutions or representations, such as social movements, national and regional bodies, and progressive companies, can spur action through concrete policy mechanisms, which remain ill-defined in our sample. Above all, the environmental dimension in the Global South needs further exploration, especially with regard to oceans/seas. Global North emerging issues include most notably race and its role in the intersection between sustainability and justice. In both Global North and South, there is a need for research delving into the increasing role that economic actors are playing in sustainability challenges.

In addition, researchers should build upon how existing frameworks of sustainability and justice are implemented in practice. This could involve analysing current formal

policies, informal practices, and initiatives to identify key areas of progress or improvement. A deeper investigation into this could reveal opportunities for cross-sector collaboration or innovative methods for scaling up positive outcomes. It can also uncover potential challenges that need to be addressed to ensure long-term success for these initiatives, such as how to spur public support or how to address public trust in sustainability initiatives. Through the application and understanding of justice in practice new frameworks can emerge to tackle emerging problems such as AI technology, its contribution to climate adaptation and its inherent sustainability issues.

Finally, there is potential to move beyond dominant approaches when tackling problems related to sustainability justice. For example, scholars can look at alternative and interdisciplinary forms of knowledge production, such as grounded theory or participatory action research, in new contexts that may offer fresh perspectives on this issue. Digital technology may also provide new insights for data collection, analysis, and dissemination of findings, allowing us to gain greater insights into our current understanding of sustainable development from a range of unique perspectives.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s11625-024-01565-8>.

**Funding** The study was funded by the Erasmus Initiative “Dynamics of Inclusive Prosperity” (Erasmus University Rotterdam).

## Declarations

**Conflict of interest** All the authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

**Ethical approval** No ethical approval was required for this review study.

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