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Nabiyeva, Gulnara N Wheeler, Stephen M London, Jonathan K <u>et al.</u>

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Article Implementation of Sustainable Development Goal 11 (Sustainable Cities and Communities): Initial Good Practices Data

Gulnara N. Nabiyeva *, Stephen M. Wheeler 🗅, Jonathan K. London 🗅 and Noli Brazil

Department of Human Ecology, University of California, Davis, CA 95616, USA; smwheeler@ucdavis.edu (S.M.W.); jklondon@ucdavis.edu (J.K.L.); nbrazil@ucdavis.edu (N.B.) * Correspondence: gnnabiyeva@ucdavis.edu; Tel.: +1-(530)-750-9519

Abstract: The Sustainable Development Goals (SDGs) represent a central framework for guiding sustainable urban development. However, it is not clear how and where SDG 11 (Sustainable Cities and Communities) is being implemented, and how such implementation might be improved. We investigate this subject by analyzing United Nations (UN) SDG Good Practices data from 2018 to 2021, using content analysis, classification, and descriptive statistics. The resulting analysis and classification is new in this field. We applied five criteria to the 336 SDG 11 responses: (1) geography; (2) actors; (3) progress toward targets; (4) areas of implementation; and (5) scale of action. Overall, 86 of the 193 countries that adopted the 2030 Agenda submitted at least one SDG 11 good practice. Thirty-three countries contributed 73.8% of the total, and most developing countries did not make submissions. A very small number of responses (between 2.6 and 9.1%) addressed equity-related targets. Good practices from developed countries were usually more technology-oriented and systemforming; developing countries typically focused on issues of day-to-day concern. This analysis points to the need for better and more systematic reporting on SDG 11 implementation, a more active public sector role in SDG implementation and reporting, more focus on dimensions related to social equity, and better formulation of urban sustainability targets and indicators.

Keywords: sustainable development goal 11; sustainable cities; sustainability; good practices; UN

1. Introduction

Cities are crucial sites for sustainable development. More than half of the global population lives in urban areas, and the urban component of the world's population is expected to reach 68% by 2050 [1]. Cities consume over 60% of global energy and generate 70% of waste and carbon emissions [2]. Rapid urbanization provokes extra pressure on air quality, freshwater supplies, waste management, the living environment, and public health. Many cities already experience a shortage of basic services, adequate housing, and infrastructure.

SDG 11 "Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable" is one of 17 SDGs adopted by the General Assembly of the UN in 2015 within the 2030 Agenda. SDG 11's 10 targets and 15 indicators cover a broad scope of issues from affordable housing and infrastructure to cultural and natural heritage. Given the importance of cities, rapid movement to fulfill SDG 11 is central to the entire SDG process.

Initial progress towards implementing the SDGs has been slow. According to a 2019 UN progress report, "the shift in development pathways to generate the transformation required to meet the Sustainable Development Goals by 2030 is not yet advancing at the speed or scale required" [3] (p. 4). According to a 2023 report from the Sustainable Development Solutions Network, only one of two-hundred-and-nineteen countries has SDG 11 achievement on track, and 143 countries (65%) experience significant and major challenges in its implementation [4]. Only nations in Europe, North America, Australia, and New



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Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). Zealand have made progress in reducing the proportion of the urban population living in slums—Target 11.1, "By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums" (https://sdgs.un.org/goals/goal11, accessed on 1 July 2021). Note, the term "slums" has been criticized as having a stigmatizing effect but we use it here to match the UN's own language—while the rest of the world is still far from that [5]. Thus, even though SDG 11 is a landmark step toward developing a global sustainable cities agenda, its implementation is still a big question. We need to better understand where we are on this path.

In this paper, we analyze SDG good practices information collected by the UN from around the world in 2018–2021 [6,7] to find out what can be learned from these initial calls about how SDG 11 is being implemented. We structure responses by five criteria: (1) geography of submitted good practices; (2) actors addressing SDG 11; (3) progress toward SDG 11 targets; (4) topical areas of implementation; and (5) scale of action. We seek to find out major patterns related to these criteria, paying attention to practical implications and social equity, and to develop recommendations based on these data in light of the existing literature on the topic. The results of this study will be helpful for policymakers, advocates, and researchers at international, national, regional, and local levels of sustainable development.

The remainder of this article unfolds as follows. First, we outline the literature related to SDG 11 since 2015, concentrating on three thematic areas: practical issues, measurement of progress, and criticisms. Then, we discuss the nature of the UN's good practice data and our methods for analysis. In the Results and Discussion sections, we analyze good practices addressing SDG 11 according to the five criteria mentioned previously (geography, actors, progress, topical areas, and scale of action). The last part of the paper presents the main insights, recommendations, and concluding remarks.

2. Background

Wheeler and Rosan (2021) argue that the sustainable development of cities requires long-term thinking, a holistic perspective, and proactive leadership [8]. These approaches are not easy within current contexts that often reward short-term focus, compartmentalized decision-making, and business-as-usual practices. Many entrenched political, economic, cultural, and institutional forces also work against change. Thus, strong new initiatives to promote sustainable urban development are challenging to undertake.

In the literature relevant to SDG 11 implementation, three thematic areas emerge: practical issues around implementation, measurement of progress, and criticism of SDG 11 and its implementation.

2.1. Practical Issues around Implementation

Most studies explore specific cases of SDG 11 implementation within national, regional, or local contexts. Predictably, many find that implementing sustainable city concepts is not easy. For example, Krellenberg et al. [9] (p. 16) found that Milwaukee (USA), Saint Petersburg (Russia), and Hamburg and Magdeburg (Germany) struggled to establish a long-term commitment to sustainability, indicators, and political leadership in their strategic plans because of "insufficiently participatory, inadequately ambitious, and/or competing or overlapping [initiatives in relation to] other city initiatives." Koch et al. [10] (p. 14) considered cities in Germany and found the main challenges to be "indicators and data availability, tradeoffs with other SDGs, the role and limitations of urban planning, and the difficulties of city-wide integration of sustainability policies."

Several studies investigate effective governance systems to support the implementation of SDG 11. Common themes included coordination between international, national, regional, and local goals and policies, and the need for bottom-up approaches but also state assistance and leadership.

For example, Martínez-Córdoba et al. [11] found that progressive municipal governments in Spain prioritized increasing civic engagement over other targets of SDG 11, while conservative governments mainly addressed housing, safe and accessible public areas, and solid waste removal. They concluded that ideological consensus between the levels of government positively influenced the progress toward SDG 11. In a study of three Indian cities, Tiwari et al. [12] concluded that a bottom-up approach is essential in implementing SDG 11, but that state support for local governments to do this is needed. In another Indian study, Vaidya and Chatterji highlighted the need for focus on a community scale "to make direct tangible benefits to the quality of lives of the people" [13] (p. 173). Zhu et al. [14] (p. 347) discussed interactions between stakeholders in implementing green building initiatives in China, and concluded that "all parties need to do more". Based on 111 surveys of local governments around the world, MacDonald et al. determined that organizing large multi-stakeholder groups "requires sophisticated implementation structures for ensuring collaborative action" [15] (p. 193). Abraham and Iyer [16] (p. 5) analyzed case studies of SDG implementation from Canadian and U.S. cities, concluding that "when localization has occurred, the impetus has predominantly come from the bottom-up" and that low awareness of the SDGs and lack of leadership are hampering North American SDG implementation.

Different authors have emphasized different approaches to SDG 11 implementation, for example, a chain-based or nexus approach to program development, a focus on "the water-energy-food nexus" [10] (p. 22), [17] clustering targets from several SDGs in addressing a single local issue [18], an integrated approach combining social, environmental, economic, and political dimensions [19], and an ecosystem approach [20]. All of these approaches have utility in different contexts.

2.2. Measurement of Progress

A large body of work has explored various techniques for measuring progress toward SDG 11 and the SDGs in general. Several groups have applied spatial data analysis to monitor and evaluate progress toward multiple SDGs [21–23], disaster risk mitigation, and migration [24,25]. Other authors have addressed the localization of SDG 11 indicators by incorporating available data such as indices of social, economic, and environmental development calculated from 60 local indicators in China [26]; unit pricing schemes to increase the collection of sorted waste, decrease per capita waste production, and reduce service costs in Italy [27]; parameters of local budgets in relation to the quality of women's life in Turkey [28]; sub-national indices for each SDG in Romania [29]; and relevant local data in Japan [30].

Some authors have discussed political and institutional frameworks for measuring indicators of SDG 11 at the local level. Beisheim et al. [31] found that transnational multi-stakeholder partnerships yield better results if they leverage local ownership. Valencia et al. [32] showed that an integrated governance model with both horizontal and vertical collaboration between actors can provide coherence among global and regional agendas at the local level. Rozhenkova et al. [33] argued that a city policy database that is regularly updated and available online is necessary.

2.3. Criticism of SDG 11 and Its Implementation

Almost every source has mentioned the lack of data as a main limitation in the implementation and evaluation of SDG 11 [10,19,21,34,35]. Satterthwaite [36] argued that the success of SDG 11 directly depends on the availability and accessibility of robust data, and Elsey et al. [37] underlined the need for data to plan and allocate resources to address urban inequalities. Thomas et al., after evaluating 40 urban sustainability indexes and 484 indicators, found that existing metrics of SDG 11 fall short of measuring both urban environmental performance and equity [38].

According to Mohd Khalid et al. [39], the limited capacity of actors to collect data, inadequate coordination among governments and institutions, and limited financing cause significant problems in SDG implementation, especially in developing countries. Simon et al. [40] claimed that none of the five cities they studied had complete, straightfor-

ward, or appropriate data on indicators available. Patel et al. [34] found consistent SDG 11 implementation as requiring reconfiguration of governance systems because capacity for data collection and analysis is so highly variable among cities.

The relevance and clarity of SDG 11 targets and indicators has also received substantial criticism. Valencia et al. [32] claimed that some of the targets—for example, 11.5 and 11.b, addressing disaster preparedness, competition, or conflict—have been very challenging to achieve. They argued that many governments' indicators address neither the quality of policy nor the effectiveness of implementation. Furthermore, in their view, excessive focus on disasters diverts attention from smaller but more frequent impacts that, over time, result in severe social and economic damage. Simon et al. [40] criticized indicator 11.2 of SDG 11 (the proportion of the population having convenient access to public transportation), arguing that this indicator should consider topography, physical obstacles, and safety issues like lighting and open paths.

Silhankova et al. [41] argued that, in practice, indicators are often a tool for competition between jurisdictions, allowing them to highlight strengths and hide weaknesses in international comparisons. According to Hansson et al. [42] (p. 230), because of the need to reduce the vagueness of indicators and avoid confusion in the implementation of SDG 11, local actors should be allowed to select indicators "that fulfill the criteria of easy measurement or collection, appropriateness, convenience, and relevance to current conditions and policies and programs."

The SDGs have been criticized for a one-size-fits-all approach and for not considering different national and local capabilities and circumstances. For example, Naeem et al. argued that one city cannot directly implement the planning and policies of another site; instead, those policies need to be adjusted "according to local conditions and available resources" [43] (p. 1).

Despite such criticisms, most authors agree that intersectional and comprehensive SDGs like SDG 11 are, in fact, very helpful in consolidating resources and addressing complex issues of global concern. The presence of critical voices means that there is still room to improve the SDG 11 framework and practices of implementation within specific national and local contexts.

3. Materials and Methods

3.1. Materials

As a prime source of information, we utilized SDG Good Practices collected by the UN through the SDG Action Platform. This Platform is a global registry of voluntary policies, commitments, partnerships, and other initiatives made by a broad range of stakeholders to support accelerated implementation of the SDGs. Participants fill out a form that seeks details of implementation, beneficiaries, budget, resources, timeline, and evaluation [6,7].

The UN conducted two open calls to collect SDG good practices. The purpose of these calls was to highlight examples of good practices, including those that could be replicated or scaled up by others across the globe. Each call received over 700 submissions from all stakeholders including governments, international organizations, the UN system, civil society, the private sector, local governments, academia, and other actors around the world.

An inter-agency review team of experts in sustainable development from 20 UN entities reviewed these self-reported good practices by multiple actors during the first and second calls. From the first open call in 2018 and 2019 (Open Call 1), these experts selected 511 cases as meeting the criteria for good practices [6], and from the second open call from 2020 to 2021 (Open Call 2) they selected 465 more [7]. Of those 976 cases, the UN experts identified 336 good practices (34.4%) as addressing SDG 11 (186 practices in Open Call 1) and 150 practices in Open Call 2). Eventually, these 336 good practices formed the main subject of our research.

3.2. Methods

To review and collect data from SDG good practices of the UN database, we applied content analysis to identify systematic and objective features of the submitted good practices. We focused only on good practices addressing SDG 11, reviewing all 336 good practices marked as addressing SDG 11 and categorizing them according to the following criteria:

- 1. *Geography of submitted good practices*: what country produced each practice and whether these nations represented (i) developed economies, (ii) economies in transition, and (iii) developing economies. This classification was developed by UN entities [44].
- 2. Actors addressing SDG 11: whether institutions carrying out the good practice were: (i) national governments (e.g., Secretariat of Planning and Programming of the Presidency, Guatemala; Ministry of Planning and Development, Benin); (ii) regional (sub-national) governments (e.g., the government of Basque Country region, Spain); (iii) municipalities and city-level government agencies (e.g., SDGs Promotion Strategy Office of Shimokawa Town, Japan; New York City Mayor's Office for International Affairs, the USA); (iv) public agencies (e.g., Embrapa, Brazil; NASA, the USA); (v) UN entities, including regional offices and programs (e.g., UN-Habitat; World Meteorological Organization; United Nations Development Program); (vi) civil society (non-government) organizations (e.g., Institute for Transportation and Development Policy, Brazil; Drishti Foundation Trust, India); (vii) international development institutions and organizations (e.g., International Fund for Animal Welfare; Sightsavers, Bangladesh); (viii) private companies (e.g., Sunshow Group, Japan; Elemental Water Makers, Philippines); (ix) other actors not mentioned in the categories from (i) to (viii). For each good practice, the UN identified one main responsible entity (entity type) employing these categories.
- 3. *Progress toward SDG 11 targets*: whether the good practice addressed any of the ten SDG 11 specific targets, for example, 11.1—Affordable housing, 11.2—Sustainable transport system, and 11.7—Access to green and public spaces. Since very few practices directly stated which targets of SDG 11 they addressed, we identified targets based on our analysis of the content, objectives, implementation activities, and results of individual submissions. Many practices addressed more than one target.
- 4. *Topical areas of implementation*: fields of urban development addressed by good practices, for example, management, inclusiveness, and transportation (Appendix A). We determined the specific field of urban development after reviewing the Introduction, Objective, Implementation, and Results/Outputs/Impacts sections of good practice submissions. Some good practices emphasized more than one area of implementation, in which case all were included.
- 5. *Scale of action*: (i) international, (ii) national, (iii) regional (sub-national), (iv) large cities with a population of 200,000 and over, and (v) small cities with a population under 200,000. These were chosen by the actors who submitted those practices in geographical coverage and/or region sections of the UN SDG Good Practices Platform.

We used descriptive statistics to analyze data related to the above criteria and sought to spell out implications and recommendations. We applied two types of descriptive statistics: frequency distribution (numbers or percentages) and measures of central tendency, such as the mean [45].

Any interpretations of these data should keep in mind that the SDGs represent just one step in a long process of developing global consensus around sustainable development directions, and will undoubtedly be improved upon by further generations of goals and indicators. Laying the groundwork now for stronger and more useful tools in the post-2030 period is an urgent need.

4. Results and Discussion

4.1. Geography of Submitted Good Practices

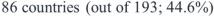
Out of 193 countries that approved the SDGs and 2030 Agenda, 86 submitted good practices for the implementation of SDG 11, including 24 developed countries, 55 developing countries, and seven countries in transition (see Table 1).

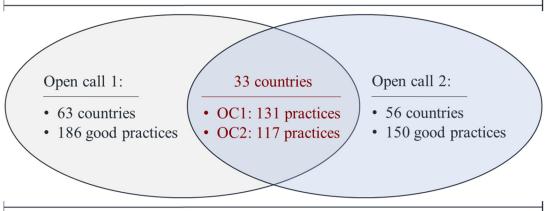
Table 1. Geographical locations submitting four or more practices.

First Open Call (186 Responses)		Second Open Call	(150 Responses)	Both Open Calls (336 Responses)		
Source	Practices (%)	Source	Practices (%)	Source	Practices (%)	
European Union	43 (23.1%)	European Union	39 (26.0%)	European Union	82 (24.4%)	
Brazil	32 (17.2%)	China	11 (7.4%)	Brazil	37 (11.0%)	
Japan	16 (8.6%)	India	10 (6.7%)	Mexico	20 (6.0%)	
Mexico	11 (5.9%)	Mexico	9 (6.0%)	China	18 (5.4%)	
China	7 (3.7%)	Great Britain	6 (4.0%)	Japan	17 (5.1%)	
India	7 (3.7%)	USA	5 (3.4%)	India	17 (5.1%)	
Argentina	5 (2.7%)	Brazil	5 (3.4%)	Great Britain	10 (3.0%)	
Great Britain	4 (2.2%)	Russia	5 (3.4%)	USA	8 (2.4%)	

Sixty-three countries submitted good practices during the first open call and 56 during the second open call. European Union countries submitted more than any other geographical region with Spain (14), Belgium (11), and France (8) contributing the most. The USA and other Anglophone countries were notably underrepresented in their contributions, as were countries from sub-Saharan Africa.

Developing countries submitted 202 of 336 good practices, or 60.1%, although the percentage of developing countries that made submissions (55 developing countries out of 140 developing countries that approved the SDGs, or 39.3%) is small. Developed countries submitted 120 good practices or 35.7% (24 developed countries made submissions out of 36 developed countries that approved the SDGs, or 66.7%), and those with economies in transition submitted 14 good practices, or 4.2% (7 countries in transitions made submissions out of 17 countries with economies in transition that approved the SDGs, or 41.2%). This breakdown was almost the same during both open calls, which seems reasonable considering that developing countries. Only 33 countries (17.1% of those that approved the 2030 Agenda) submitted good practices during both open calls (Figure 1), reflecting a commitment to continuously address SDG 11 implementation.





336 good practices on SDG#11 in both open calls

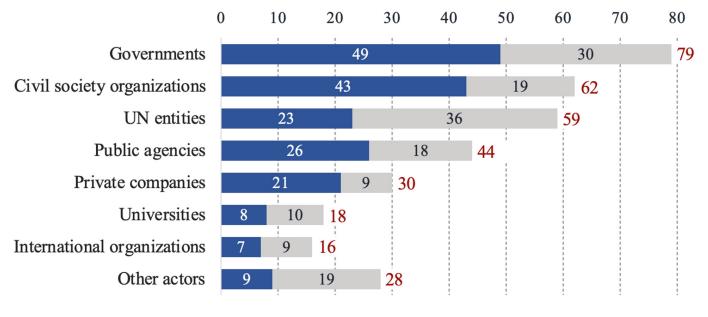
Figure 1. Distribution of good practices by countries and open calls.

Eleven of these 33 nations are developed (Belgium, Great Britain, Japan, Sweden, USA, etc.), while 21 are developing (Argentina, Brazil, China, India, Mexico, Turkey, etc.), and one is in transition (Russia). Even more remarkable is that those 33 nations aggregately submitted 73.8% of total good practices.

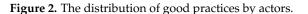
Overall, 107 of 193 countries that adopted the 2030 Agenda have not submitted any good practices for SDG 11, including 85 developing countries (36 countries from sub-Saharan Africa), 12 developed countries, and 10 countries with economies in transition. This relatively low and uneven response appears to reflect the slow growth of global coordination on sustainable urban development. Other likely reasons for low response rates include a lack of resources, data, political commitment [10,36,39,40], and lingering disempowerment of some countries from a legacy of colonialism and imperialism [46], as well as the relatively short time frame between SDG adoption in 2015 and these UN calls. If such low response rates continue in the future, strong efforts to increase coordination, funding, and technical assistance around SDG 11 would seem appropriate.

4.2. Actors Addressing SDG 11

Out of 336 SDG 11 good practices, national, regional, or local governments submitted 79 (23.5% of the total), followed by civil society organizations (62 practices, or 18.5%) and UN entities (59, or 17.6%) (Figure 2).



Open Call 1 Open Call 2



The distribution of submissions across scales of government was relatively even. National and sub-national authorities submitted 27 good practices each, and municipalities submitted 25. However, during the second open call, national and subnational responses fell by more than half compared to the first open call, while responses from municipalities increased slightly (14 compared to 11). A potential explanation is that, at the beginning of this period, national and sub-national authorities sought to establish a general framework for SDG implementation within national agendas and strategies, while once this framework was established, municipalities were encouraged to take more specific action [8,43].

The initiation of action at a national level seems to have been a common pattern. For example, after 2015, the Government of Benin developed a tool to quantify the impact of each national ministry on the SDGs. That tool analyzed the extent and depth to which each ministry's annual working plan included SDGs within budget allocations. About

6000 activities were mapped and analyzed according to (i) their nature, (ii) how well they could embed the corresponding SDG indicators, and (iii) their potential to be localized [47]. The Ministry of Planning and Development coordinated this exercise and submitted the tool as a good practice for the first open call. Next, the national government distributed 49 priority targets to each of the country's 77 municipalities along with recommended actions to achieve them based on local contexts and issues [48]. The General Directorate for the Coordination and Monitoring of the SDGs, a special task force established to coordinate efforts, then submitted that as a good practice for the second open call.

Governments took the initial lead in several other countries as well. Slovakia clustered SDGs around six national priorities with measurable outcome indicators integrated from the national to local levels and involving players in each stage [49]. Costa Rica integrated SDGs into their national strategies and tools with open online citizen participation [50]. Germany transferred SDGs to the local level by designing specific local objectives, targets, and indicators [51]. The Guatemalan government provided local officials with advice and training to integrate the 2030 Agenda into local development plans [52].

Some other examples show how local (municipality-level) governments took the initiative. In Heidelberg, Germany, the municipal Housing Action Program addressed some challenges of affordable housing, livable neighborhoods, and land-saving planning for starter households, families with children, and seniors [53]. In Rwanda, the Masterplan 2050 of Kigali City integrated more equitable and flexible approaches to make informed decisions about effectively utilizing the city's resources [54]. In Brazil, the municipal reforestation program of Rio de Janeiro built "a natural barrier [that] contributes to the reduction of landslides, creating resilience, and providing a better quality of life for its citizens" [55] (p. 1).

UN entities were more active within the second open call than the first, increasing good practices submitted from 23 to 36. That increase may have happened due to the urging of UN Secretary-General António Guterres, who called for "ambitious actions by all stakeholders" because the "global efforts to date have been insufficient to deliver the change we need, jeopardizing the Agenda's promise to current and future generations" [56] (p. 2). The second call launched a "decade of action", an initiative to strengthen existing efforts in addressing SDGs [57]. UN entities and affiliates led many such efforts relating to SDG 11. For example, in Indonesia, the World Meteorological Organization helped to enhance a coastal flooding forecast and early warning capability system [58]. In Guinea-Bissau, UN-Habitat helped to improve the urban development plan of the city of Bissau [59]. This initiative aimed at integrating the revision of Bissau's urban development plan with national and global plans through a participatory approach to the most pressing challenges. In Nepal, UN-Habitat supported the creation of a public open space with traditional arts for women and youth [60]. In Chad, UNESCO explored ways to protect the Lake Chad Basin from biological shrinkage that is pushing people to move out or join extremist groups [61].

Private companies contributed 8.9% to the total number of good practices. Often, these players contributed specific technologies and skills to SDG 11-related projects [62]. Some examples include: in Austria, the planner company Arenas Basabe Palacios developed a residential block naturally integrated into the environment through the collaboration of all agents in this process [63], Miyakoda Construction Co., Ltd., Miyakoda town, Japan reconstructed an old wooden railroad station as a tourist attraction for a remote town in Japan [64], and General Incorporated Association Oiden Sanson Center, Toyota city, Japan developed a partnership between farmers, hunters, and restaurants in Japan to control the population of wild boars and consuming their meat [65].

The contribution of actors varied by country according to their types of economies (Figure 3). Although the contribution of municipalities was almost equal between developed and developing countries, national and sub-national governments along with the UN entities, international institutions, and civil society organizations played a more active role in addressing SDG 11 in developing countries. This is to be expected given that the missions of these organizations are often to support developing nations. On the other

hand, private companies and public agencies played an active role in the good practices of developed countries [11,12,14,15].

In % of the total number of good practices from an actor

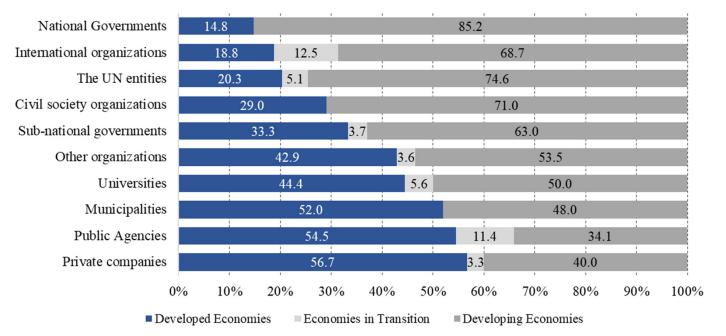


Figure 3. Contribution of actors to the implementation of SDG 11 by types of economies.

4.3. Progress toward SDG 11 Targets

Good practices submitted to the UN emphasized some SDG 11 targets more than others (Figure 4). Eighty-two percent addressed SDG 11 targets of inclusive and participatory planning (11.3), integrated policies and plans (11.b), environmental impact (11.6), or safe and inclusive green and public spaces (11.7). In contrast, relatively few addressed targets related to supporting least developed countries (11.c), reducing the damage from disasters (11.5), or adequate, safe, and affordable housing (11.1).

We note that the same order of targets is maintained between developed and developing countries in the distribution of good practices by targets of SDG 11 and types of economies (Appendix B).

During the second open call, the number of good practices addressing resource efficiency, adaptation to climate change, and resilience to disasters (11.b) increased, while the number of good practices addressing sustainable transport systems (11.2), protecting natural and cultural heritage (11.4), and affordable and safe housing (11.1) fell. This may reflect a growing concern with climate topics and may correspond to the conclusions of Thomas et al. that there is a lack of benchmarks, targets, and explicit measurement of equity consideration within SDG 11 [37,38].

In general, linking specific projects to SDG 11 targets is difficult. The UN targets are expressed in language that is often vague and overlaps categories; targets 11.3, 11.b, and 11.6 could include almost any topic related to sustainable urban development. Because of these problems, the current set of targets seems widely disregarded [32,40]. For example, Koch and Krellenberg [66] (p. 1) report that "only a few of the original targets and indicators for SDG 11 are used in the German context."

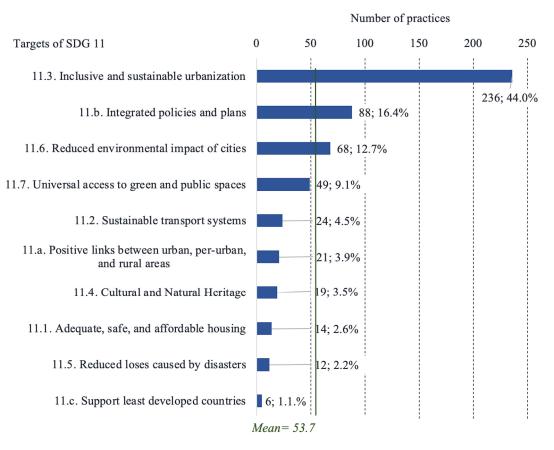


Figure 4. The Distribution of good practices by the targets of SDG 11.

4.4. Topical Areas of Implementation of Good Practices

We distributed good practices among 28 categories developed from the review based on their prime focuses (Appendix A). Not surprisingly, most addressed planning (18.4%), inclusiveness (15.6%), capacity building (11.9%), and management (11.9%). However, compared with the first open call the focus of many good practices in the second open call shifted from planning to actions. Most of the good practices from the second open call addressed inclusiveness (21.9%), capacity building (20.0%), a healthier environment (10.6%, including carbon emission and other climate-change-related issues), and management (9.4%), while only 7.5% addressed planning.

A couple of implementation areas were notably lacking. None of the best practices specifically mentioned environmental justice or climate change. This is likely because best practices related to these topics were submitted under other UN SDG Goals and may mean that reporting of such areas needs to be better linked to SDG 11.

When we disaggregated good practices by focus areas and actors, we found that governments (39.2% and 33.3%), public agencies (17.6% and 27.1%), and civil society organizations (16.2% and 12.5%) most often addressed planning and management (73% and 72.9% of practices cumulatively in planning and management). Civil society organizations, private companies, and public agencies addressed reducing waste most often (84.6% of practices cumulatively), far more than municipalities (7.7%) and governments at the national and sub-national levels (no practices).

UN entities, civil society organizations, and universities contributed almost half of the good practices in capacity building (47.9%). International organizations submitted the highest portion of good practices in wildlife protection (42.9%). UN entities, international organizations, and universities contributed all of the good practices in disaster control.

Considering the distribution of focus areas addressed by each actor, we found that civil society organizations most often addressed the issues of inclusiveness (24.4% of practices)

and planning (15.4%). In turn, the UN entities most often addressed inclusiveness (18.8%) and capacity building (15.9%).

Some clustering occurred in the distribution of focus areas by the types of economies. In particular, developing countries contributed around 95% of good practices addressing access to green and public spaces, 83% in disaster control, and 80% in water supply. Developing countries also submitted all the good practices addressing human rights, transportation, energy, infrastructure, sport, and technology. On the other hand, developed countries contributed the majority of good practices addressing wildlife conservation (57.4%), food supply (54.5%), and air quality (50.1%). Thus, questions arise around prioritization of the most pressing issues between developing and developed countries. It is perhaps natural that developing countries should prioritize issues connected with basic infrastructure and services, but reasons for other priority differences are less clear, and more research may be needed to determine why countries at different points of economic development have these different foci.

The good practices of developed countries were usually more process-oriented and technology-based than those of developing countries. Usually, they provide system-forming and data-driven tools to help solve the problems of global concern or cover gaps in knowledge and policy rather than directly resolve specific issues. For example, the Urban Data Platform of the European Commission collected data on 60 indicators from about 800 urban areas across Europe to support decision-making with information on indicator status and trends [67]. To support regional actors in SDG implementation, the German Council for Sustainable Development, an advisory board to the Federal Government, organized four Regional Hubs for Sustainability Strategies to link SDG-related activities across governmental entities by sharing knowledge, experience, and data. The Federal Government provides 17 million euros to support such communication "in a manner which is otherwise virtually impossible in a federal state" [68] (p. 1).

Conversely, actors from developing countries usually focused their good practices on problems of day-to-day concern (a problem-solving approach). For example, one project in India intended to make a local river free of solid waste and disease-causing microorganisms. Volunteers and students led by a civil society organization removed over 300 tons of garbage from the river bed and planted 1000 trees on the riverside, improving the habitat for 130 bird species [69]. In Brazil the Travessia (Crossing) program provided doorto-door transportation to more than 2000 residents with special needs in 28 municipalities, allowing them to access education, health, work, and leisure services [70]. In Mexico the International Fund for Animal Welfare launched its "Casitas Azules" program to help community members keep their dogs and the surrounding wildlife safe, distributing dog houses and predator-free chicken coops to disadvantaged households [71].

4.5. Scale of Action

Most good practices addressed SDG 11 at international (27.1%), national (27.1%), and regional levels (23.5%), rather than at the local scale. The number of good practices with international effects significantly increased in the second open call (likely because of the general increase in good practices from UN entities), while the number of good practices with impacts exclusively on the municipal scale decreased from 55 to 20. In part, this may be because UN entities most often addressed SDG 11 in ways that had international, national, and sub-national impacts, whereas civil society organizations addressed SDG 11 at more local scales.

The distribution of good practices by the scale of coverage and types of economies demonstrated that developing countries mainly submitted good practices at regional and national levels and large cities. Developed countries realized good practices at an international scale, and they addressed a small number of good practices at large and small city levels (Figure 5).

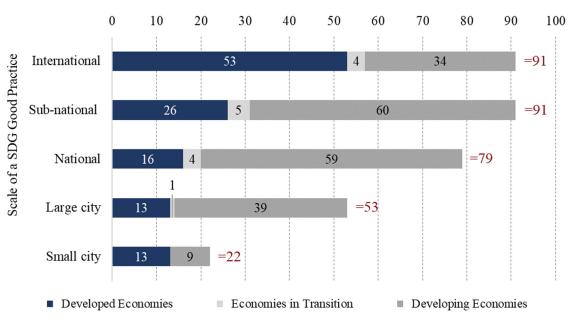


Figure 5. The distribution of good practices by scale and types of economies.

In addition, we analyzed the distribution of good practices by scale and actors (Table 2).

щ	Astor	The Scale of Good Practice Effects					I., T. (.)	
#	Actor	International	National	Regional	Large City	Small City	In Total	
1	Civil society organizations	11	17	18	15	1	62	
2	UN entities	25	15	14	3	2	59	
3	Public agencies	25	8	4	4	3	44	
4	Private companies	8	4	10	1	7	30	
5	National governments	3	19	5	-	-	27	
6	Sub-national governments	-	-	20	6	1	27	
7	Municipalities	-	-	4	15	6	25	
8	Universities	7	5	2	4	-	18	
9	International organizations	8	1	4	1	2	16	
10	Other actors	4	10	10	4	-	28	
	Total (good practices)	91	79	91	53	22	336	

Table 2. The distribution of practices by scale of coverage and actor.

Public agencies contributed the most to international-scale actions (to some extent, because of the European Commission and its bodies). In turn, municipalities and private companies developed almost 60% of good practices addressing SDG 11 in small cities.

4.6. Limitations of the Research

There are a few limitations to our research. First, the SDGs are self-reported data, and there might be tendencies for entities to report some types of practices more than others. Second, UN experts screened the submissions and may have introduced biases in terms of which were accepted as good practices. Third, UN promotion and communication efforts may have reached some countries and institutions more than others and may have been framed in ways that encouraged some types of submissions rather than others, and so may have influenced the geographical mix and content of submissions. The good practice submissions therefore should not be treated as representing all SDG 11 initiatives or even a representative sample. Future reporting efforts may yield a more comprehensive data set.

5. Conclusions and Recommendations

Our study revealed multiple patterns within SDG 11 good practice submissions collected during the first two UN open calls.

First, although a majority of good practices were submitted by developing countries, only 55 of 140 such nations made submissions. These countries face large urban sustainability challenges and usually have fewer resources available than more developed nations because of the legacies of colonialism and imperialism. Efforts are needed by the global community (especially historically colonizing nations) to fund and support SDG 11 efforts in developing countries, including assisting with data collection and knowledge sharing.

Second, only 33 countries (17.1% of those that approved the 2030 Agenda) submitted SDG 11 good practices during both open calls. This seems to indicate that a relatively small number of countries continuously address SDG 11 and prioritize sharing their experiences. The corollary recommendation would be to improve the visibility of UN calls, support the implementation and evaluation of SDG 11 programs, and reward the efforts and contribution of those countries that initiate these programs by recognizing and promoting those achievements, outcomes, and lessons within the UN system's platforms, publications, and intergovernmental processes.

Third, public sector agencies submitted the most SDG 11 good practices, which is to be expected given that governments have the most direct mandate to improve urban sustainability. However, the percentage of good practices submitted by the public sector was much larger in developing countries than in developed ones, where private companies, universities, and other organizations played a larger role. This may reflect a stronger civil society and more active private sector in developed countries, but it may also imply the need for governments in wealthy nations to take SDG 11 more seriously as a centerpiece of urban policy.

Fourth, good practices most frequently addressed SDG 11 targets of inclusive and participatory planning (11.3), integrated policies and plans (11.b), environmental impact (11.6), and safe and inclusive green and public spaces (11.7). Relatively few addressed issues of affordable and safe housing (11.1) and sustainable transport (11.2). The latter targets are written to emphasize social equity dimensions, and equity-related dimensions of SDG 11 such as affordable housing likely need greater emphasis worldwide. That being said, many SDG 11 targets cover a broad scope of issues and arguably lack focus, and we recommend that follow-on UN frameworks improve targets' wording and focus.

Fifth, after a detailed disaggregation of good practices by focus area, we found that most addressed issues of planning, inclusiveness, capacity-building, and management (about 58% of good practices cumulatively, out of 28 categories). At their best, such tools increase societies' ability to solve problems of global concern. This ability is particularly needed in the developing world, which had less emphasis on these focus areas. However, a focus on tools can also distract from efforts for on-the-ground change as participants undertake process studies, model-building, theory production, and speculative technology development. Given the urgent need for action on climate and sustainability, it would seem to be important for all types of projects to focus as directly as possible on changing conditions.

Finally, most good practices addressed issues in ways that had international, national, or regional impacts. This would seem generally positive, given that urban sustainability issues extend globally—a sign that "thinking globally and acting locally" is becoming a more common practice worldwide.

Overall, both open calls of the UN can be seen as producing much useful data related to SDG 11. However, response rates were relatively low, particularly from developing countries, and the level of detail in individual responses varied widely. Some submissions contained sufficient details for analyses, while others just superficially described the initiatives. For example, those submissions did not include information about (i) implementation of the project/activity; (ii) results/outputs/impact; (iii) enabling factors and constraints; or (iv) sustainability and replicability. Also, we noted previously that UN staff may have placed submissions emphasizing environmental justice or climate change under other SDGs; these may need to be better linked to SDG 11 since they also affect cities. Our analysis points to the need for better and more systematic reporting on SDG implementation globally, more focus on SDG 11 dimensions related to social equity, and a more active role for the public sector in implementing and reporting on the SDGs in developed countries.

As follow-on research, further evaluation of specific good practices through in-depth case study methods would be useful to both scholars and practitioners. Another promising area of research would clarify the relationships between SDG 11 and its targets to enhance planning, monitoring, and progress evaluation (this would likely be useful for all SDGs). Finally, we suggested that clarifying the classification, selection, and systematization criteria of good practices within further open calls would contribute to a shared understanding of SDG implementation.

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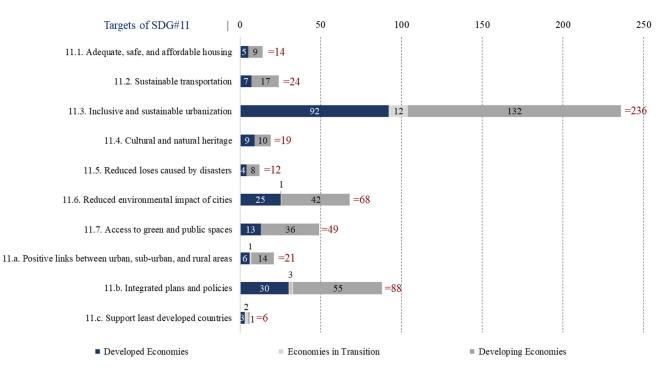
Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. The distribution of the submitted practices by focus areas.

		First Open Call		Second Open Call		Both Open Calls	
#	Focus Area	Number of Practices	% of the Total	Number of Practices	% of the Total	Number of Practices	% of the Total
1	Planning	62	25.5%	12	7.5%	74	18.4%
2	Management	33	13.6%	15	9.4%	48	11.9%
3	Inclusiveness	28	11.5%	35	21.9%	63	15.6%
4	Raising awareness	22	9.1%	5	3.1%	27	6.7%
5	Capacity building	16	6.6%	32	20.0%	48	11.9%
6	Reducing wastes	11	4.5%	2	1.3%	13	3.2%
7	Healthier environment	10	4.1%	17	10.6%	27	6.7%
8	Green/public spaces	10	4.1%	9	5.6%	19	4.7%
9	Housing	9	3.7%	1	0.6%	10	2.5%
10	Wildlife	7	2.9%	-	0.0%	7	1.7%
11	Disaster control	5	2.1%	1	0.6%	6	1.5%
12	Tourism	5	2.1%	4	2.5%	9	2.2%
13	Water supply	4	1.6%	6	3.8%	10	2.5%
14	Volunteering	3	1.2%	2	1.3%	5	1.2%
15	Transportation	3	1.2%	-	0.0%	3	0.7%
16	Human rights	2	0.8%	2	1.3%	4	1.0%
17	Cultural heritage	2	0.8%	1	0.6%	3	0.7%
18	Infrastructure	2	0.8%	-	0.0%	2	0.5%
19	Air quality	2	0.8%	-	0.0%	2	0.5%
20	Energy	1	0.4%	-	0.0%	1	0.2%
21	Sports	1	0.4%	-	0.0%	1	0.2%
22	Technology	1	0.4%	-	0.0%	1	0.2%
23	Food supply	1	0.4%	10	6.3%	11	2.7%
24	Healthcare	1	0.4%	-	0.0%	1	0.2%
25	Education	1	0.4%	-	0.0%	1	0.2%
26	COVID	-	0.0%	4	2.5%	4	1.0%
27	Public Safety	-	0.0%	1	0.6%	1	0.2%
28	International Development	1	0.4%	1	0.6%	2	0.5%
	In Total	243	100.0%	160	100.0%	403	100.0%

Note: Because some practices address several areas, the total number of times when each area has been addressed is greater than the total number of good practices.



Appendix B

Figure A1. The distribution of good practices by the targets of SDG 11 and types of economies.

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