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# Influence of the 2030 Agenda in the Design of Policies to Fight Poverty and Social Exclusion in Rural and Urban Contexts

Edited by
Antonio Sianes and Luis A. Fernández-Portillo

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# About the Editors

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Antonio Sianes is the Director of the Research Institute on Policies for Social Transformation at Universidad Loyola Andalucía in Spain. His fields of research include development studies, specializing in public policies and their impact on people and territories with high levels of vulnerability. He is currently studying the influence of the 2030 Agenda for Sustainable Development on national, and the local policies addressed to improve the quality of life of those more excluded from society, with a strong focus on the urban context and its dynamics.

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# Preface

This Special Issue focuses on the articulation of the 2030 Agenda at the domestic level, with policies addressing social exclusion in rural and urban contexts, both in countries from the Global North and the Global South. In such contexts, a complex multiactor governance mechanism is required to guarantee the participation of all relevant stakeholders in the policy cycle. This democratic governance is especially relevant to effectively address the problems faced by the most vulnerable people and groups in rural and urban areas, to guarantee that no one is left behind.

**Antonio Sianes and Luis A. Fernández-Portillo**
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*Editorial*

# Influence of the 2030 Agenda in the Design of Policies to Fight Poverty and Social Exclusion in Rural and Urban Contexts

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In 2015, the United Nations General Assembly formally adopted the 2030 Agenda for Sustainable Development, establishing a set of 17 Sustainable Development Goals (SDGs) to be pursued until 2030, acknowledging the need to adopt a more inclusive and sustainable development model at the global level. The achievement of the SDGs requires a global collective action; however, they must be implemented at the domestic level on a non-binding basis. The adoption of these aims increases tensions, as the pursuit of domestic interests may detract funds from the international commitments for global development. This is especially relevant for countries in the Global South, as they will be unable to reach the proposed goals without the help of more developed countries. In general, the 2030 Agenda lacks rules to reconcile such tensions.

In this Special Issue, we wanted to focus on the articulation of the 2030 Agenda at the domestic level on policies addressing social exclusion in rural and urban contexts, both in countries from the Global North and the Global South. In such contexts, a complex multiactor governance mechanism is required to guarantee the participation of all relevant stakeholders in the policy cycle to avoid the most powerful groups co-opt the process. This democratic governance is especially relevant to effectively address the problems faced by the most vulnerable people and groups in rural and urban areas.

Many elements that define the situation of vulnerability and deprivation that people face occur in relation to and are caused by the characteristics of the place where they live, be it a city or a rural area. It is well known that the rural milieu shows higher levels of poverty, hunger, unemployment, economic stagnation, and inequality, as well as a worse endowment of resources related to health, education, water, and sanitation, just to mention some issues included in different SDGs. Additionally, and according to the United Nations, in 2030, 60% of the population will live in urban areas, especially in developed countries. However, the major shift will take place in developing countries, where the percentage of people living in cities will grow from the current 52% to 57%. Consequently, cities will gain relevance as a space of social exclusion, vulnerability, and inequality; hence, the 2030 Agenda encourages us, in SDG 11, to "make cities and human settlements inclusive, safe, resilient and sustainable". Finally, rural and urban vulnerabilities should not be studied as two separate realities, not only because they share common features, but also because the most deprived people in cities are likely to have migrated from the rural milieu in search of a better life. Thus, they can be regarded as two stages in time and space of a continuum of underdevelopment.

In this Special Issue, we invited scholars to explore questions such as: How is the 2030 Agenda influencing the design of domestic policies dealing with rural and urban poverty and inequality in those countries that are adopting it as an inspiring framework? How is the conflict between global and domestic interests being incorporated in the design of such policies? What elements of the policy design deal with the participation of the most vulnerable local stakeholders in the process? What learnings may be drawn from similar

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experiences of multilevel policy design (e.g., EU directives or EU recommendations) that could be applied to the 2030 Agenda? How and what diffusion models of the 2030 Agenda are being implemented? Most of these questions are still underexplored in the academic literature, in part due to the still recent adoption of the 2030 Agenda.

The topic attracted the attention of many scholars, and 10 research papers were published after a pertinent review process. Some figures might illustrate the outreach of the Special Issue:

- Scholars from seven different countries participated in this Special Issue, from countries in the Global North, such as the USA [1], Germany [2], Spain [3–8], Poland [5] or Australia [9], to countries in the Global South, such as Malaysia [10] and Colombia [8]. Despite being a small sample, it shows how analyses from institutions in the North are still predominant in the field.
- Regarding the spatial sphere where the studies are focused, 50% of the contributions analyze policies addressed to urban areas [1–4,10], 20% to rural areas [5,8], while the remaining contributions consider their interrelation of effects on both sides [6,7,9]. The attraction of more contributions focused on processes of inequality in urban areas is a sign of renewal in the field, traditionally more centered on issues of poverty in rural areas.
- In regard to the geographic scope of the contributions, half focus their analysis on countries in the Global North [1,3–6] and half on countries in the Global South [2,7–10], showing the deep transformation brought by this agenda to the territorial focus of research on development studies. It has to be determined whether this attention to development issues in the North does not come to the detriment of the interests of the Global South. According to the contributions in this Special Issue, such attention on the Global South could not only be lacking in terms of the research conducted by scholars but also missing cutting-edge themes.
- Considering the facet of the 2030 Agenda under analysis, 30% of the contributions question the influence of the 2030 Agenda as a whole [1,8,10], while the remaining 70% focus on specific SDGs. Within this body of papers, two contributions analyze the influence of all the SDGs [3,6], while the others focus, respectively, on SDG 2 [4], SDG 8 [5], SDG 11 [2] and a mix of certain SDGs [7,9].
- Finally, regarding the methodology, there is a certain bias towards qualitative approaches. Half the contributions are case studies [1–4,8], either individual or comparative, while only 20% are quantitative approaches with more sophisticated techniques such as structural equation modelling [10] or spatial analysis [7]. The remaining 30% also rely on qualitative approaches via content analysis [6,9] or descriptive analyses of indicators [5].

We believe that this Special Issue has shown the diversity of interests and approaches that this topic inspires in academia. The contributions collected here help us to better understand the links between the 2030 Agenda and social exclusion analyzed from a territorial point of view, but they do not cover all areas of the debate. There remain unanswered questions that, in turn, give rise to new questions, especially focused on other elements of the policy cycle, such as its implementation or its monitoring and evaluation. Perhaps it would be appropriate to open a second Special Issue more focused on these lessons, always in rural and urban contexts, and from the point of view of how the 2030 Agenda could contribute to reducing poverty and social exclusion.

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*Article*

# Fertile Ground: Implementing the 2030 Agenda in U.S. Cities

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**Abstract:** The 2030 Agenda for Sustainable Development promotes sustainable global prosperity by encouraging the coordination of social, economic, and environmental policies and good governance reforms. Cities are expected to play an essential role in implementing the 2030 Agenda. Local programs are to be implemented by multi-actor governance systems (including government agencies, businesses, nonprofits, and philanthropic organizations) that operate across multiple policy domains and provide extensive opportunities for stakeholder participation. Local program finance may require a combination of public, private, and philanthropic resources. We analyze the prospects for local implementation of the 2030 Agenda in large U.S. cities by examining local capacity to plan and carry out cross-sectoral collaborative initiatives. We review sustainability planning in the cities that participated in the Sustainable Development Solutions Network planning demonstration. We analyze an inventory of urban revitalization initiatives to assess local capacity to carry out collaborations. We show that local capacity is associated with having an active local environmental agenda and making progress toward achieving sustainable development goals. However, local capacity appears to be concentrated in larger cities. Although the demands on local governance are daunting, our examination of local capacity to plan and execute cross-sectoral collaborative initiatives in large U.S. cities creates guarded optimism.

**Keywords:** urban; local capacity; sustainable development; collaboration; implementation

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## 1. Introduction

The 2030 Agenda for Sustainable Development is a United Nations (UN) initiative to promote sustainable global prosperity by encouraging the coordination of social, economic, and environmental policies and good governance reforms. The agenda identifies seventeen Sustainable Development Goals (SDGs). Though there are both synergies and trade-offs between the SDGs, the nature of the connections and the balance of trade-offs are likely to vary between and within nations [1,2]. Thus, initiatives to implement the SDGs are likely to vary nationally and locally [3]. The challenge is to create a "whole-of-government" and "whole-of-society" approach that establishes national priorities and mobilizes contributions from multiple stakeholders without dominating local implementation processes [4].

Cities are critical to achieving sustainable prosperity. Cities and metropolitan areas worldwide, as centers of population growth and economic vitality, are expected to play an essential role in implementing the SDGs [5,6]. However, the United Nations' global indicator framework, which is used to assess progress on SDG implementation, focuses on countries as the main spatial unit for which national governments and agencies should report. National measures mask disparities at the subnational level, particularly for regions and cities. In addition, the Organization for Economic Cooperation and Development (OECD) has noted, "attainment of at least 105 of the 169 SDG targets included in the global indicator framework will require the full engagement and participation of regions and cities to deliver the intended outcomes" [7].

Although the U.S. participated in the development of the SDGs and adopted the goals along with other UN member states in 2015, follow-through at the national level has been limited. In part this reflects the Trump Administration's hostility toward climate change mitigation, sustainable development, and institutions that support international cooperation [8]. While the Biden Administration is likely to renew the U.S. commitment to implementing the SDGs and the president's support is expected to enhance the prospects for success, local capacity remains a significant concern [9,10].

Local programs are to be implemented by multi-actor governance systems (including government agencies, businesses, nonprofits, and philanthropic organizations) that operate across multiple policy domains and provide extensive opportunities for stakeholder participation. Implementing the SDGs locally will require sustained efforts in the face of inevitable local political change, mobilization across sectors, and coordination across existing policy silos from local governments that are "well-functioning" and "well-managed" [10]. Beyond this, finding the resources to implement local projects is likely to be a significant challenge that may require innovative arrangements that combine support from public, private, and philanthropic sources [11–13].

Are U.S. cities prepared to meet these daunting challenges? Our analysis of local capacity to plan and carry out cross-sectoral collaborative initiatives suggests there are reasons for guarded optimism.

## 2. Research Questions and Design

Our analysis uses a mixed-methods approach and draws upon several data sources to address five research questions about the capacity of U.S. cities to implement the SDGs. First, are U.S. cities capable of developing local sustainable development plans? We present case studies that review local sustainability plans and planning processes in Baltimore, New York, and San José, the cities selected to participate in the Sustainable Development Solutions Network (SDSN) planning demonstration project (which was in operation from 2014 to 2017). Although the SDSN's framework is intended to be a guide, we use the ten-step process described in the guide to assess the extent to which local planning in the selected cities reflects the holistic approach the SDSN recommends [11]. However, our descriptions of local planning are not limited to the plans developed in response to the SDSN's demonstration project; we include information about sustainability planning before and after the SDSN's initiative. Our review shows that the selected cities, working in cooperation with civil society institutions and local stakeholders, made significant progress despite inaction by the Trump Administration [14,15]. All three cities completed sustainability plans that reflect the best practices identified by the SDSN [11], demonstrating that local sustainability planning is possible, even in the absence of supportive national policy.

Second, are U.S. cities capable of carrying out complex cross-sectoral initiatives that feature extensive community engagement and blended finances? To assess local capacity to implement the SDGs, we developed an indicator of city experience implementing similar policies. We present an original inventory of recent city collaborative initiatives to reduce poverty and promote economic mobility in sixty large (populous) U.S. cities to assess local experience implementing collaborative initiatives that featured cross-sector mobilizations, extensive community engagement, integration across multiple policy domains, and blended financing. Our goal was to create a thorough and geographically balanced inventory of collaborative initiatives implemented in large U.S. cities during the study period (from 2010 to 2018). The inventory includes the fifty largest U.S. cities (based on 2010 population) and ten additional cities that ranked between 51 and 70 in population size in 2010 (New Orleans, Honolulu, Tampa, St. Louis, Pittsburgh, Cincinnati, Toledo, St. Paul, Newark, and Buffalo). The additional cities were included in the inventory to balance geographic representation and provide more comprehensive coverage of major cities with experience implementing federal programs to combat urban distress.

We call this an inventory rather than survey because we are building a list of initiatives within the selected cities rather than selecting initiatives within each city from a sampling

frame. A similar assessment of collaborative initiatives in education was undertaken by Henig and colleagues [16,17]. To create the inventory, we conducted two separate web-based searches. We initially searched for evidence of cross-sector collaborations within the selected cities and included all initiatives related to a comprehensive, holistic approach to reducing poverty and/or promoting economic mobility. We then searched in each of the selected cities for initiatives within four policy domains related to these goals: housing and neighborhood revitalization, education, workforce development, and economic development. Initiatives that featured cross-sectoral collaboration were included in the inventory. Additional details about the search process are presented in Appendix A. The inventory shows that large U.S. cities are not starting the SDG implementation process from scratch; many have substantial local capacity developed through several decades of experience planning and implementing collaborative initiatives. They are primed for success.

Third, is more extensive local experience implementing collaborative initiatives associated with local activity in the environmental policy domain? We gathered data from the inventory cities on local environmental policy actions from 2010 to 2021 in five areas related to environmental policy. These actions included:

- Adoption of a climate action plan or sustainability plan.
- Membership in the C40 Climate Leadership Group, a network of 97 of the world's largest cities that share knowledge and collaborate on efforts to address climate change [18].
- Membership in the Cities for Climate Protection Campaign (CCPC), an initiative of the International Council for Local Environmental Initiatives to assist cities in reducing local greenhouse gas emissions, improving air quality, and enhancing urban livability and sustainability. More than 650 local governments have joined the CCPC by passing resolutions pledging to reduce greenhouse gas emissions in local government operations and throughout their communities [19].
- Participation in Bloomberg Philanthropies' American Cities Climate Challenge, launched in 2018, to provide resources to mayors in 25 cities to accelerate action on climate change through a holistic approach focused on clean buildings and transportation.
- Receipt of a Sustainable Communities Initiative planning or implementation grant, a joint effort of the U.S. Departments of Housing and Urban Development and Transportation under the Obama Administration's Neighborhood Revitalization Initiative to improve regional and local planning that integrates housing and transportation investments and increases the capacity for land use and zoning decisions that promote private investments that support sustainable communities.

Although some of these initiatives have a low threshold for local participation, the evidence shows that cities in our inventory with more experience in cross-sector collaboration were more likely to have an extensive local environmental policy agenda.

Fourth, is more extensive local action in the environmental policy domain associated with making greater progress toward achieving the SDGs? To assess local progress in SDG implementation, we use the OECD's localized indicator framework [20], drawing on sources such as United Cities and Local Governments and the UN Sustainable Solutions Network, among others. OECD's localized indicator framework includes 135 indicators aggregated at the subnational level, covering all 17 SDGs for regions and cities, though coverage for cities is limited to 11 of the SDGs (Table A1). To promote comparability across countries, the OECD defined cities as functional urban areas, based on population density and travel-to-work, rather than local government boundaries. Fifty-six indicators (most of which are proxies for SDG targets) are currently available.

The OECD normalized the indicators using the min-max method, with the best and worst performers set to the maximum and minimum values. The minimum value is the average of the bottom 10 percent of all cities. The maximum value is the unweighted average of indicators in the top performing city in each country. In most cases, multiple indicators were combined into an additive index based on the unweighted means of the

normalized indicators, with index values ranging from 0 to 100; the index value represents the percentage of the SDG goal that a given urban area has attained. Appendix B reports the mean value for U.S. cities and OECD cities for each SDG goal (normalized) and its component indicators (non-normalized).

Although data to assess local progress is limited, the available evidence indicates that more extensive local action in the environmental policy domain is associated with making greater progress toward achieving the SDGs.

Finally, is local capacity to implement the SDGs widespread across U.S. local governments or concentrated in larger cities? We examine a survey of U.S. local governments conducted by the International City/County Management Association in partnership with the Sustainable Communities and Small Town and Rural Planning divisions of the American Planning Association, the U.S. Department of Agriculture, and two U.S. universities [13]. When we compare the broader survey of local governments to the cities in our inventory, we are less confident about the potential to advance the 2030 Agenda uniformly across the U.S. The survey shows that local governments in smaller population centers are less likely to have an active and extensive environmental policy agenda, less likely to coordinate environmental policy across agencies, and less likely to extensively consult stakeholders in the process. In the U.S., local capacity to implement the SDGs is likely to be concentrated in larger cities.

## 3. Planning Local SDG Implementation

### *3.1. The SDSN Implementation Guide*

The Sustainable Development Solutions Network (SDSN) developed a guide for implementing the SDGs in American cities to jump-start local planning processes and encourage best practices in localization [11]. "Localization refers to the process of adapting, implementing, and monitoring the SDGs at the local level" [3]. The guide emphasizes the need for a "holistic approach" to planning with extensive input from stakeholders, including residents, civic institutions, and the private sector. The guide also notes that local variation is likely: "While the SDGs will not all apply in same way for all cities, they can be prioritized and customized to meet the conditions and requirements for any city". Are U.S. cities capable of developing local sustainable development plans?

The SDSN's guide promotes several good governance practices. Given the need to sustain initiatives over time, the guide recommends establishing a leadership/management structure (Step 1). To encourage local ownership of the SDGs, it is important to identify the city's core values and to identify local stakeholders, establish working relationships, and integrate their ideas into local plans (Steps 2 and 8). Given the expectation that sustainable development requires integration of action plans across policy domains, the SDSN guide recommends the establishment of work teams (Step 3). Given the emphasis on evidence-based policymaking, the guide recommends assembling baseline data and taking stock of existing projects (Steps 4 and 5). To meet the critical need for resources, the guide encourages cities to identify existing and potential sources of program support (Step 6). Of course, the policymaking process is iterative and SDSN's guide emphasizes the importance of assessment, feedback, and policy adjustment in response to what is learned (Steps 7, 9, and 10).

However, Step 9 is likely to be a source of local controversy. Decisions about aligning resources and directing funds to selected projects at the expense of others are likely to bring conflicts about the SDGs into sharp relief and may result in local controversy once the trade-offs of sustainable development plans become more evident. Controversial resource allocation decisions are unlikely to be ceded by local government officials to cross-sectoral planning processes. Beyond this, budgeting decisions for many programs related to accomplishing the SDGs may be beyond the reach of local government officials.

The potential strengths and limitations of sustainable development planning in U.S. cities are indicated by examining the planning processes and results in Baltimore, New York, and San José, the SDSN demonstration cities. In all cases sustainability was in-

tegrated into city planning processes and the cities completed one or more sustainable development plans.

### *3.2. Sustainability Planning in Baltimore*

Baltimore's first sustainable development plan was approved in 2009. However, the selection of Baltimore by the USA Sustainable Cities Initiative as one of three cities to host demonstration projects related to implementing the SDGs resulted in an expansion of the city's sustainability plans. Resources provided by the SDSN helped Baltimore and the other cities selected for the demonstration to link existing projects with the SDGs, targets, and indicators [21].

Baltimore developed a local planning project to integrate the SDGs into the city's existing sustainability plans. The activities undertaken in the planning process included consultations with local stakeholders; organization of work teams; identification of existing sustainable policy initiatives in the city; and identification of local indicators to correspond to the SDGs [22]. Working in an iterative process with local partner organizations that had been active in sustainable development efforts, the project team identified 56 local indicators of progress toward implementing the SDGs. Members of the community were then invited to identify local priorities by scoring the indicators (see [22] for scores on all 56 indicators). The scoring process revealed that community stakeholders were most concerned about social and economic conditions including: racial equity; child poverty; hunger and food deserts (lack of access to nutritious foods); affordable housing and transportation; earning a living wage and gender income equity; infant mortality; preparing children for kindergarten and high school graduation rates; and health (indicated by life expectancy). Widespread environmental concerns included water quality (and specifically, lead contamination) and expanding the city's tree canopy.

Sustainability planning is now an established feature of local government in Baltimore. The SDSN guide emphasizes the importance of getting "buy-in" from city leadership [11]. A series of Baltimore's mayors endorsed the city's sustainability initiatives and advanced sustainability planning, indicating that momentum has continued through changes in local leadership. The latest iteration of Baltimore's sustainable development plan continues local efforts to integrate the SDGs into local planning. That plan has five themes (Community, Human-Made Systems, Climate and Resilience, Nature in the City, and the Economy), and identifies 23 topic areas and 243 action items. The planning process continues to emphasize extensive community engagement: "This plan is the result of hundreds of conversations, comments, and drafts among Baltimore's residents, those who work at its nonprofits, businesses, and in government, and the Sustainability Commission and the Baltimore Office of Sustainability" [23].

The plan was developed through an "equity lens", reflecting stakeholders' concerns about historic and structural inequality. Equity is defined as *"The condition that would be achieved if identities assigned to historically oppressed groups no longer acted as the most powerful predictors of how one fares"* [23] (italics in original). The most recent status report concludes: "As of the end of 2020, a total of 23%, or 55 actions, have reached mid-stages of implementation or beyond, with 71% of the actions reaching at least early stage implementation" [24].

Considering the ten steps the SDSN identified to encourage sustainability planning, significant progress has been made in Baltimore. Baltimore has developed a series of sustainable development plans and has established processes to work with key stakeholders. The city's Department of Planning has an Office of Sustainability (created in 2007) that is responsible for implementing the city's plans. In addition, Baltimore's Sustainability Commission oversees the continuing development and implementation of the city's sustainability plans; members include public officials and a broad array of local stakeholders. Baltimore has established a local vision that reflects the city's values. Working groups have been established and continue to function. Baseline data (through the Baltimore Neighborhood Indicators Alliance) have been assembled and analyzed. Baltimore provides periodic reports about the status of sustainable development initiatives.

While the planning, consultation, and monitoring infrastructure is in place, Baltimore has not yet found the financial resources that will be needed to advance much of its sustainable development agenda (though government grants, foundation awards, and local revenue have financed a series of demonstration projects). Financing local initiatives is a significant constraint, as Baltimore struggles to contend with population decline and a limited tax base. Consequently, the sustainable development plan has not been fully aligned with the city's budget, and only some elements of the plan have been launched.

### *3.3. Sustainability Planning in New York*

New York City (NYC) first initiated sustainable development planning in 2007 when it launched *PlaNYC 2030*. Since then, the city has developed a series of plans to promote sustainable development and respond to climate change. To institutionalize sustainability concerns, NYC amended its charter to create a sustainability office in 2008. In 2013, the city amended its charter again in the aftermath of Hurricane Sandy to establish a resiliency office to develop plans to improve storm water management and help coastal communities adapt to the challenges of climate change. In 2015, the city adopted the *OneNYC: The Plan for a Strong and Just City*, which committed to the "principles of growth, equity, sustainability, and resiliency" by linking plans for environmentally friendly development with equity concerns [25]. In 2018, the *OneNYC* plan was updated and retitled *OneNYC 2050: Building a Strong and Fair City*: "*OneNYC 2050* consists of eight goals and 30 initiatives that together comprise a strategy to prepare New York City for the future" [26].

NYC initiated the *OneNYC* planning process in 2014, when more than 71 of the city's agency heads met to discuss inter-agency collaboration for sustainable development. Cross agency working teams were established to identify indicators to monitor conditions and track progress; baseline data were assembled, and ongoing data collection (featuring annual reporting) was instituted. The working groups established priorities and worked on collaborative policies that were assessed based on "feasibility, ambition, scalability, funding and external dependencies" with special emphasis placed on the importance of available local funding [25]. Members of the city's Office of Management and Budget were included in the process to analyze the financial implications of proposals. The process identified eight local goals as foundations for the city's development plans: a vibrant democracy; an inclusive economy; thriving neighborhoods; healthy lives; equity and excellence in education; a livable climate; efficient mobility; and modern infrastructure.

Significant outreach efforts and community consultations were undertaken during the initial planning process [25]. To solicit stakeholders' opinions, the city conducted surveys (online and by telephone); more than 1300 stakeholders participated in face-to-face meetings, town halls, and roundtable discussions; a business roundtable was conducted with leading employers; and a *OneNYC* Advisory Board was established with representatives of the five boroughs, civic leaders, and community leaders, working with policy experts. Consultations were initiated with surrounding authorities in New York, New Jersey, and Connecticut to discuss regional concerns.

The *OneNYC 2050* planning process also included significant outreach and stakeholder participation. The *OneNYC* Advisory Board consulted with nonprofits and city agencies seeking to discover new approaches to local problems. Regional collaborations continued. Members of the public had direct input: "More than 16,000 New Yorkers' voices shaped the vision and priorities that make up *OneNYC 2050*" by sharing opinions while attending community forums and events or participating in a public survey [26]. The most common concerns stakeholders expressed were the need to improve public transit, housing affordability, and inequality of opportunity in the job market. Concern about resiliency planning was often expressed by stakeholders from coastal communities. The most recent progress report indicates that *OneNYC 2050* initiatives are being actively managed; many have been implemented and completed, while others have been partially completed, time extended, or reconsidered [27].

NYC has strived to relate its sustainable development plans to the SDGs by presenting Voluntary Local Reviews (VLRs). The city has presented two VLRs and aspires to produce a series of reports [24,25]. Each report focuses on a limited number of the SDGs (identified in the reports as the "Priority Goals"). The 2018 VLR, based on the initial *OneNYC* plan, focused on providing clean water and sanitation (SDG 6); providing access to affordable, reliable, sustainable, and modern energy (SDG 7); making cities and human settlements inclusive, safe, resilient, and sustainable (SDG 11); ensuring sustainable consumption and production patterns (SDG 12); and protecting, restoring, and promoting sustainable use of terrestrial ecosystems (SDG 15). For each goal, a series of indicators was identified, and baseline data and the latest available data were reported. The second VLR was based on the revised plan, *OneNYC 2050*, and focused on: quality education (SDG 4); decent work and economic growth (SDG 8); reduced inequality (SDG 10); climate action (SDG 13); and peace, justice, and strong institutions (SDG 16).

The *OneNYC* planning process (including both the initial version and the revised version) displays the features identified in the SDSN implementation guide as the components needed for successful local SDG implementation [11]. A structure was created to lead and manage the planning process. Interagency work groups were organized to initiate planning and to take stock of ongoing initiatives, assemble and analyze baseline data, and identify budgetary resources within the city. Widespread consultations with stakeholders were conducted and stakeholders' ideas were included in a plan that identified core values and eight local goals. Outreach efforts continued as the initial plan was revised and updated. Annual reporting was instituted: The most recent annual progress report indicates that budgets have been aligned and accountability measures are in place, as initiatives are tracked and managed [27]. The plan has been launched and revisions to the plan that occurred in 2019 indicate that the process has effective accountability and feedback mechanisms to adjust local sustainability policies as new information becomes available.

### *3.4. Sustainable Development in San José*

The city of San José is located within the San José–Sunnyvale–Santa Clara, California, metropolitan region, which the SDSN identified as the leading urban area in the U.S. for implementation of the SDGs [28]. San José has a history of environmental leadership, including a sustainability report that was commissioned in 1980; a series of local initiatives to reduce waste, improve air quality, encourage recycling, and conserve and reuse water; and a "Green Building Policy" [29]. The city has created two updated local sustainability plans since the SDGs were adopted: *Climate Smart San José* in 2018 and *Envision San José 2040* (the city's General Plan, which was first adopted in 2011, but is updated on a four-year cycle, most recently in 2021).

*Climate Smart San José* is a revised and updated version of San José's *Green Vision* plan, a sustainable development plan that was adopted in 2007. The *Green Vision* plan focused on creating clean tech jobs, reducing energy consumption, generating power from renewable sources, reducing landfill waste, converting waste into energy, constructing green buildings, recycling and reusing wastewater, planting trees, building paths for walking and biking, and acquiring a fleet of public vehicles powered by alternative energy [30]. *Climate Smart San José* emphasizes the quality-of-life benefits the city's residents can enjoy by embracing sustainable development [31].

*Climate Smart San José* identifies three pillars and nine strategies to guide sustainable development. San José aspires to be sustainable and climate smart; vibrant and growing; and a source of inclusive economic opportunity. To be sustainable and climate smart, the city plans to expand the use of renewable energy and create opportunities to enjoy lifestyles that take advantage of California's climate. To focus and manage expected population growth, the city will increase the density of selected neighborhoods, make homes more affordable and energy efficient, create clean options for personal mobility, and develop integrated and accessible public transit. To create inclusive economic opportunities, San

José will create jobs, improve commercial buildings, and make commercial transportation cleaner and more efficient. *Climate Smart San José* also includes a detailed discussion of "Funding Models" (financing options) to implement the plan [31].

The planning process for *Climate Smart San José* included data analysis, consultation with experts, and community outreach. The analysis focused on energy use in the city and its connections to carbon dioxide emissions, suggesting ways in which emissions might be reduced. Elements of the plan were enhanced by the advice of hundreds of subject area experts in "energy, water, mobility, and land use and open space". The planning process also included numerous community consultations designed to heighten awareness of the plan, solicit insights and opinions from the community, and to understand how residents connected the plan's vision of enjoying life in San José to sustainability initiatives. Numerous events and activities (including multilingual announcements and events) were undertaken: 13 public meetings were held, and more than 2200 people responded to a survey [31].

*Envision San José 2040* (the city's General Plan) guides land use planning. The plan aims to increase population density in designated growth areas, developing urban villages that encourage walking and use of mass transit [32]. *Envision San José 2040* identifies four types of urban villages: Regional Transit Urban Villages (locations near regional transit infrastructure); Local Transit Urban Villages (locations served by light rail or bus facilities for local transit); Commercial Corridor and Center Urban Villages (locations with redevelopment potential due to underutilized commercial sites); and Neighborhood Urban Villages (locations in existing neighborhoods that can be enhanced through mixed-use development). *Envision San José 2040* also identifies seven community values: "innovative economy" (to create job opportunities and provide ample fiscal resources); "environmental leadership" (sustainable and effective use of resources); "diversity and social equity" (achieving equity while celebrating the city's diverse cultures); "interconnected city" (activities are in close proximity and accessible by walking, biking, or mass transit); "healthy neighborhoods" (neighborhoods that are attractive, affordable, and safe); "quality education and services" (offering high quality local services for all); and "vibrant arts and culture" (supporting the creative energy that enriches the city's quality of life) [32].

There was extensive community participation in the *Envision San José 2040* planning process. The latest update of the plan was developed by a 37-member Task Force composed of "dedicated community members, representing political, business, resident, development, religious, and labor interests, appointed by the City Council" who were "joined by numerous volunteer community members who participated in the Task Force meetings, at community workshops and through online engagement activities" [32]. The Task Force held 57 meetings and more than 125 outreach sessions, that reached more than 5000 residents. Five priority concerns were identified by this process: promoting economic development, ensuring fiscal stability, providing environmental leadership, building urban villages, and promoting transit use [32].

Progress toward achieving the goals established in *Envision San José 2040* is monitored and reported by San José's Department of Environmental Services, which maintains a dashboard that displays baseline data and projections to report the city's progress on sustainable development goals. Graphic displays include data on energy production and consumption, use of different modes of transit (public, automobiles, and walking or biking), water consumption, job creation, and greenhouse gas emissions.

The planning processes for sustainable development in San José exhibit the features of effective local planning identified by the SDSN. The city has several institutions that are actively engaged in ongoing sustainability planning (including the Department of Planning and the Sustainability Department). Concerns about sustainable development are thoroughly embedded in the city's policymaking processes. The planning processes for both current sustainability plans included work teams that conducted outreach efforts to identify core values, took stock of ongoing projects, and analyzed baseline data. Experts were consulted. Plans were developed and implemented. Local planning processes

emphasize mobilizing and working with key stakeholders. The city monitors progress and reports to the public through its sustainability dashboard.

### *3.5. Comparing Plans in the Demonstration Cities*

Plans to implement the SDGs are expected to vary locally because of the complexity of the 2030 Agenda, which features seventeen SDGs that are expected to have complex interactions that vary from place to place [1–3]. Beyond this, respect for local differences in planning may enhance support among local elites and residents for SDG implementation [11].

All the sustainability plans developed in the SDSN demonstration cities reflect long-standing environmental concerns such as air quality, solid waste management, mass transit development, energy consumption, and water quality. All three cities are planting trees. All are trying to reduce solid waste. All are seeking to improve mass transit and to encourage alternative modes of transportation. All plan to increase density and encourage mixed-use development along existing and proposed mass transit lines. All plan to reduce the energy and water consumption in future construction (housing and commercial). Then, although all three cities express concern about water quality, each has distinctive priorities. Baltimore is concerned about contamination of its water supply and pollution related to its port; NYC is concerned about maintaining the high quality of its drinking water, with efforts to maintain and enhance its up-state supply infrastructure; and San José is concerned about managing a water shortage, prioritizing initiatives to conserve and recycle water.

All three cities express concern about housing affordability and displacement of existing residents in their sustainability plans. All three cities aspire to reduce rent burdens for lower income households. However, each city has a distinct view of housing affordability. In Baltimore, housing affordability is linked to poverty and substandard housing, which are seen as manifestations of historic inequities in federal policies related to housing finance. In NYC, concerns about housing affordability reflect high housing costs (and rent burdens) and income inequality, connected to the limitations of the city's past efforts to provide an adequate supply of affordable housing. In San José, concern about housing affordability reflects high demand (a shortage of housing units to rent or purchase), high housing costs (and rent burdens), and the location of housing in relation to other types of development.

There are also noteworthy differences in local sustainability plans. One of the most striking differences distinguishes San José. Baltimore and NYC did more to integrate social, economic, and political concerns into their sustainability plans. By comparison, the plans in San José focus more directly on environmental concerns and land use. This is not to suggest that San José is a laggard city in social, economic, or political policymaking. Rather, it is to observe that the social, economic, and political policy agendas in San José have not been fully integrated into the city's sustainability plans. By contrast, the sustainability plan in NYC stands out for its ambitious social, economic, and political agenda. The *OneNYC 2050* plan includes city-sponsored universal pre-school and universal healthcare and has an extensive discussion of democratic participation, including voting rights.

In sum, our case evidence indicates that local sustainability planning that reflects local concerns and context is ongoing in Baltimore, New York, and San José. The plans that have been developed conform to the process envisioned in the SDSN's implementation guide. However, in a broader sense the demonstration sites have accomplished much more; they have invested in the civic infrastructure that will be needed to continue to promote sustainable development. As Baltimore's SDSN demonstration project report observed: "The project team has convened government, non-profit and civil society representatives to provide feedback for these activities, and in so doing they have established a community of practice that can continue as a coalition for SDG achievement" [22].

## 4. Inventory of Local Capacity

Implementing the SDGs will place significant demands on local governance, broadly conceived to include local officials, foundations, anchor institutions, businesses, nonprofits,

and community stakeholders. The limited national progress made to date in the U.S. casts doubt on local capacity to convene, mobilize, and empower collaborative, cross-sector, comprehensive initiatives to address sustainable prosperity and climate change. Do U.S. cities have the capacity to carry out complex cross-sectoral collaborations that feature extensive community engagement and blended finances?

Many U.S. cities have developed substantial capacity to execute cross-sectoral collaborations through local efforts to combat urban distress, where such initiatives have been encouraged by federal policy and foundation sponsorship (sometimes in conjunction) for more than three decades. This section summarizes our recent research on city collaborative initiatives designed to reduce poverty and promote economic mobility, important components of urban revitalization and the 2030 Agenda.

Our assessment of the Empowerment Zones and Enterprise Communities initiative, the U.S. federal government's most ambitious effort to combat urban distress, concluded: "The quality of local governance distinguished the performance of the revitalization initiatives undertaken in the original urban EZs" [33]. The quality of local governance reflected the actions of stakeholders who were able to create the capacity to implement cross-sectoral collaborations, leading to successful local projects and programs to promote economic opportunity and reduce poverty. This finding was consistent with other studies that identified the importance of local capacity in community and economic development policymaking [34–37].

To assess local capacity, we constructed an inventory of local revitalization initiatives implemented in sixty large U.S. cities from 2010 to 2018. The inventory includes *comprehensive initiatives* (multi-sector initiatives that featured collaborative leadership) focused on poverty reduction and/or the promotion of economic mobility and *collaborative initiatives within four policy domains* related to these goals—housing and neighborhood revitalization, education, workforce development, and economic development. The selected cities were classified on a continuum to capture the breadth and depth of their recent experience with collaborative policymaking. Three primary groups are identified in Table 1: cities with no collaborative initiatives; cities with collaborative initiatives within a single policy domain; and cities with comprehensive collaborations and from zero to four domain-specific collaborations related to urban revitalization. The table further subdivides the second and third categories to show the number of collaborative efforts that were operating in the city during the study period. The results indicate that experience implementing collaborative revitalization initiatives is broad and deep. During the study period, only three of the sixty cities (5%) had no experience with collaborative initiatives; the vast majority of cities (43 of 60, 72%) had deep experience, engaging a variety of local stakeholders in multiple collaborative initiatives operating across several policy domains.

Table 1 also shows that cities with more extensive collaborative experience were more likely to have previous experience with community-based, cross-sectoral collaborations. Most of the cities with deep experience have a history of collaboration that can be traced back to comprehensive community initiatives (CCIs) that were launched in the 1980s and early 1990s, primarily through support provided by national and local foundations [38]. This initial experience was continued; these same cities were more likely to be successful in the following waves of revitalization initiatives launched during the Clinton and Bush administrations, including HOPE VI public housing revitalization [39], the Empowerment Zones and Enterprise Community initiative [33], and Renewal Communities [40]. A similar pattern holds for the Obama Administration's Neighborhood Revitalization Initiative (NRI): Cities with previous CCIs or earlier experience with federal revitalization programs were more likely to receive NRI planning and implementation grants [41–43].

**Table 1.** City characteristics by experience with collaborative initiatives. Median values. Sources: U.S. Bureau of the Census, Decennial Census of Population (2000) and American Community Survey, ACS, (Five Year Estimates 2015–2019); authors' inventory of community initiatives and tabulation of local philanthropic giving for poverty reduction and economic mobility initiatives in sample cities from search of the Foundation Directory. KEY: CCI Comprehensive community initiatives; EZ Empowerment Zones; EC Enterprise Communities; RC Renewal Communities; NRI Neighborhood Revitalization Initiatives.

| City Characteristics | | No Collaborative Initiatives | Collaborations within a Single Policy Domain | | Cross-Domain Collaborations and Number of Initiatives Related to Urban Revitalization | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | One | Two | None | One | Two | Three | Four or More |
| Number of cities | | 3 | 3 | 6 | 1 | 4 | 20 | 14 | 9 |
| Population | Total population (thousands), ACS 2015–2019 | 467 | 464 | 602 | 1633 | 465 | 643 | 651 | 908 |
| | % Change, 2000–2019 | 5.9 | 28.8 | 18.4 | 23.6 | 13.2 | 21.1 | 12.3 | 4.1 |
| | % Nonwhite, 2000 | 30.5 | 28.3 | 35.7 | 44.2 | 49.8 | 50.9 | 49.3 | 69.2 |
| | % Nonwhite, ACS 2015–2019 | 38.7 | 37.2 | 47.5 | 57.5 | 56.7 | 56.4 | 59.0 | 75.3 |
| Percent of Persons Below Poverty | 2000 | 8.9 | 11.2 | 14.6 | 15.8 | 16.4 | 17.7 | 18.7 | 24.4 |
| | ACS 2015–2019 | 14.8 | 12.6 | 16.5 | 18.0 | 15.7 | 17.3 | 18.2 | 23.7 |
| Percent Unemployed | 2000 | 4.2 | 5.3 | 5.7 | 5.6 | 6.0 | 7.2 | 6.9 | 10.9 |
| | ACS 2015–2019 | 4.9 | 5.6 | 4.9 | 5.4 | 6.1 | 6.3 | 5.3 | 7.1 |
| Collaborative revitalization initiatives | % with CCI (1984–1995) | 0.0 | 0.0 | 16.7 | 0.0 | 0.0 | 40.0 | 71.4 | 66.7 |
| | % with EZ/EC/RC (1995–2000) | 0.0 | 0.0 | 66.7 | 100.0 | 75.0 | 80.0 | 92.9 | 100.0 |
| | % with HOPE VI (1993–2010) | 0.0 | 33.3 | 16.7 | 100.0 | 50.0 | 80.0 | 85.7 | 100.0 |
| | % with NRI (2010–2016) | 0.0 | 33.3 | 16.7 | 0.0 | 25.0 | 70.0 | 79.6 | 66.7 |
| | Total collaborative initiatives, 2010–2018 | 0.0 | 1 | 2 | 1 | 2.5 | 7 | 8.5 | 11 |
| Philanthropy | Total national intermediary organizations (max = 5) | 1 | 0 | 1.5 | 2 | 1 | 2 | 3 | 2 |
| | Number of local foundations | 7 | 27 | 42 | 44 | 50 | 77 | 162 | 75 |
| | Local foundation dollars per capita, 2010–2018 | 0.35 | 6.33 | 17.20 | 23.64 | 12.07 | 113.99 | 169.46 | 116.60 |

Cities with collaborative experience were not only more successful at securing federal funding, but they were also more likely to find local sources of support—state and local government and philanthropic grants—to support local initiatives. As Martinez-Cosio and Bussell [44] observe, the role of foundations in activating comprehensive community initiatives "cannot be underestimated". They add that "many foundations, both large and small, are convening strategic partnerships involving public partners, the corporate community, scholars, nonprofits, and other foundations to more effectively address the complex problems that keep residents in low-income neighborhoods, particularly children, from achieving success". Table 1 confirms their observation and shows that cities with more collaborative experience had a greater number of local foundations providing substantially more funding to support local revitalization initiatives.

In sum, data from the cities included in our inventory presented in Table 1 shows that many large U.S. cities have broad and deep experience with collaborative, cross-sectoral revitalization initiatives that operated in multiple policy domains and attracted blended funding (from governmental and foundation sources). Cities with broader and deeper experience tended to have higher rates of poverty and unemployment, more diverse populations, and lower population growth over the past two decades. Thus, there appears to be a relationship between the extent of need within a city and the breadth and depth of a city's collaborative initiatives. Experience with CCIs and federal revitalization programs contributed to local capacity, as cities with such experience were better able to develop and execute complex local initiatives in multiple policy domains.

## 5. Local Environmental Policies

Is local experience with collaborative revitalization initiatives related to the likelihood that cities undertake local initiatives in the environmental policy domain? We gathered information on local policy actions in the cities selected for the inventory over the past decade (from 2010 to 2021) in five areas related to environmental policy and examined how they aligned with local collaborative urban revitalization initiatives.

Table 2 shows a modest positive and statistically significant relationship (r = 0.29) between a city's collaborative experience in urban revitalization and recent local actions taken to address environmental issues, climate change, and sustainable development. While the list of recent environmental actions in the table is not comprehensive, our evidence does show that cities with more extensive collaborative experience in urban revitalization were more likely to engage in collaborative environmental policymaking. In a related analysis, we examined Portney's Taking Sustainable Cities Seriously Index [45]. We did find a stronger and statistically significant relationship between the number of environmental actions taken by cities and Portney's Index, an additive index based on 38 environmental, energy, and sustainability programs and policies adopted and implemented by the nation's 55 largest cities (r = 0.43). However, we also found a weak and insignificant relationship between our measure of the breadth and depth of city collaborative initiatives and Portney's Taking Sustainable Cities Seriously Index (r = 0.17). This suggests that our measure of local capacity may complement Portney's index in explaining local environmental policymaking by tapping into distinct elements of local capacity.

**Table 2.** City Environmental and Sustainability Actions Taken by Breadth and Depth of City Collaborative Experience. Source: Authors' coding and calculations.

| City Classification of Collaborative Initiatives | Total Environmental/ Sustainability Actions Taken (Mean) | Adopted Climate Action or Sustainability Plan % | C40 Climate Leadership Member % | Cities for Climate Protection Member % | Bloomberg American Cities Climate Challenge Member % | HUD-DOT Sustainable Communities Recipient % |
|---|---|---|---|---|---|---|
| No collaboration ($n$ = 3) | 1.33 | 100 | 0 | 33 | 0 | 0 |
| Collaboration within a single domain ($n$ = 3) | 1.00 | 33 | 0 | 33 | 0 | 33 |
| Collaborations within two policy domains ($n$ = 6) | 2.33 | 83 | 17 | 50 | 67 | 17 |
| Cross-domain collaboration only ($n$ = 1) | 3.00 | 100 | 100 | 0 | 0 | 100 |
| Cross-domain and collaboration in an urban revitalization domain ($n$ = 4) | 1.75 | 75 | 0 | 25 | 50 | 25 |
| Cross-domain and collaborations in two urban revitalization domains ($n$ = 20) | 2.60 | 90 | 25 | 35 | 35 | 75 |
| Cross-domain and collaborations in three urban revitalization domains ($n$ = 14) | 2.86 | 79 | 29 | 43 | 50 | 86 |
| Cross-domain and collaborations in four or more urban revitalization domains ($n$ = 9) | 2.44 | 89 | 33 | 44 | 33 | 44 |
| Total ($n$ = 60) | 2.41 | 83 | 23 | 38 | 38 | 58 |

## 6. Advancing the SDGs

It is premature to evaluate SDG implementation locally. Nonetheless, Table 3 examines the relationship between local environmental actions taken (the actions we discussed in Table 2) and local progress toward SDG end values. Is more extensive local action in the environmental policy domain associated with greater progress toward achieving the SDGs?

The SDG end values are drawn from the OECD's localized indicator framework [20] which includes 135 subnational indicators covering all 17 SDGs for regions and cities, though coverage for cities is limited to 11 of the SDGs. The second column in the table reports the mean percentage of goal attainment for all the U.S. cities included in our inventory for which data are available. Columns three through seven present two sets of means. The first is the percentage of the SDG achieved in cities that did not take environmental action; the second is the percentage achieved in cities that did take environmental action. Overall, the cities in our inventory have made the most progress toward attaining SDG 11 (Sustainable Cities), SDG 16 (Peace and Institutions), and SDG 6 (Clean Water), with an average percentage of the SDG achieved of 80 percent or higher. The goals in which inventory cities have made the least progress are SDG 10 (Reduced Inequalities), SDG 14 (Life Below Water), and SDG 9 (Industry and Innovation), with average completion rates of one-third or less.

To further assess the relationship between local environmental actions taken and progress toward achieving the SDGs, we conducted a correlation analysis. The number of local environmental actions taken is positively associated with progress toward SDG end values for seven of the eleven goals. Three of these relationships are statistically significant: SDG 1 Poverty ($r = 0.33$), SDG 9 Industry and Innovation ($r = 0.51$), and SDG 17 Partnerships and Enablers ($r = 0.37$). In terms of the substance of local environmental action, the data suggest that network membership is more important than individual actions in explaining progress toward the SDG end values. Six of the eight statistically significant relationships displayed in Table 3 were in the predicted direction (adopters achieved a higher percentage of goal attainment) for cities that were members of the C40 Climate Leadership Group, Cities for Climate Change, or the American Cities Climate Challenge. These differences represent progress toward SDG 1 (No Poverty), SDG 9 (Industry and Innovation), and SDG 17 (Partnerships and Enablers for SDGs). Network members reported progress toward SDG end values that were 19 to 28 percentage points higher than non-members. By contrast, for two goals, SDG 7 (Clean Energy) and SDG 10 (Reduced Inequalities), non-members made greater progress than network members.

In sum, many of the cities in our inventory have extensive local experience implementing complex collaborative initiatives, an indication of local capacity to implement the SDGs. Local capacity is associated with local action in the environmental policy domain. Actions taken locally in the environmental policy domain, especially network membership, are associated with greater local progress on achieving several of the SDGs.

**Table 3.** Mean Percentage Attainment of SDG Goals by Environmental and Sustainability Action, Sample Cities in Inventory of Collaborative Initiatives. Statistically significant differences between no and yes cities are noted with * ($p < 0.05$) and ** ($p < 0.01$). Source: Authors calculations from OECD data [20].

| Sustainable Development Goal | Total | Adopted Climate Action or Sustainability Plan | | C40 Climate Leadership Member | | Cities for Climate Protection Member | | Bloomberg American Cities Climate Challenge Member | | HUD-DOT Sustainable Communities Recipient | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| 1. No poverty ($n = 48$) | 54 | 62 | 53 | 52 | 60 | 47 | 68 ** | 45 | 65 ** | 50 | 57 |
| 6. Clean water ($n = 28$) | 80 | 88 | 79 | 80 | 79 | 78 | 83 | 79 | 81 | 80 | 80 |
| 7. Clean energy ($n = 50$) | 50 | 54 | 49 | 49 | 51 | 53 | 42 * | 50 | 49 | 48 | 50 |
| 9. Industry and innovation ($n = 50$) | 34 | 13 | 39* | 27 | 54 ** | 31 | 42 | 23 | 51 ** | 31 | 37 |
| 10. Reduced inequalities ($n = 48$) | 29 | 45 | 26* | 33 | 17 ** | 27 | 32 | 29 | 28 | 31 | 28 |
| 11. Sustainable cities ($n = 50$) | 94 | 98 | 93 | 95 | 90 | 93 | 95 | 92 | 95 | 96 | 92 |
| 13 Climate action ($n = 50$) | 64 | 68 | 63 | 63 | 66 | 63 | 64 | 61 | 68 | 60 | 66 |
| 14. Life below water ($n = 16$) | 30 | 19 | 31 | 28 | 31 | 29 | 31 | 32 | 26 | 31 | 29 |
| 15. Life on land ($n = 28$) | 38 | 33 | 38 | 38 | 38 | 41 | 34 | 42 | 35 | 37 | 38 |
| 16. Peace and institutions ($n = 50$) | 87 | 91 | 87 | 87 | 88 | 86 | 91 | 86 | 89 | 88 | 87 |
| 17. Partnerships and enablers for SDGs ($n = 50$) | 44 | 45 | 43 | 36 | 63 ** | 36 | 58 * | 38 | 51 | 35 | 49 |

## 7. City Size and Local Capacity

Is local capacity to implement the SDGs widespread across U.S. local governments or concentrated in larger cities? The analysis presented thus far has focused on planning in the three large SDSN demonstration cities and on experience, actions, and achievements in the populous U.S. cities included in our inventory. In this section, we use data from a survey conducted by the International City/County Management Association (ICMA) to assess the scope of local government sustainability practices and local good governance practices in the environmental policy domain within a broader sample of U.S. local governments [13]. The survey, which asked local governments to report on sustainability policies and practices, was distributed to 8562 U.S. local governments via direct mail (with an online response option) and achieved a response rate of 22.2%.

Table 4 summarizes the ICMA survey data on sustainability policies and practices of U.S. local governments, by type of local government (county, municipality, town/township), population size, region, and form of local government. The evidence indicates that few local governments had a sustainability policy agenda in 2015 (when the survey was conducted). Overall, only about one-third of local governments had adopted a sustainability plan, one in five had dedicated a budget line for sustainability and/or environmental protection, one in seven had conducted a greenhouse gas (GHG) emissions inventory of local government operations, and only one out of ten had set GHG targets for local government operations. Less than 10 percent of U.S. local governments had adopted a climate mitigation plan, a climate adaptation plan, conducted a GHG inventory of the community or set GHG targets for the community.

Table 4 also shows that the tendency of local governments to adopt sustainability practices reflects population size, region, and form of government. Several previous studies have observed similar tendencies [46–49]. For example, Table 4 shows that more than three of four of the largest jurisdictions (those with populations of one million or more) had adopted a sustainability plan as compared to about half of the jurisdictions between 100,000 and one million, and only 29 percent of those with populations below 100,000. This pattern is consistent across the sustainability practices reported in the table, except for setting GHG targets for the community. The table also shows that U.S. local governments in the West were more likely to employ sustainability practices, particularly GHG inventories and GHG targets. A city's form of government also appears to be associated with taking some sustainability actions. Though mayor-council and council-manager cities adopted sustainability plans and dedicated budget lines for sustainability and environmental protection at about the same rate, council-manager cities were more likely to undertake GHG inventories and set GHG targets.

Table 5 shows that variation in local government sustainability practices continues to hold and in some cases is even more pronounced when local good governance processes in the environmental policy domain are examined. Most notably, nearly all the nation's largest local governments (those with populations of 250,000 or more) coordinated environmental programs and policies among their departments and with other localities in their region. Beyond this, consultation with community stakeholders is also much more common in the larger population centers. Almost seventy percent of the largest cities (those with populations over one million) had residents participate in the planning process. These observations suggest that local population size influences the likelihood that good governance practices related to SDG implementation are institutionalized. Smaller local government are less likely to exhibit good governance practices, especially in terms of inter-agency and regional coordination in response to climate change.

**Table 4.** U.S. Local Government Sustainability Practices. Percent responding yes. Source: International City/County Management Association, Local Government Sustainability Practices Survey [13].

| U.S. Local Governments | | *n* | Adopted Sustainability Plan | Adopted Climate Mitigation Plan | Adopted Climate Adaptation Plan | Dedicated Budget Line for Sustainability/ Environmental Protection | Conducted GHG Inventory of Local Government Operations | Conducted GHG Inventory of the Community | Set GHG Targets for Local Government Operations | Set GHG Targets for the Community |
|---|---|---|---|---|---|---|---|---|---|---|
| Total | | 1899 | 31.5 | 6.4 | 3.2 | 18.6 | 14.1 | 9.1 | 10.7 | 7.0 |
| Type | County | 424 | 35.2 | 4.5 | 2.6 | 19.3 | 8.7 | 4.5 | 7.3 | 3.5 |
| | Municipality | 1146 | 32.3 | 8.0 | 4.1 | 19.4 | 17.8 | 12.6 | 13.4 | 9.5 |
| | Town/Township | 329 | 24.1 | 3.0 | 0.6 | 15.2 | 7.9 | 3.0 | 5.5 | 2.7 |
| Population Group | Over 1 million | 13 | 76.9 | 46.2 | 38.5 | 69.2 | 69.2 | 30.8 | 61.5 | 7.7 |
| | 500,000–1 million | 24 | 50.0 | 20.8 | 8.3 | 54.2 | 45.8 | 25.0 | 33.3 | 20.8 |
| | 250,000–499,999 | 37 | 55.6 | 21.6 | 8.1 | 48.6 | 40.5 | 18.9 | 29.7 | 18.9 |
| | 100,000–249,999 | 145 | 46.5 | 11.7 | 9.0 | 35.2 | 33.1 | 25.5 | 24.1 | 15.2 |
| | Less than 100,000 | 1680 | 29.0 | 5.1 | 2.2 | 15.7 | 11.0 | 22.6 | 8.3 | 5.8 |
| Region | Northeast | 348 | 27.0 | 4.9 | 2.0 | 17.5 | 12.1 | 5.5 | 8.3 | 5.2 |
| | Midwest | 652 | 27.0 | 3.4 | 1.2 | 15.6 | 7.1 | 4.1 | 5.4 | 3.1 |
| | South | 537 | 33.2 | 3.5 | 2.4 | 18.1 | 11.5 | 6.3 | 9.1 | 4.7 |
| | West | 362 | 41.5 | 17.4 | 8.8 | 26.0 | 32.3 | 25.7 | 24.9 | 19.3 |
| City Form of Government | Mayor-Council | 383 | 31.4 | 4.2 | 2.3 | 16.2 | 9.4 | 5.5 | 5.5 | 3.4 |
| | Council-Manager | 862 | 31.6 | 9.4 | 4.4 | 20.9 | 20.9 | 14.6 | 15.8 | 11.6 |

**Table 5.** U.S. Local Government Collaboration and Capacity Regarding Environmental and Sustainability Programs or Policies, 2015. Percent responding yes. Source: International City/County Management Association, Local Government Sustainability Practices Survey [13].

| U.S. Local Governments | | Departments Coordinate on Environmental Programs or Policies | Departments Coordinate on Climate Change Programs or Policies | Localities in Region Coordinate on Environmental Programs or Policies | Localities in Region Coordinate on Climate Change Programs or Policies | Residents Participate in Planning Strategies through Committees, Commissions, or Task Forces |
|---|---|---|---|---|---|---|
| Total | *n* | 1730 | 1617 | 1703 | 1630 | 1899 |
| | % | 64.6 | 11.5 | 61.0 | 20.2 | 37.7 |
| Type | County | 61.2 | 5.6 | 58.2 | 17.9 | 34.0 |
| | Municipality | 65.5 | 14.7 | 62.0 | 22.4 | 39.2 |
| | Town/Township | 65.3 | 6.8 | 60.5 | 15.3 | 37.4 |
| Population Group | Over 1 million | 92.3 | 69.2 | 91.7 | 83.3 | 69.2 |
| | 500,000–1 million | 90.5 | 30.0 | 90.5 | 52.4 | 50.0 |
| | 250,000–499,999 | 88.9 | 20.6 | 77.8 | 33.3 | 48.6 |
| | 100,000–249,999 | 77.0 | 22.5 | 72.0 | 26.2 | 53.1 |
| | Less than 100,000 | 62.2 | 9.5 | 58.9 | 18.4 | 35.7 |
| Region | Northeast | 71.9 | 9.0 | 63.1 | 16.9 | 43.4 |
| | Midwest | 53.9 | 6.5 | 54.5 | 14.1 | 35.3 |
| | South | 67.7 | 7.2 | 66.7 | 19.2 | 34.8 |
| | West | 71.3 | 27.9 | 61.8 | 34.8 | 40.9 |
| City Form of Government | Mayor-Council | 60.2 | 8.1 | 55.7 | 15.3 | 36.3 |
| | Council-Manager | 68.7 | 17.4 | 65.1 | 25.2 | 41.2 |

Finally, the ICMA survey identified factors that are likely to limit sustainability policy-making in U.S. local governments (see Table 6). The largest local jurisdictions are much less likely to report concerns about lack of staff capacity or support and challenges in coordinating across agencies. Less than 10 percent of the largest jurisdictions reported they had no staffing, goal recognition, or task force/committee addressing sustainability as compared to about 18–24 percent of local governments with populations between 100,000 and one million and nearly half of local governments with populations less than 100,000. However, lack of funding was the most prominent factor identified by all local governments as hindering their sustainability efforts. All local governments with populations of 500,000 or more cited this as a very significant or significant factor as did more than eight out of ten local governments with populations less than 500,000. (The need for federal resources to support local sustainability initiatives was also cited in the local sustainability plans developed by the cities that participated in the SDSN demonstration projects.) A large proportion of local governments also cited state or federal funding restrictions as a constraint on their sustainability efforts and a slightly smaller share also expressed concerns regarding state or federal government policies.

In sum, the ICMA survey suggests that large U.S. cities have more local capacity (including staff) to develop and implement an active environmental agenda; to coordinate initiatives across policy silos and regionally; and to exhibit good governance practices. However, large local jurisdictions are much more likely to identify lack of funding, state and federal funding restrictions, and state and federal policies as significant constraints.

**Table 6.** Factors that Hinder Sustainability Efforts in U.S. Local Governments, 2015. Percent responding yes. * Percent responding "very significant" or "significant". Source: International City/County Management Association, Local Government Sustainability Practices Survey [13].

| US Local Governments | | State or Federal Government Policies | State or Federal Funding Restrictions * | Lack of Funding * | Lack of Staff Capacity and/or Support * | No Staffing, Goal Recognition, or Task Force/Committee | Challenges Coordinating Across Agencies * |
|---|---|---|---|---|---|---|---|
| Total | *n* | 1589 | 1598 | 1633 | 1612 | 1792 | 1594 |
| | % | 46.3 | 60.9 | 88.0 | 58.6 | 42.2 | 36.5 |
| Type of local government | County | 51.2 | 62.6 | 87.2 | 52.7 | 42.1 | 38.7 |
| | Municipality | 44.9 | 60.9 | 88.9 | 60.3 | 40.9 | 35.0 |
| | Town/Township | 45.0 | 58.5 | 85.3 | 59.9 | 46.9 | 39.8 |
| Population size | Over 1 million | 83.3 | 91.7 | 100.0 | 41.7 | 7.7 | 16.7 |
| | 500 k–1 million | 23.8 | 47.6 | 100.0 | 61.9 | 18.2 | 33.3 |
| | 250–499 k | 46.9 | 62.1 | 84.8 | 51.5 | 22.2 | 48.5 |
| | 100 k–249 k | 51.2 | 65.1 | 89.3 | 56.9 | 23.7 | 33.1 |
| | Less than 100 k | 45.8 | 60.5 | 87.7 | 59.0 | 44.9 | 36.8 |
| Region | Northeast | 44.1 | 60.1 | 89.1 | 61.9 | 41.4 | 38.4 |
| | Midwest | 47.8 | 60.3 | 86.4 | 58.1 | 47.8 | 35.0 |
| | South | 44.7 | 59.2 | 87.4 | 54.8 | 40.4 | 35.3 |
| | West | 47.8 | 64.9 | 90.5 | 61.9 | 35.8 | 38.9 |
| City Form of Government | Mayor-Council | 40.1 | 56.6 | 84.6 | 58.9 | 47.0 | 36.5 |
| | Council-Manager | 46.8 | 63.2 | 90.4 | 61.2 | 39.1 | 35.3 |

## 8. Conclusions

The prospects for successful implementation of the 2030 Agenda for sustainable development in U.S. cities are mixed. There are good reasons for optimism about the potential for large U.S. cities to successfully implement the SDGs: Large cities are fertile ground for developing plans and undertaking projects related to sustainable development. Though local implementation is challenging, many large U.S. cities have extensive experience developing and managing complex cross-sectoral initiatives because of participation in CCIs and federal urban revitalization programs. That experience created significant local capacity. That capacity was also reflected in the local environmental policy domain, resulting in more activity and more progress toward achieving many SDG goals locally. However, local capacity varies: Among large cities, it is widespread and deep, but not universal.

Despite this solid foundation to implement the SDGs in large cities, smaller local governments in the U.S. face more significant challenges. The ICMA survey placed the promising results of the planning review and our inventory of large U.S. cities in the broader context of U.S. local governments nationwide. Local capacity appears to be closely related to city size. The ICMA survey suggests that smaller local jurisdictions have less capacity, less extensive environmental agendas, and fewer good governance practices in the environmental policy domain. Local capacity to implement the SDGs appears to be concentrated in larger U.S. cities.

As we noted above, President Biden hopes to renew the nation's commitment to implementing the SDGs. President Biden, a Democratic president, is likely to have policy priorities that are aligned with those of Democratic mayors in the largest U.S. cities, which. are governed predominantly by Democratic mayors. Nearly two-thirds (63%) of the nation's 100 largest cities have a Democratic mayor, whereas Republican mayors are currently serving in twenty-six cities, the remainder are non-partisan, according to the most recent data compiled by Ballotpedia [50]. Only two Republican mayors are found among the twenty-five largest U.S. cities.

This political alignment and the evidence we have presented suggests that larger U.S. cities would welcome federal assistance to support SDG implementation. President Biden has appointed a Special Presidential Envoy for Climate and rejoined the Paris Climate Agreement. Other forms of federal assistance the Biden Administration may provide include restoring regulatory limits on carbon pollution emissions and planning and technical assistance from agencies such as the Environmental Protection Agency and the Department of Energy that significantly scaled back their activities supportive of climate change and sustainability during the Trump Administration. However, it remains to be seen whether the Biden Administration can deliver increased funding to state and local governments to support local initiatives to achieve the SDGs. The most likely vehicle to provide federal assistance is the Administration's "Build Back Better" agenda that is currently pending in Congress. The difficulties the Administration has encountered trying to advance that legislation indicate that creating national government financing for local sustainable development initiatives is a significant challenge.

If some form of the Build Back Better agenda moves forward, the distributional consequences of any new funding will largely depend on the structure of the grant programs through which the aid is delivered. Scholarship on the distribution of grants in the U.S. federal system has produced mixed findings regarding the extent to which federal aid is distributed largely in support of co-partisans at the state and local level as opposed to other factors such as the need, demand, and capacity of recipient governments [51–54]. However, the history of federal urban revitalization initiatives suggests that the assistance that Congress does provide is likely to be selective, domain specific, and competitively distributed. This will reflect and amplify local capacity differences and result in uneven implementation of the SDGs across cities and policy domains.

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## Appendix A. Google Search Strategy to Construct an Inventory of Place-Based Collaborative Initiatives in Major U.S. Cities

Our identification of comprehensive community revitalization initiatives in the selected cities was based on an extensive web search using the following Google queries.

Step 1. "city name" AND comprehensive AND "collective impact" OR collaboration OR cooperation OR coalition OR collective OR "cross sector" OR "multi sector" OR collaborative OR partnership OR initiative

Based on the results of the search, every site on the first five pages of results was visited to identify and capture web pages that met the following criteria:

I. Include only place-based initiatives (citywide, clusters of neighborhoods, or single neighborhood within city).
II. Include only multi-sector initiatives (participation from two or more of the following: city government, other local government, business, nonprofits, philanthropic organizations, and resident associations or organizations).
III. Include only initiatives with evidence of collaborative leadership (e.g., board, steering committee, advisory committee, etc. comprised of representatives from two or more sectors).
IV. Include only initiatives with substantive focus on comprehensive, anti-poverty, housing and neighborhood revitalization, pre-K-12 education, workforce development, or economic development.
V. Include only initiatives that were operational locally at some point during the period from 2010 to 2018.

Step 2. Repeat the query described in step 1 sequentially for each city, replacing comprehensive with each of the following keywords: poverty, housing, neighborhood, education, workforce development, economic development.

Based on the results of the search, the initiatives included in the inventory from the larger universe of collaborative initiatives identified were selected based on the following criteria:

I. Include only place-based initiatives, with evidence of city participation.
II. Include only multi-sector initiatives (includes additional participants from the public, private, nonprofit, philanthropic, faith-based, and/or community).
III. Include only initiatives with collaborative leadership (does not include initiatives in which only one sector forms the leadership/governance team).
IV. Include only initiatives focused on outcomes related to poverty reduction and/or promoting economic mobility.
V. Include only initiatives that were operational locally at some point during the period from 2010 to 2018.

Step 3. Several characteristics of each initiative were then coded based on the material obtained from the inventory and from follow-up queries of officials affiliated with the initiative. These characteristics included year begun, year ended; lead agency or organization;

participating agencies, organizations, and groups; how initiative was started; geographic scope; policy domain(s); governance structure, status of the initiative, and progress to date.

## Appendix B. SDG City Indexes and Indicators

**Table A1.** Average Scores for OECD City Indicators in the U.S. and OECD. Source: Authors calculations from OECD data [20]. Data download, extracted 19 August 2021. * Average year in the indicator for the sample of cities. ** The suggested end value to be achieved by 2030. When end values are not inferable from the UN framework, the OECD defines end values based on the knowledge of experts in the field, or alternatively, based on the best performance of cities in that indicator. For the latter, OECD estimates an unweighted average using the top performer in each country. For each SDG, the first row represents the percentage of the SDG goal attained based on the component indicator(s); subsequent rows report the indicator(s) used to assess goal attainment and their average value.

| SDG Index/Indicator | Year * | US City Average | OECD City Average | End Value ** |
|---|---|---|---|---|
| **SDG 1. No Poverty** | | **51.59** | **63.84** | **100.0** |
| Percentage of population with a disposable income below the 60% of national median disposable income | 2016 | 15.86 | 13.68 | Best Performers |
| **SDG 6. Clean Water** | | **78.74** | **73.65** | **100.0** |
| Change in water bodies (from 1992 to 2015, percentage points) | 2015 | −0.01 | −0.02 | Best Performers |
| **SDG 7. Clean Energy** | | **57.16** | **64.78** | **100.0** |
| Percentage of total electricity production that comes from renewable sources | 2019 | 28.44 | 56.63 | Best Performers |
| Percentage of total electricity production that comes from coal | 2019 | 17.62 | 72.34 | 0 Percent |
| Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal) | 2019 | 44.92 | 75.14 | 0 Percent |
| **SDG 9. Industry and Innovation** | | **35.76** | **28.28** | **100.0** |
| Patent applications (PCT) per 1,000,000 people | 2014 | 280.15 | 266.58 | Best Performers |
| **SDG 10. Reduced Inequalities** | | **34.56** | **51.02** | **100.0** |
| Gini index of disposable income (after taxes and transfers) (from 0 to 1) | 2016 | 0.38 | 0.37 | Best Performers |
| **SDG 11. Sustainable Cities** | | **99.03** | **76.72** | **100.0** |
| Difference between built-up area growth rate and population growth rate (percentage points) | 2014 | 0.03 | 0.06 | 0 Percent |
| Exposure to PM2.5 in $\mu g/m^3$, population weighted (micrograms per cubic metre) | 2017 | 7.38 | 13.09 | Less than 10 $\mu g/m^3$ |
| **SDG 13. Climate Action** | | **68.20** | **72.67** | **100.0** |
| CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours) | 2019 | 378.89 | 444.31 | Best Performers |
| Change in cooling degree-days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970–1984 to 2004–2018 | 2018 | 43.09 | 41.00 | 0 Percent |
| **SDG 14. Life Below Water** | | **38.75** | **40.31** | **100.0** |
| Protected coastal area as a percentage of total coastal area | 2017 | 14.61 | 18.19 | Best Performers |

**Table A1.** *Cont.*

| SDG Index/Indicator | Year * | US City Average | OECD City Average | End Value ** |
|---|---|---|---|---|
| **SDG 15. Life On Land** | | **36.23** | **57.38** | **100.0** |
| Change in tree cover (from 1992 to 2015, percentage points) | 2015 | −3.09 | −0.66 | Best Performers |
| Terrestrial protected areas as a percentage of total area | 2017 | 7.82 | 15.03 | Best Performers |
| **SDG 16. Peace and Institutions** | | **89.72** | **86.01** | |
| Homicides per 100,000 persons | 2017 | 5.67 | 6.41 | Best Performers |
| **SDG 17. Partnerships and Enablers for SDGs** | | **38.99** | **31.60** | |
| Percentage of houses and buildings connected to optical fiber | 2017 | 23.04 | 27.11 | Best Performers |

Source: OECD [20].

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# Impacts of Governance toward Sustainable Urbanization in a Midsized City: A Case Study of Uyo, Nigeria

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**Abstract:** Urban studies in Nigeria mostly focus on large cities and metropolitan areas, with minimal attention given to sustainable urban development in midsized cities. In this study, we address this knowledge gap and examine the policies and practices driving urban growth in Uyo, a midsized city in Nigeria. Specifically, we evaluate to what extent the prevailing urban governance culture and practices move the city toward or away from being inclusive, safe, resilient, and sustainable—central tenets of UN Sustainable Development Goal (SDG) 11. This study critically explores the strategic and operational approaches deployed by public stakeholders in pursuit of urban development, housing security, and economic and infrastructure development. We find the lack of continuity in commitment to urban infrastructural development projects and a flawed land tenure system that exacerbates housing insecurity are the two most critical challenges to address in attaining the goals of SDG11 in Uyo. The former calls for better fiscal management and adoption of good governance practices across the administrative hierarchy. The land tenure system can be made equitable and less cumbersome by overhauling the 1999 Land Use Act law of the country. Our findings can inform policies to make midsized cities facing similar challenges more inclusive, safe, resilient, and sustainable.

**Keywords:** urban sustainability; land tenure; urban growth; governance; development; urban planning

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## 1. Introduction

The number of people living in urban areas has increased rapidly over the past decades, especially in developing regions of the world [1]. The urban growth in many developing countries has been much faster than the pace of infrastructure development [2]. Furthermore, the growth of small- and midsized cities has been a major contributor to high levels of urbanization [3]. Though Africa's high urbanization rates may look similar to those of other rapidly growing cities, it is important to note that factors that drive urbanization in this continent operate differently from those experienced in developed countries and even in other developing countries [4,5].

Nigeria is one of the largest countries in Sub-Saharan Africa, and has been the third most rapidly urbanizing country after China and India [6,7]. Farrell (2018) contended that most of the emerging cities in Sub-Saharan Africa are in Nigeria. Indeed, 50% of Nigeria's population resides in urban areas, and the urban population is projected to reach 87% by 2050 [7,8], which will require massive infrastructural development [1,9,10].

To date, most of the rapid growth of the cities in Nigeria has happened in an unplanned and unrestrained manner [9,11]. This points to the fact that both scientific and policy approaches to sustainable urban growth must urgently address these issues [12,13]. A review of the literature shows different approaches to how changes in technology, economic conditions, and governance influence change in cities as they develop [14] in addition to economic growth, demographic change, and environmental factors [15–17].

Globally, urban studies typically focus on large cities and metropolitan areas, with minimal attention given to sustainable urban development in midsized cities, characterized by widespread urban poverty and degradation of infrastructure [2,13,18,19]. Many midsized cities, having been subjected to various infrastructural development projects over the

years, have experienced uneven urban growth, due to a lack of proper planning that takes into account urban sustainability [20]. Further, most urban studies rely on statistics from the United Nations, World Bank, and African development reports, which rely on official national data. To our knowledge, no other study in the African context has evaluated urban governance-based fieldwork and local data to compare cities' progress towards SDG 11 goals.

In this study, we evaluated the prevailing urban governance culture and practices in Uyo, a midsized city in Nigeria, to identify which governance factors are the most influential in moving the city toward or away from being inclusive, safe, resilient, and sustainable—central tenets of UN Sustainable Development Goal (SDG) 11—which acknowledges that a multitude of factors can influence urban sustainability both through strong national policy commitments and local governance initiatives [8,18]. To this end, we use Uyo as a representative case study to address the following questions: (1) What, if any, strategic and operational approaches are deployed by public stakeholders toward sustainable urban development in Uyo? (2) How do governance practices affect the economic growth, housing security, and infrastructural and urban development in Uyo?

## 2. Study Area and Materials

### *2.1. Study Area*

Uyo, the capital of the state of Akwa Ibom, is a midsized city in Nigeria that has been rapidly developing over the past few years due to an increase in allocation of the state oil rent revenue in 2006 [21,22]. The state of Akwa Ibom is located in southeast Nigeria [20], and receives the highest oil rent revenue from the federal government compared to other states in the country, because the state has the highest oil production in the country. This revenue has prompted rapid infrastructural investment within the city [20,23], and has also resulted in the rural–urban and interstate migration of people to the city in search of better living conditions [24]. In 1960, the population of Uyo was 36,061, which grew to 847,480 by 2015 and is estimated to reach 1,135,775 by 2020 (Figure 1), representing a 6% annual change [25]. Thus, the city´s population increased more, when it became the capital of the state in 1987 [24]. The city has attracted citizens from different ethnic groups with varying socioeconomic backgrounds. As it is the capital of Akwa Ibom, substantial financial resources have been channeled toward modernizing the city by successive governmental administrations [20]. Consequently, Uyo has been one of the few cities in Nigeria that has experienced continuous urban growth in recent years [23] (Figure 1). Urban growth in the city is relatively high compared to that of its neighboring cities because there are greater job opportunities and relatively better access to basic social amenities. However, one of the biggest problems in the city is the socio-spatial segregation of communities from different backgrounds [20]. Interactions among the different groups of urban dwellers across the city create challenges as well as opportunities in employment and education [6]. However, poor governance and planning practices have contributed to an increase in social and economic inequalities among its residents [26].

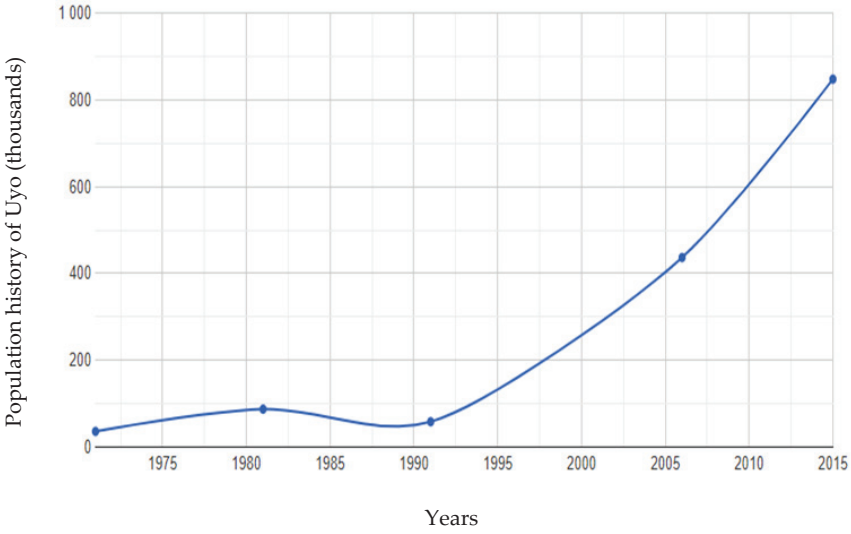


**Figure 1.** Urban population growth in Uyo (source: NPC, 2015).

### *2.2. Data Collection*

In Uyo, qualitative data were examined and presented through a narrative event explored by the interviewers; as well, we reviewed governmental documentation data from each ministry related to urban development, which were examined and are discussed in our results. A structured technique and approach taken from [27,28] were used in formulating our research questions to answer important questions such as: How many projects have been completed, abandoned, or are still in progress since 2000? What is the role of the community in every project planning process? What are the criteria for compensation and what further provision does the government make to assist displaced people? The interview guide questions were presented to the respondents as a checklist and had been given to the respondents before the interviews. The checklist questions were designed as a guide for understanding and interpretation of the data [29].

Furthermore, we reviewed data from the state government's infrastructural development projects of each of the government ministries from 2000 to 2018 to gather more knowledge about the development strategies in the study area, because this was the peak period of infrastructural development in the city [20]. These data include project awards and commissioning, fund allocation to different sectors, housing schemes and policies, population growth, urban infrastructural development and maintenance plans, which were compiled to assess the developmental trend and future sustainable plans [8,30]. We critically studied all of the gathered information to evaluate to what extent the policies were aligned with the guidelines stated in SDG 11 to make cities inclusive, safe, resilient, and sustainable.

## 3. Method

### *3.1. Structured Interviews*

The data for this research were collected through structured interviews, fieldwork, and a reconnaissance survey of the city. We followed the approach suggested by [27], that 10 to 20 in-depth interview cases are adequate to obtain information. However, a higher number of respondents could be used if more respondents were accessible and willing to take part in the interview process [28]. As well, we visited different infrastructural facilities in Uyo's urban and suburban areas to establish detailed knowledge of the existing urban growth. We also reviewed governmental documents to assess the urban governance and policies in the city.

First, we conducted discussions and interviews with key urban policymakers to obtain information about government policies and planning in response to the rapid growth of the city. During this process, the focus was on six target governmental ministries related to urban planning, policy, and economic development, and 60 public participants (Table 1). These were the Ministry of Works, the Ministry of Land and Housing, the Ministry of Economic and Rural Development, the Ministry of Urban and Town Planning, the Ministry of Internal Revenue, and the Ministry of Information and Strategy. We identified one key respondent from each of these ministries. The criteria for the selection of these key respondents were based on their rank (directorate level) and the number of years they were employed in the ministry. The respondents were people that had at least twenty-five years' experience working with different governmental heads.

**Table 1.** List of key respondents in different sectors.

| | Key Respondents | Positions |
|---|---|---|
| 1 | Ministry of Information and Strategy | Director |
| 2 | Ministry of Work | Director |
| 3 | Ministry of Land and Housing | Director |
| 4 | Ministry of Economic and Rural development | Director |
| 5 | Ministry of Urban and Town Planning | Director |
| 6 | Ministry of Internal Revenue | Director |
| 7 | Community Stakeholders | Leaders |
| 8 | Academic sector | Researchers |
| 9 | Commercial Businesses | Business owners |
| 10 | Public servants | Level 12 |
| 11 | Private professional experts | CEO |

### *3.2. Qualitative Data Analysis*

The interpretation and grouping of the classified data were done following theoretical-based models proposed by [31]. The objective was to group different classes of data to obtain information about factors that influence urban sustainability in the study area. The interview was structured with insightful questions and guided checklist questions. We began each interview by elaborating on the objective of the interview to the respondent, to inform the respondent on how the generated data would be used to respond to our research questions. We used a three-step data framework of grouping data into different categories [31]. This approach separates data that are similar to each other based on respondents having the same questions [27,28]. Most of the responses were similar, and we computed them to generate data. We grouped similar data into the same categories and extracted vital information from the data. Our findings are discussed in detail in the sections below.

## 4. Results and Discussion

### *4.1. Economic Growth in Uyo*

Sustainable economic growth can drive high production levels, create modest jobs for all and encourage entrepreneurship [8]. This would entail accountability and responsibility that would bring changes within the different economic sectors in various communities and economic enlightenment to handle its impact on society and urban areas [8]. In Uyo, according to the interview results (Figure 2), economic reforms and infrastructural development have transformed the city into a rapidly growing urban area due to high revenue obtained from the extraction of its main natural resource (crude oil) [20]. These revenues, channeled from the federal government, have been the primary source of income driving the state economy for years, even though the state government had created a few

industries within the city neighborhoods, such as a paper mill in Oku Iboku and a paint factory in Etinan [32]. These industries create employment for the young labor force, and also aid in sustaining the economic growth of the city and the state. Moreover, a significant chunk of the generated revenue is reinvested in the city because of its position as the state capital based on our government data report.

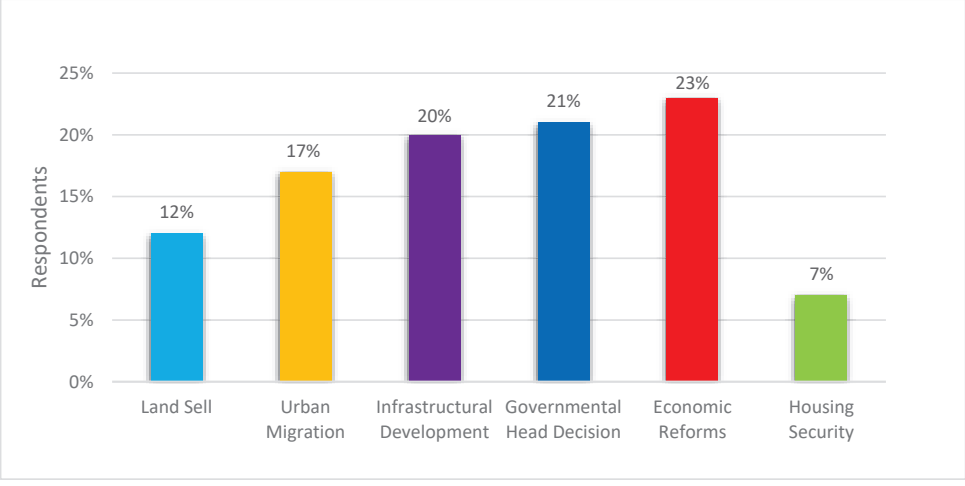


**Figure 2.** Factors influencing urban growth in Uyo.

Economic growth and reform (Figure 2) have also created employment in different sectors of the city economy (Figure 3), but manufacturing is among the slowest-growing sectors, despite most of the labor force increasing (Figure 3). Studies have shown that manufacturing industries managed by the governments in some African countries have struggled in contemporary times [5], even though there have been improvements in the education and informal economic sectors (Figure 3). These results were attributed to governmental decisions (Figure 2), the frequent turnover of governmental administrations, poor accountability, and the collapse of state-owned industries (Figure 2). This probably explains why the Nigerian government has recently embarked on large-scale privatization of state assets built during the post-independence era [33].

In response to unplanned urban growth in the city, the state's masterplan was re-designed toward achieving its urban development plans [20]. However, though few heads of administrations have focused on completing the projects that were already initiated prior to their terms, most instead emphasize creating small-scale industries such as pencil, toothpick, and cassava processing mills to provide quick employment opportunities for the growing labor force and export purposes. However, because of poor product quality and inconsistency in these industries, the goods manufactured with these raw materials are rarely used within the state, being more expensive than comparable products on the market, and are not exported as intended. Furthermore, the funds generated from these companies are misused [34].

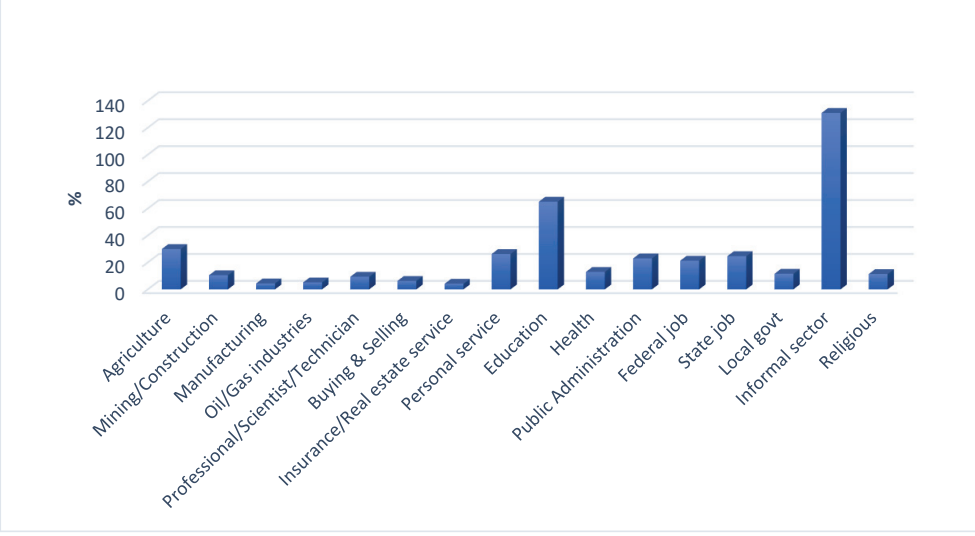


**Figure 3.** Employment sectors in Uyo (source: Essien & Samimi 2021).

Consequently, these industries usually fold up at the end of the tenure of the administration that opened them due to changes in management by the new government (Figure 2). Based on our respondents' data, governmental decisions (Figure 2) have hindered the successful, sustained diversification of the city's economy, which is essential to attain SDG 11. Our data show (Figure 2) that governmental heads channel most of the revenue generated from natural resources to investment in small-scale projects with different products, such as wine, tomato, and flour mill industries. Although these industries were meant to alleviate poverty by providing employment to citizens, they were also designed for export to boost the economy [35]; however, these goals do not appear to have been achieved and do not support SDG 11.3, which entails sustainable planning and management in all countries. To address these issues, government administrations need to focus more on the continuity of governmental projects and the regulation of small-scale businesses in urban areas. This would also help governmental heads assess how their economic growth plans align with SDG 11.A, which endorses positive economic growth.

### *4.2. Large-Scale Infrastructural Development in Uyo*

Sustainable infrastructure development must be inclusive and respect human rights; that is, such infrastructure must meet the needs of the poor by increasing infrastructure access, supporting general poverty reduction, and positively impacting GDP per capita [35]. However, the development trend in Uyo shows that the city is yet to follow any of the strategies that may lead to sustainable and just urban growth in the provision of energy, water, and affordable housing [36]. Based on the reviewed governmental data, there are no plans to provide a structured public transportation system in the city to reduce traffic congestion. The government efforts instead center on improving road infrastructure and providing free education for primary and high school levels.

According to some of the governmental respondents, a major urban transition of Uyo depends on infrastructure development, but sustaining this development is a major concern for stakeholders. There are many urban sustainability problems in Nigeria, such as poor energy supply, unregulated water supply, indiscriminate sewage disposal, unpaved streets, and loss of urban vegetation [37]. Due to their importance for quality of life and economic development, some administrations have tried to mitigate some of these problems. For example, past administrations invested more in roads, yet the city is still congested because

infrastructure for public transportation, such as buses and railways, has been neglected. The respondents highlighted that most of the large-scale infrastructure in the state does not serve its intended purpose.

Based on our governmental data, the state invested USD 1 billion into building a power plant for reliable energy supply to the city, but abandoned the project after a change in administration, claiming the project went over budget. Hence, parts of the city have no electricity, while others experience frequent outages. Most occupants and companies use alternative means of power supply, such as power generators, causing a lot of noise and air pollution [38]. In addition, most government-sponsored projects take much longer than scheduled to complete because of poor planning and lack of proper oversight.

Furthermore, some respondents are concerned that most of the large-scale investments in the state do not receive any capital return. Based on our review of the governmental data, the administration invested USD 52.3 million in buying the first state-owned commercial airline (Ibom Air) in the country, rather than maintaining the recently constructed airport that was aimed to function as an international airport. Due to the state´s geographical location, the airport was to serve not only local travelers but also international travelers of the southern region of Nigeria. The most pressing question is what are the existing plans and policies to sustain such investments from collapsing at the end of each government's tenure. Policies that encourage such investments tend not to be linked with the SDG 11.3 target.

### *4.3. Housing Security in Uyo*

The very first target of SDG 11 stipulates ensuring access for all to adequate, safe and affordable housing and basic services, and upgrading slums by 2030 [8]. The UN report states that the provision of affordable housing and shelter is a fundamental human right, and it is considered an essential requirement of better living conditions [39]. Although major inequalities exist among many urban dwellers, there is a critical need for better housing conditions in developing countries [39], particularly with their rapidly growing urban centers and populations, adjudged to be the fastest growing in the world [40].

Uyo is one of the few capitals in Nigeria where a remarkably high proportion of state population resides in the city [24], and according to the respondents, the city has experienced drastic population growth due to migrants coming from poorer parts of the country in search of better opportunities (Figure 2). Consequently, housing costs are high in the city center, and this has generated heterogeneous patterns of built-up areas (Figure 4). Public housing programs meant for middle-income earners and civil servants are grossly insufficient to meet demand (Figure 5); also, qualifying for such housing means overcoming many bureaucratic hurdles [35,40]. This situation results in people sourcing alternative means of housing such as converting cargo containers meant for importing and exporting goods to dwellings and shops on the suburban fringes of the city (Figure 4).

In our review, many of the respondents adjudged the poor housing security in Uyo to formal residential buildings often being demolished to open up space for the construction of various public infrastructure projects, such as the construction of a recreation center (Ibom Plaza) and an overpass (Atiku Abubakar). Although the development of the overpass has helped boost economic integration of the city with other states and eased traffic, many people were forcefully displaced and poorly compensated for the loss of their homes and properties for development purposes (Figure 2). This resulted from the 1999 Land Use Act law of the country, which posits that all land within the state belongs to the government [41], and as such, the compensation paid to such individuals only reflects the value of the existing building structures or agricultural crop grown on the land.

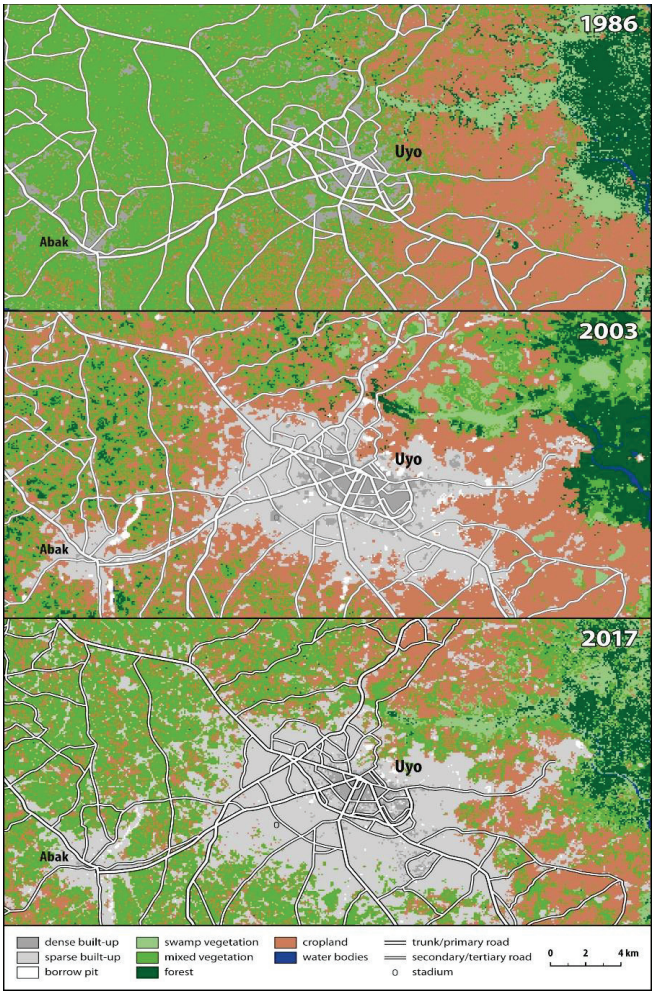


**Figure 4.** Land cover maps of Uyo for 1986, 2003, and 2017 (source: Essien & Samimi, 2019).

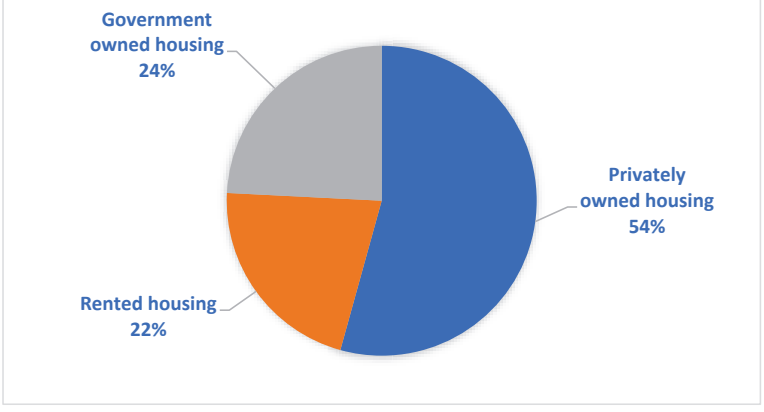


**Figure 5.** Breakdown of housing type in Uyo.

Based on data from respondents in the governmental ministries, there have been government initiatives in the past to build affordable housing units for the civil servants in the state, but these initiatives were hijacked by corrupt politicians who claimed to be civil servants to buy the houses and resell them at a higher rate to the general public. Therefore, in addition to the provision of affordable housing for low-income citizens through governmental funding, there should also be legislation to regulate housing prices within the urban centers [35]. However, at present, there is not even an affordable housing plan for non-governmental and low-income earners. This is contrary to SDG 11.1, which supports affordable and adequate housing for all.

### *4.4. Governance Practices*

Urban governance in Nigeria is highly compartmentalized, without adequate inter-departmental collaboration [42]. Moreover, the state planning authority (i.e., the Ministry of Town Planning and Rural Development (MTPRD)) rarely adheres to its stated environmental planning ethics or follows its existing master plan [43]. Though this ministry was tasked with planning and ensuring that every approved building meets specified quality levels and standards, most buildings are approved without proper scrutiny. Importantly, it is expected that more than 60% of the urban centers to be opened in Nigeria by 2050 have yet to be planned [6]. This calls not only for provision of strict planning laws but also their effective enforcement by public stakeholders to regulate urban infrastructural development [40].

According to the information gathered from the governmental ministries and related literature of many other developing countries [5,40], Uyo follows a system of disbursing funds from the state to the local governments, and this limits the financial independence of local governments [44]. Generally, even though the state generates revenue from taxpayers from the local governments under its jurisdiction, they still depend largely on federal funds. The state government usually requests financial support from the federal government for large-scale projects and sometimes even for minor projects, and in turn, the federal government usually sources foreign investment for the state government. This support may come in the form of a loan, depending on the bilateral relationship with the foreign country [45]. Initially, foreign loans were meant to provide support to huge projects that cannot be financed by the state, but at present, such loans are being used to service major and minor infrastructural projects within states depending on the governmental head decision (Figure 2). However, the focus should instead be on generating funds within the state to support, at least, minor projects rather than collecting foreign loans. Funds can be generated within the community if there is a good and transparent system of tax collection from high-, medium-, and low-income earners [46].

The majority of the respondents are of the view that beyond tax accountability [46], fiscal policy and budget management also need to become more transparent at all levels of government. Proper assessment should be done by the federal government before releasing funds to the state governments for project implementation, and continuous project auditing should be done to ensure that these projects are executed at the planned time to achieve their purpose. This will help to achieve sustainable infrastructural development goals that alleviate poverty for vulnerable people [30], reduce misuse of public funds for unsustainable projects that burden the governments with debt they may not repay, and/or avoid establishing tariffs that end users cannot afford [30,36].

A comprehensive review of our respondents' data from the different governmental ministries shows that the Nigerian system of governance is characterized by turnover of administrations every four years, and this is mostly accompanied by a change in planning and administrative policy by the incoming heads of the administrations (Figure 2). It is common for government heads to squander public funds on their pet projects (Figure 2). For example, a previous government head liked golf and decided to build a golf resort in the city just because of his love of golf, while his predecessor liked football and decided to build one of the best stadiums in Nigeria (Godswill Akpabio Stadium) although the

city already had a stadium that could have been renovated or restructured, using the vast amount of bare land surrounding it for expansion. Instead, this old stadium was simply abandoned and is no longer maintained. If the old stadium had been renovated instead, the funds used towards building the new stadium could have been channeled into other needed infrastructure developments such as industries capable of creating more employment opportunities for the majority of the city's urban dwellers, who work in unskilled jobs [47].

Furthermore, based on the view of governmental stakeholders, even sound infrastructure developments often fall victim to rivalry among political parties. A new government might simply discontinue the project it inherited from the previous administration, claiming corruption or mismanagement, and spend the first two years of its administration investigating its predecessor's governmentally awarded contracts. Often, there is also incentive to re-award these projects to political allies or cronies. All these issues easily distract an incoming administration from delivering good governance to its constituents, resulting in incomplete infrastructural development projects in the city [43]. This approach needs to be reviewed because it has restrained most of the cities not only in Nigeria but across Sub-Saharan Africa from being appropriately developed [5].

Finally, as asserted by some of the respondents (Figure 2), the opinions of community leaders are rarely taken into consideration when making urban development plans within the state. Community leaders should act as a direct link between the people and the government when implementing urban development projects [48], yet these leaders are hardly consulted. There is evidence of productive collaborations among community leaders, government officials, and private investors in cities such as Navi Mumbai in India, Pudong in China, and New Town in Vietnam, bringing their respective cities closer to the community dwellers to achieve unified development [48]. This system of governance should be adopted in Uyo and SDG 11.A should be integrated into every piece of legislation and policy at all levels of the government in Nigeria.

### *4.5. Toward Sustainable Urban Growth in Uyo*

In 2015, the United Nations (UN) member states adopted 17 goals (referred to as the Sustainable Development Goals, SDG) as part of the vision of the 2030 Agenda for Sustainable Development, and a period of 15 years was proposed to achieve these SDGs [8]. Although progress in achieving these goals has been made in many cities across the globe, there are many more that have yet to take any tangible action [8]. With just a few years left to achieve these goals, during the 2019 summit, world leaders called for speedy action to be taken and institutions to be strengthened to achieve these SDGs by the target date of 2030 [8].

Many countries in Sub-Saharan Africa face enormous challenges in achieving SDGs. Never-ending power struggles and contestation of authority distract the elected governments from implementing good governance in cities [49]. Likewise, in Uyo, there is an urgent need for tighter interaction and coordination among respective urban governance entities. Decision-makers should always try to properly manage friction during the transition of power between governmental administrations to promote sustainable infrastructural development. This will help increase productivity [35], reduce the number of incomplete projects within the state, and promote unification in achieving the overall goals of every project. Strategies for managing state-owned industries should be designed to achieve high-quality and affordable products. These sustainability strategies will also help to eliminate the chances of industries and infrastructure collapsing as a result of poor management or governance.

Currently, in Nigeria, the land-use law provides the government sovereignty over all land in the state, neglecting the communal and land tenure system of land ownership [41,50]. Land can only be owned after proper land registration at the Ministry of Land and Housing, although the associated administrative processes mean years of bureaucratic hurdles [40]. Citizens with little knowledge of the law or limited financial means to register their land

may begin building structures for shelter without proper registration and approval. The provisions of SDG 11 should be integrated into legislation and policy at all levels of government in Nigeria. This should include rules and regulations that govern land use planning practices in the country. Regarding this aspect, the 1999 Land Use Act law that governs land in the country needs to be reviewed. A systemic approach to urban governance that can educate the people, speed up land registration processes, and promote collaboration among different departments toward moving the city toward SDG 11.A should be encouraged.

Housing challenges have been largely overlooked within the city (Figure 2). The state government should aim at providing housing security for urban dwellers, especially the poor and displaced people. Housing policy should be designed and implemented by the Ministry of Land and Housing. Housing rent should be regulated and made affordable to the public without constant increases, which will help to reduce the existing level of inequality among urban dwellers [35,40]. The government should properly monitor the implementation of all these strategies to ensure that the aims and objectives of SDG 11.1 are achieved in the city.

Poor accountability and lack of transparency in revenue collection [46] and implementation of infrastructural projects have increased the fiscal challenges in Uyo. An efficient and transparent system of tax collection from businesses and workers, as well as the remitting of these taxes to the government, should be designed and implemented by the ministry of internal revenue. These taxes will help to boost the city's economy, as well as the development and maintenance of some infrastructural facilities.

## 5. Conclusions

In this study, we examined the urban governance policies and practices in Uyo, a midsized city in Nigeria, in light of SDG 11: Sustainable cities and communities. This study agrees with other related scientific studies, and it is the first in Sub-Saharan Africa to analyze urban governance towards sustainable development. Specifically, we analyzed the influence of governance practices in the city on infrastructural development, housing security, economic growth, and urban development. Our findings show that the main causes of the poorly planned development in the city are: (i) the friction between successive governmental administrations, (ii) the lack of allocated funds for housing security and the maintenance of many existing infrastructures, and (iii) the lack of transparency and accountability in revenue collection and execution of projects within the city. Using Uyo as a case study, we highlighted the specific challenges that many other midsized cities in Sub-Saharan Africa and other developing countries share. We also identified potential ways to address these challenges in creating healthy, just, and equitable environments with a high quality of life from the local to the national level.

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# The Incorporation of the 2030 Agenda in the Design of Local Policies for Social Transformation in Disadvantaged Urban Areas

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**Abstract:** According to the United Nations, the current COVID-19 crisis is threatening decades of development gains. This situation is aggravated in disadvantaged urban areas where 25% of the world's population lives. Such concentration has aggravated the multidimensional problem that requires an integrated policy approach. Internationally, this approach has materialized in the formulation of global policies such as the 2030 Agenda. However, many doubts remain about the extent to which global policy such as the 2030 Agenda is able to inspire the formulation of local policies from the multidimensional perspective proposed by the Sustainable Development Goals (SDGs). To answer this question, in this contribution we rely on a comparative case study of two public policies aimed at promoting the social inclusion of the most vulnerable groups in the urban context: the "Andalusian Regional Strategy for Social Cohesion and Inclusion. Intervention in disadvantaged areas" (ERACIS) and the "Barcelona Strategy for Inclusion and Reduction of Social Inequalities 2017–2027". The results show how the government sphere, the logic of intervention, and other aspects of policy design influence the incorporation of the principles of the 2030 Agenda in local policies, highlighting both risks and potentials of such policy transfer, crucial to the effective achievement of the SDGs.

**Keywords:** inclusive and sustainable urban development; public policy; social policy; policy transfer; design policy; multidimensionality approach; social exclusion; social transformation; disadvantaged urban areas; 2030 Agenda

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## 1. Introduction

According to the Report on the 2021 Sustainable Development Goals of the United Nations, the current crisis caused by COVID-19 threatens decades of progress in development, further disrupting the progress on Sustainable Development Goals (SDGs) [1]. Inequalities have increased considerably worldwide [1–3], not only in terms of health but also in social and economic spheres, which has turned COVID-19 into a syndemic [4]. Cities, where more than half of the world's population lives [2], have become the epicenters of COVID-19. This has aggravated the situation regarding disadvantaged neighbourhoods that were already affected by urban fragmentation and social segregation that occur in urban areas. The people who live in these neighborhoods, currently 24% of the world's population [1,2], have seen their situation worsen because of the impact of the pandemic on low-income households and on people who work in the informal sector [1].

This situation has given a renewed impetus to existing global efforts to address the challenges derived from the increase in social inequalities, especially in cities. New Urban Agenda-Habitat III (United Nations, 2017) was approved in 2016 with the objective of addressing urban segregation and social exclusion at the local level. Additionally, the urban dimension of the 2030 Agenda for Sustainable Development (United Nations, 2015) [5],

which was approved in 2015, set the objective of achieving inclusive, resilient, and sustainable urbanization, supported directly by SDG 11 "sustainable cities and communities" and in an integrated manner by the other SDGs.

These international policies are clear examples of global solidarity wherein the world is transformed, together. However, to make these policies effective, they must be implemented at the regional, national, and local levels. At these levels, public policies can truly materialize and directly influence the reduction in social inequalities in each specific context because they can be used to direct resources more efficiently [6]. However, as the academic literature has highlighted, the localization of transnational policies is a difficult challenge to achieve, especially at the regional and local government levels [7].

With the aim of shedding light on this debate, this article sets the following objective: to analyze how two Spanish policies aimed at promoting social inclusion have been adapted to the comprehensive mandate of the 2030 Agenda to improve the situation in disadvantaged neighborhoods. For this, two policies formulated after the approval of the 2030 Agenda in different territorial contexts of the Spanish state, i.e., Andalusia and Catalonia, were selected: the Andalusian Regional Strategy for Cohesion and Social Inclusion (ERACIS) [8], which was approved in 2018 as a strategy aimed at improving the social inclusion of disadvantaged neighborhoods at a regional level; and the Strategy for Inclusion and Reduction of Social Inequalities of Barcelona 2017–2027 (Barcelona Strategy) [9], a strategy aimed at reducing territorial inequality at a local (city) level.

### *1.1. Social Inequality and Urbanism: Disadvantaged Urban Areas*

Social inequality is not a new phenomenon, nor does it affect only those countries that have historically been affected by processes of exclusion [10]. In fact, this phenomenon has re-emerged in recent years with greater force in countries with more advanced economies, such as the OECD countries [3]. In these countries, social inequality has increased, especially since the financial crisis of 2008, a situation that has been aggravated by the COVID-19 pandemic. These events have led to the loss of public confidence in the government [3] and in the increasingly incipient fragmentation of society [11–19], marked by a multipolarity, where multiple centers of political and corporate power, housing markets, etc., exercise social predation from a systemic relationship, configuring diverse realities of social inequality, which are accentuated in cities all over the world [12,20–25].

The concern for the progressive formation of this dual and unequal society is not new [6,19,26–31]. Authors such as David Harvey [29,31] and Manuel Castells [30] have already noted how cities, responding to the capitalist mode of production, have been built based on urban planning conceived in a relational way, where the urban center is defined in relation to a periphery without which it cannot exist [12,16,19,29,31,32]. This configuration of spatial forms influences the social processes that occur in cities, where the characteristics of urban planning have created both physical and social barriers that individuals cannot overcome, providing an environment for social injustice [12,16,19,23,29–31,33].

Urbanism is configured as a heterogeneous and dynamic process of social, economic, political, and material division and fracture, which lands in different ways in each context, varying geographically not only between cities but also within them [13–18]. This fragmentation configures in cities urbanism of exception [34], where wealth concentrated in different political and economic powers generates zones of impoverishment and neglect, allowing elites to carve out new urban areas where life can develop separately from the vast majority of people living in the city [13–15,17–19,24,25,35].

Metropolitan systems are increasingly articulated as a range of production and consumption, revaluing processes and life. Relationships, characterized by competition and distinction, disarticulate places and lives that are devalued [17,18,24,25]. This is shaping new privileged zones and new urban identities and at the same time a shadow world [15,24].

Thus, these processes of urban fragmentation and social segregation are carried out based on an unequal distribution and a lack of interaction between different social groups in an urban space [6,18,19,29,31], generating so-called disadvantaged urban ar-

eas [15,17,24–27,29–31,36]. When talking about social and urban fragmentation and segregation, two different approaches are used: a sociological approach, in which segregation is defined as the lack of interaction between individuals from different social groups; and a geographical approach, the most commonly used, which refers to the unequal distribution of different social groups in the urban space [6,12,23,33]. Thus, urban fragmentation and social segregation give way to the monopolization of some to the detriment of others, based on two dimensions: a drawing of physical boundaries and a restriction to valuable resources considered by society to be able to participate in the benefits of urban life that attenuate inequality [17,19,35,37,38]. This segregation of cities conditions the lives of people residing in disadvantaged urban areas, where they experience low quality of life indices and have fewer life opportunities than the inhabitants of other areas of the city [6,15,17,28,39].

In addition to the general characteristics of unequal distribution in cities that facilitate functional segregation, disadvantaged urban areas are affected by specific characteristics that hinder the development of these areas and the people who inhabit them [6,18,27,39–41]. As identified by Arias and later other authors, due to the temporary persistence of social exclusion in these areas, there are several factors that influence the process of exclusion and segregation in disadvantaged neighborhoods [6,26,27,41,42], various factors influence the process of exclusion and segregation of disadvantaged neighborhoods. These are physical factors, inadequate housing, and urban layout or deficient services; socioeconomic factors, low levels of education, unemployment or proliferation of illegal activities; and political factors, little attention from public administrations, real estate policies that negatively affect the sociodemographic profile of the inhabitants or social inclusion policies characterized by uncoordinated or unintegrated sectorial actions that have not managed to transform the exclusionary reality of these neighborhoods.

This triple gap weakens the social fabric of disadvantaged neighborhoods, with differentiating characteristics according to each specific context, by maintaining over time the urban fragmentation and social exclusion that affects the life expectations of the young population and increasing unstructured families. Exclusion favors the constant arrival of new vulnerable populations, such as the working poor, ethnic minorities, or immigrant populations, who cannot access other spaces in the city due to the fragmentation caused by urbanism of exception, leading to a concentration of social groups with similar characteristics [15,17,33,34]. All these factors weaken coexistence and social cohesion, generating a stigma that deepens and continues the spiral of social exclusion [6,19,26,27,36,39,41].

An increasing number of authors argue that addressing this multidimensional and dynamic problem of disadvantaged urban areas requires a comprehensive approach [6,26,27,41–44]. Urban problems and social segregation are complex and multidimensional, where various problems interact in a systemic way that is not only physical, economic, or material, but also problems that hinder the social participation of citizens with equal rights, such as coexistence in safe environments, education, or health [6,32,42,45]. Urban space and the way in which the population is distributed is not a neutral scenario; it is a reflection of the interaction between different economic and social agents that contribute to making a city at any given moment. To address the social inequality that is generated in this interaction that fragments society, a combination of different policy instruments is needed to improve the urban space and the social situation [15,34,44]. The policies implemented in these neighborhoods should be based on the specific characteristics of each neighborhood and should encourage the participation of the population in their own development process [17,26,27,29,31,32,39,42]. It is therefore necessary to generate policies that are comprehensive and inclusive to fight against the social inequality and segregation that characterize urban areas today [17,27,42,44].

### *1.2. A Global Political Framework to Comprehensively Address the Challenge of Disadvantaged Urban Areas*

Aware of the growing social inequality that is facilitating the proliferation of increasingly fragmented and segregated societies, the international community is designing global

political frameworks focused on providing a multidimensional and comprehensive perspective to address such challenges.

In the field of urban development, two global policies stand out at the international level: New Urban Agenda-Habitat III [2] and the 2030 Agenda for Sustainable Development [5]. Both frameworks are based on international commitment to generate regional, national, and local policies that comprehensively favor inclusiveness and sustainability in cities. However, while the New Urban Agenda focuses on promoting inclusive and sustainable urban development in cities [2], the 2030 Agenda reinforces the promotion of such urban development, specifically in SDG 11 and with a comprehensive approach involving all 17 SDGs, which also incorporate other challenges that more broadly affect cities today [45–47].

The 2030 Agenda is designed as a comprehensive policy that highlights the challenges faced today by all countries in the world and the interconnection among these challenges. The academic literature has widely identified how all SDGs and targets are interconnected [46–50], which favors a multidimensional approach when addressing social exclusion in the context of disadvantaged urban areas [42]. SDG targets can be achieved collaterally as a result of policies and social interventions that can be carried out in disadvantaged urban areas. For example, if education improves in these areas, employment opportunities would improve [44,51]. Similarly, focusing on a territorial policy with a bottom-up participatory approach could reduce social segregation by improving social cohesion and coexistence [36,45].

This comprehensiveness and interdependence posed by the 2030 Agenda require a global effort to address the challenges facing today's societies; therefore, most governments are aligning their policies to the 2030 Agenda, referencing relevant SDGs for each type of policy. However, the policies that most need to incorporate the comprehensive and inclusive approach of the 2030 Agenda are those aimed at fighting poverty and social exclusion. These policies must take into account the multidimensionality involved in addressing this issue, especially with regard to combating the urban fragmentation and social segregation faced by cities, in which disadvantaged neighborhoods are the greatest exponent of social inequality [15,17,19,24,27,42–44].

### *1.3. The Necessary Localization of the 2030 Agenda at the Regional and Local Levels*

The academic literature echoes the need to analyze the incorporation of the 2030 Agenda into specific policies. Thus, recent studies such as that by García Serrano [52], which analyses how evaluation policies in Costa Rica integrate the 2030 Agenda, or that by Spinazzola [53], which analyses the integration of the 2030 Agenda into the departmental policies of several countries, can be highlighted. These studies indicate that to analyze the extent to which global efforts such as the 2030 Agenda are materializing in local public policies, it is necessary to have an analytical framework. Only in this way will it be possible to evaluate the extent to which policies are being designed that comprehensively address the generation of inclusive and sustainable cities and settlements consistent with the mandates of the 2030 Agenda.

Previous analyses that have tried to identify the influence of the 2030 Agenda on local policies have chosen to perform a general evaluation of policies as a whole [46,47]. Notably, the literature has identified the need for other frameworks of analysis to truly determine if local policies adapt to and implement the 2030 Agenda because many times, the references in the design of a policy remain declarative and normative and are not based on instruments, implementation structures, or in the shaping of the beneficiaries of the policies themselves [54–57].

To achieve this objective, we rely on models previously developed by academia. Authors such as Salamon [58], Peters [59–61], Curley [57], and Schneider and Ingram [62], have developed methodologies for analyzing policy design to test the effectiveness of its implementation. The literature has emphasized the need to pay attention to where and how policies are designed, as this design will affect the success of the policy. They

point to certain elements that need to be taken into account, such as understanding the dynamics of the social problem to be addressed, the importance of the design of the policy implementation itself, as well as the instruments used to implement it [59,60]. Authors such as Schneider and Ingram [62] and Curley [57] point out the need to take into account the beneficiaries of the policies, and the social construction that is made of them [62], as well as the design of the instruments that can determine who participates in policy and how [57,62]. Any policy design is based on assumptions about citizens' behavior, which can lead to an overly simplistic understanding of their reactions to policy [60]. There is therefore a proposal from academia for a more participatory and collaborative policy design, where the flexibility of institutions, from a systemic approach, can actually respond effectively to the problem it is intended to solve [59,60].

In this contribution, the model of Schneider and Ingram will be utilized [62] to analyze whether the design of public policies is truly aimed at generating democratic societies that solve the challenges facing societies, and that other authors such as Jones et al. [63] or Kash [64] have used to analyze the design of health or environmental policies. Democracies are sustained by the participation of a universal subject with equal rights to participate in public life [32]. Urban fragmentation and social segregation have an impact on relational poverty where multidimensional economic, political, and cultural processes, which converge at different geo-historical conjunctures, lead many people to be in a daily struggle for survival, leaving little time and limited access to spaces for participation, deliberation, and social inclusion [32]. This reality leads to the need for the design of comprehensive policies that democratically guarantee the participation of all citizens in the urban sphere, effectively reversing these multiple situations of exclusion derived from fragmented urbanism that has increased social inequalities [19,32,42,44].

Schneider and Ingram point out in their proposal that public policies have recognizable designs in the text and in the practices through which policies are transmitted and have consequences [62]. Policymaking is a human action, and its design aims to fulfill objectives. This design arises from a context in which different agents are involved in a given social construction of reality and of the target populations to which the policy is directed [62]. From this social construction, the elements of the policy are organized to serve certain purposes, where the ideas included have real consequences [62]. They also point out that policy analysis requires great sensitivity to the context in which it is applied, since an excellent design in one context may not be very useful in another [62].

To assess the impact of policy design on democratic values such as justice, citizenship, democratic institutions, or problem solving, the authors argue that there are a number of basic observable empirical elements found in all policies [62]. To this end, Schneider and Ingram offer an analytical framework based on the analysis of the architecture of any policy. Through the analysis of this structure, information can be obtained on whether a certain policy is truly inclusive and on the consequences derived from its design to address the challenge in question [62].

In their proposal, these authors identify six elements of this architecture present in the design of any policy: goals or problems to be solved, target populations, agents and implementation structures, tools, rules, rationales, and assumptions [62]. Goals refer to what the policy aims to accomplish and what should be modified or achieved as a result of the policy. Target populations are the recipients of the policy. Agents and implementation structures refer to those who will develop and enact a policy. Tools refer to how the policy will be created, and the instruments and methods required to support the planned changes. Rules specify the procedures for political action and the guidelines that establish who should do what, when, and with what resources. Finally, rationales and assumptions refer to the reasons for the policy, justifying the design of the policy as a whole [62].

The application of an analytical framework such as that of Schneider and Ingram will allow us to examine the way in which local policies are designed to address social exclusion and segregation and to what extent they do so from the integral and participatory perspective that indicates the global commitment to the 2030 Agenda.

*1.4. Case Study: Spanish Policies for Social Inclusion*

Spain presents an alarming situation with respect to poverty and social exclusion. In 2020, the United Nations Special Rapporteur on extreme poverty and human rights, Philip Alston, concluded, after his visit to Spain, that it has one of the highest rates of poverty and social exclusion in Europe, approximately 26% [65]. In his report, he highlights the serious situation in certain urban areas of the country, where the living conditions of the population are surprisingly marginal, and reports that these populations have reasons to feel abandoned by political leaders [65]. The report highlights the existence of deep structural problems that keep Spain from meeting objectives with regard to the effectiveness of social protection programs, as indicated in the 2020 Report on Efficacy and Equity of Social Spending of the International Monetary Fund [66].

In his report, the United Nations Special Rapporteur indicates the key challenges that Spain must address in order to promote a country that guarantees social rights [65]. These challenges are mostly aimed at the socially excluded population living in disadvantaged urban areas [65]. Among the challenges that Spain must face are those related to social protection, which does not have an impact on reducing social inequality; education, where 72% of students in vulnerable situations study in segregated schools; health care, despite being one of the countries with an excellent health system, there are significant gaps in access for the most vulnerable population; and housing, where urban planning has not been able to reduce social inequality; housing, where urban planning has meant that the population has serious difficulties in accessing affordable housing, with a socio-demographic profile characterized by poverty concentrated in deprived urban areas; or climate change, which will have devastating consequences for people living in poverty and a strong impact on policies to support them [65].

To address these challenges, Spain has developed various policies at the state level aimed at reducing social inequality. A notable example is the National Strategy for the Prevention and Fight against Poverty and Social Exclusion 2019–2023 [67], which, under the 2030 Agenda, in particular SDGs 1 and 10, aims to meet the needs of citizens, especially those who are the most vulnerable. At the regional and local levels, there are also numerous policies that promote social inclusion based on the mandates of the 2030 Agenda, at both the autonomous community and city levels. The design of social inclusion policies at the regional and local level can address more concretely the particular problems of the territories, especially in disadvantaged urban areas [68]. The tendency in the design of social inclusion policies has revolved around responding to sectoral problems, without incorporating the territorial and comprehensive dimension in order to respond to the situation that cities face today with the increase in social inequalities [68,69]. In Spain we can find some policies that address territorial inclusion from a comprehensive and community-based approach, although so far, they have presented some limitations in practice [68]. Given this situation, it is necessary to make an effort to design social inclusion policies that truly incorporate the comprehensive and participatory approach proposed by the 2030 Agenda, taking into account the specific contexts to respond effectively to the challenges presented by the territories [59].

This article aims to analyze how two Spanish policies have been adapted to the mandates of the 2030 Agenda to combat the social exclusion present in many cities in Spain that is facilitating the proliferation and worsening of social inequality in disadvantaged urban areas. Specifically, this study examines policies implemented in Andalusia and Catalonia, where comprehensive urban policies in favor of inclusive and sustainable development have been enacted, paying special attention to disadvantaged neighborhoods [43].

For Andalusia, the Andalusian Regional Strategy for Cohesion and Social Inclusion (from now on "ERACIS") will be examined [8]. Approved in 2018, the aim of ERACIS is to socially transform disadvantaged urban areas of Andalusia, with an emphasis on SDGs 1 and 11. For Catalonia, the Strategy of Inclusion and Reduction of Social Inequalities of Barcelona 2017–2027 (from now on "Barcelona Strategy") will be examined [9]. The aim of this strategy is to reduce territorial inequalities in the city of Barcelona based on all SDGs.

The reason for selecting these two policies as references is that both address territorial inequality in disadvantaged urban areas. Furthermore, one policy is designed to address the issue from the regional level and has a territorial approach (ERACIS), and the other policy is designed to address the issue from the local level and has an individual-centered approach (Barcelona Strategy).

An analysis of these two policies will not only allow an assessment of the effective incorporation of the 2030 Agenda in regional/local but will also contribute to shedding light on some of the numerous debates that exist in social research regarding the design of public policies to generate effective social transformation in disadvantaged urban areas. There is profuse debate on the level of government (regional or local) responsible for designing these policies [6,42]. Additionally, there is debate on whether these policies should focus on the specific needs of territories as the context that generates social exclusion [6,70–72] or focus on individuals in situations of social exclusion and on minimizing the factors that limit life opportunities [73,74].

To address these objectives, a three-step analysis is carried out. First, the SDGs that address the challenges of disadvantaged urban areas are identified. Second, through the policy design structure proposed by Schneider and Ingram [62], the elements of both policies that best reflect the mandates of the 2030 Agenda are identified. Third, a comparative analysis of the design of the two policies and the presence of the SDGs that affect disadvantaged urban areas in the policies is conducted to identify how and to what extent both policies incorporate the mandates of the 2030 Agenda. The comparative analysis concludes by discussing the extent to which the level of government (regional/local) and the policy approach (territories/individuals) may be favoring or hindering the incorporation of the comprehensive and participatory approach of the 2030 Agenda.

## 2. Materials and Methods

To achieve the identified objectives, a comparative case study was conducted. Specifically, two regional and local Spanish public policies aimed at the fight against poverty and social exclusion in the urban environment were selected as study materials: the Andalusian Regional Strategy for Cohesion and Social Inclusion (ERACIS) [8] and the Inclusion Strategy and Reduction of Social Inequalities in Barcelona 2017–2027 [9]. The method used to analyze these policies was conducted in three steps.

Step 1. To analyze the sensitivity of the 2030 Agenda with regard to addressing the challenges in disadvantaged urban areas, the first step was to identify the relevant SDGs that influence the dimensions that can generate social inclusion in these areas. The breadth of the 2030 Agenda has encouraged numerous authors to elucidate which SDGs apply to a particular issue, for example, Medina Rey et al. (human right to food) [75], Ramírez-Rubio et al. (urban health) [47], Maes et al. (urban ecosystems) [48], Seifollahi-Aghmiuni et al. (wetland ecosystems) [49], Farnia et al. (urban level) [50], or Sisto et al. (local administrations Budget) [55]. This study did the same by identifying SDGs that affect disadvantaged urban areas. However, given the nature of these territories, apart from identifying the relevant SDGs, a distinction was made between them: SDGs that address general urban problems that are aggravated in disadvantaged urban areas are referred to as general SDGs, such as poverty reduction or ensuring women's equal participation, which affect society in general but are aggravated in these areas; and SDGs that address urban problems that are specific to disadvantaged areas are referred to as specific SDGs, such as school failure, which specifically affects the life opportunities of a large part of the population living in these areas, the need to promote cities that reduce the existence of these marginal neighborhoods by promoting inclusive urbanization or improving coexistence and social cohesion within these areas characterized by insecurity and lack of habitable spaces.

Step 2. To determine if the 2030 Agenda can be found in the justifying, normative, or instrumental elements of these policies, an analysis was carried out using the policy design structure described by Schneider and Ingram [62]. These authors propose a framework to analyze the design of public policies, arguing that policies contain an architecture that can

be observed through a series of empirical elements, i.e., goals or problems to be solved, target populations, agents, and implementation structures, tools, rules, rationales, and assumptions. This policy design structure has been used to analyze sectorial policies in different countries by authors such as Jones et al. and Kash [63,64].

Step 3. To facilitate locating SDG targets in both policies, each policy will be searched for a list of keywords, which have been selected by highlighting those words that summarise the purpose of each SDG target. For example, SDG target 1.3. Implement nationally adequate social protection systems and measures for all, including floors, and achieve by 2030 substantial coverage of the poor and vulnerable corresponds to the keyword "social protection". This will allow locating, in each policy, the general and specific SDGs, an approach used in other studies [53,56,76]. The identification of SDG targets will allow a qualitative evaluation of the inclusion of the principles and objectives of the 2030 Agenda into the structure of each of the two policies analyzed, which have been organized according to the proposed policy design structure. For example, in Goals, the text of each policy is unified in terms of the objectives it pursues, and in Tools, the same is done by unifying the text that includes the instruments designed by the policy for its implementation. This qualitative assessment of the presence of SDG targets in each policy was carried out to distinguish between the appearances of these keywords in an explicit form, when the keyword appears the same in the policy text, implicit form, even if the keyword does not appear in the text literally, but the context refers in other words to its inclusion, or it simply does not appear in the text of the policy. This is a common practice in studies that analyze the presence of the 2030 Agenda in certain policies, for example, the study by Ilieva [46] on the explicit presence of SDGs in food strategies of ten large cities in North America or that by Birner [76] on the influence and integration of the SDGs in the institutional framework of governance in Germany.

Carrying out these three steps will allow the discussion to focus on evaluating to what extent each of the two policies analyzed incorporated the mandates of the 2030 Agenda, in what elements of the policy the mandates are included, and to what extent the level of government (regional/local) and structuring approach (territories/individuals) may be facilitating or hindering the effective incorporation of the 2030 Agenda.

## 3. Results

### *3.1. Step 1: 2030 Agenda and Disadvantaged Urban Areas*

As in other analogous studies that analyze the influence of the 2030 Agenda on certain issues [47–50,75], the first step was to identify which SDGs influence the reality of social exclusion in disadvantaged urban areas. Based on previous studies that address the dimensions that affect social exclusion in disadvantaged urban areas [6,26,27,41,42], 51 of the 169 SDG targets were selected [77]. These 51 targets, which represent 30.18% of the total, corresponding to 14 SDGs. Consistent with previous studies that have investigated relevant SDGs for urban areas [47], the SDGs corresponding to combating climate change (SDG 13), conserving the oceans (SGD 14), and protecting terrestrial ecosystems (SDG 15) were included.

Because disadvantaged urban areas are territories within cities, various authors have distinguished between shared urban problems and endogenous urban problems [6,27,29,30,36,41–43,50,78–81]. Similarly, this study distinguishes between general SDG targets, i.e., those that address general urban problems that are aggravated in disadvantaged urban areas, and specific SDG targets, i.e., those that address problems specific to disadvantaged urban areas. Of the 51 selected targets, 25 were general SDG targets, and 26 were specific SDG targets.

Figure 1 provides the list of SDG targets that promote inclusive and sustainable development in disadvantaged urban areas, with the general SDGs (unshaded box) distinguished from the specific SDGs (shaded box).

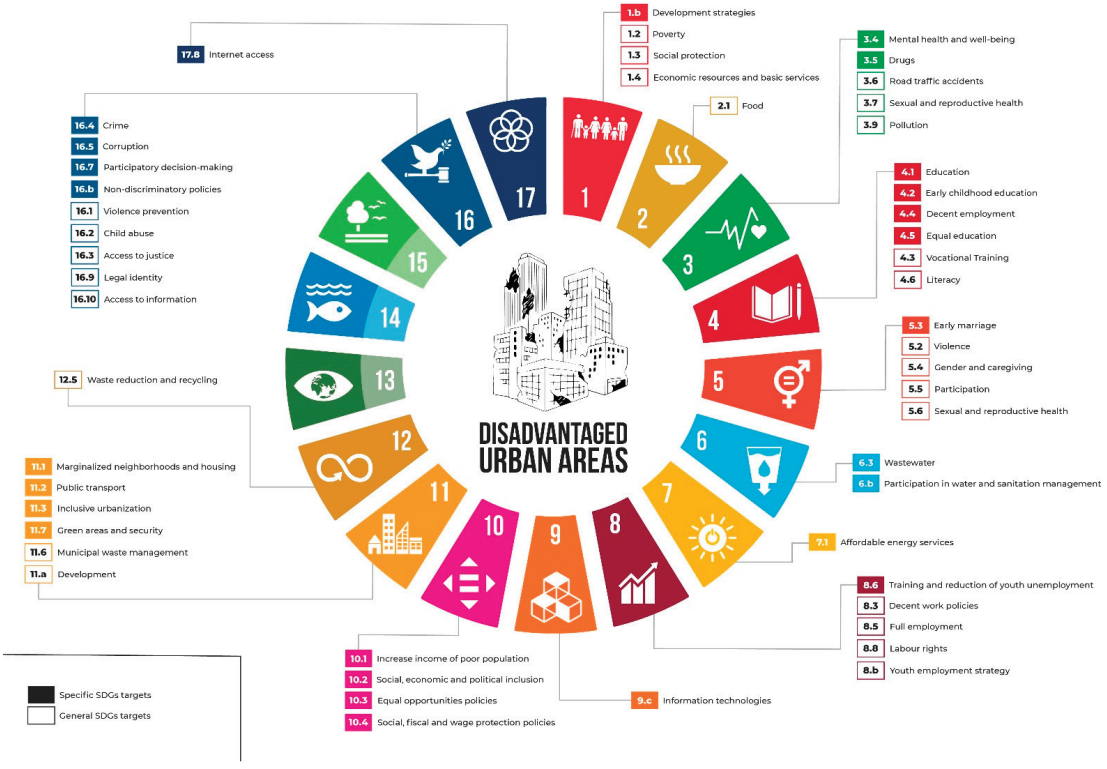


**Figure 1.** General and specific SDGs to impact disadvantaged urban areas.

The general SDG targets were contained in SDGs 1, 2, 3, 4, 5, 8, 11, 12, and 16. SDG 1 includes 1.2, 1.3, and 1.4, which address the reduction in the population living in poverty in cities, guaranteeing their access to social protection, economic resources, and basic services. SDG 2 includes 2.1, which refers to access to adequate food for the vulnerable population. SDG 3 includes 3.6, 3.7, and 3.9, which refer to access to sexual and reproductive health and the prevention of death due to traffic accidents and pollution, situations that are becoming increasingly worrisome in cities [82]. SDG 4 and SDG 8 cover two of the most common challenges in disadvantaged urban areas: education and employment [51]. SDG 4 includes 4.3 and 4.6, which address literacy and technical and higher training, and SDG 8 includes 8.3, 8.5, 8.8, and 8.b, which address the promotion of employment, safe work environments, and employment strategies for young people. SDG 5 includes SDGs 5.2, 5.4, 5.5, and 5.6, which are related to eliminating all forms of violence against women, recognizing and valuing care work, ensuring the full participation of women, and ensuring access to sexual and reproductive health. SDG 11 includes 11.6 and 11.a, which aim to strengthen economic and social links between urban areas and reduce the environmental impact of cities, a situation that is aggravated in disadvantaged urban areas [36,81]. SDG 12 includes 12.5, which is related to waste reduction through recycling. SDG 16 includes 16.1, 16.2, 16.3, 16.9, and 16.10, which focus on the prevention of violence and abuse and access to justice, information, and legal identity.

The specific SDG targets were contained in SDGs 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, and 17. SDG 1 includes 1.b, which refers to creating development strategies for the poor, one of the challenges that characterize policies developed for disadvantaged urban areas [81]. SDG 3 includes 3.4 and 3.5, which refer to the prevention and treatment of mental health disorders, well-being and the consumption of addictive substances, situations of risk that

affect the population of these areas [51]. SDG 4 includes specific targets 4.1, 4.2, 4.4, and 4.5, which refer to facilitating access, permanence in education, and technical training of the most vulnerable groups, such as children and youth. SDG 5 includes 5.4, which is considered typical of these areas, referring to the prevention of early marriage, sometimes accompanied by adolescent pregnancy [83,84]. SDG 6 and SDG 7 include 6.3, 6.b, and 7.1, which aim to improve wastewater treatment and access to energy services and community participation, issues that in recent years have received special attention in disadvantaged urban areas [85,86]. SDG 8 includes 8.6, which refers to the promotion of employment of young people who do not work or study, a population characteristic of disadvantaged urban areas [51,81]. SDG 9 and SDG 17 include 9.c and 17.8, which address the digital divide [87]. SDG 10 and SDG 11 have the most direct relationship with disadvantaged urban areas insofar as they are oriented to a reduction in social inequalities (targets 10.1, 10.2, 10.3, and 10.4) and inclusion and sustainability of cities (targets 11.1, 11.2, 11.3, and 11.7). Finally, SDG 16 includes 16.1, 16.2, 16.3, 16.9, and 16.10, which are related to the reduction in illegal activities and insecurity and the promotion of citizen participation in decision-making, issues that are relevant when seeking to promote processes of social inclusion in these disadvantaged urban areas [36,45,88].

### *3.2. Step 2: Policy Design of ERACIS and the Barcelona Strategy*

The theoretical review has demonstrated that the policies that are inspired by the 2030 Agenda tend to have declarative and normative structures, without the inclusion of instruments and structures of implementation. To investigate this possible misjudgment, this analysis will follow the model of Jones et al. [63], coding each policy, i.e., ERACIS and the Barcelona Strategy, based on the six elements of policy design proposed by Schneider and Ingram [62]: goals, target populations, agents, tools, rules and rationales, and assumptions. This analysis of policy design will allow for a comparative analysis of the architecture of the two policies. Table 1 summarises each of the elements of policy design in ERACIS and the Barcelona Strategy.

**Table 1.** Comparing policy design elements in ERACIS and Barcelona Strategy.

| Schneider and Ingram's Policy Desing Structure | ERACIS | Barcelona Strategy |
|---|---|---|
| Goals | Improve the living conditions of people living in disadvantaged areas of Andalusia favouring their participation and access to the social protection system, specifically to the labour market. | To transform the city of Barcelona into a European and Mediterranean benchmark of a city by 2027, that guarantees the social rights of all citizens, eliminating stigmatization and segregation and reducing territorial inequalities. |
| Target Populations | 99 Identified Disadvantaged Areas of Andalusia. | The population of the city of Barcelona in a situation of social inequality. |
| Agent(s) and Implementation Structures | The Regional Government of Andalusia promoted and designed ERACIS. The municipalities implement, coordinate, monitor and evaluate the community development process, with the participation of the public and private agents. | The strategy is promoted and designed by Barcelona City Council and more than 700 organizations that have signed the Citizens' Agreement for an Inclusive Barcelona. 167 social organizations and municipal bodies implement the strategy through projects. |

**Table 1.** *Cont.*

| Schneider and Ingram's Policy Desing Structure | ERACIS | Barcelona Strategy |
|---|---|---|
| Tools | The main instrument for the implementation of the strategy is the Local Zone Plans, designed in participatory way as a intervention tool with a community approach. | The main instrument for the implementation of the strategy is the Structuring Projects that provide the necessary transversality and coordination to the 892 sectoral projects |
| Rules | Policy with a regional policy framework. 12 guiding principles provide the framework for the incorporation of different stakeholders in the process of design, implementation, monitoring and evaluation through Local Zone Plans. Only some of the operational objectives and targets are mandatory. | Policy with a local policy framework. Two lines of action are regulated: a sectoral one, which includes the plans and programs already underway, and a transversal action through the Structuring Projects. |
| Rationales and Assumptions | The segregating tendency of contemporary societies has led to the existence of socially excluded neighborhoods. A comprehensive and community intervention model is the key to reversing inequality and social exclusion in these areas. | Barcelona has become a more unequal and unjust city since the 2008 crisis, with 12,904 people currently living in residential exclusion. To reverse this situation of social inequality, the strategy aims to be a benchmark in transformative urban policies, from the promotion of proximity policies implemented by local governments with a territorial approach. |

#### 3.2.1. Goals

The main objective of the ERACIS policy is to improve the living conditions of people living in disadvantaged areas of Andalusia, emphasizing the population's access to the labour market. The main objective of the Barcelona Strategy is achieving a city model that guarantees social rights by reducing territorial inequalities.

The two policies have similar axes or lines of action regarding the objectives to be pursued to reduce social inequalities in the urban environment. However, the axes of ERACIS focus on the community as a whole: Axis 1—Sustainable economic and community development; Axis 2—Public policies for well-being and social cohesion; Axis 3—Improvement of the habitat and coexistence; and Axis 4—Networking and innovation in community social intervention. The axes of the Barcelona Strategy focus on both the individual level (Line 1—Reduce inequality in income distribution and guarantee social rights, especially access to housing, quality employment, and basic needs; and Line 2—Increase educational equity and lifelong learning and cultural opportunities) and the community level (Line 3—Strengthen and articulate services and relational and community support networks that facilitate personal and collective empowerment; Line 4—Eliminate stigmatization and social segregation; and Line 5—Reduce territorial social inequalities).

#### 3.2.2. Target Populations

Although both policies are aimed at populations in situations of vulnerability or social exclusion in urban areas, there is a nuance between the two when defining the target population. ERACIS defines 99 disadvantaged areas identified in municipalities of the eight provinces of Andalusia as its target population (914,103 inhabitants). These areas are identified based on five territorial criteria: high level of unemployment, immigrant population, public housing, problems of security and coexistence, and history of social intervention. The Barcelona Strategy defines its target population as the entire population of a city where social inequality has been identified, based on eight dimensions, in addition to a determination of the degree of territorial inequality at the city level, district level, and on some occasions the neighborhood level (e.g., at this sublevel, 12,904 people were

identified who are in a situation of residential exclusion). These individuals are identified based on eight personal dimensions: poverty and inequality, employment, education, health, housing, relational and community support networks, coexistence, and civility.

#### 3.2.3. Agent(s) and Implementation Structures

The main difference between the two policies is that ERACIS is promoted and designed by a regional political body, and the Barcelona Strategy is driven and designed by a local political body. However, for the two policies, implementation is the responsibility of the municipalities, as these political bodies are closer to the reality of the citizenry. For both policies, such implementation must also be carried out together with other public and private entities as well as with organized civil society, which will not only execute the policies but also monitor and evaluate their implementation.

Both policies define, for each axis or line of action, the specific agents responsible for the execution of the different measures and actions. However, ERACIS only includes a list of public administration agents and private entities, without including citizen agents. The Barcelona Strategy includes the participation of 167 entities, of which 73% are social entities, 23% are municipal organizations and 4% are citizen action networks.

#### 3.2.4. Tools

Both policies design tools to be implemented. For ERACIS, the Local Zone Plans include 129 measures that compose the four axes of the policy. Of these measures, only four address mandatory inclusion, related to labor insertion plans linked to the minimum insertion income and the hiring of professionals. In the Barcelona Strategy, the Structuring Projects coordinate 892 projects and sectorial actions distributed based on the objectives of each of the five strategic lines.

Although the tools for both policies are designed, implemented, and coordinated by all the agents involved, public, private, and civil organizations, there is a differentiating nuance in the typology of the tools proposed in the two policies. For ERACIS, the Local Zone Plans articulate and define the actions to be implemented in each disadvantaged area based on the objectives and measures proposed in the policy. For the Barcelona Strategy, the Structuring Projects provide transversality to different projects and sectorial actions that are already underway; that is, there is no definition of the projects to be implemented in different districts and neighborhoods of the city. Finally, the two policies establish a system of indicators for monitoring and evaluating the objectives of each strategy.

#### 3.2.5. Rules

There are several differences in the regulatory framework of the two policies analyzed. ERACIS is a regional policy approved by the Official Gazette of the Junta de Andalucía with the status of a norm, with a regulatory framework and international (European Social Fund 2014–2020), national (National Action Plan for Social Inclusion 2013–2016), and autonomous community (Law 9/2016, of 27 December, on Social Services in Andalusia) funding. The Barcelona Strategy is a local policy approved by the municipal Plenary of the Barcelona City Council, with a framework regulated by the City Council and more than 700 public and private entities within the framework of Citizens for an Inclusive Barcelona.

Regarding the regulation of financing for the two policies, ERACIS includes a budget and subsidy requirements to finance Local Zone Plans for both local and social entities. However, the Barcelona Strategy does not include a financing plan for actions that are already underway or for the Structuring Projects. Finally, the two policies provide a time frame for their actions. The term for ERACIS is 4 years, and that for the Barcelona Strategy is 10 years, i.e., 2017–2027.

#### 3.2.6. Rationales and Assumptions

Both policies cite increasing social exclusion and segregation as justifications for their actions, arguing the need to implement urban policies that reduce social inequalities in cities.

ERACIS limits the scope of its interventions to the neighborhood level, with a territorial approach, through a characterization of the general situation in disadvantaged urban areas in each province of Andalusia. The Barcelona Strategy circumscribes its actions to the city level, more specifically the district level, with a person-centered approach, characterizing the population residing in each district using the aforementioned eight dimensions.

Both policies justify the implementation of community development approaches that promote the social participation of target populations in their own transformation processes. The objective is to minimize inequality in cities and neighborhoods under the protection of international and national policies that promote sustainability and social inclusion, e.g., the 2030 Agenda. The policies promote networking among different stakeholders in each neighborhood and area of intervention, emphasizing the importance of local governments in the implementation of these strategies because they are political bodies closer to social reality.

### *3.3. Step 3: Identifying the 2030 Agenda in Policy Design*

To identify the SDG targets in the two policies analyzed, a list of keywords was developed for searching each policy. Table A1 (in Appendix A) shows the relationship of the SDG and SDG targets, both general and specific, with their keywords. Here, an improvement is introduced based on other studies that locate SDGs in certain policies [53,56,76], i.e., the keywords used to refer to both the SDGs and each target SDG. This approach makes it possible to locate, in a more exhaustive way, which specific targets and SDGs are present in each policy analyzed.

The identification of each target SDG through the proposed keywords allowed locating targets in each element of the policy design structure proposed by Schneider and Ingram [62]. For the qualitative analysis of the presence of the 2030 Agenda in each policy, the systematization process used in other studies that investigated the degree of presence of the SDGs in certain policies was followed [46]. The presence of each general and specific SDG target was systematized based on whether the policy includes a target explicitly, implicitly, or not at all. This qualitative judgment was performed independently by all authors of this article. For 84% of the elements, the analysis was convergent, with the majority of authors agreeing on the value given. Finally, the cumulative percentages of the presence of each SDG in each element of the policy design were obtained by calculating the arithmetic mean, assigning a value of 100% if the inclusion of the target is explicit, 50% if the inclusion of the target is implicit, and 0% if a target is not mentioned. A consensus summary of the presence of general SDGs and specific SDG targets is provided in Tables 2 and 3, respectively.

**Table 2.** General SDGs in ERACIS and Barcelona Strategy.

| General SDGs Targets | ERACIS | | | | | | Barcelona Strategy | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Goals | Target Populations | Agents and Structures | Tools | Rules | Rationales and Assumptions | Goals | Target Populations | Agents and Structures | Tools | Rules | Rationales and Assumptions |
| Total | 60% | 26% | 18% | 60% | 26% | 66% | 58% | 70% | 56% | 72% | 44% | 64% |
| 1.2 | ●● | ● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 1.3 | ●● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 1.4 | ●● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 2.1 | ● | ● | | ● | | ●● | ● | ●● | | ●● | ●● | ● |
| 3.6 | | | | | | | | | | | | |
| 3.7 | ●● | | | ●● | | ●● | | ●● | ● | ● | | |
| 3.9 | | | | | | | | | | | | |
| 4.3 | ●● | ● | | ●● | | ●● | ●● | ●● | ●● | ●● | ● | ●● |
| 4.6 | ●● | ● | | ●● | | ● | ● | ● | ● | ● | ● | ● |
| 5.2 | | ● | | | ● | ●● | ● | ●● | ● | ●● | | ●● |
| 5.4 | ●● | | | ●● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 5.5 | ● | ● | ● | ● | ● | ●● | ● | ●● | ● | ●● | ● | ●● |
| 5.6 | ●● | | | ●● | | ●● | | ●● | ● | ● | | |
| 8.3. | ●● | ● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 8.5 | ●● | ● | | ●● | | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 8.8 | | | | | | | ● | ●● | ●● | ● | ● | ● |
| 8.b | ●● | | | ●● | | ●● | ● | ●● | ●● | ●● | ● | ●● |
| 11.6 | ●● | | | ●● | | | | | | | | |
| 11.a | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| 12.5 | | | | | | | | | | | | |
| 16.1 | ● | ● | | ● | | ●● | ●● | ●● | ● | ●● | ● | ●● |
| 16.2 | | | | | | | | ●● | ● | ●● | | ●● |
| 16.3 | | | | | | | ●● | | | ● | | ● |
| 16.9 | | | | | | | ● | | | ●● | | ● |
| 16.10 | ● | | | ● | | ●● | ●● | | ● | ● | | ● |

●● General SDGs targets explicitly considered. ● General SDGs targets implicitly considered.

**Table 3.** Specific SDGs in ERACIS and Barcelona Strategy.

| Specific SDGs Targets | ERACIS | | | | | | Barcelona Strategy | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Goals | Target Populations | Agents and Structures | Tools | Rules | Rationales and Assumptions | Goals | Target Populations | Agents and Structures | Tools | Rules | Rationales and Assumptions |
| Total | 79% | 33% | 37% | 81% | 38% | 62% | 69% | 71% | 62% | 87% | 65% | 77% |
| 1.b. | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 3.4. | •• | • | | •• | | • | •• | •• | •• | •• | •• | •• |
| 3.5. | •• | • | | •• | | •• | • | •• | • | •• | •• | •• |
| 4.1. | •• | • | | •• | | •• | •• | •• | •• | •• | •• | •• |
| 4.2. | • | • | | • | | •• | •• | •• | •• | •• | •• | •• |
| 4.4. | • | • | | • | • | •• | •• | •• | •• | •• | •• | •• |
| 4.5. | • | • | | • | | •• | •• | •• | •• | •• | •• | •• |
| 5.3. | | | | | | | | | • | | | |
| 6.3. | • | | | • | | | • | • | | | | |
| 6.b. | • | | | • | | | • | | | | • | • |
| 7.1. | •• | | | •• | | | • | •• | | •• | | •• |
| 8.6. | • | • | | •• | • | • | • | •• | •• | •• | • | •• |
| 9.c. | •• | | •• | •• | | | • | | | •• | | •• |
| 10.1. | •• | • | | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 10.2. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 10.3. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 10.4. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 11.1. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 11.2. | •• | | | •• | | | | | | •• | | • |
| 11.3. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 11.7. | •• | • | | •• | | •• | •• | •• | | •• | • | |
| 16.4. | • | | | • | | | | | | •• | • | |
| 16.5. | • | | | • | | | | | | • | | |
| 16.7. | •• | • | •• | •• | •• | •• | •• | •• | •• | •• | •• | •• |
| 16.b. | • | | • | • | •• | •• | •• | •• | •• | •• | •• | •• |
| 17.8. | •• | | •• | •• | | | | | | •• | | •• |

•• Specific SDGs targets explicitly considered. • Specific SDGs targets implicitly considered.

3.3.1. General SDG Targets in ERACIS and the Barcelona Strategy

Among the 25 general SDG targets that address the challenges facing disadvantaged urban areas, the Barcelona Strategy incorporates more in its design than does the ERACIS in its design: the Barcelona Strategy incorporates five of the nine SDGs (1, 5, 8, 11, and 16), and ERACIS broadly incorporates only 1 (SDG 1).

Beginning with similarities between the two policies, both ERACIS and the Barcelona Strategy broadly incorporate the targets of SDG 1 (poverty) in their design. This result was expected because both policies promote a strategy focused on improving the lives of people in situations of social vulnerability, emphasizing a reduction in economic poverty. Similarly, the community dimension of SDG 11 appears strongly in both policies through target 11.a., as both policies promote strengthening the social and economic links of the urban areas to which they are directed.

In contrast, it is striking that neither policy includes dimensions oriented to guaranteeing the environmental sustainability of disadvantaged urban areas. This is observed in the lack of dissemination of environmental targets of the 2030 Agenda in the design of the two policies. Thus, neither of the two policies aims to improve the welfare of the population through a reduction in pollution (3.9.), a reduction in the negative environmental impact of poor air quality (11.6), or a reduction in waste through recycling (12.5).

The main divergences in the two policies can be seen in the incorporation of SDGs 4, 5, and 8. Although neither of the two policies includes, in a decisive or homogeneous way, SDG 4 (education) in its design, the Barcelona Strategy expressly incorporates the target 4.3 by promoting education and professional training as keys to overcoming social exclusion; similarly, implicit consideration target 4.6 (literacy) is observed throughout the policy, to the extent that the policy aims to promote access to education at all stages of life.

In relation to SDG 5 (gender), the Barcelona Strategy, in general, promotes a more gender-based approach than does ERACIS. However, this incorporation is not homogeneous at the target level. For example, in the Barcelona Strategy, the gender-based approach is evidenced through the incorporation of target 5.4, which is explicitly considered throughout the policy by decisively promoting the recognition of care work. Notably, neither of the two policies promotes a strategy of access to sexual and reproductive health (5.6).

With respect to SDG 8 (labor market), neither policy clearly incorporates the achievement of labor rights (8.8.), although the Barcelona Strategy considers this target implicitly. In general, SDG 8 is present in a more multidimensional way in the Barcelona Strategy because it guides the design of the policy towards the promotion of full employment (8.5), employment strategies for young people (8.b), and the promotion of a development-oriented policy of job creation (8.3). Target 8.3 is prominent in ERACIS because the entire strategy of this policy focuses on the creation of jobs for people living in disadvantaged urban areas.

Having analyzed the incorporation of general SDG targets in the two policies, we subsequently evaluated to what extent this presence occurs in each element of the policy design. Interestingly, despite being policies aimed at combating social exclusion in disadvantaged urban areas, the presence of the general SDG targets is relatively limited. Following the methodology described in the previous section, the coverage was 58% in the Barcelona Strategy and 60% in ERACIS.

There is a difference between the two policies regarding the target populations. The Barcelona Strategy incorporates the SDGs much more decisively (70%) than does ERACIS (26%). This can be explained by the fact that ERACIS diagnoses the situation of target populations, at the census section level, highlighting the general characteristics of 99 disadvantaged areas from a territorial perspective. The Barcelona Strategy, in addition to a territorial analysis of the city, incorporates an analysis of the situation of the populations at the city, district and neighbourhood levels based on eight dimensions, thus characterizing target populations with an individual approach.

There is also a significant difference between the policies regarding the degree of presence of general SDG targets at the level of agents and implementation structures,

with very little present in ERACIS (18%). Although this is not a prominent element in the Barcelona Strategy (58%), there is at least one integrative effort, among other aspects involving the 167 entities, public and private, that participate in its implementation. The identification of the participation of civil society organizations is scarce but higher than that for ERACIS, which at no time indicates the participation of citizen agents.

In relation to the design of tools, both policies incorporate, to a high degree, the general SDG targets: the Barcelona Strategy 72% and ERACIS 60%. Both policies carefully define the design of their main tools to be implemented. For ERACIS, the Local Zone Plans that municipal councils must design for each of the disadvantaged areas identified are already underway, as are the Structuring Projects of the Barcelona Strategy that will guide sectorial projects. The difference in weight can be explained by the fact that the Barcelona Strategy involves the coordination of 892 existing sectorial projects, and ERACIS leaves the responsibility of the design of Local Zone Plans to each municipality associated with the 99 zones.

Regarding the most normative aspects, with respect to rules, both policies present significant deficits when incorporating the perspective of the SDGs: the Barcelona Strategy 44% and ERACIS 26%. Regarding rationales and assumptions, the two policies are directed towards and justify the need to develop policies aimed at solving challenges facing urban areas, incorporating the SDGs into this reasoning. However, both are still far from having a comprehensive sustainability approach, as observed in the lack of targets that are aimed at promoting environmental sustainability in these areas.

#### 3.3.2. Specific SDG Targets in ERACIS and the Barcelona Strategy

Regarding the 26 specific SGDs that address the challenges facing disadvantaged urban areas, the Barcelona Strategy incorporates more in its design than does the ERACIS in its design: the Barcelona Strategy broadly incorporates five SDGs (1, 3, 4, 8, and 10), and ERACIS cross-sectionally incorporates only 2 SDGs (1 and 10).

With regard to similarities, both policies homogeneously incorporate SDGs 1 and 10. Both policies create a solid framework of development strategies aimed at reducing inequality and favoring the socioeconomic inclusion of the poor population living in urban areas, specifically in disadvantaged urban areas.

In contrast, both share weaknesses regarding the inclusion of other targets. For example, neither of the two policies aims to empower women and girls through the prevention of early marriage (SDG 5, target 5.3), which occurs with high incidence among adolescent girls of certain ethnic groups [83,84]. They also do not promote the participatory management of water and sanitation (SDG 6, targets 6.3 and 6.b), a challenge facing these areas due to the deterioration of public housing [81]. Along these lines, the most surprising aspect of this study emerges—neither of the two policies incorporates, with sufficient and homogeneous weight, the targets of SDG 11, which focuses precisely on cities and urban settlements. Thus, throughout their design, the actions within the two policies focus on ensuring access to housing and basic services (target 11.1) and favoring inclusive and sustainable urbanization in a participatory manner (target 11.3); however, targets 11.2. and 11.7, aimed at promoting access to public transport, green areas, and safe public spaces, are not clearly present.

Among the differences in the design of the two policies, the main divergences are seen in the incorporation of SDGs 3, 4, 8, and 16. The Barcelona Strategy gives significantly greater weight to SDGs 3, 4, and 8 than does ERACIS by designing a policy that has a stronger focus on improving mental health, preventing and treating addictions (targets 3.4 and 3.5), ensuring equal access to education in all stages of life, promoting technical and professional skills of young people and adults for their insertion into the labor market (targets 4.1, 4.2, 4.4 and 4.5), and reducing the young unemployed population and those who do not study (target 8.6), especially those who are in a situation of social inequality.

Regarding SDG 16, the Barcelona Strategy is strongly and differentially designed with respect to ERACIS as a non-discriminatory policy in favor of sustainable development

(16.b). Likewise, both policies promote the participation of all stakeholders in decision-making to respond to the needs of the target population (target 16.7). However, targets 16.4 and 16.5, related to illegal activities and crime, are not present, challenges that are necessary to address in disadvantaged areas because they affect the creation of an environment of insecurity that impacts coexistence and social cohesion [36,81].

Having analyzed the incorporation of specific SDG targets into the policies, we subsequently evaluated to what extent this presence occurs in each element of the policy design. Regarding the goals, both policies give strong weight to the mandates of the 2030 Agenda, with the percentage being significantly higher for ERACIS (79%) than for the Barcelona Strategy (69%).

However, when defining target populations, the Barcelona Strategy incorporates specific SDG targets to a greater extent (71%) than ERACIS (33%). This is derived from the analysis performed at the micro level to diagnose the situation of the target populations at the city, district, and neighborhood levels.

In relation to agents and implementation structures, the Barcelona Strategy incorporates specific SDGs to a greater extent (62%) than ERACIS (37%) because the former defines those agents and structures and the latter only defines the agents and implementation structures for public administration, as indicated in the general SDG targets.

Both policies, when determining their tools, incorporate the mandates of the 2030 Agenda, i.e., through the Structuring Projects and Sectorial Plans in the Barcelona Strategy and the Local Zone Plans in ERACIS. These tools detail both content and operation and show a capacity to achieve the proposed objectives, covering a greater spectrum of topics coinciding with the SDGs.

With respect to the regulatory aspect of these policies, there is again a difference between the two policies. The Barcelona Strategy incorporates specific SDGs to a greater extent (65%) than ERACIS (38%). Although both policies seem to incorporate more than half of the specific SDG targets in their rationale and assumptions, the Barcelona Strategy incorporates these targets to a greater extent (77%) than ERACIS (62%).

## 4. Discussion

The study framework has allowed us to determine to what extent the design of the two policies analyzed, i.e., ERACIS and the Barcelona Strategy, incorporate the different SDGs that address disadvantaged urban areas. The analysis allowed us to identify common patterns and observe substantial differences between the two policies; in general, the Barcelona Strategy incorporates the SDGs, both general and specific, in a more apparent way than does ERACIS. These similarities and differences revealed in the comparative analysis allow us to advance knowledge on this topic with respect to the previously existing literature.

Regarding goals, although both policies are aimed at combating social inequality in urban areas through a multidimensional approach to minimize social exclusion, their designs reflect policies aimed at fighting poverty in its most material sense, in line with SDGs 1 and 10. The core of the two policies, both in their regulatory and implementation aspects, is the generation of employment and economic resources for the people of these territories. It is expected that this bias will limit the impact of the policies for social inclusion because the literature has widely identified the need to simultaneously address physical, political, and socioeconomic gaps [6,26,27,36,41–43,79–81].

Despite this undeniable conclusion, other aspects that minimize social exclusion are incorporated, although with varying representation. Thus, certain efforts are observed in both policies that orient their actions toward the generation of more inclusive cities, focusing on the improvement of marginal neighbourhoods through access to education, training, housing, and basic services, challenges that are included in SDGs 4, 8, and 11. However, some of the most decisive targets of these same SDGs to combat exclusion in disadvantaged urban areas are omitted, for example, improving employment through a rights-based approach; promoting educational inclusion; improving security; promoting liveable and

safe spaces; and improving coexistence and social cohesion. Furthermore, neither of the two policies incorporates in its design a sustainability approach when facing the challenges of social inclusion of disadvantaged urban areas (SDGs 3, 6, 7, 9, 12, and 17), nor is there a determined effort in their design to address the challenges from a gender perspective (SDG 5). These deficiencies denote a lack of comprehensiveness when addressing the specific challenges facing disadvantaged urban areas, a requirement widely identified by the literature as essential to address the multidimensional and dynamic problems of these areas [6,26,27,41–44].

This deficit of transversality in the policy approach is partially corrected in the design of the tools. Both policies provide details regarding operations, i.e., the Structuring Projects in the Barcelona Strategy and the Local Zone Plans in ERACIS. In this sense, the Barcelona Strategy foresees an implementation structure through these Structuring Projects that provides transversality to the 892 sectorial projects in the five strategic lines of the policy. ERACIS offers a catalog of 129 local measures in four proposed axes. However, only four of these 129 measures are mandatory, and all of them are related to the implementation and monitoring of labor insertion plans linked to the minimum insertion income and with the hiring of professionals to carry out this work. The analysis carried out lays the foundations to contribute to the academic debate on whether social inclusion policies should design ad hoc tools or focus on coordinating existing projects through tools that provide them with transversality. However, and as will be evidenced when noting the limitations of the study, the analysis of policy design is a compulsory but insufficient step to answer this overarching question.

In its normative elements, there are substantial differences that shed light on the level of government most suitable to address the fight against social exclusion in the urban environment. ERACIS has a regional regulatory nature. Approved by the Official Gazette of the Junta de Andalucía, it incorporates a multi-year budget; therefore, to a certain extent, it transcends government political parties. The Barcelona Strategy was approved by the Plenary of the City Council and therefore is more dependent on the municipal and local governments because it does not have a multi-year budget and must be supported by sectorial projects in progress. Given the necessary feasibility and predictability that the literature has identified as indispensable for the success of social inclusion interventions [43,44,80,81], the evidence seems to confirm certain weaknesses in purely local regulatory frameworks.

The two policies give relatively limited weight to implementation agents and strategies, especially in the design of ERACIS, where the presence of civil society is barely mentioned in the design of the Local Zone Plans. This weakness can compromise the effective inclusion of the 2030 Agenda, whose implementation is based on a multi-actor approach. In addition, there is abundant empirical evidence regarding the need for policies aimed at these disadvantaged urban areas to be based on the specific characteristics of each area and that the impact of such policies depends on the effective participation of the population in their own development process [17,26,27,29,31,32,39,42].

If political commitment is weakened both in its normative dimension and in the actors in charge of executing policies, the focus should be placed on the rationality of such interventions. In this sense, there is a significant difference between the two policies. ERACIS has a territorial approach at the regional level, which, as has been demonstrated in the analysis, causes it to lose detail and depth in proposing and identifying the specific characteristics and needs of disadvantaged urban areas. The Barcelona Strategy, by focusing on a single municipality, details in a more concrete way the characteristics and needs of urban areas, in particular the most disadvantaged. In addition, with an individual-centered approach, the Barcelona Strategy can identify in greater detail the human problems experienced in each neighborhood. Therefore, when designing policies aimed at disadvantaged urban areas, an approach focused on individuals has a greater capacity to incorporate the comprehensive and inclusive mandates proposed by the 2030 Agenda. However, as the literature has repeatedly noted [6,26,27,29,30,36,41–43,45,81], if only the people are transformed and not the territories, the cycle of exclusion will be reproduced. People will leave neighborhoods,

again attracting vulnerable populations, deepening the social stigma and the loss of social cohesion. The analysis carried out highlights the need to generate in-depth knowledge about policies so that the 2030 Agenda does not deepen this tension between individuals and territories, especially in disadvantaged urban areas.

## 5. Conclusions

The 2030 Agenda is a regulatory framework aimed at favoring development processes through its 17 SDGs, with the goal of a more inclusive and sustainable world, under the premise of "leave no one behind." Among these SDGs is a framework to address one of the most important challenges facing cities today: social segregation and marginalization of people living in disadvantaged urban areas. However, for this global framework to guide effective policies that transform territories, it is necessary to develop models that allow us to evaluate, first, and then guide the way in which these precepts are adapted at the local and regional levels.

To understand the mechanisms that favor this transfer of policies, this article has proposed a methodological approach, testing its application with two local Spanish policies for social inclusion: ERACIS and the Barcelona Strategy. The methodological framework began with the identification of SDGs associated with the challenges facing disadvantaged urban areas. Next, following the methodology of Schneider and Ingram [62], the policy designs were decomposed into elements. Previous analyses allowed for a qualitative evaluation of the extent to which each of the policies incorporates the mandates of the 2030 Agenda. This analysis allowed not only the extraction of findings from a comparative study of both policies but also advanced knowledge of the topic with respect to the previously existing literature on social exclusion and urban segregation.

Notably, the framework design was analyzed for each policy. This limitation provides an opportunity for future research, e.g., in-depth analyses of the implementation of these policies through their main tools in each specific territory. Only in this way can knowledge continue to be generated on how these policies ultimately incorporated the mandates proposed in the 2030 Agenda to address the challenges of disadvantaged urban areas. Importantly, some weaknesses have already emerged from the regulatory analysis. For ERACIS, it is anticipated that the comprehensiveness of its approach may be limited because only those measures aimed at promoting employment pathways linked to social provision and the hiring of professionals in community social services are mandatory. For the Barcelona Strategy, it will be essential to analyze how the Structuring Projects have been designed and to what extent they are adequate to ensure the transversality of the numerous sectorial projects that already exist.

Comparative case studies such as the present study represent a great opportunity for researchers to generate knowledge about the effective integration of the 2030 Agenda into the local context. However, for these studies to generate transferable, replicable, and scalable knowledge, these studies must be compatible with other existing studies worldwide. This body of literature has taken shape in recent years, but its development is still incipient. With detailed presentations of methodological processes and the demonstration of the generation of knowledge, these types of studies will be conducted more broadly throughout the academic community. Only in this way will it be possible to know, based on the evidence, the effective impact of the 2030 Agenda in different territories and on the most vulnerable people.

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## Appendix A

**Table A1.** Keywords SDGs Targets.

| SDGs | Keywords Used in Spanish | Equivalent in English |
|---|---|---|
| SDG 1. End poverty in all its forms everywhere | Pobreza (target 1.2)<br>Protección social (target 1.3)<br>Recursos económicos y servicios básicos (target 1.4)<br>Estrategias de desarrollo (target 1.b) | Poverty (target 1.2)<br>Social protection (target 1.3)<br>Economic resources and basic services (target 1.4)<br>Development strategies (target 1.b) |
| SDG 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture | Alimentación (target 2.1) | Food (target 2.1) |
| SDG 3. Ensure healthy lives and promote well-being for all at all ages | Salud mental y bienestar (target 3.4)<br>drogas (target 3.5)<br>Accidentes de tráfico (target 3.6)<br>Salud sexual y reproductiva (target 3.7)<br>Contaminación (target 3.9) | Mental health and well-being (target 3.4)<br>drugs (target 3.5)<br>Road traffic accidents (target 3.6)<br>Sexual and reproductive health (target 3.7)<br>Pollution (target 3.9) |
| SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all | Educación (target 4.1)<br>Educación primera infancia (target 4.2)<br>Formación profesional (target 4.3)<br>Empleo decente (target 4.4)<br>Educación igualitaria (target 4.5)<br>Alfabetización (target 4.6) | Education (target 4.1)<br>Early childhood education (target 4.2)<br>Vocational Training (target 4.3)<br>Decent employment (target 4.4)<br>Equal education (target 4.5)<br>Literacy (target 4.6) |
| SDG 5. Achieve gender equality and empower all women and girls | Violencia (target 5.2)<br>Matrimonio precoz (target 5.3)<br>Cuidados (target 5.4)<br>Género (target 5.4)<br>Participación (target 5.5)<br>Salud sexual y reproductiva (target 5.6) | Violence (target 5.2)<br>Early marriage (target 5.3)<br>Caregiving (target 5.4)<br>Gender (target 5.4)<br>Participation (target 5.5)<br>Sexual and reproductive health (target 5.6) |
| SDG 6. Ensure availability and sustainable management of water and sanitation for all | Aguas residuales (target 6.3)<br>Participación en gestión agua y saneamiento (target 6.b) | Wastewater (target 6.3)<br>Participation in water and sanitation management (target 6.b) |
| SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all | Servicios energéticos asequibles (target 7.1) | Affordable energy services (target 7.1) |
| SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all | Políticas trabajo decente (target 8.3)<br>Pleno empleo (target 8.5)<br>Formación y reducción desempleo juvenil (target 8.6)<br>Derechos laborales (target 8.8)<br>Estrategia empleo jóvenes (target 8.b) | Decent work policies (target 8.3)<br>Full employment (target 8.5)<br>Training and reduction of youth unemployment (target 8.6)<br>Labour rights (target 8.8)<br>Youth employment strategy (target 8.b) |

**Table A1.** *Cont.*

| SDGs | Keywords Used in Spanish | Equivalent in English |
|---|---|---|
| SDG 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation | Tecnologías información (target 9.c) | Information technologies (target 9.c) |
| SDG 10. Reduce inequality within and among countries | Aumento ingresos población pobre (target 10.1)<br>Inclusión social, económica y política (target 10.2)<br>Políticas Igualdad de oportunidades (target 10 3)<br>Políticas protección social, fiscal y salariales (target 10.4) | Increase income of poor population (target 10. 1)<br>Social, economic and political inclusion (target 10.2)<br>Equal opportunities policies (target 10.3)<br>Social, fiscal and wage protection policies (target 10.4) |
| SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable | Vivienda (target 11.1)<br>Barrios marginales (target 11.1)<br>Transporte público (target 11.2)<br>Urbanización inclusiva (target 11.3)<br>Gestión desechos municipales (target 11.6)<br>Zonas verdes (target 11.7)<br>Seguridad (target 11.7)<br>Desarrollo (target 11.a) | Housing (target 11.1)<br>Marginalized neighborhoods (target 11.1)<br>Public transport (target 11.2)<br>Inclusive urbanization (target 11.3)<br>Municipal waste management (target 11.6)<br>Green areas (target 11.7)<br>Security (target 11.7)<br>Development (objective 11.a) |
| SDG 12. Ensure sustainable consumption and production patterns | Reducción y reciclaje desechos (target 12.5) | Waste reduction and recycling (target 12.5) |
| SDG 13. Take urgent action to combat climate change and its impacts | ——— | ——— |
| SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development | ——— | ——— |
| SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss | ——— | ——— |
| SDG 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels | Prevención violencia (target 16.1)<br>Maltrato niños (target 16.2)<br>Acceso a justicia (target 16.3)<br>Delincuencia (target 16.4)<br>Corrupción (target 16.5)<br>Decisiones participativas (target 16.7)<br>Identidad jurídica (target 16.9)<br>Acceso a la información (target 16.10)<br>Políticas no discriminatorias (target 16.b) | Violence prevention (target 16.1)<br>Child abuse (target 16.2)<br>Access to justice (target 16.3)<br>Crime (target 16.4)<br>Corruption (target 16.5)<br>Participatory decision-making (target 16.7)<br>Legal identity (target 16.9)<br>Access to information (target 16.10)<br>Non-discriminatory policies (target 16.b) |
| SDG 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development | Acceso Internet (target 17.8) | Internet access (target 17.8) |

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# Global and Local Agendas: The Milan Urban Food Policy Pact and Innovative Sustainable Food Policies in Euro-Latin American Cities

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**Abstract:** This paper analyzes the relationship between the construction of international agendas and new sustainable local policies. Specifically, it analyzes the framework of sustainable food policy building at global and local scales. In this sense, we explore the international agreement called the Milan Urban Food Policy Pact, and its influence on the development of local and global sustainable food-related policies through different innovative methods. To this end, the process of building the international alliance of local governments for the development of sustainable food systems is analyzed first, and secondly, its locations are investigated through the public actions and programs in three cities of the Euro-Latin American region: Madrid, Quito, and Valencia. Two conclusions are clear after our qualitative study: on one hand, local policies are designed and implemented through a double strategy: the substantive construction of the policy and its inclusion in the global agenda. On the other hand, both dimensions are fundamental and reinforce each other, specifically in the case of urban sustainable food policy.

**Keywords:** Milan Urban Food Policy Pact; local and international agendas of local governments; innovative urban food strategies; Madrid; Quito; Valencia

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## 1. Introduction

In the context of globalization, rural and urban local governments have been forced to tackle global challenges due to their impact on local daily life [1,2]. In that sense, the capacity of local governments as political actors facing global problems has been gradually recognized from a functional perspective [3]. However, this theoretical recognition has slightly changed their institutional position in the international arena, especially in the United Nations system, where national governments are still those seated at the decision-making round table [4,5]. The progressive internationalization of local governments has been broadly studied, highlighting the relevance of the international agendas of local governments mostly around three main activities: (a) demanding the recognition of local governments as political actors in the international arena [4–6]; (b) assuming collective political commitments through the building of international networks, associations, and alliances of local governments [7–9]; and (c) designing and implementing new decentralized development cooperation projects among cities, transmitting knowledge and transferring public programs inspired by the 2030 Agenda for Sustainable Development [10–13].

Those strategies and activities have been accomplished following the new multilateral framework of development sponsored by United Nations conferences and programs since 2015. These conferences and programs include the 2030 Agenda, the Conference of Climate Change (Cop21), the Sendai Framework for Disaster Risk Reduction in 2015 and later, and the New Urban Agenda in 2016, among others [14].

Around these international debates, the food issue has been gaining increasing attention as a core problem of human development. The academic and political debate to

conceptualize the food problem has manifested during international food conferences. During the official World Food Summit in 1996, the consensual concept developed was food security, understood as: "Food security exists when all the people have physical and financial access at any moment to enough safe and nutritious foods in order to satisfy their food needs and their preferences in order to enjoy an active and healthy life" [15]. Later, with a more critical perspective, during the World Food Summit (2001) in La Habana, the concept of food sovereignty was defined to not only include human needs, but also the right of peoples to define their own food strategies (production, distribution, and consumption) to guarantee the right to food as well as supporting sustainable strategies [16]. Lately, during the last World Food Summit (2021), the crucial relationship between food system strategies and the achievement of Sustainable Goal 2 (Zero Hunger) has been underlined.

In accordance with the global dimension of the sustainable goals, Sonnino [17] introduced another approach, "the new geography of food security", which presents a bimodal characteristic "encompassing issues of quantity and quality, under- and over-consumption, in both developed and developing countries alike" [17] (p. 190), where the local dimension of food security, in a world with most people living in cities, has a great impact.

This urban dimension of food security is related to historical conditions or dimensions producing inequalities in the access to and consumption of healthy food [17–19]. Those "conditions" [18] or "dimensions" [17] include, among other things, the increase in population, growing urbanization, the change in food habits, the spread of occidental patterns of consumption, the scarcity and exhaustion of resources, and the climate and social crisis.

Those conditions are expressed in different ways in urban contexts, and each city has different resources and capabilities to react, but increasingly, local authorities are facing the food issue. In the global arena, the international networks of local actors and the support of the UN and other governmental and non-governmental international organizations have been relevant in the politization of the food problem. At the local scale, the policy tool commonly used to tackle this issue has been the development of urban food strategies, using a bottom-up perspective [17–26].

To analyze this new context, Sonnino (2016) studied and compared fifteen urban food strategy documents, written by local governments in Canada, the United States and Great Britain, analyzing their aims, narrative building process, and beliefs concerning the role of cities in solving sustainable food problems [17] (p. 191). Moragues-Faus and Sonnino (2019) also explored the role of the UK's Sustainable Food Cities Network in promoting a food system based on trans-local governance [23].

Furthermore, also using Global North cities but with an analytical perspective more focused on the relationship between urban food strategies and the progress of accomplishing the Sustainable Development Goals, Ilieva [27] compared the sustainable urban food strategies of the ten largest cities in North America, trying to underline the capability of this tool to streamline global, national, and local efforts to implement the 2030 Agenda [27]. On the other hand, some researchers have shown how, in cities from the Global South, where food security has been a major issue since the 1970s, those urban food strategies have been less efficient at tackling the food problem through sustainable actions [28,29].

Thus, although the appearance of urban initiatives trying to change food production and promoting sustainable consumption and healthy eating have been recently studied [17–29], we believe it is relevant to develop new studies using the international relations perspective. In that sense, we consider it important to analyze more deeply the imbrication among local and global initiatives in the construction of a global and coherent answer to food security architecture. The aim is to try to analyze how local governments are using global arenas to reinforce their capabilities to implement food strategies at the local scale, and how the international commitments of local authorities are useful in creating a more sustainable global food system. Therefore, in this paper, firstly, we will study the process of building an international alliance of local governments for the development of sustainable food systems, i.e., the Milan Urban Food Policy Pact. Secondly, we will investigate its locations, and through which public actions and programs have been implemented

different food strategies. Finally, we will compare the process of developing sustainable food systems in three cities, including two from Europe (Madrid and Valencia in Spain) and one from South America (Quito in Ecuador).

## 2. Materials and Methods

The study of local food strategies and the capacity of local governments to coproduce global sustainable actions in this article was carried out using a qualitative perspective and an empirical explicative approach [30] (p. 12). Our methodology can be divided into three different stages: the compilation of information, case selection, and an intensive synchronic strategy of comparison [30] (p. 68). In that sense, first, we have compiled main narratives (debates, policy papers, statements, etc.), considering the role of local authorities in the international arena as well as the role of urban food strategies and other innovative strategies to localize sustainable development goals. To test those narratives, we had the opportunity to gather in Madrid thirty-one key participants, representatives of local governments, city networks, and universities, in a two-day international workshop entitled "Local alliances to face global challenges", celebrated in September 2018 [9]. Secondly, we have selected three cases from the Ibero-American context, because we considered that this area has had a relevant role during the political building of local governments, networks, and statements regarding sustainable food security. To deeply explore those cases, we interviewed key informants in each city, including politicians and former politicians, civil servants, experts, and non-governmental organizations between 2018 and 2020 (Appendix A).

Because the results of Sonnino [17] (2016) and Moragues-Faus and Sonnino [23] (2019) were very interesting and led to a strong capacity to understand similarities and differences among cities, we considered it relevant to use the main questions they paid attention to, with the aim of producing data (ten semi-structured interviews) and analyzing secondary data.

Finally, with the objective of reviewing differences and similarities in local food security strategies and their relationship with the 2030 Agenda, we have compared the three cases in consideration of a significant number of variables but during a short period of time. The systematization and comparison of the different political actions and strategies have been carried out using these analytical categories: (a) main motivation to become engaged with urban food strategy; (b) main actors intervening in the design and implementation of the urban sustainable food strategy; (c) main plans and projects in the city regarding food security; (d) impact and changes after signing the Milan Urban Food Policy Pact (MUFPP); (e) detailed characteristics of its intervention in food security and nutrition; and (f) the perception of the impact of the international development agenda in their territories and the capacity of the cities to be part of it. Those categories were built starting from the theoretical studies of Roberta Sonnino [17] and Baker and de Zeeuw [25], from the content of MUFPP, and after using free coding to analyze our data.

The cases selected include: (1) Madrid, because it is the Spanish capital city with a strong leading role among Ibero-American cities, mainly through the city network of the Union of Ibero-American Capital Cities (UCCI); (2) Valencia, also in Spain, because it has the particularity of having a great historical area comprising a vegetable peri-urban garden called La Huerta (The Orchard), and it has been awarded internationally for its good practices and has received recognition for its sustainable food policy; and (3) Quito, in Ecuador, because it has also been recognized by the Food and Agriculture Organization due to its historical concern for the dimensions of food security. In all these cases, each city launched food strategies in 2018, after signing the Milan Urban Food Policy Pact.

## 3. Results

The main results of our research will be shown in this section. Firstly, we will explain how the Milan Urban Food Policy Pact (MUFPP) was developed and, secondly, we will provide a precise description of each case analysis, using similar categories in order to understand the similarities and differences between the motivations of each city to define their own urban food strategies.

*3.1. The Milan Urban Food Policy Pact: The Beginning of an Urban Commitment*

During Expo Milan 2015 titled "Feeding the Planet, Energy for Life", the mayor of the Italian city launched an international protocol to tackle food-related problems at the urban level, supported by the Food and Agriculture Organization of the United Nations (FAO). The MUFPP was signed in October 2015 by 123 cities, and at present more than 200 cities have already entered the pact. On their official web page, this protocol is defined as: "an international agreement of mayors. It is more than a declaration; it is a concrete working tool for cities. It is composed by a preamble and a Framework for Action listing 37 recommended actions, clustered in 6 categories. For each recommended action there are specific indicators to monitor progresses in implementing the Pact. The Milan Pact Awards offer concrete examples of the food policies that cities are implementing in each of the 6 Pact categories" [31].

The categories defined are governance, sustainable diets and nutrition, social and economic equity, food production, food supply and distribution, and food waste. Because the main challenge was to prioritize building urban sustainable food systems, governance is a very relevant category; consequently, every city has to create the way of "ensuring an enabling environment for effective action in cities, such as: to facilitate collaboration across city agencies and departments; to strengthen urban stakeholder participation; to identify, map, and support local and grassroots initiatives; to develop or revise urban food policies and plans; and to develop a disaster risk reduction strategy" [31].

The pact has two types of actions: internal and external [32]. The internal and external functions are interlinked, because MUFPP is becoming a space for cooperation and political influence. Firstly, this is because it is a site for food-related policy exchange between those signatories' cities. Secondly, it is a network to interact collectively or individually with other global organizations such as the FAO, and other international foundations such as Local Governments for Sustainability (ICLEI) and Global Partnership on Sustainable Urban Agriculture and Food Systems (RUAF). Thirdly, it has inspired and received recognition by other institutions, especially in the European context.

Specifically, in the European region, the European Commission launched Food 2030 in 2016, a research and innovation policy to transform food systems and ensure everyone has enough affordable, nutritious food to lead a healthy life. Later in 2017, the Food 2030 Expert Group proposed and defined cities "as a new type of food-system partner, which can act as a multi-objective and multi-actor facilitator. In this respect, the 2015 Milan Urban Food Policy Pact was identified as a pioneer municipal project, which has since been strongly supported and followed up by different Food 2030 actions" [33]. In the same way, in 2017, the European Committee of the Regions, in its document entitled "Towards a sustainable EU food policy that creates jobs and growth in Europe's Regions and Cities", underlines the need to support the shift to more sustainable patterns through governance structures such as local food councils and local development partnerships as well as through new bottom-up initiatives such as the Milan Urban Food Policy Pact (MUFPP) [34,35]. In 2020, this institution also recognized the role of local and regional authorities in making food systems more sustainable [35]. Moreover, the European food strategy, known as Farm to Fork (F2F), which was launched in 2020, sets the basis for the transformation of food chains across the EU according to sustainability criteria, assuming that the transition to sustainable food systems "requires a collective approach involving public authorities at all levels of governance (including cities and rural and coastal communities), private-sector actors across the food value chain, non-governmental organizations, social partners, academics, and citizens" [36].

Three elements related to the government scales and political arenas are very significant in the Milan Agreement: (1) it is an initiative fostered by local leadership, which later obtained strong support from the FAO as well as other international recognition; (2) this agreement is the result of a bottom-up collective decision to face the systemic food-related problem shaped at the global scale; and (3) it has become a structuring and dynamizing

axis for cities that could not have previously been involved in food policies. However, it is necessary to explore city cases to better show the capacity of the Pact.

### *3.2. Comparative Analysis of Sustainable Urban Food Strategies: Madrid, Quito and Valencia*

In this section, we will show our analysis of each case using the categories described in Section 2, Materials and Methods, to show the differences and similarities in their approaches, the local coherence of local actions, and the international framework and the interrelation of local and global policies. Cases are presented in alphabetical order.

#### 3.2.1. Madrid, Spain

In May 2015, Now Madrid, a new coalition of left-wing parties, grassroot movements, and civic organizations, won the municipal election. Moreover, many other Spanish cities experienced the arrival of "non-institutional" mayors supported by coalitions of environmental social movements and health and housing activists who had been politicized under the context of the economic and austerity crisis. Big cities such as Madrid, Barcelona, Zaragoza, and Valencia, among others, were labelled as the "cities of change". Following our analytical categories, we will now show the case of Madrid's building process of an urban food strategy in this context:

- *Main motivations to sign the Milan Food Pact*. According to the governmental informant, there were two main motivations: to guarantee the human right to food and to contribute to environmental sustainability (MI1, MI2). These two motivations were intrinsically linked with the main priorities for the city: to create a more sustainable environment through reducing pollution and promoting human rights. However, according to an ecological leader who was interviewed, "Madrid signed the Milan Urban Food Pact because there was a strong ecological movement which pushed the local authorities. Agroecological ideas had been present among social movements in Madrid since the 90s, and finally in 2014, the Platform for Agroecology was created" (MI3). In fact, in 2014, social economy activists as well as agroecology organizations had signed the "Letter for Food Sovereignty in our Municipalities". In this public proposal, among other actions, the creation of agroecological councils in each city, the sustainable protection of agrarian soils, and support for agricultural employment and sustainable local economic development were claimed.
- *Main actors involved in the design and implementation of the urban food policy*. During the design and implementation of the food policy, the relevant actors were the local government, the Platform for Agroecology, the Association of Neighborhood Associations, and the FAO's Spanish Office. Inside the local government, many councils were involved (equity, social rights and employment, health, security and emergencies, and environmental issues and mobility, coordinated by the Council of Territorial Coordination) (MI2, MI2).
- *Impact and changes generated after signing MUFPP*. After signing the Pact, sustainable and healthy food issues were moved to the center of the political agenda. Until then, there were several actions that were dispersed and not strategically planned (MI1, MI2). In order to follow up on the commitments, a monitoring table was established with the usual participation of all the actors involved.
- *Main programs and city projects*. The main city hall program around food issues was the Urban Food Strategy (2018–2020), whose design began after engagement with the MUFP, and was finally presented in July 2018. The strategy tried to coordinate previous actions and outline new proposals. Some of those previous actions had been developed by the innovative action of social activists and associations, such as community green gardens and school green gardens, which were later supported by the town hall (MI3, MI4). New innovative mechanisms were introduced to change food dynamics; for example, innovative public procurement was used to include ecological and local food at nursery schools, and social economy was introduced in the local food distribution in two peripherical neighborhoods thanks to the financial

support of the MARES project selected as an Urban Innovative Action by the European Commission (MI4) [37–39].

There are two specific contributions to food security and nutrition in Madrid's strategy: one is its integrality and the other, the effort to guarantee the human right to food (MI1, MI2, MI4). Thanks to the multi-stakeholder and multisector composition of the monitoring table as well as the approval of the food strategy, the transversality of the policy was the key element of the policy. This systemic approach is one of the essential aspects underlined by Sonnino [17] (p. 197) regarding urban food strategies.

Another concern is the perception regarding the impact of the international agenda at a local scale, and the city's capacity to influence it. About this point, there was a positive perception concerning the role of local authorities developing food strategies and also regarding localizing the sustainable development goals (MI2, MI4). In that sense, they considered that international organizations were paying attention to the cities, because they have been the political actors more involved in localizing the 2030 Agenda, not only through individual policies, but also by working in networks and through political alliances.

#### 3.2.2. Quito, Ecuador

Quito is one of the more relevant cities in the Latin-American region in relation to the urban and peri-urban food policies developed, as the FAO underlined in 2014 [40]. Moreover, because the UN Habitat Summit was held in Quito in 2016, many politicians, advisors, and city councilors were able to be involved in the debates regarding sustainable urban policies. Although the city joined the MUFP in January 2016, there was no urban food strategy at that time, just as there was none in Madrid or Valencia. However, since the 2000s, there has been several initiatives related to food production (QI3), such as a well-established urban agriculture policy and some small actions supporting small producers. The urban food strategy was presented in 2018.

- *Main motivations to sign the Milan Food Policy Pact.* In Quito, the main motivation to begin being involved in food-related policies was historically to "regulate the spontaneous urban agriculture production and secondly to promote the surplus commercialization" (QI1). According to the FAO [31], the historical proliferation of urban gardens in Quito can be explained as a spontaneous strategy to access food by the previous waves of internal migration since the 1980s. Since the beginning, those orchards were tolerated by urban planners, and an Urban Participatory Agriculture Program (AGRUPAR) was developed in 2000. In this case, the economical approach of the food policy is more relevant, because AGRUPAR has ben guided by the Metropolitan Agency for Economic Promotion (CONQUITO) since 2005. Therefore, this agency also supervised the urban food strategy.
- *Main actors involved in the design and implementation of the urban food policy.* Among the actors involved in the elaboration of the urban food strategy in this city, were the universities, the Agriculture Chamber of Zone 1, general consumers, food processing associations, agroecological producers and consumers, the touristic sector, the national government with representation of the Ministry of Agriculture and the Ministry of Health, and the Pichincha provincial-regional government. The coordination of the process was held by CONQUITO, where there were also two councilors from the Social Responsibility and Shared Value Area, which has the ability to localize the 2030 Agenda. (QI1, QI2).
- *Main programs and city projects.* The oldest food-related action implemented in Quito was the Urban Participatory Agriculture Program (AGRUPAR), launched in 2000 thanks to the support of the United Nations and other international organizations, located in the El Panecillo neighborhood, in the historical city center (QI1, QI2, QI3). After a long trajectory of AGRUPAR, between 2015 and 2017, Quito was part of an alliance of seven cities called "the City Region Food System Partner Cities", which was supported by the FAO and the RUAF foundation. This partnership provided the

city with a comprehensive diagnosis of its food system, which was the first step of the urban food strategy, which was finally launched in October 2018.

- *Impact and changes generated after signing the MUFP*. The international partnership and the MUFPP membership (2016) allowed the local authorities to increase the visibility of the food issue in the city. After this, the food question was progressively included in different strategies and programs, until the Agri-Food Strategy was presented in 2018. In this case, the rural and peri-urban relation with the city regarding the food system was clearly a focus of the strategy.
- *Specific contribution to food security and nutrition.* The main objective of the urban food strategy in Quito is to guarantee food security. This food security is focused not only on food access but also on the quality of food production and the way in which food is consumed. Therefore, sustainable and responsible consumption is relevant, as much as the aim to increase the capacity of production following agroecological, fair trade, and solidarity market practices.
- *Perception regarding the impact of the international agenda at the local scale, and the city's capacity to influence it.* In this sense, for the experts in Quito, ever since the MUFPP has been followed by the FAO, it is easier to work locally and internationally with the same agenda. Moreover, food-related problems and food policies have become key elements for local authorities' networks, such as C40, ICLEI, and UCCI (QI1). This confluence of objectives and approaches among local and global arenas is the best way to implement food strategies, because all efforts are joined (QI3).

#### 3.2.3. Valencia, Spain

The economic crisis of 2008 had a deep impact in the city, even more than the Spanish average, because the real estate sector had a lot of weight in the local economy [32]. Moreover, the agriculture sector had been engulfed in a deep crisis, due to the decline of aging farmers, the fall in the prices of agricultural products, and the loss of more than 45% of agricultural soils since 2009 due to urban pressure [37]. Therefore, as much as in Madrid, the influence of the "Letter for the Sovereignty of our Municipalities" was important. Moreover, in Valencia, a historical social movement in defense of the territory and "La Huerta" (peripheral orchard area) exists. In that sense, many of the food-related projects were born thanks to the social innovation in the face of public inaction (VI1), such as the green communitarian gardens in abandoned urban plots, and the renaturation and cleaning of natural areas and wetlands [37–39].

In 2015, for the first time, a local and regional party called "Commitment" won the local elections, and a new mayor was elected with the support of left-wing parties, with the conservative party as the opposition. It was the greatest ideological change since 1991, when the conservative party had started ruling the city. It is important to add that the new mayor was very concerned with agriculture and food production, because he had studied agricultural engineering and taken several courses on food technology.

- *Main motivations to sign the Milan Food Pact*. In this case, there were economic and social motivations to sign the Milan Food Pact. The priority of the town hall was to defend and praise the farmer's role, guaranteeing the economic viability of farms' production activity. The city of Valencia is situated in the middle of the region called La Huerta (The Orchard) and, therefore, it was a priority to recover the food production and distribution of this area, as well as the heritage of the territory, in order to avoid the loss of knowledge.
- *Main actors involved in the design and implementation of the urban food policy*. With the arrival of the new local authority, a new Council of Agriculture for The Orchard and the town of Valencia was created in 2015. Other relevant actors involved in this municipal action were several non-governmental associations, such as the local section of Food Justice, and NGOs such as Mundubat, as well as academics from the Centre for Rural Studies and International Agriculture (CERAI) and the Chair of Sustainable Earth at the Polytechnic University of Valencia, among others.

- *Main programs and city projects.* In 2015, after signing the MUFPP, the Integral Action Plan for the Promotion of Municipal Agricultural Activities and Municipal Agri-Land was launched. From the beginning, this plan was focused on supporting social and academic innovation practices that already existed (VI1, VI2). Later, in 2018, an advisory and participative body, the Municipal Food Council, was created to coordinate food policies, with a wide open and participatory structure trying to integrate actors, actions, and sectors. This was where the Valencia 2025 Agri-Food Strategy was designed, trying to establish a sustainable agri-food system in which relationships between the community and territories (urban, rural, and peri-urban) were balanced, and based on social and environmental justice [41,42].
- *Impact and changes generated after signing MUFP*. Although there was an already existing social and agroecological movement in the city, the Pact has had a clear influence as a starting point for creating the Municipal Food Council and, consequently, the food strategy (VI1, VI2, VI3). This process has generated a new governance structure in the city, based on mutual recognition and shared commitment around food-related policies.
- *Specific contribution to food security and nutrition.* According to our research and interviews, the most relevant contribution of the urban food strategy and food-related policies is to defend the uniqueness of its territory and the small-scale farmers. Analyzing the institutional policies and the social innovation practices, the reterritorialization of the food system, using Sonnino's concepts, was a key element of this strategy. Moreover, the creation of the first Municipal Food Council, as a participatory governmental structure, was very significant in diagnosing different problems affecting the local population, such as obesity, being overweight, and malnutrition, for example [42,43].
- *Perception regarding the impact of the international agenda at the local scale, and the city's capacity to influence it*. In 2017, 85 city delegations and more than 300 people met in Valencia for the 3rd Annual Gathering of the Milan Pact, and it was declared as the World Sustainable Food Capital. This was an international recognition of the city due to its development of food polices. Progressively, politicians and citizens are receiving more support from international and supranational organizations, such as the FAO and the European Commission. This means more funding and financial support for strategic projects to develop a systemic change (VI1, VI2, VI3). In that sense, Valencia was selected to be the headquarters of the World Center of Sustainable Food (CEMAS), which was promoted by the city hall in alliance with the FAO and opened in 2019. These kinds of alliances among local authorities and UN organizations to spread the need to develop sustainable urban food policies are very relevant to understanding the functioning of mutual (i.e., local and global) relationships.

## 4. Discussion

In this section, we will discuss our results and how they can be interpreted from the perspective of the studies of Sonnino [17], Moragues and Sonnino [23], Ilieva [27], Grasa and Sánchez [32], Salom, Pitarch, and Sales-Ten [38], Medina García, de la Fuente, and Van der Broeck [38] and of our working hypotheses, which state that, on the one hand, local policies are designed and implemented through a double strategy, the substantive construction of the policy, and its inclusion in the global agenda. On the other hand, both dimensions are fundamental and reinforce each other specifically in the case of urban sustainable food policy. We will present the results in an enunciative manner and then develop them in more detail.

First of all, it demonstrates the emergence of an urban dimension of food insecurity and the need for a public response to address this situation, with innovative elements that Sonnino claims as surpassing the traditional macro and micro approaches to the food issue [17]. These public responses, which are the urban food strategies tested in the three case studies, exist not only in the major North American [27] and English [17,23] cities, but also in continental Europe and South America.

Secondly, it is also shown that urban food strategies are a useful tool to increase the level of localization of SDGs [27] in principle in large and intermediate cities.

Thirdly, it is shown that in the cases studied, the process of social innovation precedes and accompanies urban food strategies [37–39].

The development of the internal and external functions [32] of the network of cities of the Milan Pact is also demonstrated, as explained below.

One of our main objectives was to show the mutual relationship between local and global political arenas. One of the directions of this relationship has been clearly shown, especially after analyzing how food strategies have been spread among the three cities, and how the three cities have pursued a similar objective but used different approaches, after signing a common commitment. Meanwhile, international organizations and a supranational political structure have supported and followed the road started by local governments. The other direction with regards to cities' capacity to influence the international agenda, it can be said that Valencia and Quito have managed to position themselves as international references regarding urban food policies. However, as mentioned in the introduction and in Section 3.1, the capacity of cities to influence the international system should not necessarily be measured in individual terms, but through instruments of action such as networks of cities, such as the MUFPP. In this sense, the influence of cities, through the MUFPP, in the capacity to place the issue of sustainability of urban food systems is demonstrated, so that the FAO itself joined the Pact in 2015 and, in 2021, the General Secretary of the United Nations convened the United Nations Food Systems Summit, with criticism from academics and organizations [43].

In that sense, the role of the international development agenda to inspire and legitimate local actions and vice versa is also demonstrated [27]. Local food strategies are one aspect of localizing sustainable development goals, but not the only one, because they clearly influence the global and regional arena. However, the cocreation of food policies and the exchange of knowledge and experiences are also possible, not only because of the international alliances among local authorities, but also due to the capacity of international governmental organizations, such as the FAO, along with other non-governmental and private international foundations, to support them.

What the three cases analyzed demonstrate is a local dimension of food insecurity that demands a public response from local governments [17]. We have found similarities and differences between local innovative practices to accomplish the objectives and goals of the development agenda, particularly in relation to food-related issues. Long perspective analysis and the contextualization of each city has let us understand the relevance of the location of each city and the way they started to implement actions and programs to solve problems related to food security, although they shared the same international commitments. In that sense, the geography of food security, using Sonnino's concept, is asymmetrical and heterogeneous. Food access, the quality and quantity of food, and unbalanced consumption are dissimilar, both between each city, and within them. In the same way, political contexts and social backgrounds are different, as are the ways in which the food problems are politized.

In that sense, the comparison allows us to see how each city had their own motivation to sign the MUFPP. In fact, economic reasons are behind two cases: Valencia and Quito. Those cities are characterized by being territories in which urban and peri-urban areas live together, and where small farmers used to produce food, although without enough success or with progressive decline. However, in Madrid, although the local production and consumption of products in proximity to the city is important, the human rights and environmental issues are more relevant to engage MUFPP.

One important finding regarding urban responses to food problems has been the social origin of most of the actions before the MUFPP commitment. According to the recent literature concerning innovation, we can consider that social innovation is when social actors, neighbors, urban activists, grassroots associations, etc., organize themselves to find

creative solutions to the provision of individual and collective needs that have been not taken into account by the public institutions, and not even the market [37–39].

In that sense, in the three cases, local communities of neighbors in alliance with ecologists, peasants, or farmers had started to implement innovative solutions. Urban gardens were created in Quito after the arrival of migrant waves and the need to access food. In Valencia, although the great and historical orchard was declining, empty plots were used to create urban gardens as a mechanism of cohesive practices in the neighborhood, as well as in Madrid. In Madrid, the urban gardens were spaces symbolically gained for the real estate, and school urban gardens were used to raise awareness about the need for eating healthy food and to introduce ecological perspectives. Later, authorities recognized those efforts, converted them into policies, and replicated them. Moreover, clearly in the case of Madrid and Valencia, ecological and social movements put pressure on the local authorities to engage food strategies and policies that were more sustainable, because of the political alliance known as "cities for change".

Although it is important to underline how these social innovation practices started, it is also relevant to notice how local authorities, in the context of MUFPP, were able to introduce governance as a tool to implement the change in the global and local food systems. Those mechanisms of participation have been an essential part of the strategies' and policies' design, channeling demands and opening the possibility of follow-up actions, programs, and goals. This has been recognized by the European Commission, which introduced a similar approach to their own strategy.

In the case of Quito, the support of the FAO since the 2000s was essential to introduce food policies and strategies, as well as in the case of the city of Milan and Valencia. However, later, those cities themselves were able to become international sites from which new policies and experiences spread. In that sense, the proliferation of local authorities' alliances and networks show how international instruments are relevant to reinforce each other and each other's domestic policies, as much as to act as politically united in the global arena.

## 5. Conclusions

Following Sonnino, it can be said by way of synthesis that "[ . . . ] the concept of food security today evokes a series of interrelated public health, political, socioeconomic and ecological crises that threaten human survival and, for this reason, require strong public intervention" [17] (p. 191).

This series of interrelated crises takes on a more urgent dimension from an urban perspective, if it is noted that high poverty rates linked to growing situations of food insecurity occur mainly in cities [26]. In Latin America and the Caribbean, for example, it is estimated that there are 53.4 million people living in conditions of extreme urban poverty [26] (p. 8). Taking into account the OECD-FAO projections [44] that anticipate, in the medium term, an increase in food prices to values similar to those that existed before 2008, and the fact that the urban poor spend most of their income on food, we are facing a rather complex scenario, characterized by environmental unsustainability, health emergency, and food insecurity, which only deepens the multiple social inequalities existing at the global level.

Faced with such a scenario, a public response that could address this challenge from an integral point of view is imperative, overcoming the sectoral approaches that have predominated until now, and at the same time replacing the preeminence of mercantile and financial logic, under which food is directed to where it is best paid for, rather than where it is most needed [45].

In this context, we believe it is necessary to recover those experiences that have been implemented by numerous local governments, providing a comprehensive and innovative response to this challenge, which could be replicated at other scales. As mentioned in the introduction, more and more cities are developing urban food strategies to address the challenge of building more sustainable food systems and, at the same time, they are working together by taking collective steps towards changing the global food system.

It is within this international agenda that local governments propose reconfigurations regarding roles and responsibilities, because many innovative experiences have emerged from this scale of government, having originated transformations in food production and consumption patterns.

These responses offer an alternative to global food production and consumption chains, in which the territorial component of the food system is proposed to be increased over the globalized one. It is argued here that a deepening and dissemination of these strategies on a larger scale could represent an alternative path that could avoid, in the future, a scenario such as the present one. However, it is important not to be confused: it is not being said that cities will feed everyone in the world in a sustainable way. This would not be possible, nor even desirable. What is being suggested is the need to study these integral models of approaching the food issue that holistically contemplate all the phases and actors of food systems, as a contribution for scaling up and, thus, working on the development of sustainable food systems in another dimension. How can we scale up this model? This is the challenge of international action and collective advocacy that local governments seem to be able to take up.

Future research should be conducted to analyze the relationship between those food strategies, which are locally and internationally supported, and the innovative answers to food access during the COVID-19 pandemic. In that sense, AGRUPAR and a new project called Healthy Markets have kept working to safeguard food access and the productive fabric in Quito, as well as in other Latin American cities such as San Salvador and Rio de Janeiro.

Finally, we also believe it is necessary to study the limitations of these strategies, due to issues such as the scale of the policies, budgets, or the alternation of governments of different political leanings in the cities, and what the response of the city networks is in these cases.

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## Appendix A

Several interviews, informal conversations, and participatory observations were held in the cities (2016–2020). In September 2018, the authors gathered a meeting with thirty-one local authorities, techno-political advisors, and experts in local agendas from Spain and Latin American cities. This event was coordinated by UCCI and UCM University thanks to the financial support of EULAC. The reporting of the event as well as the result of a questionnaire have been used in the first stage of the research. Moreover, ten semi-structured interviews were held, of which seven were recorded and transcribed in

Spanish and are quoted in the article. The interviews include: MI1 (informant in Madrid, techno-political advisor), MI2 (informant in Madrid, Council of Territorial Coordinator), MI3 (informant in Madrid, agroecological activist), MI4 (informant in Madrid, expert), MI5 (informant in Madrid, MARES project coordinator), QI1 (informant in Quito, techno-political advisor), QI2 (informant in Quito, NGO expert), QI3 (informant in Quito, former mayor), VI1 (informant in Valencia, expert), VI2 (informant in Valencia, techno-political advisor), and VI3 (informant in Valencia, agroecological activist). The main questions were: What are the main motivations for cities in general and your city in particular to start developing urban food strategies and related policies? How long has your city been developing food security policies? Are these motivations related to the signing of the Pact of Milan, and which one is it? What are the main programs and projects that are being developed in relation to food policies in your city? In relation to the participation of citizens and civil society organizations, how is this policy being built? What is the specific contribution that cities make to the field of food security? All those interviews were carried out and transcribed in Spanish.

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# Financial Exclusion in Rural and Urban Contexts in Poland: A Threat to Achieving SDG Eight?

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**Abstract:** Financial inclusion, which consists of having a financial system that is easily accessible to citizens, is identified by various international organizations such as the new UN Agenda 2030, as a priority objective. This objective is particularly relevant in rural areas, where access to these services is more difficult, as citizens have to travel several kilometers to access them. In this study, we analyze the current situation of the Polish financial sector in terms of its accessibility, in order to measure the degree of financial inclusion. For this purpose, we use three combined methodologies. Initially, a data extraction from the Central Bank of Poland was carried out. Subsequently, three methodologies are applied to calculate financial inclusion. First, we apply the criteria of the Financial Access Survey (FAS) of the International Monetary Fund. Secondly, the Access to Cash Index (ACI) methodology by calculating a score that describes the access to banking services according to certain items. Finally, we applied the nearest neighbor methodology to detect in each voivodship those points where it is most difficult (measured in km distance) to access banking services. Some areas, especially in rural areas of the different voivodeships, present certain problems when it comes to accessing banking services. Therefore, the fulfillment of SDG 8.10 will be more difficult to achieve in these areas. The public authorities must pay attention to this, in order to reach the commitments acquired with the 2030 agenda, in terms of financial inclusion.

**Keywords:** social exclusion; financial exclusion; land economics; rural areas; spatial access to cash; access to cash index; sustainable development; sustainable access to cash; public policies

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## 1. Introduction

Promoting an inclusive financial sector is one of the main objectives of different governments and international organizations [1–4]. In 2015 the new UN Agenda 2030 highlighted expanded access to financial services in 5 of its 17 new Sustainable Development Goals (hereafter SDGs) [5,6]. However, financial inclusion is a multidimensional concept. This characteristic makes it difficult to draw a single, clear map of causal relationships between financial inclusion and sustainable development, although several authors have shown that such a relationship does exist [7–9]. Theory tells us that access to financial services on favorable terms makes it easier to plan spending, control consumption patterns, address health-related risks and make investments not only in productive ventures, but also in training and education [10]. Several authors have studied the benefits of financial inclusion. Generally speaking, most have analyzed specific dimensions based on cases and evaluations of particular programs implemented around the world. Klapper et al. [5] summarize the empirical evidence on how financial inclusion can help achieve the SDGs. Based on the case studies analyzed, the paper argues that some goals are promoted directly (goals 1, 2, 3, 4 and 5) while others (6, 7, 8, 9, 10 and 16) are promoted indirectly. Similarly,

Demirguc-Kunt et. al. [6] conduct an analysis of the empirical evidence differentiating by categories of financial products.

However, the SDG with the strongest connection to financial inclusion is SDG 8: Decent work and economic growth; point 8.10 states the objective: Strengthen the capacity of domestic financial institutions to promote and expand access to banking, financial and insurance services for all. Therefore, the current situation of financial inclusion in Poland has been the subject of analysis in this article. To this end, we have first conducted a literature review on financial inclusion in Poland. Secondly, after extracting data from the Polish central bank, we have applied three methodologies to calculate financial inclusion. First, the application of the criteria of the Financial Access Survey (FAS), which is collected by the IMF at the voivodship level. Secondly, the Access to Cash Index methodology already tested by several authors on a city-by-city basis. Finally, the KNN nearest neighbor methodology to detect in each voivodship those points where it is most difficult (measured in km distance) to access banking services.

There are several studies on financial inclusion in Poland that show the importance of financial inclusion [11,12]. In [13] it is pointed out that in Poland there is a dominant position of cash payments in the payment system; and therefore the authorities should take this into account in order to promote financial inclusion, the same conclusion is endorsed by [14,15] in his study points out the importance of financial inclusion in Poland, especially among young people; [16], when studying the unbanked in Poland, detects a special need for protection of the elderly, young people and people living in rural areas. Additionally, it is precisely in these rural areas that financial inclusion is of great importance, as the study [17,18] points out that "financial inclusion is an essential component of the financial capability index in rural areas" as it determines economic development. Therefore, ensuring financial inclusion in Polish rural areas is necessary to fulfil sustained economic development [18,19], with access to banking services, ATMs, etc. in these areas being ensured, and financial education is also necessary for this [20]. It is also necessary to ensure financial inclusion through banking services to avoid the emergence of large groups of excluded people, as the results of this "non-use of banking services" clearly affect the economic development of a country [21].

As in any other place in the world, having access to banking institutions is essential to be able to carry out day-to-day tasks; however, while this seems so obvious, it is not always fulfilled in some rural municipalities of the country [20–24]. Financial inclusion ensures that the population has access to an appropriate level of financial services [22,23]. The significant reduction of bank branches in recent years has increased the risk of financial exclusion for some customers in rural areas [24,25]. In many cases, this reduction of banks is mainly due to two issues. On the one hand, the shrinking population, especially in municipalities with less than 10,000 inhabitants, and, on the other hand, the fact that the younger generation is increasingly using online banking [24,25]. Digitalization is playing an increasingly important role in this respect, but online banking needs to be brought closer to the population to help them carry out their daily transactions [26]. However, this is not enough, as the presence of bank branches in rural areas is vital for their population and for the survival of these areas [19,24].

To adequately answer this question, it is necessary to be aware of the profile of people in rural areas and the type of businesses that are developed in rural areas [27–30]. Firstly, we are talking about an ageing population, which finds it difficult to relate to digital banking and even "multi-function" ATMs, secondly, we also refer to agribusinesses, those that are attached to the land and need an advisor [17,18].

On the other hand, empirical evidence shows that rural areas subject to strong demographic stresses, in particular population ageing and low population density, are particularly at higher risk of financial exclusion [31,32].

The consequences of financial exclusion in rural areas have also been studied by academics. Sin Tian Ho & Berggren [29] examine the impact of bank branch closures on entrepreneurial activity beyond the administrative boundaries of a municipality. These

authors identify some influence between proximity to bank branches and new firm formation. Along the same lines [30] conclude that a greater functional distance between banks and local economies tightens financing constraints, especially for SMEs. Moreover, this restriction is not compensated by a greater availability of credit due to the reduction of the operating distance. Other authors, such as Devlin or Coppock [31,32] focus their study on the impact of financial exclusion on households in rural England [33]; or Panigyrakis [34] do so in remote island territories located in Greece, where the dissatisfaction of citizens residing in these areas is identified. Other research has designed a methodology to identify areas affected by the difficulty of access to financial services. Náñez Alonso et al. [35] propose the construction of an index to detect rural areas at risk of financial exclusion, taking the Spanish region of Ávila as a case study. The results of this study show that more than 80% of the municipalities in this area have difficulties in accessing financial services. The authors also apply the same method to the less densely populated areas of the Spanish region of Castilla y León, known as "Empty Spain" [36]. On the other hand, accelerated economic digitalization is transforming traditional models of economic and social organization [37]. The financial sector is no stranger to this transformation. On the contrary, it is one of the sectors most affected by the changes and opportunities offered by digital technologies. In this context, several studies have analyzed the impact of banking digitalization on digital exclusion in rural areas. Authors such as [38] conducted a study to identify the degree of penetration of digital financial services in rural areas and the behavioral pattern of e-banking users. Others such as [39] analyses the possible acceptance of a Central Bank Digital Currency (CBDC) in rural areas as an alternative to the difficulties of access to cash in areas at risk of financial exclusion. As indicated in the introduction and at the beginning of this section, financial inclusion is a tool that enhances the generation of opportunities and strengthens the capacity to achieve the SDGs. Specifically, it contributes to increasing the wellbeing of people, especially those living in rural areas, through greater access to and use of financial services. Although these are areas of great socio-economic diversity, they have a major influence on the development of Poland [40]. Rural areas are of great importance for the Polish economy and are a key player in achieving sustainable development [41–43]. The objective of this article was to measure compliance with SDG 8.10 (ensuring access to banking services) by combining a three-pronged methodology based, first, on the FAS indicators (number of bank branches per 100,000 inhabitants and offices per 1000 $m^2$). Secondly, by applying the Access to Cash index (ACI) methodology and thirdly by measuring the distance required from the furthest point to access this type of financial services.

## 2. Materials and Methods

### *2.1. Data Collection*

Firstly, data was extracted from the Central Bank of Poland (Narodowy Bank Polski) through its website with an advanced data search engine [44]. After extracting data on bank branches by voivodeship, municipality, city and postcode, as well as on branches with ATMs, we generated a dataset with 10,677 records on bank branches and another one with 3279 records. Given the size of the dataset, it is available online as Supplementary Materials to this manuscript. All data available in the study and analyzed were extracted in January 2022.

### *2.2. Methodology of Analysis*

After extracting the data from the Polish central bank, as described in the Section 2.1, we have applied three methodologies to calculate financial inclusion. Firstly, the application of the criteria of the Financial Access Survey (FAS), which is collected by the International Monetary Fund, but in this case the novelty lies in applying it at the voivodeship level [45]. The two key indicators we have used are: Firstly, the number of commercial offices per 100,000 adult inhabitants; and secondly bank offices per 1000 $m^2$ [46].

Secondly, the Access to Cash Index (ACI) methodology by calculating a score that describes the situation of access to banking services according to certain items, and the

number of kilometers to travel to obtain access to cash and banking services; it has been already tested by several authors and city-by-city studies; as shown in Table 1.

**Table 1.** Studies on access to banking and financial services.

| Area/Country/Region/City | Author(s) |
|---|---|
| Austria | [47]<br>[48] |
| Central, Eastern and South-eastern Europe | [49] |
| Wales | [50] |
| Bristol | [51] |
| Canada | [52] |
| Castilla y León | [36] |
| Ávila | [35] |
| Australia | [53]<br>[54] |
| France | [55] |

Source: Own Elaboration.

Thus, for the case of Poland, considering data availability, the equation (Equation (1)) for calculating access to cash would be denoted as follows:

$$\mathrm{ACI} = \sum(x_1 \times 1) + (x_2 \times 3) \quad (1)$$

Equation (1) is based on Tischer et al., Evans et al. and Náñez Alonso et al. [24,39,50] where ACI is the score obtained (Access to Cash Index), $x_1$ would be the number of bank branches, and $x_2$ would be the number of ATMS. The score assigned (1), to each bank, is derived from the limited opening hours (business hours), the fact that they only deliver cash to customers of the bank or savings bank and the collection of possible fees from customers of other banks/savings banks. The score assigned (3) to ATMs derives from their 24 h availability, their being available to anyone, not only to the operator's customers and at no cost (withdrawal commission) to customers. Finally, the methodology nearest neighbor [56–61] to detect in each voivodeship those points where there is more difficulty (measured in km of distance) to access banking services. All of this was processed using Tableau Desktop professional edition software, which allowed the results to be displayed graphically, as shown in Figure 1.

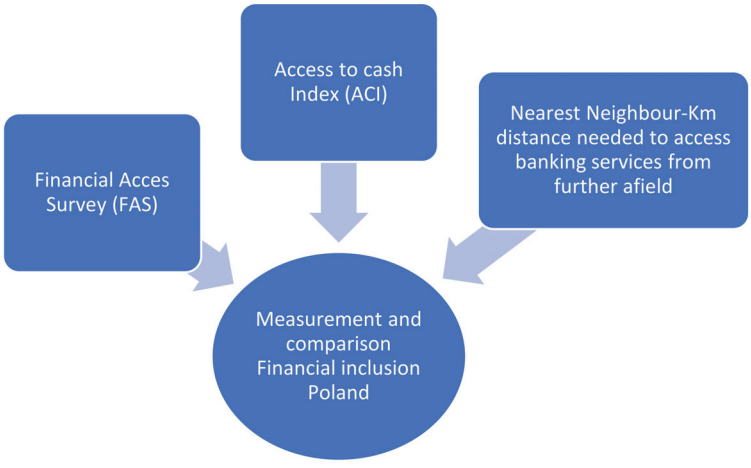


**Figure 1.** Methodology applied. Source: own elaboration.

The application of this triple methodology and the results obtained will therefore allow us to verify the degree of compliance with SDG number 8.10, which consists of "*strengthening the capacity of national financial institutions to promote and expand access to banking, financial and insurance services for all*". The application of this triple methodology and the results obtained will therefore allow us to verify the degree of compliance with SDG number 8.10, which consists of "*strengthening the capacity of national financial institutions to promote and expand access to banking, financial and insurance services for all*". The use of this triple methodology of financial inclusion analysis will allow us to obtain a better picture of the real situation by combining purely technical criteria used by the MFI's M&As, with geographical and spatial criteria derived from the ACI (which mixes economics and geography).

## 3. Results

### *3.1. Results Obtained from the Partial Application of the FAS*

After extracting data from the Polish central bank, we have applied three methodologies to calculate financial inclusion. Firstly, the application of the criteria of the Financial Access Survey (FAS), which is collected by the International Monetary Fund, but in this case the novelty lies in applying it at the voivodeship level [45]. The two key indicators we have used are: the number of commercial offices per 100,000 adult inhabitants and bank offices per 1000 $m^2$ [46]. The results obtained are shown in the figure below (Figure 2) and also in Table A1 in the Appendix A.

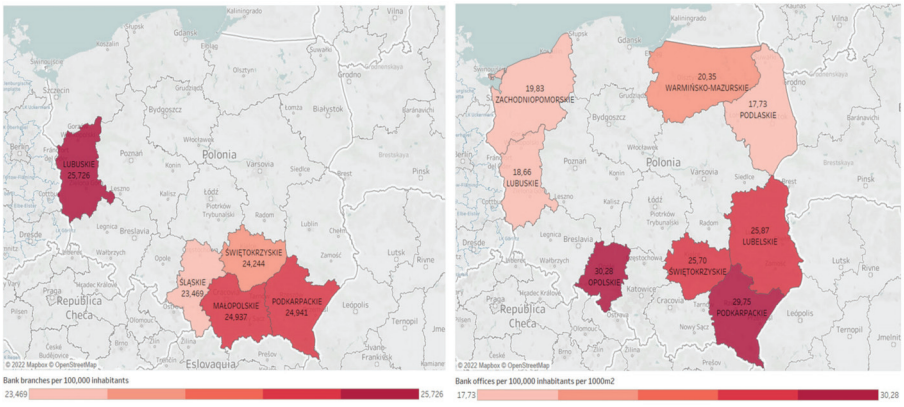


**Figure 2.** Voivodeships with the fewest bank offices per 100,000 inhabitants and the fewest bank offices per 1000 $m^2$. Source: Own elaboration based on data from Table A1 and Tableau Desktop Professional Edition.

As can be seen in Figure 2, left side, the voivodships that present a result furthest away from the Polish average (27.79 bank offices per 100,000 inhabitants) are Lubuskie (25.73), Małopolskie (24.94), Podkarpackie (24.94), Śląskie (23.47) and Świętokrzyskie (24.24). As can be seen, the southern part of Poland is clearly the worst performer in terms of bank branches per 100,000 inhabitants, and a pattern can be detected here, namely that the southern part, considering only this criterion, would be the most difficult to access banking services. The other area is the western area, bordering the German border. Although it is true that in the case of Małopolskie and Śląskie, which have high absolute values, the explanation is that they are also highly populated voivodships. In the rest of the voivodships below the average, the situation of access to cash and banking services may be more complicated. Additionally, from Figure 2, right-hand side, we can extract the result of those voivodeships that are further away from the Polish average (36.46) in terms of bank branches per 1000 $m^2$. In this case, the voivodships Lubelskie (25.87), Lubuskie (18.66), Opolskie (30.28), Podkarpackie (29.75), Podlaskie (17.73), Świętokrzyskie (25.70), Warmińsko-Mazurskie (20, 35) and Zachodniopomorskie (19,83) are below or far below, so it is on these voivodships that we will focus the analysis through the other

two methods. Again, there are three clear patterns in terms of possible difficulty in accessing banking services. Firstly, the south zone repeats this result and is configured as an area where there may be difficulties in accessing banking services and cash. Secondly, the western area bordering Germany repeats the result (and is even further extended) and is again identified as an area where there may be difficulties in accessing banking services and cash. In third place, the entire eastern area from the south to the north of the Polish–Ukrainian border appears by this criterion. From the combination of both results we can see that three voivodeships are below the average in both indicators: Lubuskie, Podkarpackie and Świętokrzyskie. In the Appendix B, the full maps for both items can be found as Figures A1 and A2. If we consider, the population density of the voivodeships we can observe the relations between high concentration of inhabitants and access to banking services or high dispersion of inhabitants and their access.

The voivodeships with the highest population density, as shown in Table A1 in Appendix A, are Dolnośląskie, Łódzkie, Małopolskie, Mazowieckie, Podkarpackie and Śląskie. If we compare this higher value (which implies high concentration of inhabitants), we observe how there is a relationship between this high population density and also with the number of bank offices per 100,000 inhabitants except in Dolnośląskie and Małopolskie which are slightly below the average. If we compare this result with bank offices per 1000 $m^2$, all voivodeships obtain high results. Therefore, in these voivodeships that are densely populated financial inclusion would be relatively easier.

On the contrary, the voivodeships with the lowest population density, as shown in Table A1 in the Appendix A would be Lubelskie, Lubuskie, Podlaskie, Warmińsko-Mazurskie and Zachodniopomorskie. If we compare this lower value (which implies great dispersion of inhabitants), we observe how there is a great relation between this dispersion and the number of bank offices per 100,000 inhabitants; Lubuskie, and Zachodniopomorskie are the ones that obtain a worse relation (higher population dispersion and lower number of bank offices). If we compare the data of population density per voivodeship with the number of bank offices per 1000 $m^2$, we observe how in these voivodeships (Lubelskie, Lubuskie, Podlaskie, Warmińsko-Mazurskie and Zachodniopomorskie) there is again a strong relationship between population dispersion and worse results in terms of access to banking services. Additionally, all these voivodeships (again highlighting Lubuskie, and Zachodniopomorskie) have the worst results.

### *3.2. Results Derived from the Application of the ACI*

The application of the Access to cash index methodology developed in the Section 2.2, has allowed us to generate a series of maps (Figures 3–5), which represent in each Polish voivodeship, at province level, how easy or difficult it is to access financial services (bank office and ATM). Furthermore, as additional material, a dataset has been generated and can be accessed (see additional material), which shows the score province by province in each voivodeship. The interpretation of the maps to be made is as follows. First of all, the areas in each voivodeship that are shown in white mean that there is no score available in that area. Therefore, in this white area, there is no way to access financial services. Secondly, the light blue–dark blue color range is used for the scores (ranging from 1 to 73 points). Thus, the lighter the blue color, the lower the score in that area, the more difficult it is to access banking services. Conversely, the darker the color, the higher the score in this area, and, therefore, the easier it is to access banking services. Figure A3 in Appendix B shows the complete map of Poland.

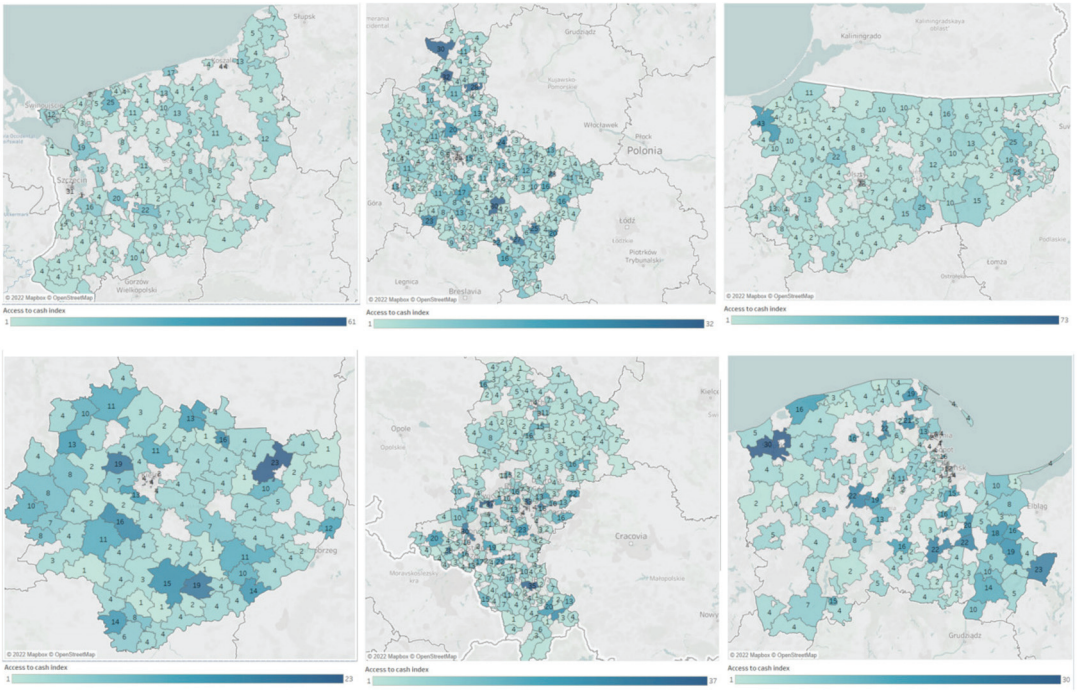


**Figure 3.** Results of the Access to Cash index in Zachodniopomorskie, Wielkopolskie, Warmińsko-Mazurskie, Świętokrzyskie, Śląskie and Pomorskie voivodeships. Source: Prepared by the authors using Tableau Desktop Professional Edition.

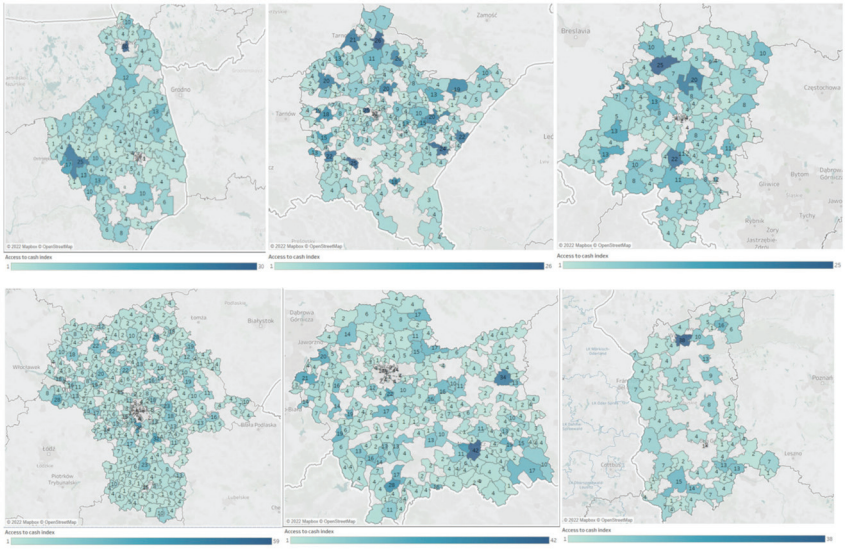


**Figure 4.** Results of the Access to cash index in Podlaskie, Podkarpackie, Opolskie, Mazowieckie, Małopolskie and Lubuskie voivodships. Source: Prepared by the authors using Tableau Desktop Professional Edition.

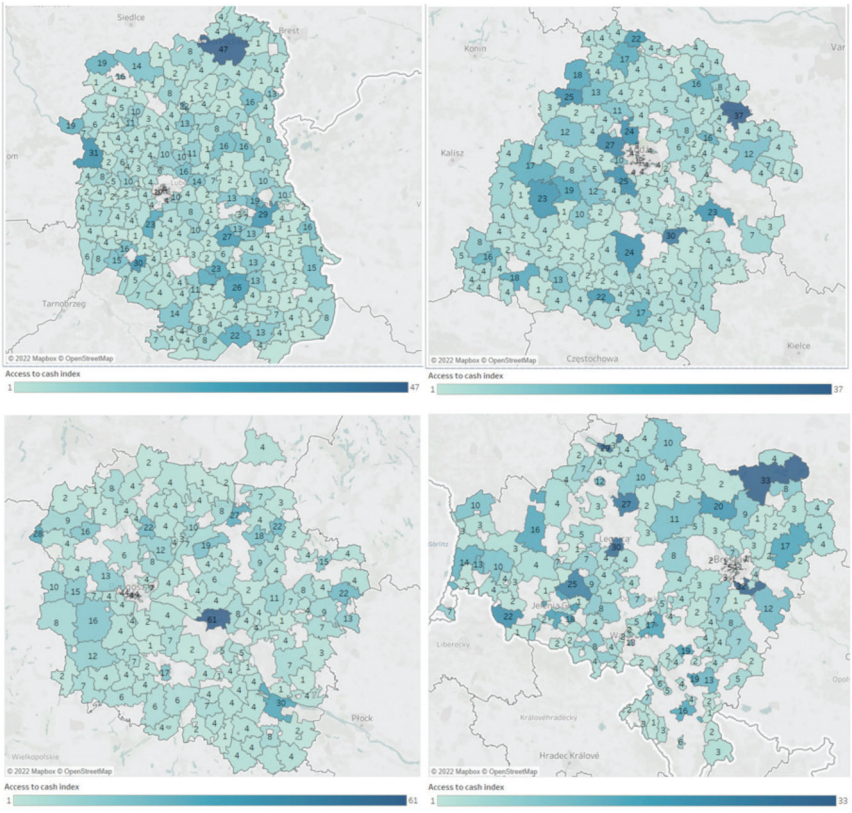


**Figure 5.** Results of the Access to Cash index in Lubelskie, Łódzkie, Kujawsko-Pomorskie and Dolnośląskie voivodships. Source: Prepared by the authors using Tableau Desktop Professional Edition.

As can be seen in Figure 3, in Zachodniopomorskie voivodeship the highest ICA values are found in the capital city of Szczecin. There are, however, two areas in this voivodeship in white (no score), which indicate that financial services are not accessible. On the one hand, the central area east of Szczecin and on the other hand a curved line from the coast (Kolobzerg) to Walcz. As far as the Wielkopolskie voivodship is concerned, the distribution is quite good. The highest concentration is in Poznan and only a large area north of Kalisz is white, indicating that financial services are not accessible. In Warmińsko-Mazurskie, only a few isolated points are found, with access to financial services in this voivodeship having a very good spatial distribution. The highest values are concentrated in Olsztyn and Elblag. As for the Świętokrzyskie voivodeship, the same is true as in the previous case. Only a few isolated points are found, with access to financial services in this voivodeship having a very good spatial distribution. The highest values are concentrated in Kielce. In Śląskie voivodeship, we find high ACI scores and thus higher accessibility to financial services in Katowice, Gliwice, Bielsko-Biala and Czestochowa. Finally, in Pomorskie voivodeship we find an uneven distribution. On the one hand, Gdansk, Gdynia, and Sopot as well as the coastal area and the eastern area bordering Warmińsko-Mazurskie have a high concentration of points and therefore easy access to financial services. However, the south-western and central parts of the voivodeship have white areas indicating that financial services are not accessible.

As can be seen in Figure 4, in Podlaskie voivodeship the highest ICA values are found in the capital Bialystok as well as in Suwalki in the north and Lomza in the west. The distribution of financial services is in principle correct. There are, however, two white zones

in this voivodeship in the area of the border with Belarus and Ukraine, and on the other hand in the southern hinterland. The Podkarpackie voivodeship concentrates large areas of access to financial services in Rzeszow and Mielec. However, in this southern voivodeship there are large white areas in the area of the border with Slovakia. In these areas it will be more difficult to access financial services. In the case of Opolskie voivodeship, the values are not very high. They are mainly concentrated in the capital Opole. The distribution of access to financial services is orderly, although there are three white areas, in the area of the border with Śląskie, with Dolnośląskie and on the southern border with the Czech Republic. The Mazowieckie voivodeship has the highest values in and around Warsaw, the capital of the voivodeship and Poland. Thus, the capital effect, which concentrates banking services, is noticeable. In the rest of the voivodeship only two areas are white. Firstly, in the north-eastern part of Warsaw, and secondly, a line in the south-eastern part bordering the voivodeships from Podlaskie in the east to Lubelskie in the south. In these areas it will be more difficult to access financial services. In the Małopolskie voivodeship there is a high concentration of access points to financial services in Kraków (the capital of the voivodeship) and adjacent areas and in other areas such as Tarnow and Nowy Sacz in the east. Precisely the white areas indicating that services are not accessible in this voivodship are located in the south-west of Tarnow and also in the west and south-west of Nowy Sacz. Lubuskie voivodeship has one of the lowest scores in Poland. While there are areas where access to financial services is easy, such as Zielona Gora Gorzów Wielkopolskie, there are also quite a few blank areas. Firstly, in the central Lubuskie area between Zielona Gora Gorzów Wielkopolskie, secondly, a whole parallel line in the northern area bordering the Wielkopolskie voivodship, thirdly, the whole area south-east and south-west of Zielona Gora, and fourthly and lastly, the area bordering Germany (Cottbus) in the west.

As far as Lubelskie voivodeship is concerned, as we can see in Figure 5, the distribution of access to financial services is orderly. There are few white areas and most of the access points to financial services are concentrated in Lublin (its capital) as well as in Biala Podlaskie in the north. As far as the Łódzkie voivodeship is concerned, the distribution of access to financial services is also orderly. There are few white areas and most of the access points to financial services are concentrated in Lodz (its capital). The most difficult area to access financial services is in the south-eastern part of Lodz, bordering Mazowieckie voivodeship. In Kujawsko-Pomorskie voivodeship the distribution of access to financial services is also orderly. There are few white areas and most of the access points to financial services are concentrated in Bydgoszcz (its capital). The area with the greatest difficulty in accessing financial services is in the central part of the voivodeship, as well as in the north-east and south-east. Finally, in the Dolnośląskie voivodeship, there is a high concentration of access points to financial services in Wroclaw and Legnica. There are three zones in white. Firstly, the north-east and south-east of Legnica, secondly, the area east and west of Wroclaw, and thirdly, the entire southern part of the voivodship bordering the Czech Republic. Figure A4 in Appendix B shows these points for the whole of Poland. The Appendix B also contains a table (Table A2) showing the highest ACI scores at the city level; Warsaw comes first with 770 points followed by Szczecin (648 points), Poznan (538 points) and Kraków (433 points).

A 3.3 km distance is needed to access financial services from the furthest point in each voivodship.

Finally, the application of the nearest neighbor methodology has allowed us to generate the following results. The points in each voivodeship where it is most difficult (measured in km distance to the nearest point) to access banking services have been detected. All this has been processed through the Tableau Desktop professional edition program, which has made it possible to display the results graphically. Figure 6 shows the results for all voivodships.

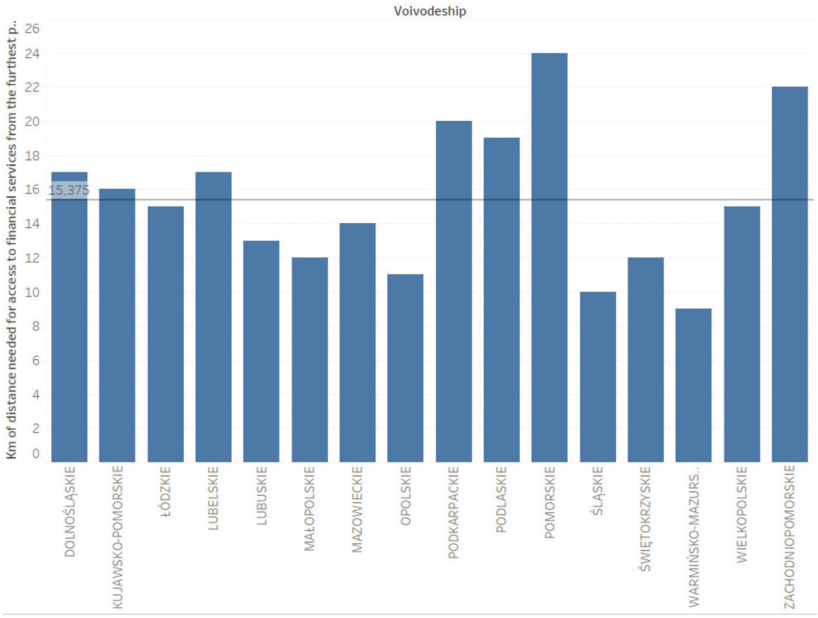


**Figure 6.** Kilometers of distance needed for access to financial services from the furthest point in Zachodniopomorskie, Wielkopolskie, Warmińsko-Mazurskie, Świętokrzyskie, Śląskie, Pomorskie, Podlaskie, Podkarpackie, Opolskie, Mazowieckie, Małopolskie, Lubuskie, Lubelskie, Łódzkie, Kujawsko-Pomorskie and Dolnośląskie voivodships. Source: Prepared by the authors using Tableau Desktop Professional Edition.

In the case of Zachodniopomorskie, we have detected with our methodology that at the furthest point citizens have to travel up to 22 km if they want to access financial services from that furthest point. In the case of Wielkopolskie, the distance that must be travelled to access these financial services is set at 15 km. In Warmińsko-Mazurskie voivodeship, the distance is shorter than in the previous case and is set at 9 km. In Świętokrzyskie, the distance to access financial services is somewhat longer, up to 12 km, although it is shorter than in the first two voivodships analyzed. In Śląskie we find 10 km and in Pomorskie 24 km, the latter being the one with the longest distance to travel to access financial services. As we can see in Podlaskie voivodeship, the distance needed to access financial services is 19 km. In the case of Podkarpackie voivodeship, it takes up to 20 km to access financial services and to withdraw cash. In Opolskie voivodeship, it takes only 11 km from the furthest point of the voivodeship to access financial services. It is also the shortest distance from the furthest point of the voivodships analyzed in Figure 7. In the case of Mazowieckie, it takes 14 km to access financial services. It is the voivodeship with the highest number of financial institutions due to the capital effect of Warsaw. In Małopolskie voivodeship it takes 12 km to access financial services, which is very similar to Mazowieckie voivodeship. Finally, in Lubuskie Voivodeship, it takes 13 km to access financial services from the furthest point. This figure is very similar to that obtained in the previous voivodships. Figure 6 shows that in Lubelskie voivodeship, it takes up to 17 km from the furthest point to access financial services. In the case of Łódzkie voivodeship, the figure is 15 km. For Kujawsko-Pomorskie voivodeship, 16 km are needed to access financial services from the furthest point. Finally, in Dolnośląskie Voivodeship, the distance needed to access the above-mentioned financial services is 17 km. If we compare the population density of each voivodeship shown in Table A1 in Appendix A with the number of kilometers needed to travel from the farthest point to access banking services, we can observe the relationship between high concentration of inhabitants and access to banking services or high dispersion

of inhabitants and mileage. If we take the voivodeships with a large population dispersion (lower population density): Lubelskie, Lubuskie, Podlaskie, Warmińsko-Mazurskie and Zachodniopomorskie; we observe how the distance to travel is considerable, although they are in some cases below the average for Poland. The two voivodeships with the worst results (low density and high number of kilometers) are: Zachodniopomorskie (22 km) and Podlaskie (19 km); followed by Lubelskie and Lubuskie, with 17 and 13 km, respectively.

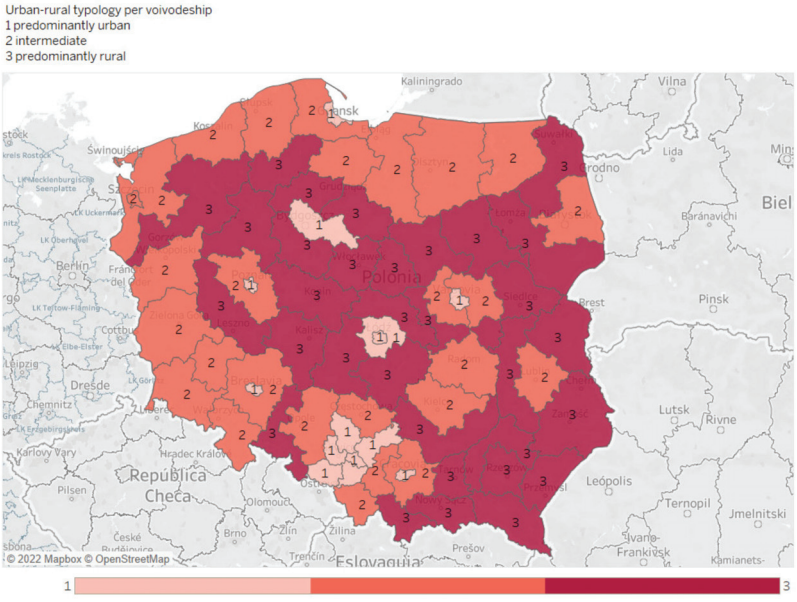


**Figure 7.** Urban–rural typology for each voivodeship using NUTS-3. Source: own elaboration using Tableau Desktop professional edition based on data extracted from Eurostat.

To complete the analysis of kilometer distances from the farthest point of each voivodeship to access financial services, Figure 7 includes the delimitation of each voivodeship as a rural, intermediate or urban area. All this according to the classification made by Eurostat for each region at NUTS-3 level [62]. Eurostat defines these zones as follows: NUTS 3 regions are classified as follows, according to the proportion of their population in rural areas:

1. "Predominantly rural" if the proportion of the population living in rural areas is more than 50%.
2. "Intermediate" if the percentage of the population living in rural areas is between 20 and 50.
3. Predominantly urban" if the proportion of the population living in rural areas is less than 20%.

If we compare the results obtained in the maps contained in Figure 1, with the results obtained in the map representation in Figure 7 there is a perfect match between rural areas (marked with the number 3 and in dark red) in Figure 7; with the voivodeships with the fewest bank offices per 100,000 inhabitants and the fewest bank offices per 1000 $m^2$. As regards the result of bank offices per-100,000 inhabitants, the voivodeships with the worst result (and thus the greatest difficulty in accessing financial services) were Świętokrzyskie, Śląskie, Podkarpackie, Małopolskie and Lubuskie. These voivodeships according to the NUTS-3 classification are defined as rural, except partially Małopolskie and Lubuskie. As far as the result of bank offices per 1000 $m^2$ is concerned, the voivodeships with the worst result (and thus the greatest difficulty in accessing financial services) were Zachodniopomorskie, Warmińsko-Mazurskie, Świętokrzyskie, Podlaskie, Podkarpackie,

Opolskie, Lubuskie and Lubelskie. In the case of Świętokrzyskie, Podkarpackie and Lubelskie are defined by the NUTS-3 classification as rural. In the case of Zachodniopomorskie, Warmińsko-Mazurskie and Podlaskie are defined as intermediate and partly rural areas. If we compare the results obtained on the maps contained in Figure 6, with the results obtained on the map representation in Figure 7 there is a perfect coincidence between rural areas (marked with the number 3 and in dark red color) in Figure 7; with the voivodeships with the greatest kilometers distance from the farthest point to access financial services this we clearly observe in Podkarpackie, Lubelskie or Zachodniopomorskie. These voivodeships have areas defined as rural or intermediate for the most part and the kilometers to be covered are above average (20, 17 and 22 km, respectively).

## 4. Discussion

The financial sector is one of the main vectors in the transition towards full sustainable development. Proof of this can be found in the huge number of initiatives, networks and sectoral organizations that bring together financial institutions from all over the world. These include the United Nations Environment Program Finance Initiative (UNEPFI), the Ecuador Principles and the Principles for Responsible Investment (UNPRI). Since its beginnings, the financial sector has had a special link to the economic development of the different economic sectors [1–4]. The symbiosis between the financial sector and companies and regions has a direct impact on the SDGs and generates a greater net positive contribution to their fulfillment: around SDGs 2, 6, 8, 11, 12 and 17 [5]. This paper has measured financial inclusion in Poland from a spatial perspective. For this purpose, three methodologies have been applied. First, we have calculated according to the FAS methodology, Bank Offices per 100,000 inhabitants and Bank Offices per 1000 $m^2$ for each voivodeship [45]. The voivodships with a result furthest away from the Polish average (27.79 Bank Offices per 100,000 inhabitants); are Lubuskie (25.73), Małopolskie (24.94), Podkarpackie (24.94), Śląskie (23.47) and Świętokrzyskie (24.24). As can be seen, the southern part of Poland is clearly the worst performer in terms of bank offices per 100,000 inhabitants. Nevertheless, these voivodships have higher figures than many EU countries, especially their neighbors in the Baltic Sea area, such as Lithuania (10.46), Latvia (6.99) or Estonia (7.92). They also have values much higher than those obtained in the Czech Republic (18.3), Romania (22.56) and values very close to those recorded by Slovakia (23.32) or Hungary (23.36). These values are also much higher than those obtained in Ukraine (0.41) or Belarus (0.35). However, when compared with southern European countries, such as Spain (45.53), Portugal (32.84) or Italy (37.63), they are far behind [45]. The voivodships that are furthest away from the Polish average (36.46) in terms of bank offices per 1000 $m^2$ are the voivodships of Ljubljana and Lubelskie voivodeships (Ljubljana voivodeship, 2022); are Lubelskie (25.87), Lubuskie (18.66), Opolskie (30.28), Podkarpackie (29.75), Podlaskie (17.73), Świętokrzyskie (25.70), Warmińsko-Mazurskie (20.35) and Zachodniopomorskie (19.83) voivodships. However, these voivodships have higher values than many EU countries, especially their neighboring countries in the Baltic Sea area, such as Lithuania (3.94), Latvia (1.79) or Estonia (2.02). They also have higher values (except for Podlaskie and Zachodniopomorskie) than the Czech Republic (21.35), higher than Romania (15.98) and very close to those of Slovakia (22.36) or Hungary (21.53), except for Podlaskie and Zachodniopomorskie, which are below. These values are also much higher than those obtained in Ukraine (0.26) or Belarus (0.13). However, when compared with southern European countries, such as Spain (36.94), Portugal (32.13) or Italy (66.29), they are far behind [46].

Secondly, the application of the Access to Cash Index methodology has allowed us to generate a series of maps showing the zones for each voivodeship in white. This means that in that area there is no score available; and therefore, in that area, there is no way to access financial services. The following zones can be highlighted: In Pomorskie Voivodeship, the south-western zone and the central parts of the voivodeship. In the case of Lubuskie, the central area between Zielona Gora and Gorzów Wielkopolskie. A parallel line in the northern part bordering the Wielkopolskie Voivodship. The area south-east and south-west of Zielona Gora, the border area with Germany (Cottbus) in the west and, in the case of Dolnośląskie, three specific areas; firstly, the north-east and south-east of Legnica, secondly,

the area east and west of Wroclaw and, thirdly, the entire southern part of the voivodship bordering the Czech Republic. This same methodology allowed [35] to detect the northwest and southwest of the province of Ávila as an area with difficult access to financial services. Additionally, [36] in their study on Castilla y León (Spain), using the same methodology, detected several areas in the provinces of Ávila, Segovia, Soria, Palencia and Zamora where it is difficult to access banking services, especially in rural areas. Other authors who following this same methodology detected areas where it is difficult to access financial services have been [51] applied to the region of Wales, in the United Kingdom, and [50] in the case of the English city of Bristol, at a more local level. In the case of Australia, this method has also been validated and used to detect remote areas where banking services are difficult to access by [53].

Thirdly, the application of the nearest neighbor methodology has allowed us to detect in each voivodeship those points where it is most difficult (measured in km distance to the nearest point) to access banking services. This gives an average across Poland of 15.375 km to reach from the furthest point.

These data show divergences with previous studies conducted in other countries. [47,63] finds in his study that 2.9% of the population of Austria (about 260,000 residents); have to travel more than 5 km to reach the nearest ATM. The municipalities with a high percentage of residents travelling more than 5 km are located in all nine provinces of Austria (except Vienna). If we compare these 5 km to be travelled in Austria with the kilometers to be travelled in the voivodships, all of them are above this distance. In Germany, it is somewhat more difficult to access the cash withdrawal service in rural regions than in cities. According to the Deutsche Bundesbank's survey on payment behavior in Germany, the nearest cash source is on average 9.3 min away in urban areas (which is 8 km when driving at 50 km/h), and 10.7 min away in rural areas (which is 9.1 km when driving at 50 km/h) [64]. Again, compared to Germany (8 km and 9.1 km, respectively); the kilometers needed to be covered in the voivodeships are above this distance. In France, the majority of the population in these rural agglomerations (96%), do not have ATMs and are between 5 and 15 min away from the nearest ATM (which at a speed of 50 km/h would be between 4.2 and 8.4 km (Banque de France, 2019). Compared to France (4.2 and 8.4 km, respectively); the kilometers needed to travel in the voivodeships to access financial services are above this distance.

The authors of [53], in their study on Australia, show two realities. On the one hand, they estimate that 99% of the population has a cash withdrawal point within 15 km (and a cash deposit point within 17 km); but on the other hand, the remaining 1% (about 250,000 Australians) have to travel more than 15 km to the nearest cash access point. These data, compared to those obtained in our study for Poland, are very similar in terms of distance travelled. Caddy, et al. [54] in their study on Australia indicate that, in June 2020, 95% of the Australian population lived within 4.3 km of a cash withdrawal point and 5.5 km of a cash deposit point. These average distances were little changed compared to 2017, despite the fact that the total number of cash access points in Australia declined significantly during this period. However, some cities have poorer access to cash, with few alternative access points nearby. Compared to Australia (4.3 and 5.5 km, respectively), the kilometers needed to travel in the voivodships to access financial services are above this distance, except in rural areas which have similar data. Jiménez Gonzalo, et al. [65] note for the case of Spain that 249,407 inhabitants (2.7% of the Spanish population) do not have access to a bank branch. These municipalities are generally small and located in unpopulated areas. The regions with the highest number of municipalities without a branch are Castilla y León, Castilla-la Mancha, Catalonia and Aragón. Náñez Alonso, et al. [35] point out that more than 80% of the municipalities in Ávila have difficulties in accessing financial services and also Náñez Alonso, et al. [36] indicate that in the provinces of Ávila, Segovia, Soria, Palencia and Zamora it is difficult to access banking services, especially in rural areas, being necessary to travel between 9 and 16 km to access these services. Compared with these Spanish provinces (between 9 and 16 km), the kilometers needed to travel in the voivodeships to access financial services are close to this distance, except in rural

areas, where the figures are somewhat higher. Financial inclusion is a tool that enhances the generation of opportunities and strengthens the capacity to achieve the Sustainable Development Goals (SDGs). Specifically, it contributes to increasing the well-being of people, especially those living in rural areas, through greater access to and use of financial services. The application of this triple methodology and the results obtained have therefore allowed us to verify the degree of compliance with SDG number 8.10, which consists of "strengthening the capacity of national financial institutions to promote and expand access to banking, financial and insurance services for all". As we have seen, some areas, especially in rural areas of the different voivodeships, present certain problems when it comes to accessing banking services. Therefore, the fulfillment of SDG 8.10 will be more difficult to achieve in these areas. The public authorities must pay attention to this, in order to achieve the commitments acquired with the 2030 agenda, in terms of financial inclusion. One of the limitations that could influence our study is that derived from the data. Since it is not a dynamic evolution, but a situation at a given time that checks its situation, following the data extracted from the Central Bank of Poland.

Some solutions that could be adopted in Poland to reduce these distances could consist of the following. First, the implementation of bank-office buses [65]; which travel around the provinces offering banking services. Secondly, increasing access to cash by adding new cash-back points [39,66,67]. Third, other technology-based solutions can be leveraged; they can in principle help to reverse this situation in rural areas. Many central banks are considering the implementation of a CBDC (Central Bank Digital Currency) [35,66]. It is necessary to consider that, as a result of COVID 19, the ways of payment and use of financial services are changing around the world. Poland is no exception, as the use of mobile banking services has increased, which can generate certain barriers to certain groups, as it points out [67], in addition to the physical ones. However, its feasibility and acceptance should be analyzed first [68,69]. Access to financial services and financial inclusion can help to avoid bankruptcy situations, especially for SMEs in the Polish industrial sector [70], especially if they are located in areas where access to financial services is difficult; this same situation has been described and analyzed for other countries by [71,72]. Business development involves the ability to adapt to changing environmental conditions in order to survive and compete and generally involves a process of formulating, choosing directions and implementing development activities [73], which requires access to adequate financing, both for SMEs and large companies [74].

## 5. Conclusions

One of the main objectives of international organizations is to promote financial inclusion and for countries to have a financial system that is easily accessible to their citizens. Of course, this is all in line with SDG 8.10, which involves promoting and expanding access to banking and financial services. This objective is especially relevant in rural areas, where access to these services is more complicated, as citizens have to travel several kilometers to access them. In this study, based on Poland, and using data from the Polish Central Bank, we can conclude the following:

1. Following the FAS methodology (Bank Offices per 100,00 inhabitants and Bank Offices per 1000 $m^2$ per Voivodeship); the southern part of Poland is clearly the worst performer in terms of Bank Offices per 100,000 inhabitants. Nevertheless, these voivodships show higher figures than many EU countries, especially their neighboring countries in the Baltic Sea area (Lithuania, Latvia or Estonia). They also show much higher values than those obtained in the Czech Republic or Romania. Values very close to those recorded by Slovakia or Hungary and values much higher than those obtained in Ukraine or Belarus. However, they have much lower values compared to most Central European and especially Southern European countries.
2. The application of the Access to Cash Index methodology has allowed us to generate a series of maps showing the areas for each voivodeship in white. This means that in that area there is no score available; and therefore, in that area, there is no way to

access financial services. This has allowed us to detect some areas per voivodeship where there are difficulties in accessing banking services. The highest scores are concentrated in large Polish cities and the detected areas where access to financial services is not guaranteed are usually rural and sparsely populated areas.

3. The application of the nearest neighbor methodology, via Tableau, has allowed us to detect in each voivodship those points where it is most difficult (measured in km distance to the nearest point) to access banking services. The voivodship where the most kilometers have to be travelled to access financial services is in Pomorskie, with 24 km. On the other hand, the voivodeship with the shortest distance (from the furthest point) to access financial services is Warmińsko-Mazurskie, with 9 km.

Some areas, especially in rural areas of the different voivodeships, present certain problems when it comes to accessing banking services. Therefore, the fulfillment of SDG 8.10 will be more difficult to achieve in these areas. The public authorities must pay attention to this, in order to achieve the commitments acquired with the 2030 agenda, in terms of financial inclusion. Some solutions that could be adopted in Poland to reduce these distances could be the implementation of bank-office buses; increasing access to cash by adding new cash-back points or the implementation of a CBDC (Polish digital currency, which could be called ePLN).

**Supplementary Materials:** The following are available online at https://cutt.ly/EA4uwUf.

**Author Contributions:** Conceptualization, S.L.N.A.; Data curation, S.L.N.A., J.J.-V., K.K. and W.S.; Formal analysis, S.L.N.A., J.J.-V. and M.Á.E.F.; Investigation, S.L.N.A. and M.Á.E.F.; Methodology, S.L.N.A. and J.J.-V.; Project administration, K.K. and W.S.; Resources, M.Á.E.F. and W.S.; Software, S.L.N.A.; Supervision, J.J.-V. and W.S.; Validation, J.J.-V. and K.K.; Visualization, M.Á.E.F. and K.K.; Writing—original draft, S.L.N.A., M.Á.E.F. and K.K.; Writing—review and editing, J.J.-V., M.Á.E.F. and W.S. All authors have read and agreed to the published version of the manuscript.

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**Data Availability Statement:** The dataset generated for this study is available at: https://cutt.ly/EA4uwUf (accessed on 3 April 2022).

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

## Appendix A

**Table A1.** Total bank branches, bank branches per 100,000 inhabitants and bank branches per 1000 $m^2$ for each voivodeship, population, surface and density.

| Voivodeship | Total Bank Branches | Bank Branches per 100,000 Inhabitants | Bank Offices per 1000 $m^2$ | Population | Surface ($km^2$) | Population Density (inhab/$km^2$) |
|---|---|---|---|---|---|---|
| Dolnośląskie | 803 | 27.68 | 40.26 | 2,901,225 | 19,946.70 | 145.0 |
| Kujawsko-Pomorskie | 570 | 27.43 | 31.72 | 2,077,775 | 17,971.34 | 114.7 |
| Łódzkie | 725 | 29.40 | 39.79 | 2,466,322 | 18,218.95 | 133.8 |
| Lubelskie | 650 | 30.69 | 25.87 | 2,117,629 | 25,122.46 | 83.4 |
| Lubuskie | 261 | 25.73 | 18.66 | 1,014,548 | 13,987.93 | 72.0 |
| Małopolskie | 848 | 24.94 | 55.85 | 3,400,577 | 15,182.79 | 224.6 |
| Mazowieckie | 1730 | 32.02 | 48.65 | 5,403,412 | 35,558.47 | 152.6 |
| Opolskie | 285 | 28.89 | 30.28 | 986,506 | 9411.87 | 103.8 |
| Podkarpackie | 531 | 24.94 | 29.75 | 2,129,015 | 17,845.76 | 118.9 |
| Podlaskie | 358 | 30.30 | 17.73 | 1,181,533 | 20,187.02 | 58.1 |
| Pomorskie | 619 | 26.53 | 33.81 | 2,333,523 | 18,310.34 | 128.2 |
| Śląskie | 1064 | 23.47 | 86.27 | 4,533,565 | 12,333.09 | 364.3 |
| Świętokrzyskie | 301 | 24.24 | 25.70 | 1,241,546 | 11,710.5 | 103.8 |
| Warmińsko-Mazurskie | 492 | 34.43 | 20.35 | 1,428,983 | 24,173.47 | 58.6 |
| Wielkopolskie | 982 | 28.11 | 32.92 | 3,493,969 | 29,826.5 | 117.1 |
| Zachodniopomorskie | 454 | 26.69 | 19.83 | 1,701,030 | 22,892.48 | 73.7 |
| Poland | 10,673 | 27.79 | 36.46 | 38,411,158 | 292,732.97 | 122.4 |

Source: Own elaboration based on data from (Narodowy Bank Polski-Central Bank of Poland, 2022) and [75].

## Appendix B

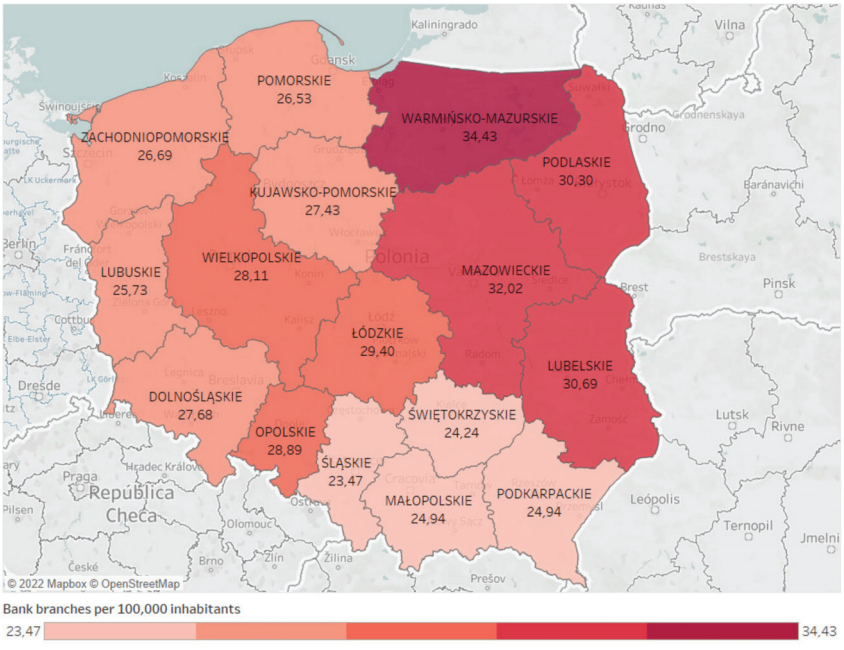


**Figure A1.** Voivodeships with the fewest bank branches per 100,000 inhabitants. Source: Own elaboration based on data from Table A1 and Tableau Desktop Professional Edition.

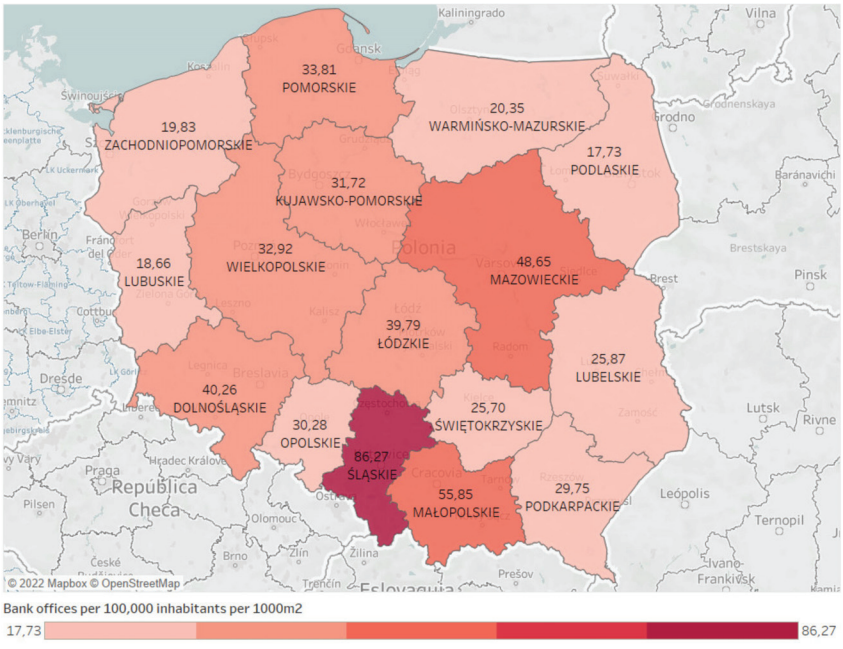


**Figure A2.** Voivodeships with the fewest bank offices per 1000 $m^2$. Source: Own elaboration based on data from Table A1 and Tableau Desktop Professional Edition.

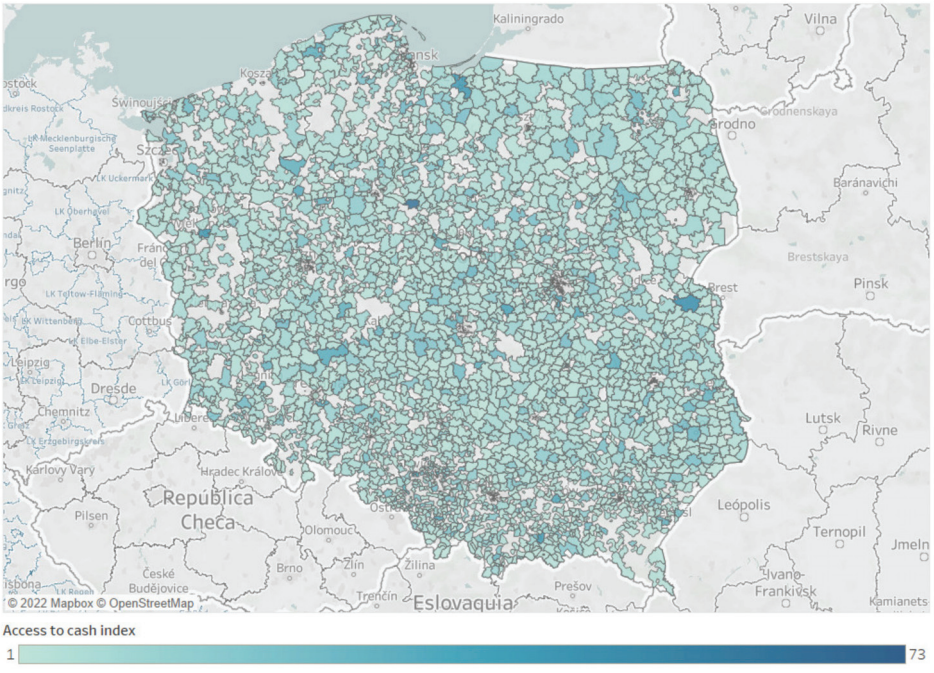


**Figure A3.** Map with ACI results for the whole of Poland. Source: Prepared by the authors using Tableau Desktop Professional Edition.

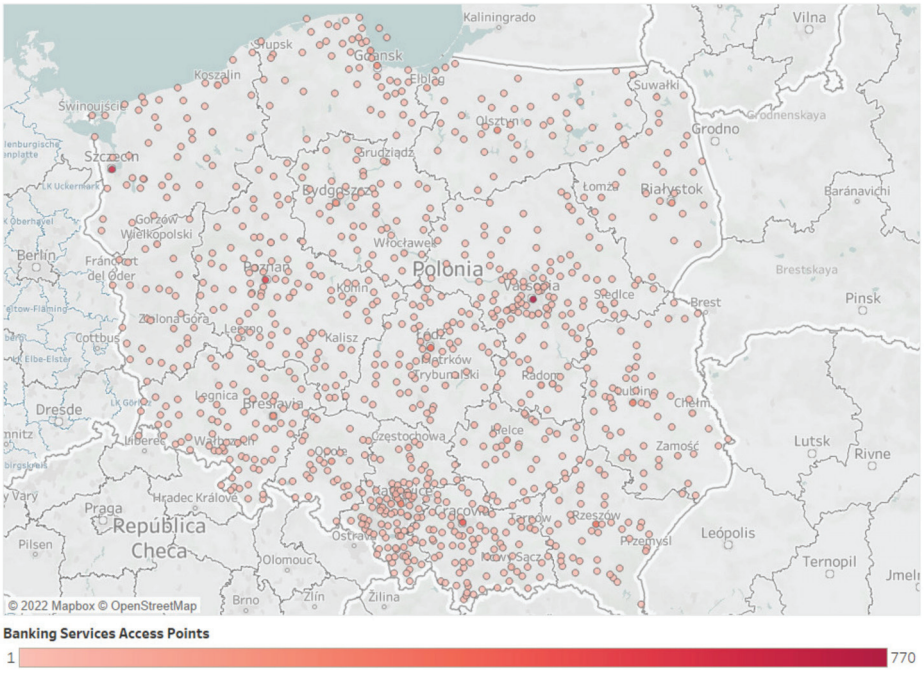


**Figure A4.** Map with access to banking services points for the whole of Poland Source: Prepared by the authors using Tableau Desktop Professional Edition.

**Table A2.** Higher scores (per city) derived from applying the ACI.

| City | Score |
|---|---|
| Warszawa | 770 |
| Szczecin | 648 |
| Poznań | 538 |
| Kraków | 433 |
| Łódź | 356 |
| Rzeszów | 320 |
| Lublin | 262 |
| Katowice | 241 |
| Wrocław | 220 |
| Gdańsk | 212 |
| Bydgoszcz | 206 |
| Olsztyn | 198 |
| Białystok | 176 |
| Gdynia | 137 |
| Kielce | 125 |

Source: Own elaboration based on data from (Narodowy Bank Polski-Central Bank of Poland, 2022) and the application of the ACI.

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# The Influence of the Organizational Culture of Andalusian Local Governments on the Localization of Sustainable Development Goals

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**Abstract:** Local governments are key to establishing public policies linked to the 2030 Agenda. To achieve the Sustainable Development Goals (SDGs), public innovation is essential, and one of the essential pillars is transversality and partnerships (internal and external). This implies a transformative political, technical, and institutional culture that some authors have called, in the case of Andalusia, Spain, a "culture of solidarity", as many of the elements of the 2030 Agenda are established within local organizations. This article aims to answer the question: Do Andalusian local authorities have an organizational culture and structure that facilitates the localization of the SDGs? To do so, it analyzes the conditioning factors, facilitators, and barriers that exist in local governments to advance in the mainstreaming of the localization and development processes of the 2030 Agenda in their territories. A study has been carried out on the perception of local technicians and the assessment of their own organization aligned with the 2030 Agenda. The results obtained indicate that local governments in Andalusia have made efforts to establish social actions and policies against poverty. The 2030 Agenda is perceived as an opportunity to transform local entities, with more open, collaborative, transversal, and interconnected institutions.

**Keywords:** public policies; local development; decentralization; 2030 Agenda; human development; multilevel governance; organizational culture; culture of solidarity

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## 1. Introduction

Territorial and local governments are essential organizations for generating local development processes [1] but they are not the only administrations within the territory, which is why multilevel articulation between the different levels of government ensures that local government is not isolated and invisible to national or international administrations, allowing for the proper localization of development processes and the 2030 Agenda [2].

This 2030 Agenda approved by the United Nations and its 17 Sustainable Development Goals (SDGs) [3] represent an opportunity for local governments to incorporate solidarity and sustainability policies into their development plans and their own internal structures, emphasizing the importance of local governments through the localization concept of the SDGs.

"Localization relates both to how the SDGs can provide a framework for local development policy and to how local and regional governments can support the achievement of the SDGs through action from the bottom up and to how the SDGs can provide a framework for local development policy" [4].

This article will address the case of local governments in Andalusia. This region in southern Spain is the most populated in the country [5] but it is also recognized for

its involvement in decentralized international cooperation and active participation in international platforms of local governments [6]. These international platforms prioritize the 2030 Agenda among their actions, thus allowing Andalusian local governments to be especially sensitive to the Agenda itself. This can be seen in some examples of localization of the SDGs carried out by Andalusian territories such as the Provincial Council of Huelva or the City Council of Palma del Río [6,7].

However, this article aims to develop a deeper understanding of how the 2030 Agenda has also entered the organizational structures of local governments in this region, in other words, how local governments that are sensitive to the Agenda are in turn organizational structures that internally have the values of the SDGs. This issue has already been addressed theoretically by the Andalusian Fund of Municipalities for International Solidarity (FAMSI), which published a study on the existence of a "culture of solidarity" [8] on the part of the Andalusian territories, which allows the generation of more supportive and just institutions and territories.

To carry out this research, the key informants have been the technicians who are part of some local administrations of Andalusia, which are the main agents of the territory. This will favour an initial perception that will allow the proposal of strategies for the mainstreaming of the 2030 Agenda by local governments.

Therefore, the key question of this research is the following: Do Andalusian local authorities have an organizational culture and structure that facilitates the localization of the SDGs? As basic cross-cutting elements of an institution's internal structure, communication, and innovation enable institutions to be strengthened in order to address the fight against poverty as a first-level strategic challenge. As this is a perception study, this question will be answered through the perception of local technicians in their own organizations. The result will allow us to assess whether the 2030 Agenda is an opportunity to innovate and promote a culture of solidarity that allows local governments to be more open and collaborative. To answer this question, a study was carried out on the perceptions of technicians from 35 local governments from different provinces of Andalusia. This study focuses on exploring these technicians' assessments of their organizations' alignment with the 2030 Agenda. This analysis is based on three fundamental elements: (1) innovation in the management of local governments as a strategic element to increase effectiveness and efficiency in the SDG localization processes; (2) communication, both internal and external to local entities, as an articulating axis of SDG localization, exploring the perception of the need to change the communication model that is being implemented; (3) the fight against poverty as a central challenge of the 2030 Agenda in the territorial context of Andalusia.

### *1.1. Sustainable Development: 2030 Agenda and Public Policies*

The 2030 Agenda, which was approved by the United Nations Assembly in 2015 with the title "Transforming Our World: The 2030 Agenda for Sustainable Development", consists of an action plan that is specified in 17 Sustainable Development Goals (SDGs) and 169 specific goals "in favour of people, the planet and prosperity" [3].

The SDGs that comprise the Agenda are characterized by being (a) universal, since to achieve their goals, the collaboration, coordination, and work of governments, the private sector, civil society, and citizens are necessary; (b) multidimensional, since they will address the interconnected elements of sustainable development: economic growth, social inclusion, environmental protection, and the necessary political-institutional response. The preamble of the Agenda itself recognizes that social development and economic development depend on the sustainable management of the Earth's natural resources [9]; (c) having a comprehensive approach that allows analysis and seeks answers from different areas; (d) leaving no one behind, which involves working on initiatives that promote integration and ensure that all inhabitants can live in cities and human settlements that are fair, safe, healthy, accessible, affordable, resilient, and sustainable; (e) measurable, since it is essential to analyze and evaluate the degree to which the goals are fulfilled [3]. As established in previous studies, it will be impossible to implement the SDGs without the

work of local governments [10], as they are a fundamental space for meeting with the rest of the local actors within the territories. As such, local governments could develop their capacity to catalyze and coordinate the SDGs at the local level, supporting, strengthening, and empowering other territorial actors in their efforts and ensuring that the 2030 Agenda is addressed in a collaborative and pluralistic manner [11].

The fight against poverty has special relevance in the Agenda, as pointed out by the network of United Cities and Local Governments (UCLG). The Agenda asserts that poverty is the greatest problem facing humanity and that the SDGs must therefore prioritize the eradication of poverty and hunger, placing people "at the centre of sustainable development". However, it warns that this will depend on a true "global partnership for sustainable development", involving governments, society, the private sector, and multilateral agencies [12]. These interrelationships represent a strategy that must be supported by all actors in society and is important for the sustainable management of urban ecosystems [9]. In this study, this is particularly emphasized, since for Andalusian local governments, ending poverty is the main challenge of the Agenda, given that, as mentioned above, Andalusia is a region with a high level of inequality compared to the European context. SDG 1 addresses poverty from a multidimensional point of view and, therefore, requires multiple coordinated responses beyond the sector. Local governments have a leading position in identifying the reality on the ground and assessing the resources and services that are available and necessary for addressing this complex and multifactorial reality in a complex and innovative way. They should provide collaborative and coordinated leadership of territorial actors using strategies and initiatives for local economic development that allow the creation of jobs and increase income through a commitment to decent work; additionally, they should raise awareness and generate capacities to increase their communities' resilience to shocks and disasters [13].

To work on this universal roadmap, territorial and especially local governments must take a central role in the proposal; at the same time, they should take a broader perspective that considers the consequences of actions in the medium and long term [3].

These actions should bring together all social, cultural, educational, economic, and political agents and provide an opportunity to design frameworks of action that are adapted to each local reality in a participatory way, "without leaving anyone behind and endowing all public actions and policies with a transversal vision of sustainability in a triple economic, social and environmental dimension" [13].

### *1.2. The Articulation of Governance for Sustainable Development. New Perspectives on Management in Local Governments and the Inclusion of Citizenship in These Decisions*

Among the lessons learned from the Millennium Development Goals (the antecedents of the SDGs), it should be noted that many of the expected results were not met because the role of local governments, essential actors for development, was instrumental [1]. In other words, they served to be used as channels for external universal development, without taking into account their capacities and their own territorial, social, and cultural context. To achieve the SDGs, there is a sine qua non condition, which is the design of stable institutions and structures capable of guaranteeing their development, as stated in SDG 16 (Peace, Justice and Solid Institutions). The role of local and regional governments and their associations in achieving the SDGs is crucial; it is at this level that one of the guiding principles of the Agenda, the equality approach or its slogan "Leave no one behind" can be preserved for implementation at the national level, since all of the SDGs are related to competencies and responsibilities of the local sphere, mainly in the provision of basic services and in the promotion of endogenous, inclusive, and sustainable territorial development [14]. In this regard, it is essential that local governments address the institutional and political barriers to Agenda developers while reflecting on the experiences of previous initiatives (such as Local Agenda 21) [11] and being encouraged to generate innovations.

Understanding public innovation from a broad perspective covers not only the "products" and/or services that are provided but also the processes, approaches, methodologies,

and results (expected and contingent). It also contemplates the learning and knowledge that are generated and are sometimes unforeseen, even in an area where the systematization and transfer of knowledge is not very frequent. In short, public innovation is understood as changes that are not always disruptive and that have been shaping new approaches and working methods in local entities and have generated new visions of the role of local management in response to the needs of people and territories [15].

These initiatives involve the generation of organizational innovations that move from hierarchical, closed, compartmentalized organizations that are accustomed to communicating unidirectionally with citizens (which generates silos, bottlenecks, excess bureaucracy, authoritarian leadership, etc.) towards institutions that "learn, that think of themselves as networks and introduce rhizome dynamics into their architectures (opening and allowing spaces for the free circulation of ideas, where creativity is encouraged)" [16].

It is a matter of addressing global and local challenges that are complex, "wicked" problems [17] through collective and multidimensional contributions and designing polycentric governance systems based on decentralized and shared decision-making processes (diversity, participation) that are coordinated with each other (connectivity, feedback) [18].

From the municipal perspective, the local governance approach highlights the encounters of people and citizens with the public services that are provided in the territory and that seek to respond to the needs with the greatest impact on their daily life [19].

To this end, the collaborative governance experiences of community management systems that comprise intersectoral teams of public–private and citizen networks that address the problems and challenges of the territory in a systemic way that values collective intelligence [20].

This concept not only broadens the systems' radius of action and their external connectivity but also reactivates their internal strengths, reveals hidden leadership, multiplies the social value produced, and maximizes the efficient use of resources in a time of limitations [16].

This is especially significant given the need to generate new critical perspectives, effective responses, and social innovations in the local fight against poverty in a way that considers the multidimensional, systemic, complex nature of this structural challenge in Andalusian society.

Social and public innovation efforts involve focusing on the opportunity provided by the mainstreaming of the 2030 Agenda. It implies a new culture, a way of being and doing things that involves the "weaving" of relationships, learning, and complicities, advancing from knot to knot until a common, open, and diversified space is formed in which new initiatives, proposals, and endeavours are added [8].

Mainstreaming the SDGs into local management goes beyond interdisciplinarity and mere processes of consultation or dialogue (which are always necessary), since interdisciplinarity does not imply new points of view or new objectives that differ from those of a sectoral nature. In contrast, it requires planning, commitment, shared responsibility, and the full capacity to implement actions. It obeys a paradigm of public governance in which co-responsibility and teamwork prevail. It involves focusing the attention of local governments on localized universal objectives and goals and improving the consistency and coherence of the implemented strategy to achieve the intended purposes [8].

Previous studies on innovation management in public entities anticipate barriers to this process [21]. Such barriers include those who support a hierarchical, bureaucratic, compartmentalized, and disconnected organizational design with excessively departmentalized, siloed services that sometimes feed into a "not my job" logic [22]. Under such conditions, there is little transversality or capacity for anticipation and planning. Additionally, internal and external communication lack a transversal nature and adequate bottom-up flows [21].

Authors such as Cristina Sala Valdés [23] dismiss the weight placed on communication and information in the 2030 Agenda as irrelevant. For experts, little importance is given to communication processes. Communication for development is not mentioned, although this concept was present in the previous Millennium Development Goals [23].

The current SDGs focus mainly on a more instrumental conception of communication and are especially linked to information and communication technology (ICT). SDG 9 (Industry, Innovation and Infrastructure) cites the improvement of infrastructure, including digital infrastructure, as an essential element to guarantee inclusive, equitable, and sustainable socioeconomic development. Similarly, this objective focuses on the need to reduce the digital divide. As indicated in target 9.c, access to information and communication technology should be significantly increased, and universal and affordable access to the internet should be sought in the least developed countries by 2020. As indicated by the United Nations, more than 4 million people, 90% of whom are located in developing countries, do not have internet access [24]. This gap, which was aggravated by the COVID-19 crisis, is increasing among the most vulnerable groups in society. To the same extent, as recalled by Jones, Wyin, Hillier, and Comfor [24], this effort to expand and improve digital accessibility is of interest to large technology companies, which view this objective as a new business opportunity. For Van Deursen [25], a vicious circle is being fed in which the most vulnerable groups are being even more marginalized in times of crisis. However, it is necessary to turn to SDG 16 (Promote Just, Peaceful and Inclusive Societies), which, in its goal 16.10 (Guarantee Public Access to Information and Protect Fundamental Freedoms, In Accordance with National Laws and International Agreements) references the role of the media as information channels and the right of citizens to be informed and, therefore, moves away from the broad, transversal and co-responsible approach of communication for development, social change, or transformative work.

Additionally, it is important to note the commitment to construct, in a participatory way, an agenda led by multistakeholder representatives of society, administrations, and the academic and business world. Participation is granted such relevance that it is an essential element of a new governance proposal specified in some of the SDGs (see Table 1).

**Table 1.** SDG goals with references to participation.

| SDG | GOAL | Reference to Participation |
|---|---|---|
| 5 | 5.5 | Ensure the full and effective participation of women and equal leadership opportunities at all decision-making levels in political, economic and public life. |
| 6 | 6.b | Support and strengthen the participation of local communities in improving water and sanitation management. |
| 11 | 11.3 | By 2030, increase inclusive and sustainable urbanization and the capacity for participatory, integrated and sustainable planning and management of human settlements in all countries. |
| 16 | 16.7 | Guarantee the adoption at all levels of inclusive, participatory and representative decisions that respond to needs. |
| 17 | 17.7 | Encourage and promote the establishment of effective alliances in the public, public–private and civil society spheres, taking advantage of experience and strategies for obtaining resources from these alliances. |

Source: Own elaboration.

The United Nations [26] recognizes the importance of citizen participation to the extent that for the Agenda to be carried out, the adoption of new behaviours and a reconfiguration of new social practices, values, and laws is required.

On the other hand, it is equally interesting to note the Agenda's initial concern regarding citizens' lack of knowledge of the purposes of the 17 SDGs. This concern was manifested in the declaration that "a citizenry committed to the tools to effect change—especially for groups that are at greater risk of being left behind—is an essential force for the advancement of sustainable development [...] Encouraging people to contribute, individually or collectively, expands resources for development and fosters human ingenuity for innovation" [26]. However, in 2019, the company IPSOS, in collaboration with the World Economic Fund, assessed the degree of knowledge of the 2030 Agenda in an adult population aged

16 to 74 years in 28 countries [27]. One of the results of this survey was that Spain was at the forefront of Europe in terms of knowledge of the Agenda, at 80% (only Sweden was ahead, with 86%).

The United Nations [26] notes that "individuals make decisions for many reasons and considering multiple sources of information. They are more likely to base their actions on firm evidence if it is communicated in a clear, interesting, and easy-to-understand way that stimulates action". This statement demonstrates the importance of communication and information as instruments for achieving the objectives and goals of the Agenda. It cannot be forgotten that this proposal is a roadmap towards models of more just, supportive, and sustainable societies with a clear aim to transform socioeconomic behaviours and practices towards a model of socioecological transition that guarantees well-being within the framework of the limits of the planet. In short, it means a change in attitude and aptitude that can only come from conviction and knowledge. For this purpose, it is necessary to resort to new communicative and informative models that favour this learning and these changes. As Blanca Miedes points out [28], this process involves learning to connect with the agency itself, with the capacity for transformation, and with other people, so that we finally believe that are capable of enacting transformation. To this end, a pluralistic communicative model is necessary and must be open to different voices and new narratives in which ICT provides assistance and tools for change.

### *1.3. Our Field of Study: Andalusia and the Organizational Culture for the Implementation of the 2030 Agenda*

The political changes in Spain, especially in local governments, as a result of various elections since 2015 and the agreements reached in the framework of the 2030 Agenda at the end of 2015 have had an impact on the commitment of local and regional governments to the localization of the SDGs [29].

Andalusia is a region in southern Spain that is divided into 8 different provinces with a total of 785 municipalities and a population of 8,465,236 [30]. Andalusia is the most populated region in Spain, with an average density of 97 inhabitants per square kilometre [30]. Social inequality is a much more pressing problem in Andalusia than in the rest of Europe [31]. Thirty-five percent of the population of Andalusia is at risk of poverty or exclusion, a rate that is above the Spanish average [31] (see Figure 1).

This level of poverty and inequality, however, has not prevented Andalusia from decentralizing cooperation in official development aid data; that is, the economic amounts transferred by local governments in Andalusia for official development aid for impoverished countries or for humanitarian aid sometimes exceed the funds transferred from countries with higher incomes [6].

Despite the fact that many disadvantaged areas in the cities of Andalusia have been the focus of different strategies and local initiatives to combat poverty through European, national, and regional funding, social vulnerability persists, and the current context of the COVID-19 pandemic has created a situation of increased social conflict [32].

Currently, Andalusia faces the challenge of addressing public innovation at the local level through the promotion of open government initiatives, innovation plans, and digital transformation. This challenge is motivated by the attempts to make administrations more democratic and efficient through political programmes aimed at configuring a new social, green, and digital contract within the framework of the 2030 Agenda [16].

The regional strategy for localizing the SDGs is led by the Andalusian Agency for International Cooperation for Development (AACID) [33]. However, from the data provided by the FAMSI, we also see that some municipalities, mainly partners of this fund, have very specific strategies for the localization of the SDGs; examples include the municipality of Palma del Río [34] and the provincial council of Huelva [7]. As such, these localities promote and develop specific communication, awareness, and training actions for technical bodies, local politicians, and citizens in general that value the Agenda and promote collaborative governance among territorial actors to achieve the proposed objectives and goals.

In the public space, the Agenda is proposed as an opportunity to adapt the administration and its services to citizens' demands with greater effectiveness, efficiency, and transparency. The transformation of local entities as agents of a paradigm shift in the administration in the face of the challenges and objectives that the 2030 Agenda proposes has made these organizations references for innovation due to their wide range of experiences, the diversity of their themes, and their results [15].

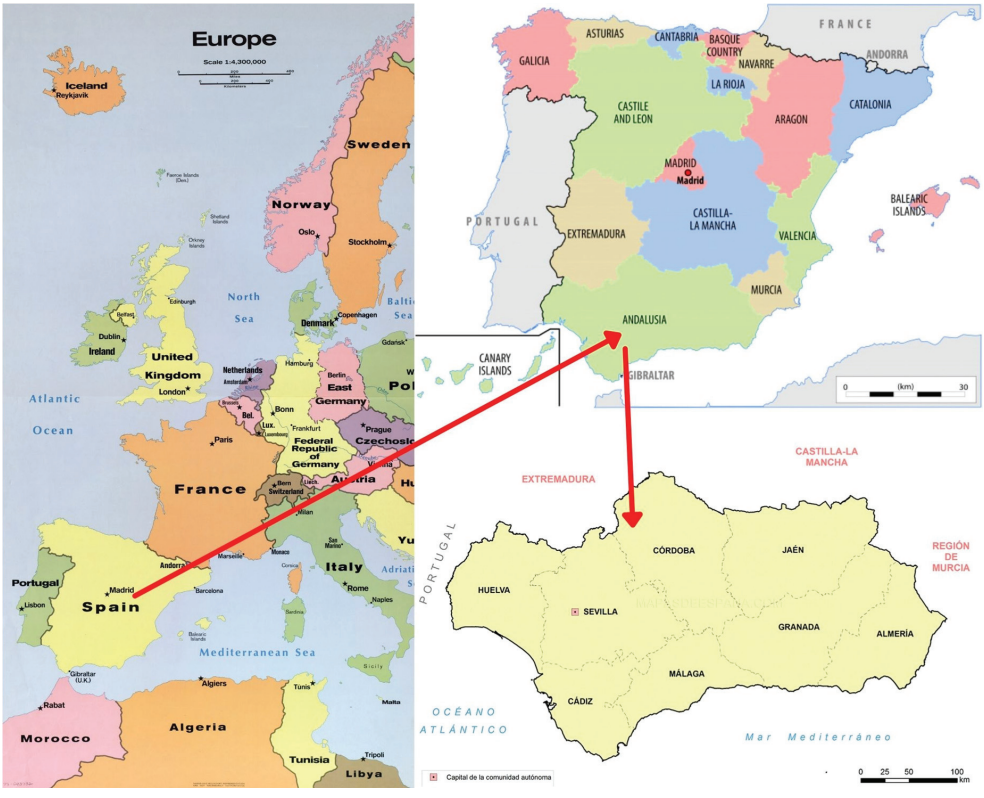


**Figure 1.** Andalusia map in Europe and provinces.

## 2. Materials and Methodology

The results presented in this study were obtained through a perception study conducted using two research techniques: a questionnaire and a focus group. As for the focus group, this qualitative technique allowed for the collection of data from the discussion and the subsequent qualitative analysis of the results obtained through a summative content analysis [35,36], used in other studies such as that of Pineda-Escobar [37]. These results are analyzed according to four questions (see Appendix B), in which participants' responses are grouped. With respect to the questionnaire, the data obtained through this quantitative technique were analyzed following the following steps, (1) coding, focusing on the assessment of the questions through the Likert scale [38], (2) analysis of the data once obtained and reviewed, and (3) qualitative analysis of the results obtained from the theoretical framework of the article [39].

Thirty-five local technicians from Andalusia, with a special focus on the provinces of Seville, Malaga, Huelva, Granada, and Cádiz, completed the questionnaire between January and September 2021. Questionnaires have been used in previous studies aimed at analyzing participants' perceptions on the topic of study [32]. The represented organizations are

essentially the elected councils of local governments. Most of the people who completed the questionnaires were local government technicians, but some were local politicians.

The questionnaires were administered virtually through the FAMSI virtual platform for specific training on the localization of the SDGs in local governments.

The questionnaire comprised 20 questions, of which 10 focused on SDGs and organizational structure, 5 focused on organizational communication, and 5 focused on poverty and local governments (see Appendix A).

The people in the sample were not required to identify themselves in the questionnaires, which established anonymity that would not interfere with their ability to answer the questions.

The questionnaire began with several questions regarding the participants' sociodemographic data that took into account not only information about the institutions to which they belonged but also factors such as their gender or whether they worked in the same place that they lived. The intention of these questions was to obtain information about the participants as citizens, not only as technicians. Each item was presented as a statement followed by a Likert response scale on which 0 indicated total disagreement with the statement, and 5 indicated total agreement [38].

The questionnaire focused on three dimensions of mainstreaming the 2030 Agenda:

- Organizational culture and governance: This section was the broadest because it involves elements related to the internal functioning of local organizations, thereby establishing a broad vision of their functioning. This section included questions 1 to 10 of the proposed questionnaire, which were divided into three blocks: Block 1: knowledge, leadership, and commitment to the localization of the SDGs, Block 2: SDGs as public innovation, and Block 3: territory and alliances.
- Internal and external communication: This section pertained to the communication processes and tools that local organizations propose to generate a more supportive institution that promotes fluidity of communication both within the organization and between the organization and the citizens of the territory in question. Items 11 to 15 addressed this issue.
- Local governance and poverty: This section focused on how local governments establish or prioritize public policies to combat poverty that promote the generation of processes for overcoming social exclusion or marginalization within their own territories. Items 16 to 20 of this questionnaire focused on this issue. The results of these 5 questions were divided into three blocks: Block 1: poverty and public policies, Block 2: poverty and influence of the organization on poverty situations, and Block 3: relevance Agenda 2030 with respect to poverty.

In order to deepen and discover the perception of the technicians responsible for the strategic and operational management of local governments regarding what generates or prevents a new perspective in local management to work on the 2030 Agenda analyzed in the organizational cultural dimension. Two focus groups were carried out with eleven people in each group made up of direct actors from local governments with experience in the process of localizing the SDGs at the territorial level in the eight provinces of Andalusia. These focus groups were held at the International University of Andalusia (UNIA) as part of a university postgraduate course on municipal international cooperation organized by FAMSI. In this research, Andalusian universities as territorial agents are important for their production of socially relevant knowledge [40]. With an understanding of the focus group as "an informal discussion among selected individuals about specific topics" [41], the topics were grouped into four open questions (see Appendix B), which allowed a deeper examination of two elements: mainstreaming and networking.

The focus group technique [42] allows us to stimulate the obtaining of a group response to a series of questions, thanks to the cooperation of those gathered to carry out a definite, clear, and consensual task. The aim was to gather the expert and well-founded opinions of a group of technical people directly linked to the strategic and operational management of

local entities. It was clear to us that the analytical point of view should prevail over the hermeneutic point of view.

The two focus groups were conducted simultaneously on the same day by two members of the research team with experience in the technique. The duration of the working session was 2 hours, distributed in 30 min periods for each question put to the group. All the participants belonged to different entities and the assignment to the focus group (1 and 2) was random.

The time allotted for each question was distributed among the actions of the proposal and clarification of the question by the moderator, time for individual analysis, compilation of the different answers, group discussion, and debate, agreement by consent of the answers, and the recording of the answers.

A diagram of this research process is presented in Figure 2.

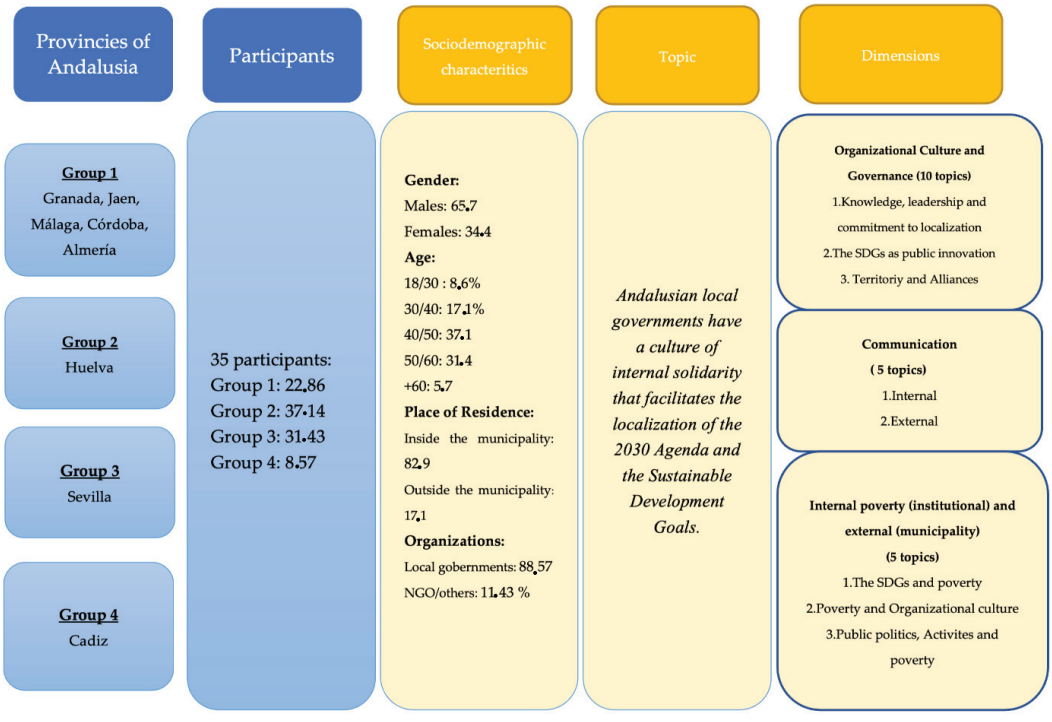


**Figure 2.** Chart diagram of the research design.

The results of the questionnaires and focus groups allowed an analysis of the perceptions of the technicians responsible for implementing local government policies aimed at sustainable development and the fight against poverty.

## 3. Results

### *3.1. Sociodemographic Profile of the Local Technicians*

The results were analyzed taking into account the different responses for each territory. Andalusia has eight provinces, each of which comprises different municipalities. The majority of the municipalities of Eastern Andalusia (Granada, Jaen, Málaga, Córdoba, Almería) were treated as a single group since they had a lower number of responses than the rest of the provinces.

Regarding the sociodemographic profile of the participants, the majority were middle-aged men, which establishes a masculinized, adult profile. Women comprised 34.3 of the participants. The age range was 40 to 60 years.

In terms of the participants' area of residence, the majority lived in the municipality where the local organization where they worked was located. This allowed the results to be considered on a dual level: from the perspective of the participants as local agents as citizens.

Regarding the participants' duration of work at the local organization, 40% of the interviewees had been there for less than 5 years, while 25% had been there for more than 20 years. These large differences distinguished among the profiles of local technicians (see Table 2).

**Table 2.** Sociodemographic characteristics.

| **Sociodemographic Characteristics** | | | |
|---|---|---|---|
| Provincie of origin | Group 1: Málaga, Jaén, Granada, Córdoba y Almería 23% | Group 2: Huelva 37% | |
| | Group 3: Sevilla 31% | Group 4: Cádiz 9% | |
| Participants' ages | + 60 5.8% | 50–60 31.4% | |
| | 40–50 37.1% | 30–40 17.1% | 18–30 8.6% |
| Years in local organizations | +20 25.7% | 10–20 11.4% | |
| | 5–10 22.9% | 0–5 40% | |

As the previous point indicates, this study focused on exploring local government experts' assessment of the alignment of their organizations with the 2030 Agenda. This analysis is based on three fundamental elements: first, exploring whether the implementation and localization of the SDGs requires a new organizational culture and innovative processes; second, determining how the internal and external communication of local entities is articulated to achieve the SDGs and exploring the perceived need to change the model of communication, and finally, identifying how the structure of the organization directly influences the fight against poverty. Below, the questionnaire results are discussed according to these three dimensions.

### *3.2. Results for the Organizational Culture and Governance Dimension*

Regarding the results obtained for the organizational culture and governance dimension (Questions 1 to 10), for the first block, which was linked to "knowledge, leadership and commitment to localization" (Questions 1, 2, 3, 6, and 10), we can state the following:

1. For the most part, the organizations know the SDGs, and there is interest in and commitment to the 2030 Agenda. The average response to these items was 3.71 out of 5 points, with 80% of the responses ranging from 3 to 5 and 60% ranging from 4 to 5.
2. There is clear team leadership in the local entities for the promotion of the 2030 Agenda. The average score for related items was 3.74 out of 5 points, with 82.9% of the responses ranging from 3 to 5 and 60% ranging from 4 to 5.
3. Although a 71.4% majority of the people surveyed affirmed that the SDGs are part of the design, planning, management, and evaluation of policies, programmes, and

budgets for their territory, there was a significant 28.6% rate of negative responses (0 and 1).

4. Regarding knowledge about the localization of the SDGs in local entities, there was a significant negative response rate of 22.9%.
5. More than 37% of the respondents stated that they do not work comprehensively with the 17 SDGs but focus more on some than others, while 37.1% indicated that they work with all of the SDGs without emphasizing some over others (indicated by scores of 4 to 5, inclusive) (see Figure 3).

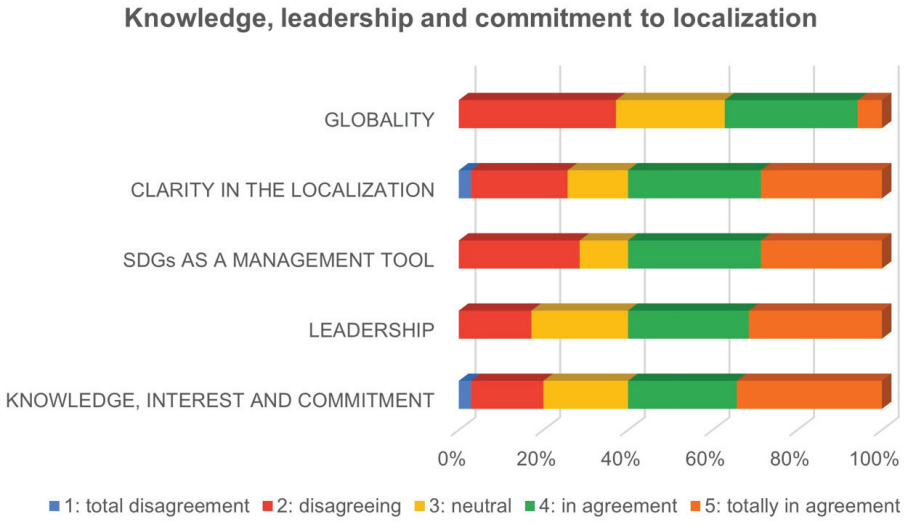


**Figure 3.** Knowledge leadership and commitment to localization.

In terms of items related to "SDGs as public innovation", 100% of the respondents affirmed that to achieve the SDGs, it is essential to have more innovative, open, connected, and transparent entities. This affirms the view of the SDGs as an opportunity to work in a different way internally and promote collaborative and transversal work processes among different areas and/or units of local governments (see Figure 4).

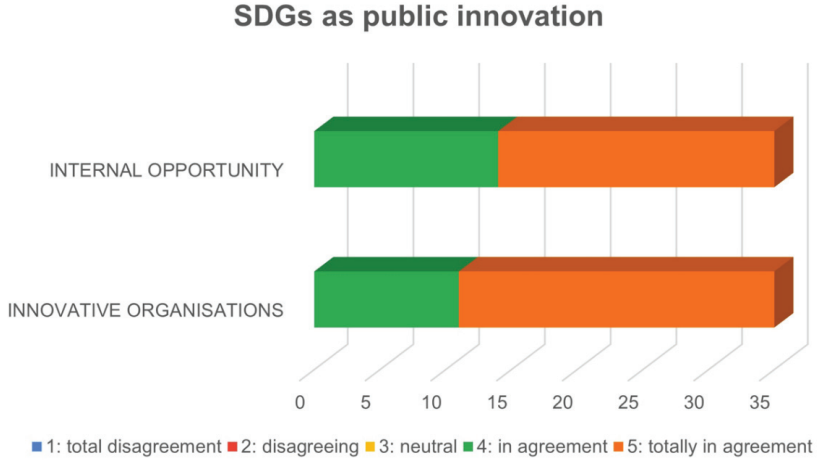


**Figure 4.** SDGs as public innovation.

From the analysis of Block 2, "territory and alliances" (questions 7, 8, and 9), we can affirm the following findings:

(1) Slightly more than half of the respondents (54.3% who responded with scores ranging from 4 to 5) affirmed that their work takes the state and regional programmatic framework on the localization of the SDGs into account, but 25.7% stated that they do not work under this contextual premise (as indicated by scores of 0 and 1).

(2) There was a significant diversity of responses regarding the alignment of the SDGs and the 2030 Agenda with the instruments and tools of local planning, representing differences in realities and approaches. We observed responses throughout the range from 0 to 5, with 54.3% of the respondents providing positive responses and 28.6% providing negative responses.

(3) Only 14.6% of the representatives of local entities stated that they do not interact or establish alliances with other key local agents, such as companies, social organizations, universities, etc., for the purpose of localizing the SDGs. The majority of the respondents (31.4%) claimed to occupy an intermediary position (3) (see Figure 5).

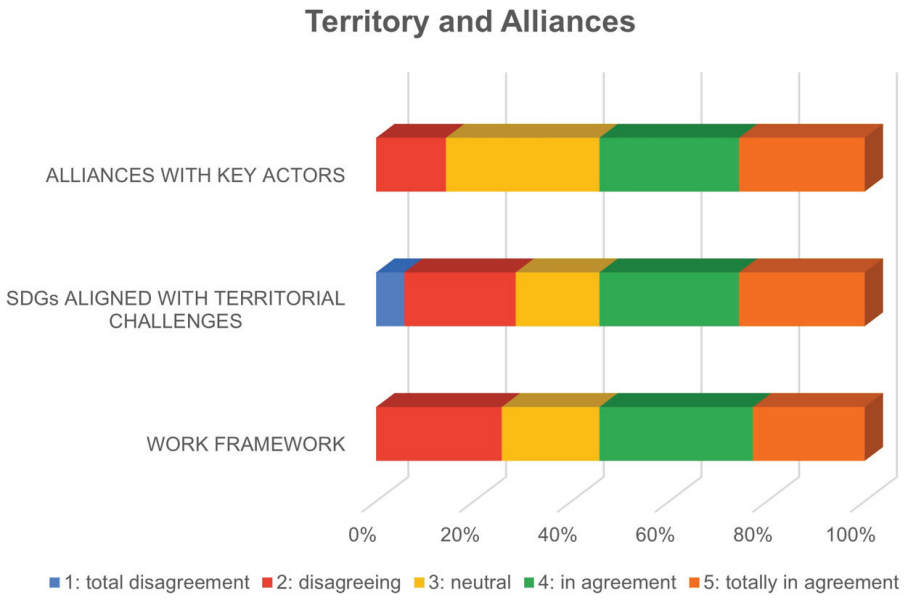


**Figure 5.** Territory and alliances.

These results were contrasted with the information obtained from the two focus groups of localization and local governance experts from local Andalusian governments.

### *3.3. Results for the Internal and External Communication Dimension*

Regarding local organizations and communication, that is, in communicative terms, most of the participating Andalusian actors held the conviction that internal and external communication is necessary. The results can be observed in Figure 6.

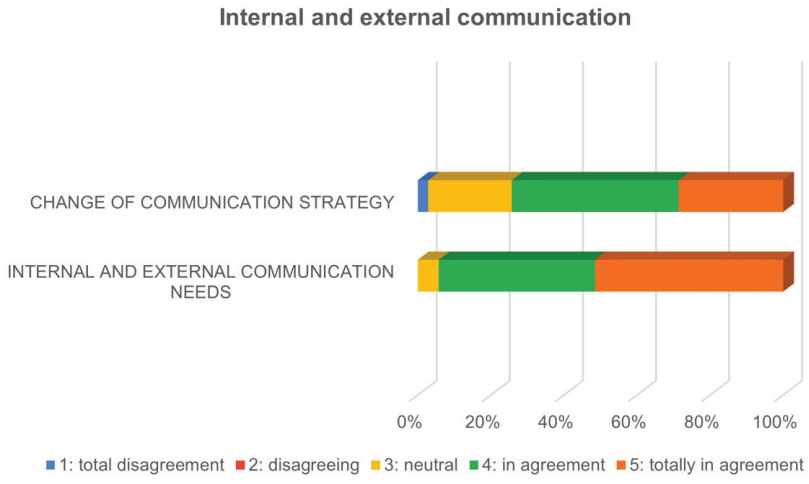


**Figure 6.** Internal and external communication.

*3.4. Results for the Poverty and Local Governments Dimension*

The responses to the questions related to poverty and local governments showed results similar to those of the other two dimensions. The scores were uneven with an upwards trend; that is, the location technicians from different provinces of Andalusia indicated that there has been a slight increase in the establishment of public policies that favour the 2030 Agenda and, more specifically, the fight against poverty. However, the result was not clear, and the degree of appreciation for this goal appears to be moderate, as Figure 7 shows.

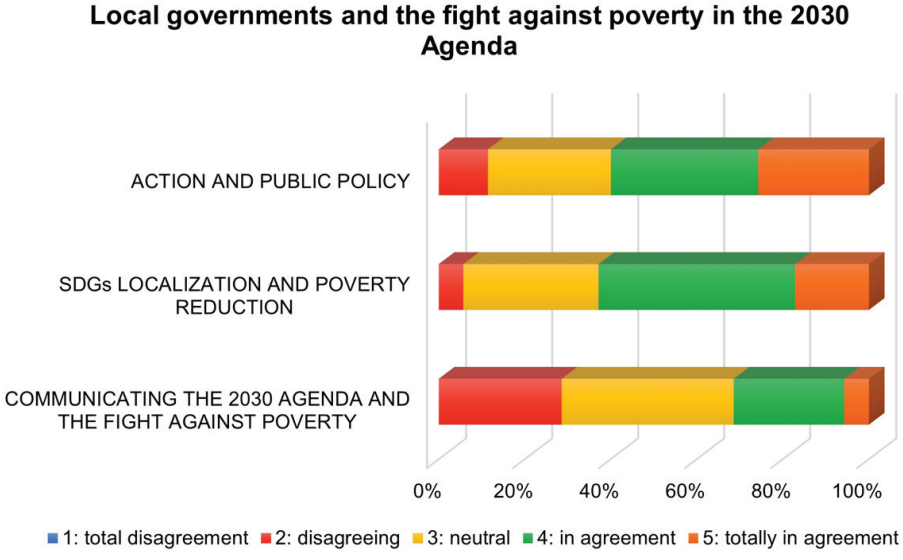


**Figure 7.** Local governments and the fight against poverty in the 2030 Agenda.

The results regarding the local technicians' perceptions of their organizations' influence in situations of poverty were also diverse. No clear positive or negative perception was evident, as Figure 8 shows.

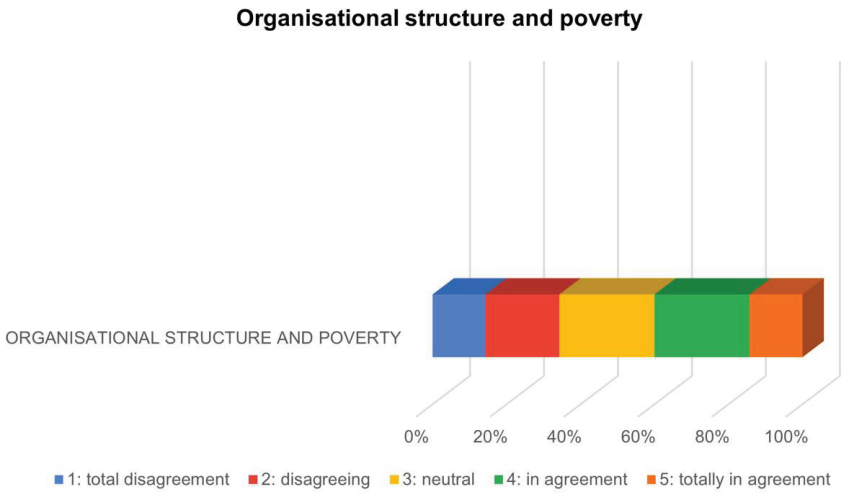


**Figure 8.** Organizational structure and poverty.

To conclude this section on poverty and local governments, the local technicians' perception of the relevance and adequacy of territories' actions to alleviate local poverty was established. The trend was similar to those of the previous dimensions of this block; that is, there was no clear direction of the local technicians' responses, but they were slightly favourable. The results of the responses for this section are presented in Figure 9.

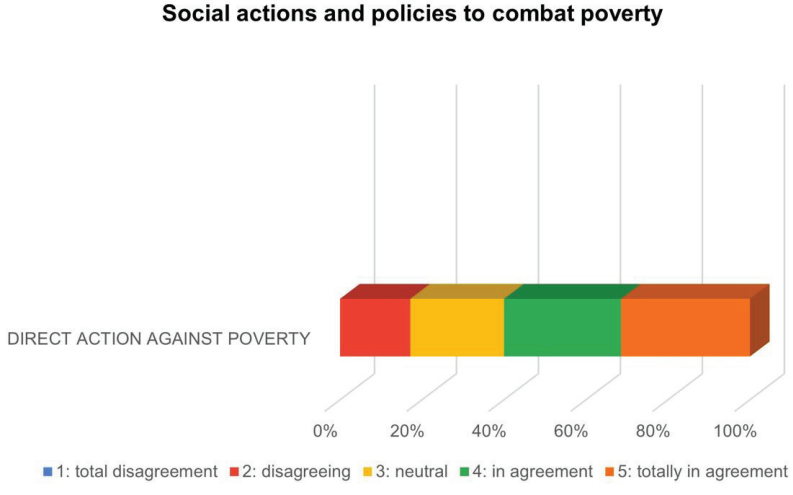


**Figure 9.** Social actions and policies to combat poverty.

## 4. Discussion

In this article, several local governments representing the provinces of Andalusia were approached to determine technicians' perceptions regarding their organizations' localization of the 2030 Global Agenda.

On the one hand, regarding the sociodemographic aspect of the sample, it is interesting to note that most of the local technicians were men, and a minority were women, which establishes a lack of equality within the organizations themselves.

In terms of age, a high percentage of the local technicians in Andalusia were older than 40 years, which prompts a generational analysis of the results.

*4.1. Organizational Culture and Public Innovation*

Regarding the results obtained for Dimension 1, regarding organizational culture, the analysis of Block 1 affirmed that the SDGs are known by local entities. There is a certain interest in and commitment to the 2030 Agenda among the people who comprise the organization, and it is promoted by both political and technical leadership. Localization processes are known, although not all of the SDGs are addressed. The Agenda is considered in the design, planning, management, and evaluation of policies, programmes, and budgets for the territory and its citizens, in line with the contributions that have been made by the theory [43]. However, there was a degree of dispersion in the results that was not linked to the size of the locality, the type of entity (city council, county council), the function of the participant (political, technical), or the participant's seniority in the entity. Individual and motivational aspects may explain the differences in the knowledge of localization and the synergy among territorial planning processes. These results allowed the conclusion that the Andalusian local entities acknowledged the SDGs as a roadmap for the development of the territory and an opportunity to design and develop training and awareness actions to expand the radius of action and the impact of the SDGs. Within the same block, the responses to the questions related to the SDGs as public innovation showed that there is practically a consensus acceptance of this role as a sine qua non condition that allows Andalusian local entities to achieve the SDGs and to generate, promote and sustain these processes and public innovation initiatives. To this end, innovative, open, connected, and transparent local entities are needed, in line with those proposed in SDG 16. To advance these goals, working with and localizing the SDGs presents an opportunity to promote collaborative and transversal work processes among different units and/or areas. In this sense, Beck [44] proposes that the public sector must transform itself in terms of both its modes of internal organization and its relations with the other actors involved, to lead these processes. This commitment to mainstreaming as a public innovation implies a new culture, a new way of being and doing things in the local administration that is not exempt from difficulties, conditioning factors, barriers, and facilitators, as was previously pointed out in the contributions of Cerezo, F. [21] and by the focus groups conducted in the research. Hence, this article aims to delve into some of these elements from the perspective of the organizational praxis of local Andalusian entities.

To this end, focus groups were conducted to allow experts to contrast the results obtained regarding the articulation of networks and the mainstreaming of the SDGs. From the analysis of the contributions of the local management and cooperation experts who participated in the focus groups, we determined that mainstreaming the SDGs into Andalusian local governments necessitates the following steps:

a. Publicize and recognize the 2030 Agenda as a framework for all sectoral areas and for all work teams and raise awareness of its impact and scope, relating the work of the different areas or services (structures, procedures, etc.) with the Agenda itself and the objectives, goals, and indicators aligned with the 5 "Ps" (Planet, People, Prosperity, Peace, Partnership).
b. Identify with the local community (via a social map) its different and shared interests, achievable goals, and challenges (territorial missions) and integrate them into local work on the SDGs.
c. Work on the coherence and integration of the strategic planning of the entity and the territory.
d. Focus the organization's attention on a clear and shared purpose.
e. Embrace the participatory nature of localization, being respectful of proposals that are made and agreed upon by the different areas. This guarantees the commitment of those who must manage these proposals since it reduces the likelihood of discrepancies in the goals, the means, and opportunities to achieve them.

The main barriers and facilitating elements that were considered to have the greatest relevance and impact by the group of local management technicians after validation and grouping are presented in Table 3.

**Table 3.** Barriers and facilitating elements.

| Barriers | Facilitators |
| --- | --- |
| Resistance to change among the members of the local entity (due to a lack of information, knowledge, motivation, sense of purpose, and shared vision)<br>The difficulty of localizing an Agenda that is extensive and complex<br>Inflexible and innovative legislative frameworks and administrative procedures<br>Poor work culture and horizontal participation.<br>Exclusiveness of municipal areas and delegations<br>Lack of management policy and resources for dynamization and transversal cooperation between areas<br>Lack of economic, technical, human, and time resources<br>Lack of methodology that favours collaborative work<br>Lack of coordination among institutions (local, regional, state) | Comprehensive conception of citizenship (Global Citizenship)<br>A shared assessment that allows the identification and understanding of the content and the areas' needs<br>Commitment and institutional leadership that is open to change and learning<br>A (cross-sectional) SDG organization team that promotes, manages, monitors, and communicates<br>Economic, technical, human, and time resources<br>Continuous evaluation, ongoing periodic monitoring, and the establishment of simple, measurable, and optimal indicators<br>Shared learning of technical staff and political representatives<br>A decentralized organization and organizational culture of networking<br>Communication and transparency as a means of involving the entire organization<br>Visibility of commitments and results<br>Communication, awareness, and knowledge of local organizations and citizens regarding the municipality's 2030 Agenda |

Source: Own elaboration.

The analysis of Block 2, "territory and alliances" showed that local entities in coherence with the SDGs are aware that forming territorial and global alliances and working in a collaborative and coordinated way [45] with other local agents are keys to the successful localization of the SDGs and that it is necessary to advance the design and development of multilevel and multi-actor governance [46] within the state and regional programmatic framework on the localization of the SDGs.

There is an awareness, although it is not yet generalized among the study participants, of the need to articulate and align the SDGs with the other instruments and tools of territorial planning using well-founded indicators that are aligned with the objectives and goals of the 2030 Agenda.

### *4.2. The Importance of Communication in Local Governments*

In the dimension focused on internal and external communication, the responses occupied a middle ground, probably because there was no alignment of communication strategies with the objectives for implementing the Agenda in the territories. In some way, communicative strategies continue to be oriented towards generating information to be shared by media and informative channels rather than towards communication.

This approach clashes with the idea that the Agenda involves a process of transformation that guarantees development and a clear commitment to promoting a new model of governance. This echoes Bordenave's [47] idea that to reach another possible world (the slogan of social movements in the summits and forums of the Millennium Development Goals), another communication model is necessary, one that is based on the hybridization of the knowledge and contributions of experts, academics, theorists, and professionals who have endowed communication and information with eco-social, edu-communicative and transformative values for social change, etc. We refer to the vision and educational action and dialogue of Freire [48]; of communication as an instrument for development, as proposed by Alfonso Gumucio [49] and Rosa María Alfaro [50], and the eco-social commitment argued in the communicative models of Manuel Chaparro [39,40] and Alejandro Barranquero [51].

Therefore, the question is whether transformative communication can contribute to the achievement of objectives and goals for the transformation of our world? Some previous studies have addressed this issue. Javier Erro [52] considered that communication with a social focus is a space that allows confluence and collective construction. Feijoo [53] discussed communication strategies for generating awareness and encouragement. The

Food and agriculture organization of the United Nations itself [54] endorsed the document known as the Rome Consensus, which stated that communication for development is a social process based on dialogue that uses a wide range of instruments and methods. It has to do with seeking change at different levels, which includes listening, building trust, sharing knowledge and skills, establishing policies, debating, and learning, with the aim of achieving sustained and significant change. This argument reinforces the idea of positioning communication as an essential factor in guaranteeing sustainable human development in terms of social and economic aspects [54].

It is proven that the 2030 Agenda goes beyond the spaces of international negotiation. It is a proposal that affects people and their territories. That forces an individual, collective response, from the local but without ceasing to be part of the global effort to solve the current challenges. That is why the importance of making the SDGs local and that they are present in the sphere of municipal politics and the daily life of citizens. This collective effort obliges in communicative terms to break its functional practice associated exclusively with disseminating content, mostly unidirectional, to move to environments that promote the participation and co-responsibility of citizens in the design and execution of sustainable development.

### *4.3. Local Governance and the Fight against Poverty*

The last part of the analysis examined the dimension related to the fight against poverty. For the 2030 Agenda, poverty is the greatest problem facing humanity and that is why the SDGs prioritize the eradication of poverty and hunger, placing people "at the centre of sustainable development" [12], hence the importance of establishing this dimension within the organizational structures of local governments, linked to the localization of the SDGs, especially if we take into account the context of Andalusia where it is a central problem if we compare it with the rest of European countries. Moreover, despite the guaranteed income policies, the results in terms of escaping poverty have been satisfactory [55]. Three questions were established to focus on three aspects. First, we examined the relationship between the internal communication of the organization and the 2030 Agenda. Second, we considered the localization of the SDGs in relation to poverty. Finally, we considered the territories' and organizations' actions and social policies regarding poverty. It is worth highlighting the importance of SDG 1, "end poverty", which is perfectly related to SDG 11, "make cities and human settlements inclusive, safe, resilient and sustainable" [56].

As we have previously shown, the organizational structure is an element of relevant importance in the present investigation. However, from this point of analysis, the aim was to develop a vision that is more closely linked to how organizations influence strategies to combat poverty. In Spain, and specifically in Andalusia, poverty and social exclusion face a triple challenge: multilevel governance, the fragmentation of social policies, and the diversity of the network of actors involved in the fight against poverty [57]. In these three complex spaces, local governments have a presence through their role in multilevel governance, as those responsible for social policies and as part of the network of actors fighting poverty.

The results obtained in this study indicate that local governments in Andalusia have made slight efforts to establish social actions and policies for fighting poverty in the territory and within the organization, for their own workers and citizens. It must be noted that sampling was performed during the COVID-19 pandemic, a period in which social policies have a greater role than in the past. There is an emergence of policies during this period of post-COVID-19 recovery, policies have emerged that aim to reduce poverty and fight inequality and thus allow a future marked by territorial and social development [58].

## 5. Conclusions

In this article, local technicians' perceptions regarding their organizations and the 2030 Agenda were analyzed along three dimensions. The sample comprised technicians from Andalusian local governments that were familiar with the SDGs and showed an initial

political and technical will to work with them as a roadmap for sustainable development through their commitment to localizing these goals.

The results were analyzed to answer the research question "Do local technicians (technical staff) perceive that their organizations work transversally on the SDGs and the 2030 Agenda as an opportunity to innovate and promote a culture of solidarity that allows entities to be more open, collaborative, transversal and interconnected (within and among entities)?" The answer is certainly yes, since the SDGs and, therefore the 2030 Agenda, are perceived as an opportunity to transform local entities, with the understanding that localization requires a commitment to public innovation that allows entities to be more open, collaborative, transversal, and interconnected.

Although the answer to the research question is affirmative with respect to the technicians' perceptions, weaknesses were perceived in the mainstreaming of the 2030 Agenda within local organizations. These conclusions can serve to guide local governments in two ways. On the one hand, the importance of knowing the perception of the technicians in charge of implementing international policies, such as the 2030 Agenda; and on the other hand, the need to address a transformation of the organizational model of local governments for an efficient integration of the 2030 Agenda.

To ensure the robust mainstreaming of the Agenda within local governments with an emphasis on communication processes and the fight against poverty, the following key points are proposed:

1. Training and awareness: There is significant room for the awareness and training of technical and political teams ("without leaving anyone behind") of the Andalusian local entities to guarantee the sustainability of this process, driven by the talent of the people of Andalusian public entities from the inside out.
2. The 2030 Agenda as a local strategy: Given the difficulties of localizing an Agenda that is extensive and complex such as the 2030 Agenda, this could be the strategic and programmatic umbrella that would give a sense of shared purpose to all initiatives of a more regional and/or local, sectoral, or conjunctural nature. There is a need and opportunity to connect the global, universal, and multidimensional Agenda with the rest of the initiatives and tools for planning, management, and evaluation that have historically been developed at the local level, such as strategic plans, sector plans, local economic development projects like Agenda 21, etc. In the current context, such efforts involve connecting the 2030 Agenda with strategies to combat rural depopulation, the fight against climate change, the Next Generation EU European recovery programme, and the Recovery, Transformation and Resilience Plan of the government of Spain, which is structured around 10 leverage policies, including a commitment to an "administration for the 21st century". It would be interesting to focus on territorial missions that are sustained by powerful public–private alliances with broad citizen participation to address current and future challenges. This innovative proposal implies an important transformation of state and local administrations to open up and connect with territorial actors to focus on generating value.
3. Efficiency and strengthening of local capacities: Now is an appropriate time to generate and apply new ideas or significant improvements for public services and public organizations, especially local ones, within the framework of a new contract with citizens (starting with a comprehensive conception) based on ethics and the value of the public sphere. It is necessary to test new organizational models in public management that respond more effectively and coherently to the complex challenges of our societies and the needs and aspirations of a citizenry that is global and local, with open, socially innovative cultures and organization practices of lifelong learning. Andalusian local public entities must strengthen their capacities and generate knowledge, learning, and creativity in the service of the necessary transformations, despite having legislative frameworks and administrative procedures that are not very flexible or innovative.
4. Strengthen networking: There is awareness among local governments of the study of the need to network with territorial actors to provide more collaborative, democratic,

and connected governance for development that is aware of territorial challenges and includes citizens as co-creators and co-designers of innovative and effective responses and solutions to the problems experienced, among which poverty and inequality occupy a central place. It is important to enhance long-term visions, leadership and commitment, coordination, transversality, fluidity, and learning as key factors associated with institutional recognition and commitment, the exchange and permeability of experiences, and the sustainability of processes of necessary change. According to the experts who participated in the group interviews, it is necessary to design economic and fiscal incentives for networking and SDG alliances to ensure the transparency of the entities that make up the SDG ecosystem and to create plural and lasting spaces in which to build consensus.

5. Encourage participatory tools: Efforts to achieve the objectives set in the 2030 Agenda would involve strengthening the capacities of the local governments of Andalusia, including the development of participatory, innovative, and sustainable tools that guarantee transparency, good governance, participation, and citizenship as keys to promoting open governance that allows shared sustainable development and co-creation with citizens. Additionally, it would imply a commitment to transversal leadership that can mobilize the sectoral departments and does so from a comprehensive perspective.
6. A culture of solidarity as a foundation: We are facing an opportunity, if local and provincial government administrations in Andalusia understand the need to establish solidarity as a priority within the framework of the Sustainable Development Goals and the 2030 Agenda, and to prioritize solidarity and cooperation as central to their institutional purpose. Despite the resistance to change within these entities, the challenge is to generate innovative local administrations and establish powerful alliances to develop a transformative agenda, as anticipated in the 2030 Agenda and its well-intentioned title: "Transforming our world: The 2030 Agenda for Sustainable Development".
7. Improvement of communication processes: Communication and information cannot be relegated or have a minor influence or scarce resources without being planned or evaluated. Access to quality content contributes to generating critical and co-responsible citizenship with actors who promote a change in the development model that aims to place people and the environment at the centre of progress and comply with the maxim of "leave no one behind". The digital divide cannot be fought exclusively with an instrumental approach to ICT. These have to be allies for sustainable development, and for this, it has to be accompanied by edu-communicative processes.
8. Poverty as a fundamental issue in Andalusia: The variety of responses to the questions related to the fight against poverty show the importance of the diversity of local governments, and future research should examine why some municipalities received very favourable scores and others received very unfavourable ones. The diversity within the participating local organizations demonstrates the rich institutional variety in the region of Andalusia. However, despite this variety, poverty remains a common element among the territories and must be made a territorial priority.

There is a need for future research based on comparative studies that explore the diversity of perceptions of different local governments, in different national and international territories, on the implementation of the 2030 Agenda, as well as the organizational innovation carried out for an effective integration of the challenges proposed by the Agenda.

The 2030 Agenda assumes a new global pact among multiple actors to collectively address the challenges of our hyperconnected societies. These challenges may be related to health, such as those caused by the COVID-19 pandemic; the environment, such as climate change; social inequalities; factors that condition urban planning, such as mobility; or they may be transverse factors, such as education or equality. Local administrations must necessarily match their implementation and localization processes with the rhythms of communication and participation.

It is necessary to recover space and presence in the 2030 Agenda to guarantee the focus on communication and information as keys to the sustainable development of the territories. To this end, a hybrid strategy is necessary, in which communication and information change from being considered transmitters of messages to processes that generate change and social transformation.

Additionally, poverty is established as a fundamental element of SDG 1 and a critical issue in Andalusia. The responses of a more efficient, interconnected, and innovative local administration within the framework of the 2030 Agenda will promote improvements in the quality of life of the people living in territories that are committed to the transformation.

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## Appendix A

**Table A1.** Questions asked in the questionnaire.

| Questions Included in the Questionnaire. Scores Range from 0 (Total Disagreement) to 5 (Total Agreement) |
|---|
| 1. The SDGs are known to our entity, and there is interest in and commitment to working on the 2030 Agenda. |
| 2. The people and teams that lead the entity (politically and technically) promote the knowledge and development of the 2030 Agenda as part of their work, acting as an example for others. |
| 3. The SDGs and the 2030 Agenda are clearly present in our work of designing, planning, management and evaluation of policies, programmes and budgets for the territory and its citizens. |
| 4. We understand that to achieve the SDGs, it is essential to have more innovative, open, connected and transparent local entities. |
| 5. We understand that the SDGs provide an opportunity to work internally in a different way; they allow the promotion of collaborative and transversal work processes between different units and/or areas as a way of developing more appropriate responses to the challenges we face. |
| 6. In our organization, there is a clear idea of what it means to localize the SDGs. |
| 7. Our organization takes into account the status and the autonomous programmatic framework of the localization of the SDGs. |
| 8. We work in line with the local strategic plan (if it exists) or with known and clear strategic objectives that have well-founded indicators and are aligned with the SDGs and the 2030 Agenda. |
| 9. Our organization interacts with and establishes alliances with other local key agents for the localization of the SDGs. |
| 10. The organization establishes and works on the 17 SDGs without emphasizing any objective over another. |
| 11. Communication (internal and external) is a priority for my organization. |
| 12. Do you consider that you have adequate human/technical resources to develop your communication? |
| 13. Do you consider that your organization positions communication as a strategic area/service? |
| 14. To what extent do you consider communication key to achieving your goal of localizing the SDGs? |
| 15. Do you think your communication model/strategy should change to achieve the objective of localizing the SDGs? |
| 16. The communication from your organization that is being carried out regarding the 2030 Agenda is generating spaces to fight poverty. |
| 17. The structure of the organization directly affects poverty situations in the territory. |
| 18. The localization of the SDGs by your organization will reduce the level of poverty in the territory. |
| 19. Your organization develops actions that are directly linked to the fight against poverty. |
| 20. The social action and social policies of your organization are aligned with SDG 1 to fight poverty. |

## Appendix B

**Table A2.** Questions asked in the focus group.

| |
|---|
| 1. What does it mean to work on mainstreaming the 2030 Agenda in your organization? |
| 2. What are the barriers to mainstreaming? |
| 3. What would be the facilitators working on mainstreaming? |
| 4. How can we strengthen partnerships to work on the 2030 Agenda? |

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# Aid, Multidimensional Poverty and Growth: Reversing the Micro-Macro Paradox in Guinea, Liberia and Sierra Leone

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**Abstract:** This article analyses whether Official Development Assistance (ODA) is linked to multidimensional poverty indicators in the context of the 2030 Agenda for Sustainable Development, the Sustainable Development Indictors and the principles stated by the Global Partnership for Effective Development Co-operation. Focused on three western Sub-Saharan Africa and least developing countries such as Guinea, Liberia and Sierra Leone, this article uses Error Correction Vector Model to estimate if ODA and economic growth are cointegrated and a sectoral and spatial analysis to check if ODA are linked to Multidimensional Poverty Indicators in the sample countries. Despite the 2014 Ebola outbreak, the three countries have achieved noticeable good results in poverty alleviation. Results shows a certain macro-micro paradox because, despite a common trend between aid and growth identified at the macro level, we cannot find any sign of ODA contributions to the multidimensional poverty indicators when the micro level analysis is carried out. Our results may serve to increase the level of implementation of the ownership principle for effective development co-operation and achieve a significant improvement of several goals and targets included on the 2030 Agenda.

**Keywords:** 2030 Agenda for Sustainable Development; Sustainable Development Goals 1 and 7; official development assistance; multidimensional poverty; micro-macro paradox; aid effectiveness; Guinea; Liberia; Sierra Leone

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## 1. Introduction

The aim of this article is to shed light on the effectiveness of Official Development Assistance (ODA) to reduce poverty. The 2030 Agenda for Sustainable Development has emphasized that people, prosperity, peace, planet, and partnerships are the "5 Ps" that summarize the framework under the Sustainable Development Goals, which should be reached for our world to be transformed. The opposite of prosperity is poverty (another "P"). The preamble of the Agenda clearly states: *"We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development"*. There are many ways and financial resources to reach this goal. Among others, economic growth and external flows such as ODA (or foreign aid) from donor countries to the most needy developing countries may be one of the more effective. However, are donors considering poverty "under its all forms and dimensions" as the real and main reason for allocating their ODA funds?

This knowledge gap deals with the following problems. First, multidimensional poverty data are only collected in the years in which each country conducts a household survey. This prevents a quantitative treatment through time series or balanced panel data, and cross-sectional comparison does not provide causal results[1].

Second, aid amounts are not usually geolocated and the sector classification offered by OECD_DAC does not allow for subnational spatial allocation of ODA. Nor does it allow

for the allocation of ODA from each sector to the areas of the country that suffer the highest rates of multidimensional poverty.

Third, donors do not make aid allocations taking into account only the poverty of the country, as it coexists with other motivations such as the commercial and geostrategic [1–6]. With the current data, there is no way to know how much aid has the real objective of reducing the different dimensions of poverty that affect each country.

Fourth, it seems more appropriate to study country cases of special relevance compared to a global analysis of all foreign aid in all recipient countries. Studies that have attempted to capture the effect of aid on economic development continue to offer mixed results ([7–11], for an updated review of the literature). Donors select their ODA allocation country by country or region, but not jointly to all candidate countries. In addition, it is convenient to select the most successful cases in multidimensional poverty reduction to try to know to what extent these achievements are the result of aid or not [12,13].

In this article we explore the question analyzing if ODA to Guinea, Liberia and Sierra Leone (three western Sub-Saharan and least developing countries) are linked. If this were not the case, it would suggest that statements and principles, such as those that appeared after the High Level Fora on Aid Effectiveness (Rome 2003, Paris 2005, Accra 2008 and Busan 2008),[2] show a high level of rhetoric. After those Fora, a Global Partnership for Effective Development Co-operation was created. The aim of the partnership is to be a multi-stakeholder vehicle for driving development effectiveness, to "*maximize the effectiveness of all forms of co-operation for development for the shared benefits of people, planet, prosperity and peace*." It brings together governments, bilateral and multilateral organizations, civil society, the private sector and representatives from parliaments and trade unions among others, who are committed to strengthening the effectiveness of their partnerships for development and the 2030 Agenda". What are their results? Beyond their good statements on intents such as the Busan Partnership Agreement (2008), the Mexico Communique (2014), the Nairobi Outcome Document (2016) and the Co-Chair's Statement on the Senior-Level Meeting (2019), is ODA really contributing to poverty eradication?

The 2030 Agenda for Sustainable Development emphasized the "catalytic" role of ODA to reach SGDs and their targets[3]. In this article we examine to what extent ODA can be linked to some SDGs that are associated with multidimensional poverty indicators.

We carry out our research in two levels. Firstly, in a macro level, we explore if ODA flows are cointegrated with total GDP and its components (private and government consumption, investments, exports and imports) in Guinea, Liberia and Sierra Leone. Secondly, in a micro level, we analyze if sectoral and more disaggregated ODA flows can explain why these countries have reached some of the most remarkable results in multidimensional poverty index (MPI) and in its ten components. The advantage of using these poverty measures is that its three dimensions (education, health and standard of living) and ten indicators are linked to SDGs 2 (zero hunger), SDG 3 (good health and well-being), SDG 4 (quality education), SDG 7 (renewable, affordable and clean energy), SDG 11 (sustainable cities and communities) and SDG 1 (no poverty).

We consider Guinea, Liberia and Sierra Leone for various reasons. Firstly, because they are underrepresented in the literature. Secondly, because they are least developing countries; 50% of the financial resources for development are ODA (Inter-Agency Task Force on Financing for Sustainable Development 2019 [14])[4]. Thirdly, despite suffering from the Ebola outbreak, they show remarkably positive results in poverty reduction.

According to UNDP's report "Global Poverty Index 2020" [15], Sierra Leone was the country where multidimensional poverty was cut down the most between 2013 and 2017, even during the Ebola epidemic. The poverty headcount reached 74% in 2013 and was only 58% in 2017 [16]. The reductions in poverty components of *cooking fuel* and access to *electricity* were the main indicators that explain Sierra Leone's success. Even more, Sierra Leone ranked first among the all countries that could reduce poverty in the *cooking fuel* component (−16%) and *child mortality* (−86%). Liberia ranked first in the access to *assets* indicator (−26.5% between 2007–2013) and Guinea in the living conditions of *housing*

(−17.5% between 2012–2016) (UNDP & OPHI 2020:12[15], Figure 8). For all these reasons, we believe that these three countries deserve an in-depth analysis (Figure 1).

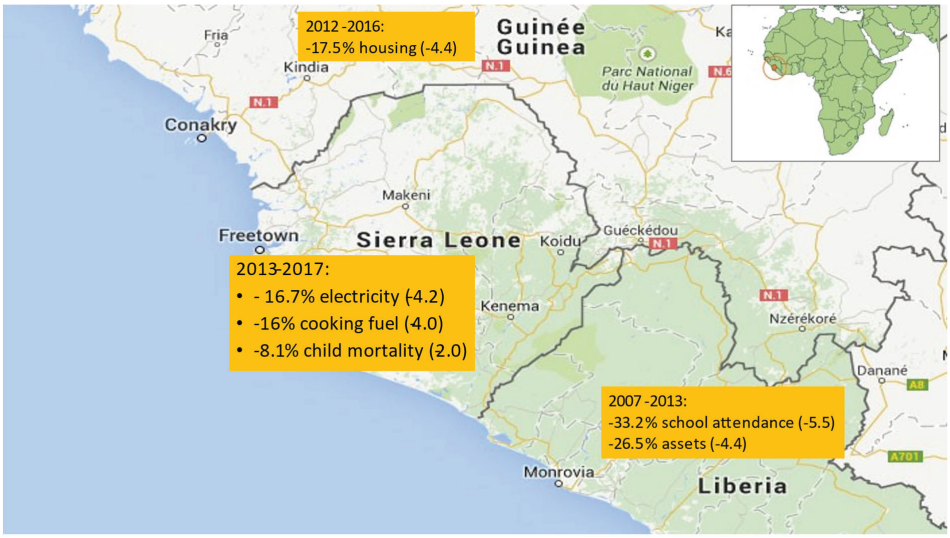


**Figure 1.** Countries and indictors of poverty reduction where each country ranked first among developing countries analized by UNDP & OPHI (2020) [15]. Percentage change between surveys years and annuliazed change in parenthesis.

The hypothesis of this paper is that, conversely to the micro-macro paradox identified by Mosley (1986) [17], a macro-micro paradox might be detected, at least in these three Sub-Saharan countries. Mosley found that ODA flows might show positive results when the goals of the ODA projects were evaluated, but there was not any positive macro result when aid and growth were analysed. We believe that a positive cointegration may be detected between ODA and GDP (macro effect), but this result is not enough to show that ODA was an effective financial instrument to reduce multidimensional poverty when a sectorial and spatial analysis were carried out (meso or micro effect). In fact, the main findings of the paper are that, although a positive cointegration between ODA and GDP may be identified, ODA flows were not focused on the sectors that are more related to multidimensional poverty indicators and -at least in the case of Sierra Leone- neither on the districts where multidimensional poverty were higher.

It is worth bearing in mind that a macro predictive model between aid and growth is not our main interest. We do not want to offer policy measures based on past data, on how aid can increase economic growth. We are more interested in show how ODA flows and poverty indicators are linked, in the vein of the 2030 Agenda and Sustainable Development Goal 1 and target 1.2. "By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty *in all its dimensions* according to national definitions". If poverty is multidimensional and ODA flows try to reduce poverty, how are they linked? Our results show that ODA is not been able to help reduce multidimensional poverty because it is not focused on it, neither geographically nor sectorally. The first principle of the Global Partnership for Effective Development Co-operation, ownership, is still rhetorical.

The paper is connected not only to the aid and growth literature in Sub-Saharan countries -either in a cross-countries framework [18–20] or case-studies [21,22]- but also, to the link between aid and multidimensional poverty [23,24] and to the methodological dialogue from micro to macro development [25].

The novelty of the paper is threefold. To our knowledge, this is the first time that (macro) Vector Error Correction Model (VECM) and cointegration analysis are carried out between ODA and GDP and its components for the three Sub-Saharan case studies. Second, a deep analysis for ODA flows and poverty indicators are carried out. Third, two different databases for ODA are used: the classical OECD-DAC (OECD 2021 [26]) and the AidData [27,28].

## 2. Materials and Methods

Our research strategy can be seen in Figure 2.

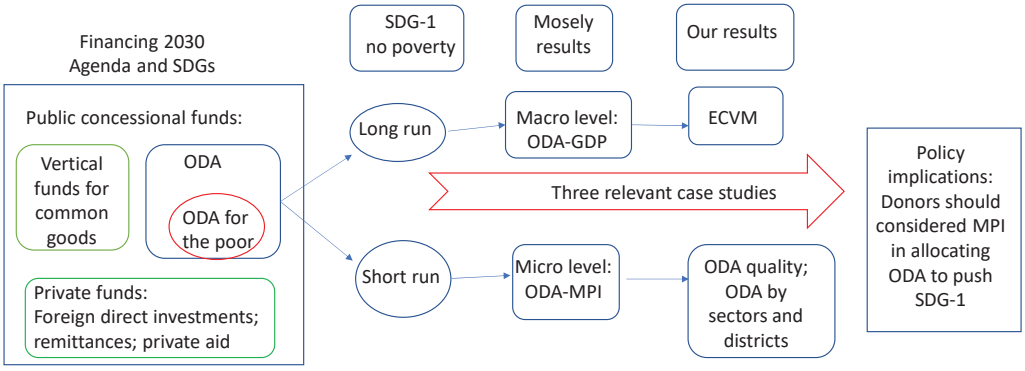


**Figure 2.** Research strategy. Author's elaboration.

### *2.1. Brief Countries Features*

Guinea, Liberia and Sierra Leone are remarkably underrepresented among the research carried out for African countries[5]. All of them are Least Developed Countries[6], they rank very low in the human development index[7] and they shared the Ebola's outbreak in the recent past (2013–2017). They share frontiers and they belong to the African Union since 2001, the Economic Community of West African States (ECOWAS) economic agreement[8] since 1975, but trade among them is quite low. They are countries rich in natural resources. Guinea possesses the world's largest reserves of bauxite and largest untapped high-grade iron ore reserves, as well as gold and diamonds. Liberia main exports are iron ore, rubber, diamonds and gold. Sierra Leone is rich in diamond mining, iron ore, rutile and bauxite. These countries also have high levels of ethnic and linguistic fragmentation. The three of them have shown remarkable economic growth rates since the beginning of the 21st Century.

However, they are very different in some features: Guinea has 245,717 square kilometers and 12.5 million inhabitants, compared to 96,320 km$^2$ of Liberia with 5.07 million population and 71,620 km$^2$ of Sierra Leone with 6.6 million inhabitants. They also differ in their GDP per capita: USD 1532 in Liberia; USD 1702 Sierra Leone and USD 2557 in Guinea in 2018 (current PPP US Dollars).

Their economic structure is different as well (Table 1).

**Table 1.** Economic structure: selected indicators (in percentage of GDP).

| Country | Exports | Imports | Agriculture | Industry | Services |
|---|---|---|---|---|---|
| Guinea | 21.9 (40% gold; 36% aluminum ores) | −36.9 (14% petroleum oils; 11% rice) | 19.8 | 32.1 | 48.1 |
| Liberia | 17.5 | −89.2 | 34 | 13.8 | 52.2 |
| Sierra Leone | 26.8 (17% motor vehicles; 14% cocoa beans) | −55.3 (rice 19%; 6.5% motor cars) | 60.7 | 6.5 | 32.9 |

Source: CIA Factbook and UN ComTrade database. Liberians values are for 2016 whereas for Guinea and Sierra Leone are 2017 estimations. Trade data for Liberia were not available in the UN ComTrade database.

Sierra Leone's main trade partners in 2017 were China (17% of total imports), India and Turkey (7% in both cases) whilst its main exports went to Netherlands (23%), China (13%) and Cote d'Ivoire (12%)[9]. Liberia and Guinea stand for less than 2% of Sierra Leone's imports and exports[10].

Guinea's trade partners in 2015 were Ghana (22%), India (16%), the United Arab Emirates (10%), China (15%), the Netherlands (13%) and India (11%).

Their GDP growth has been unstable and remarkably dependent on the international prices of commodities (Figure 3).

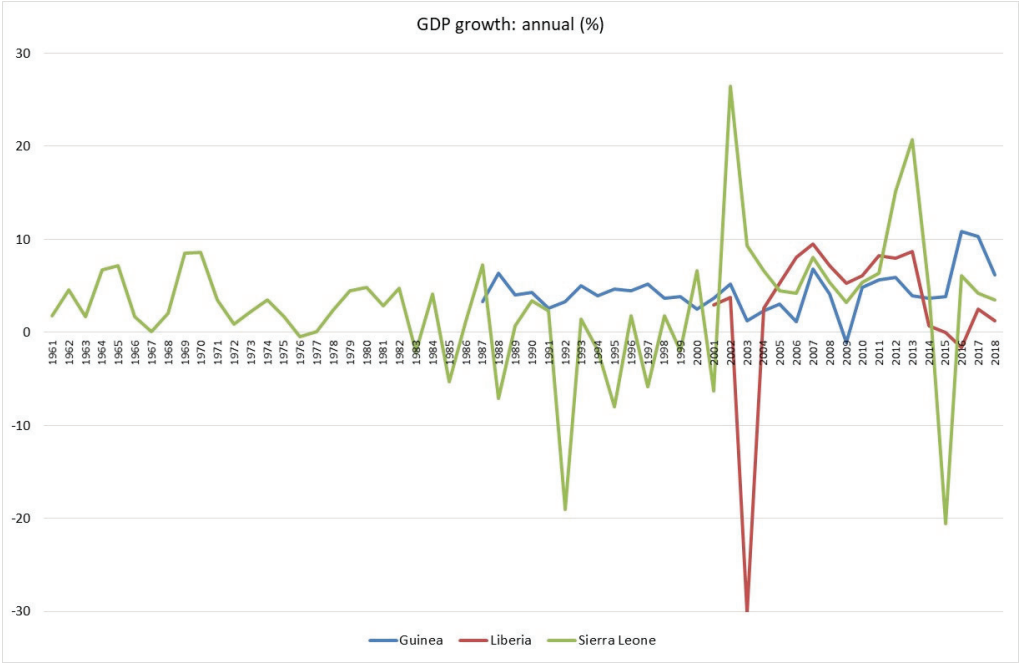


**Figure 3.** Time series of GDP growth. Source: World Bank, World Development Indicators.

*2.2. ODA to Guinea, Liberia and Sierra Leone*

2.2.1. Net ODA Trends

As Figure 4 shows, ODA flows have diminished in recent decades and in relative terms (ODA to Liberia was 20.2% of GNI in 2018; and 13.3% to Sierra Leone, and 5.1% to Guinea).

Net ODA in constant dollars shows low levels until 1976 and a remarkable erratic trend since then (Figure 5).

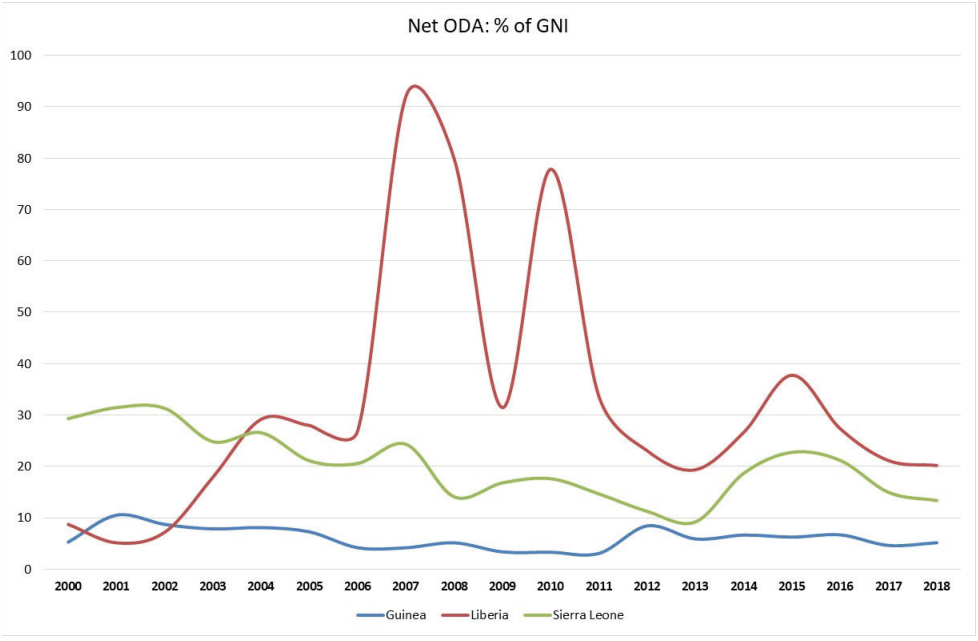


**Figure 4.** Net ODA flows in relative terms. Source: World Bank: WDI.

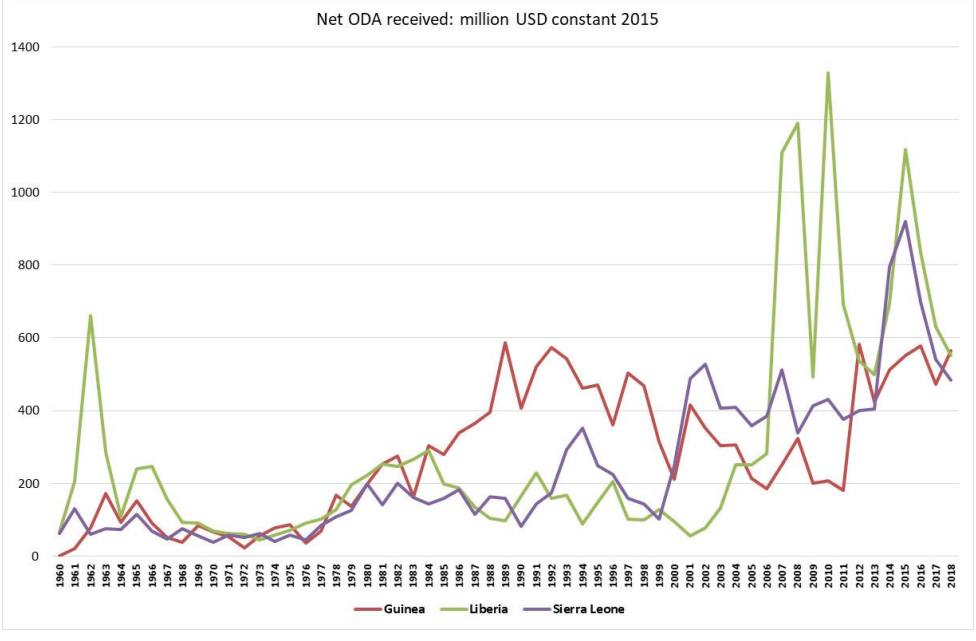


**Figure 5.** Time series of net ODA in constant dollars. Source: World Bank; World Development Indicators.

The aim of this paper is to analyse if Official Development Assistance (ODA) is associated with these erratic trends of economic growth and, secondly, if ODA flows

are associated with the reduction of the multidimensional poverty indicators recently experienced by these countries.

#### 2.2.2. ODA Main Donors

As Figure 6 shows, multilateral donors are the main character in Guinea. They reach 71% in 2012 and they still concentrate the 41% of the ODA flows in 2018. IMF and African Development Fund are the multilateral donors whose contributions are remarkable. Among bilateral donors, United States, the United Kingdom and the European Union contribute the most. The sum of their contributions depicts more than one third of net ODA received by Guinea (31% in 2018). The European Union has maintained the highest amounts in recent years (18% in 2018). For 2017–2018 (the last couple of years with data available), the main donors have been the EU (17.7%), USA (14.2%) and World Bank's IDA (12.6%).

**Table 2.** Analysis of the stationarity of time series: step 1.

| | Guinea | | Liberia | | Sierra Leona | |
|---|---|---|---|---|---|---|
| **Variable** | ***p*-Value** | **Decision** | ***p*-Value** | **Decision** | ***p*-Value** | **Decision** |
| Net ODA | 0.0571 | Non-Stationary | 0.613 | Non-Stationary | 0.9586 | Non-Stationary |
| GDP | 0.8974 | Non-Stationary | 0.9841 | Non-Stationary | 0.9743 | Non-Stationary |
| Gross Capital Form. | 0.6418 | Non-Stationary | 0.0594 | Non-Stationary | 0.7923 | Non-Stationary |
| Exports | 0.9082 | Non-Stationary | 0.0 | Stationary | 0.8895 | Non-Stationary |
| Imports | 0.9306 | Non-Stationary | 0.0039 | Stationary | 0.9711 | Non-Stationary |
| Consumption | 0.9162 | Non-Stationary | 0.8734 | Non-Stationary | 0.9951 | Non-Stationary |

Source: Author's elaboration.

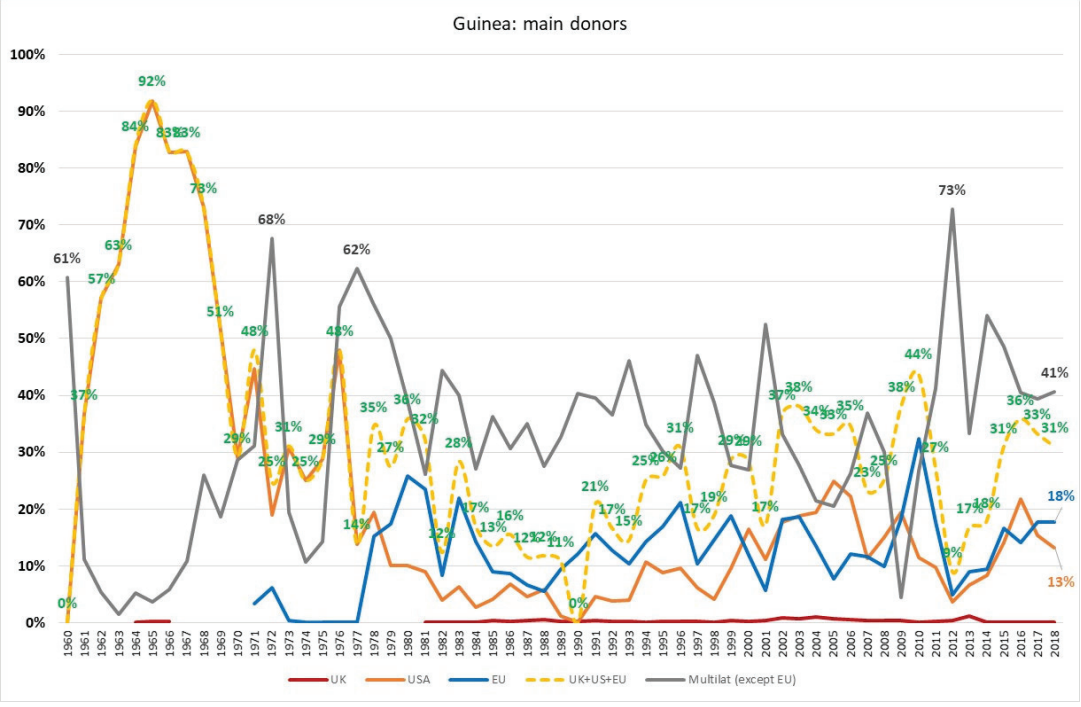


**Figure 6.** Main donors to Guinea. Source: Authors' elaboration with data from OECD-DAC Table 2a: net ODA total net disbursements in constant USD, 2018.

In the case of Liberia (Figure 7), bilateral donors dominate the contributions. The USA is clearly the main donor (more than 40% since 2015), followed by multilateral donors.

The peak in the share of multilateral donors in 1992 and 1995 is explained by a special World Food Program contribution (USD 94.5 and USD 76.1 million, respectively) and the maximum in 2007 was due to a contribution of the World Bank (USD 842.8 million). European Union contributions have been declining since the '90s (they only capture a 6% in 2018). For the period 2017–2018, the main donors have been the USA (42.6%), followed by IDA (10.6%) and both the European Union (6.7%) and African Development Fund (6.6%).

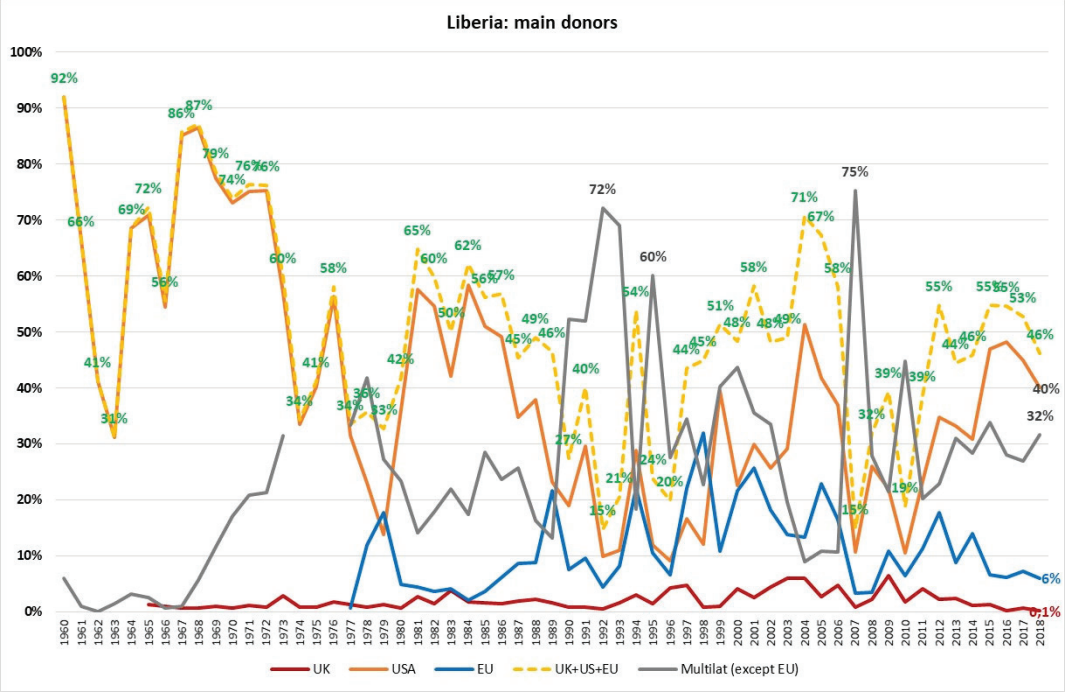


**Figure 7.** Main donors to Liberia. Source: Authors' elaboration with data from OECD-DAC Table 2a: net ODA total net disbursements in constant USD, 2018.

Considering the case of Sierra Leone (Figure 8), bilateral ODA amounts dominate. The sum of the UK, US and EU contributions are higher than the 40% in last years. The United Kingdom is the main donor (the share of its ODA reached 41% in 2014 and 26% in 2018), followed by the European Union. The amounts coming from multilateral donors were declining since 1994 (when an IMF loan for USD 155.7 million was approved) but their contributions are still in line with the USA. For 2107–2018, the main donors are UK (26.6%), the USA (12.5%) and the EU (12%).

### *2.3. Multidimensional Poverty Index*

Surprisingly, the three countries have shown remarkably good results in many of the indicators of the global MPI that one can consider, as the next Figures 9–11 show.

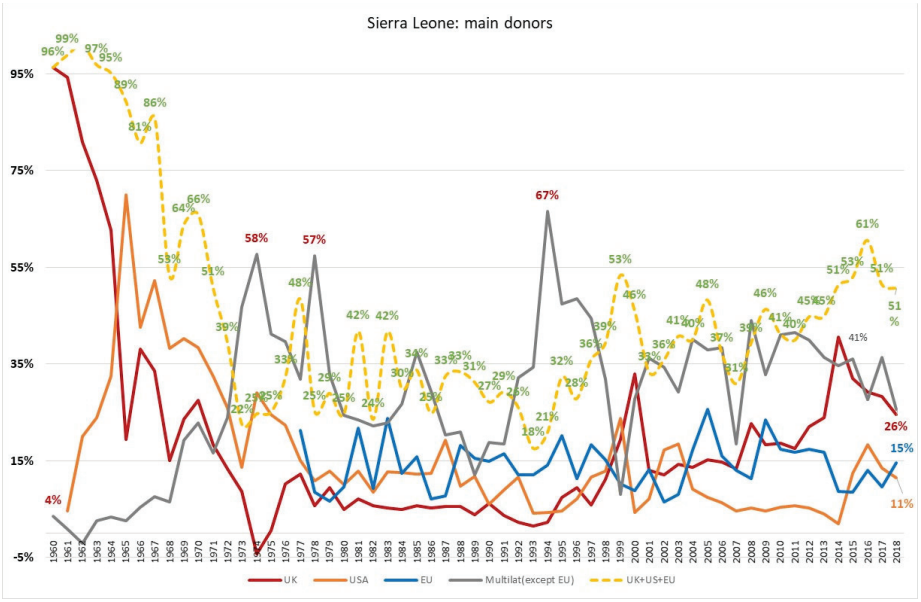


**Figure 8.** Main donors to Sierra Leone. Source: Authors' elaboration with data from OECD-DAC Table 2a: net ODA total net disbursements in constant USD, 2018.

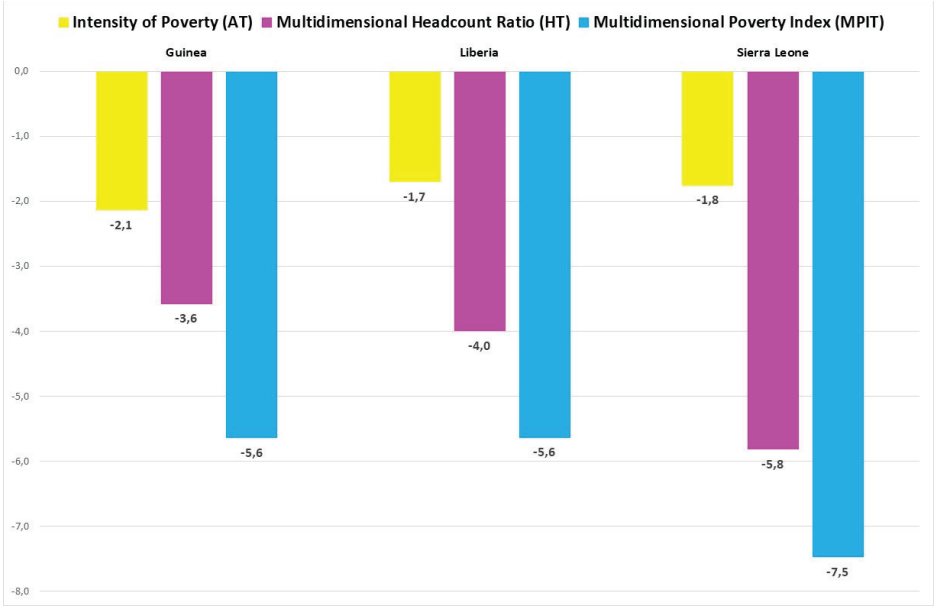


**Figure 9.** Reduction in the global MPI, and its headcount and intensity. Note: annualized relative changes in the Multidimensional Poverty Index harmonized for comparisons across time (MPIT). Time periods are: Guinea 2012–2016; Liberia 2007–2013; Sierra Leone 2013–2017. Source: Alkire et al. (2020) [16,29].

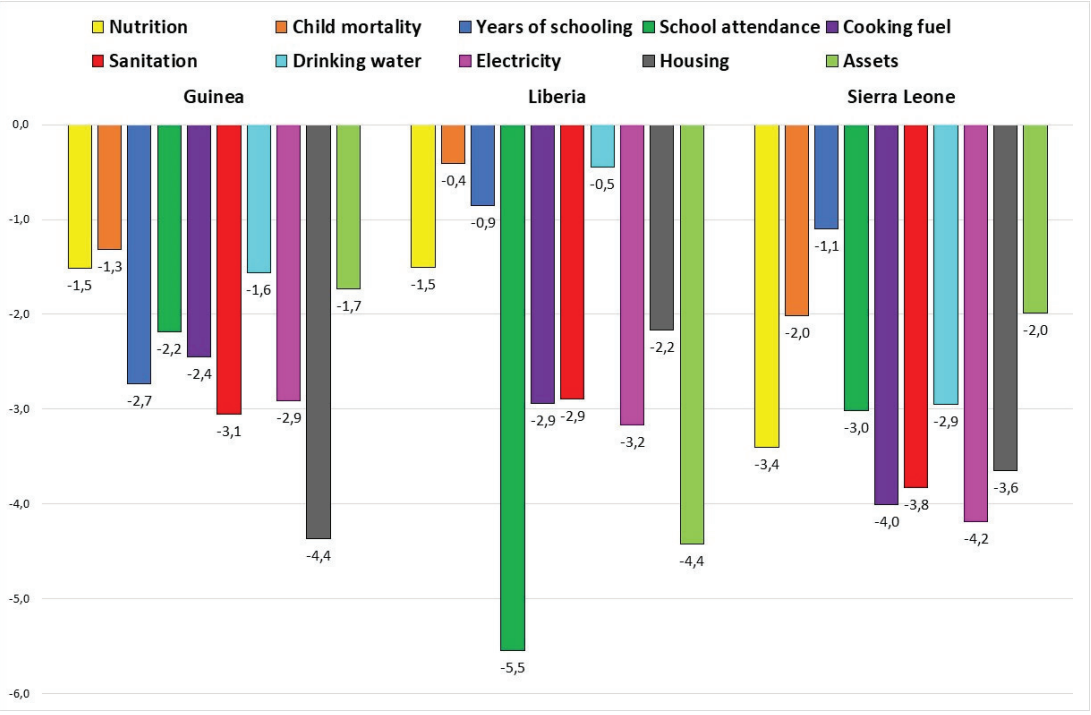


**Figure 10.** Reduction in each multidimensional poverty indicator. Notes: Annualized changes. This table provides censored headcount ratios for each of the 10 MPI indicators. Censored headcount ratios are the proportion of people who are MPI poor and experience deprivations in each of the indicators. Source: Alkire et al. (2020) [16,29].

Finally, there are some commonalities between urban and rural poverty in the three countries. Although rural poverty is much higher, cooking fuel, sanitation and electricity are the main deprivations both in urban and rural contexts.

Unfortunately, ODA data are not disaggregated for urban or rural allocations, and therefore we cannot carry out an impact analysis of ODA on urban/rural poverty.

### *2.4. Data Sources*

The economic data are gathered from the World Bank's World Development Indicators. We consider Gross Domestic Product (GDP) amounts, and their demand components: final consumption expenditure, gross capital formation, exports and imports.

Net Official Development Assistance (ODA) comes from International Development Statistics (IDS) online databases. Net ODA consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent). Net official aid refers to aid flows (net of repayments) from official donors to countries and territories in the DAC list of recipients. Data are in constant 2015 U.S. dollars.

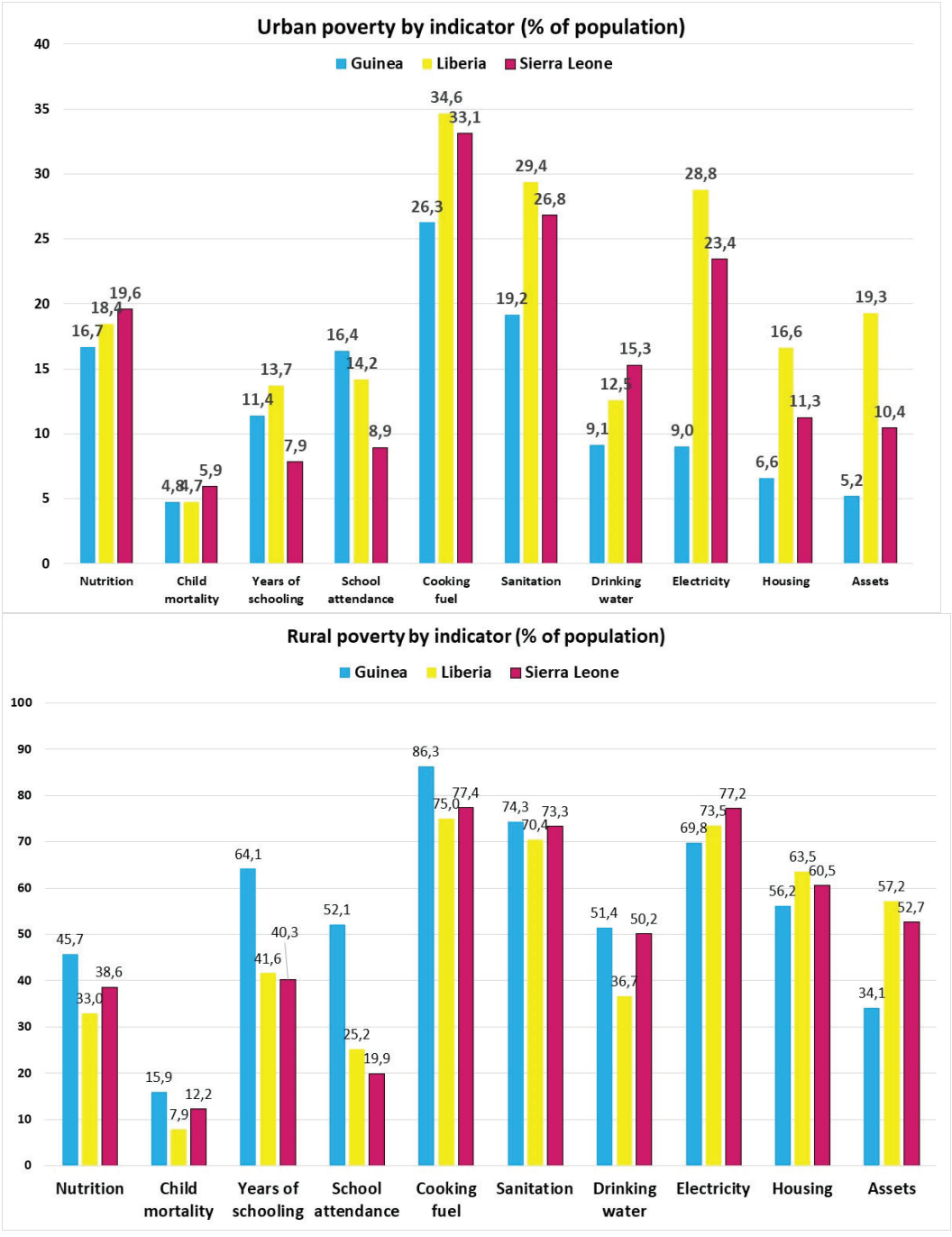


**Figure 11.** Poverty incidence in rural and urban locations. Source: Authors elaboration based on Alkire et al. (2021) [30].

The quality of ODA indicators comes from the Global Partnership for Effective Development Co-operation database.

Sectoral ODA. With the aim of analysing the sectoral distribution of ODA flows, we download the disbursements in constant US dollars from the OECD-Creditor Reporting System database (OECD 2021) for 2002–2018, and we split the period in two subperiods: 2002–2009 and 2010–2018. We get the sums for each period and sector, and we compare the percentage of each sector-period for the main donors

AidData. To our knowledge, we use for the first time, aid-disaggregated data from the AidData database [28] for Sierra Leone (AidData 2017 [27])[11]. This dataset has 856 projects on 2314 locations for 1992–2014 and allows us to know the amount of aid disbursed by donor, sector and province (district) of the country. Data availability starts in 1992 and end in 2018. The total amount of aid compiled by AidData for Sierra Leone reached USD13,389,548,744.

Multidimensional Poverty Index (MPI). Data for the MPI values, and their headcount and intensity comes from Alkire, S., J. M. Roche and A. Vaz (2014) [31]. There are two surveys for poverty indicators for Sierra Leone: a Demographic and Health Survey for 2013[12] and Multiple Indicator Cluster Surveys (MICS) for 2017[13]. This fact implies that our period of analysis is 2013–2017.

### *2.5. Methods*

#### 2.5.1. Vector Error Correction Model

The aim of this section is to check whether there is a statistical (causal) association between the aid flows (measured by ODA) and the economic growth (measured by GDP and its components) in the three selected countries. We try to shed light in the aid-and-growth academic corpus of literature. In particular, we bear in mind the "micro-macro paradox" [17]. The paradox is that, whether foreign aid seems to show good results at micro-level (projects tend to reach their specific results), there is no significative changes in macro indicators, such as poverty levels, human development indexes or GDP per capita.

For studying the possible relation between ODA and economic growth the paper uses several statistical methods, including some econometric ones. All calculations are done using either Microsoft Excel or Python 3.8.11 with the libraries *numpy*, pandas and *statsmodels*.

There is no consensus on which is the best mathematical tool to study how ODA relates to the economic system as there are huge amounts of factors that can influence and sometimes time scales are quite different among others [9–11,20,32–34],but plenty of research has been carried out using time series models [35–37]; such as Vector Autoregression (VAR) that, among other advantages, does not need to specify which variables are endogenous and exogenous. The main model that will be used here is the Vector Error Correction Model (VECM).

VECM models are built in order to examine short-term and long-term relations of non-stationary variables that are cointegrated. The main features of the model are:

- All variables are considered endogenous.
- All variables should be of order 1, some variables might be stationary, but none are to be of order 2.
- The system dynamics must show, at least, one cointegration relation (thus, it can be regarded as a VAR model with the restrictions driven by cointegration).

It is important to stress out that for the VECM model, the amount of data available for Liberia is rather scarce for the number of variables that we want to include and thus the analysis and results are affected. As a matter of fact, a model including the six variables at the same time cannot be computed for such a small number of observations and therefore a model with five variables is considered. Additionally, the maximum lags allowed for that model is smaller than for the other two.

After the preprocessing, the steps carried out to obtain the VECM model are as follows. First, we checked that the variance increases with mean in all series. As it is customary in these cases, a logarithmic transformation was used in all variables. Then, Augmented

Dickey Fuller (ADF) tests were carried out for each of the variables in order to check whether they are stationary, setting a significance level of $\alpha = 0.01$.

#### 2.5.2. Multidimensional Poverty Index

The global multidimensional poverty index is a quantitative assessment of the state of acute poverty in developing countries. Based on Alkire and Foster's methodology (2011) [38], it was updated [30,39] to closely align the measure to the Sustainable Development Goals (SDGs) that are underlie the 2030 Agenda for Sustainable Development [40]. Based on national surveys, the MPI can be disaggregated in urban and rural areas, ethnic groups, gender, age cohort or deprivation considered under its ten indicators.

The MPI has three equally weighted dimensions: health, education and living standards. Under the health dimension, two indicators are considered: *nutrition* (a household is deprived if any person under 70 years of age for whom there is nutritional information is undernourished) which is linked to SDG 2 (zero hunger), and *child mortality* (when a child under 18 has died in the household in the five-year period preceding the survey) linked to SDG 3 (good health and well-being). Under the education dimension, these two indicators are taken into account: *years of schooling* (when no eligible household member has completed six years of schooling) and *school attendance* (when any school-aged child is not attending school up to the age at which he or she would complete class 8) both linked to SDG 4 (quality education). Finally, under the living standards dimension, six indicators are considered: *cooking fuel* (a household cooks using solid fuel such as dung, agricultural crop, shrubs, wood, charcoal or coal) linked to SDG 7 (renewable energy); *sanitation* (the household has unimproved or no sanitation facility or it is improved but shared with other households) linked to SDG 6; *drinking water* (the household's source of drinking water is not safe or safe drinking water is a 30-min or longer walk from home, roundtrip) linked also to SDG 6; *electricity* (when the household has no electricity) linked to SDG 7 (affordable and clean energy); *housing* (the household has inadequate housing materials in any of the three components: floor, roof or walls) linked to SDG 11 (sustainable cities and communities); and *assets* (the household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or a truck) linked to SDG 1 (no poverty).

The association of the MPI indicators with the SDGs has many advantages; among others, for assessing if ODA flows are being allocated in the countries and sectors where the deprivations are higher. In this paper, we will try to link MPI indicators, SDGs and sectorial ODA amounts to verify if ODA is contributing to multidimensional poverty results.

## 3. Results

### *3.1. ODA and GDP: Vector Error Correction Model*

Following the method described above, Table 2 shows the results of the ADF tests *p*-values and stationary decisions for net ODA, GDP and its components.

Given these results, the first differences are taken for series that are non-stationary. Performing again ADF tests, now on the differentiated series, with the same significance level, we obtain Table 3:

**Table 3.** Analysis of the stationarity of time series: step 2.

| | Guinea | | Liberia | | Sierra Leona | |
|---|---|---|---|---|---|---|
| **Variable (1st diff)** | ***p*-Value** | **Decision** | ***p*-Value** | **Decision** | ***p*-Value** | **Decision** |
| Net ODA | 0.6781 | Non-Stationary | 0.6578 | Non-Stationary | 0.0001 | Stationary |
| GDP | 0.0004 | Stationary | 0.2638 | Non-Stationary | 0.0 | Stationary |
| Gross Capital Form. | 0.0001 | Stationary | 0.0 | Stationary | 0.0 | Stationary |
| Exports | 0.0 | Stationary | - | - | 0.0 | Stationary |
| Imports | 0.0044 | Stationary | - | - | 0.0 | Stationary |
| Consumption | 0.0003 | Stationary | 0.0001 | Stationary | 0.0064 | Stationary |

Source: Author's elaboration.

As stated before, it is correct to consider a model where one of the variables is non-stationary as long as all of them are considered only in first differences. Only for the first two series of Libera are the second differences considered, leading to *p*-values of 0.0 and 0.2077, respectively. Therefore, the final series for the models are considered as follows. All the series for Guinea and Sierra Leona are transformed logarithmically and taken in first differences, whereas the series for Liberia are transformed logarithmically and taken in first differences in the case of Gross Capital Formation and Consumption and in second differences in the case of Net ODA and GDP.

The next step is to choose an adequate order of lag; if it is too large significance in the coefficients might be reduced while if taking a small order, residuals might not be normal [41]. Thus, a trade-off between fit and parsimony is needed. The most frequent tools to help us find make this decision are the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). The last step consists on determining the cointegration rank which is done by means of the Johansen cointegration test using the trace test statistic with significance level $\alpha = 0.05$. The following lag orders and cointegration ranks were found (Table 4).

**Table 4.** Lags order and cointegration ranks.

| | **Guinea** | **Liberia** | **Sierra Leone** |
|---|---|---|---|
| Lag order | 2 | 0 | 2 |
| Cointegration rank | 4 | 0 | 1 |

Source: Author's elaboration.

All in all, we identify a positive and statistically significant association between ODA received by the three Sub-Saharan countries, their GDP and the demand components of the GDP.

Conversely to Mosley 1986 (he found positive micro level results, but he did not any macro impact) [17], we now want to know if there is some micro evidence that might support our VECM results. For this purpose, we analyzed the association between ODA flows and multidimensional poverty indicators.

### *3.2. ODA: Quality and Sectoral Distribution*

#### 3.2.1. ODA Quality

There are some quality indicators of ODA collected by surveys conducted by the Global Partnership for Effective Development Cooperation. The main results for the three countries and regional Africa averages are shown in Table 5. The indicators show that the quality of ODA is not bad, broadly speaking. The best practices seem to be interventions that draw objectives from country-led results framework (the so-called ownership principle in the Paris Declaration for Effective Development Cooperation), the annual predictability of aid funds (not for medium-term) and the low levels of tied aid (indicator 10).

**Table 5.** ODA quality indicators.

| Year | 2008 | | | | 2011 | | | | 2016 | | | | 2018 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator/Country** | **Guinea** | **Liberia** | **Sierra Leone** | **Africa** | **Guinea** | **Liberia** | **Sierra Leone** | **Africa** | **Guinea** | **Liberia** | **Sierra Leone** | **Africa** | **Guinea** | **Liberia** | **Sierra Leone** | **Africa** |
| % of use of country-owned results frameworks by providers of development co-operation (SDG 17.15.1) | | | | | | | | | | | | | **72.1%** | 44.4% | 49.4% | 66.0% |
| % of new development interventions that draw objectives from country-led results frameworks | | | | | | | | | **100%** | **100%** | **90.0%** | 84.8% | 69.2% | **100%** | **88.9%** | 79.7% |
| % of results indicators drawn from country-led results frameworks | | | | | | | | | 51.9% | 51.8% | **62.8%** | 60.5% | **82.5%** | 33.3% | 30.0% | 62.8% |
| % of results indicators monitored using the partner country's own sources | | | | | | | | | 48.1% | **53.5%** | 40.6% | 51.3% | **64.7%** | 0.0% | 29.2% | 53.7% |
| % of new interventions that plan a final evaluation with partner country involvement | | | | | | | | | **66.7%** | 11.8% | **70.4%** | 51.2% | 25.0% | 0.0% | 35.7% | 54.7% |
| Indicator 1b: Overall strength of national results framework (%) | | | | | | | | | | | | | 0.0% | **70.9%** | **70.5%** | 67.8% |
| Indicator 5a: Annual predictability of development co-operation | **99.3%** | **79.5%** | 79.3% | N.A. | 33.3% | **88.1%** | 79.5% | **96.8%** | **75.1%** | **94.1%** | 72.4% | **97.0%** | **98.1%** | **100%** | 86.0% | |
| Indicator 5b: Medium-term predictability of development co-operation | | | | | | | | | **100%** | **100%** | 53.3% | 61.2% | N.A. | 53.3% | N.A. | 59.9% |
| Indicator 6: Development co-operation is on budgets which are subject to parliamentary scrutiny | N.A. | 38.8% | 54.0% | N.A. | **100%** | **29.2%** | 21.3% | 41.4% | **100%** | 9.3% | 45.0% | N.A. | **100%** | N.A. | 50.2% | |
| Indicator 9b: Use of partner countries public financial management and procurement systems to deliver development co-operation | 24.0% | 24.6% | 31.8% | N.A. | **39.6%** | 32.9% | 34.8% | 12.8% | **81.1%** | 46.9% | 36.8% | 16.5% | 8.8% | 0.2% | 28.1% | |
| Indicator 10: Aid is untied | **66.2%** | 38.3% | 65.6% | **87.6%** | **88.4%** | **91.3%** | 80.6% | **91.9%** | **84.4%** | 95.8% | 82.4% | N.A. | 71.6% | **94.2%** | 82.7% | |

Note: bold percentages mean a value higher than Africa's average. Source: Global Partnership for Effective Development Cooperation: https://dashboard.effectivecooperation.org/country (accessed on 15 October 2021).

All in all, donor practices seem to be good enough for development in the three countries. We cannot infer that this is translated into a poverty reduction automatically, but it is a useful evidence for our purpose.

3.2.2. ODA Sectoral Distribution

In the case of Guinea, the sectoral composition for all donors has not changed a lot between the two periods. Social infrastructure leads the ODA (42%), Economic infrastructure has increased a little (from 7% to 11%) and there has been some reductions in ODA for production (from 9% to 4%), in Multisector (specially in general environment protection) and in Debt relieve (from 20% to 17%). Some donor and sectoral specialization could be identified. For instance, European Union leads ODA for road transport (more than their 30% of ODA went to this sector). African Development Bank and IDA tend to concentrate their aid in Economic Infrastructure, whereas United Nations preferred to help Government and civil society, especially conflict, peace and security (14% of its ODA in 2010–2018).

One remarkable feature for all donors is that they do not tent to send ODA flows to sectors related to multidimensional poverty indicators. The highest percentage of ODA channelled to dimensions directly related to causes of poverty was education (16% 2002–2009). However, some donors tend to distribute their ODA more concentrated. For instance, education received 32% of IDA flows for 2002–2009, health 55% from other multilaterals (excluding EU, World Bank, IMF, regional development banks and UN). The IMF is clearly specialized in channelled its aid through General Budget Support (more than 80% in the two periods considered). Lastly, the UK focused a huge proportion of its aid to debt relive (33% in 2002–2009 and 69% in 2010–2018). It should bear in mind, that these amounts cannot be considered directly linked to poverty reduction. In fact, it is not "fresh money" for development agents, NGOs or practitioners.

In the case of Liberia, some features concur with Guinea. For instance, Social Infrastructure dominates in both periods (35%) and Economic infrastructure has increased from 6% to 17%. One quarter of ODA is for Debt relief and the proportion of Humanitarian Aid has declined from 19% to 11%. IMF and African Development Fund channeled their aid through general budget support (80% or more for 2002–2009). The US focused their aid in education (10% in 2010–2018) whereas health sector was mainly attended by IDA (22% of their funds were to that sector). Drinking water and sanitation received very little ODA. Only the share of the ADF (12%) was noticeable. Energy (electricity included) only was noteworthy for IDA (20% for 2010–2018).

In Sierra Leone, ODA has focused on Social Infrastructure (43.8% for 2010–2018) followed by humanitarian aid (17.6%), Health (14%) and General Budget Support (13%). It was very important the aid for Action related to Debt for 2002–2009 (25%). Education is helped by the United States (8.4% of its aid in 2010–2018).

United Kingdom was the main donor for Sierra Leone. The sectorial allocation of this donor was focused on Government and civil society for 2002–2009 (42.8%) followed by General Budget Support (33.1%) and Humanitarian aid for 2010–2018 (38.1%). This sector was also prioritized by the United States (34.7%). The European Union has focused on Road transport (19% in 2002–2009 and 27% for 2010–2018). IDA is specialized on Economic Infrastructure (19%), mainly on agriculture (14%) for 2010–2018.

The main idea that shows this sectoral structure is that there is some specialization in some sectors by different donors. Furthermore, the sectors more directly linked to the deprivations measured by the global Multidimensional Poverty Index, such as schooling, nutrition, housing, electricity, water or sanitation, are not privileged by any donor in relative terms. We may consider this fact as a first approach for having doubts about a direct and causal link between ODA flows and the multidimensional poverty reduction happened in the three countries that we are studying.

### *3.3. Poverty Incidence and ODA Flows: Is There a Link?*

The goal of this section is to try to relate development aid flows to changes in the 10 multidimensional poverty indicators. To do this, the aid data by most relevant sectors and the corresponding years of the poverty surveys of the three countries, have been downloaded from *Creditor Reporting System* dataset (OECD 2021).

The following table (Table 6) provides the sum of ODA from all donors to the corresponding sectors, along with decreases in the 10 multidimensional poverty indicators (the last three columns).

**Table 6.** ODA by sector for Guinea (2012-16), Liberia (2007-13) and Sierra Leone (2013-17).

| | **Guinea 2012-16** | | **Liberia 2007-13** | | **Sierra Leone 2013-17** | | **Guinea** | **Liberia** | **Sierra Leone** |
|---|---|---|---|---|---|---|---|---|---|
| **Year** | TOTAL | % | TOTAL | % | TOTAL | % | | | |
| **Sector** | | | | | | | | | |
| **1000: Total All Sectors** | **3229.21** | | **7122.85** | | **3.783.63** | | | | |
| 450: Total Sector Allocable | 1657.40 | 51.3% | 3270.15 | 45.9% | 2004.48 | 53.0% | | **Years schooling** | |
| **100: I. Social Infrastructure & Services, Total** | **1203.38** | **37.3%** | **2276.06** | **32.0%** | **1479.48** | **39.1%** | −2.7 | −0.9 | −1.1 |
| 110: I.1. Education, Total | 195.52 | 6.1% | 200.13 | 2.8% | 132.69 | 3.5% | | **School attendance** | |
| *112: I.1.b. Basic Education, Total* | 46.81 | 1.4% | 108.58 | 1.5% | *62.26* | *1.6%* | −2.2 | −5.5 | −3.0 |
| 120: I.2. Health, Total | 468.70 | 14.5% | 381.38 | 5.4% | 542.08 | 14.3% | | | |
| *122: I.2.b. Basic Health, Total* | 394.46 | 12.2% | 311.88 | 4.4% | *433.52* | *11.5%* | | | |
| 130: I.3. Population Policies/Programmes & Reproductive Health, Total | 153.14 | 4.7% | 182.07 | 2.6% | 259.62 | 6.9% | | | |
| 140: I.4. Water Supply & Sanitation, Total | 41.57 | 1.3% | 54.84 | 0.8% | 180.38 | 4.8% | | | |
| *14030: Basic drinking water supply and basic sanitation* | *13.47* | *0.4%* | *21.09* | *0.3%* | *4.80* | *0.1%* | | **drinking wáter** | |
| *14031: Basic drinking water supply* | *6.63* | *0.2%* | *0.02* | *0.0%* | *1.78* | *0.0%* | −1.6 | −0.5 | −2.9 |
| *14032: Basic sanitation* | *5.60* | *0.2%* | *0.12* | *0.0%* | *3.66* | *0.1%* | | **Sanitation** | |
| *14050: Waste management/disposal* | *1.48* | *0.0%* | *2.59* | *0.0%* | *5.92* | *0.2%* | −3.1 | −2.9 | −3.8 |
| 150: I.5. Government & Civil Society. Total | 290.15 | 9.0% | 1380.93 | 19.4% | 280.67 | 7.4% | | | |
| 160: I.6. Other Social Infrastructure & Services. Total | 54.30 | 1.7% | 76.71 | 1.1% | 84.04 | 2.2% | | | |
| *16030: Housing policy and administrative management* | | | *0.40* | *0.0%* | | | | **Housing** | |
| *16040: Low-cost housing* | | | *0.02* | *0.0%* | *0.66* | *0.0%* | −4.4 | −2.2 | −3.6 |
| **200: II. Economic Infrastructure & Services, Total** | **257.26** | 8.0% | **687.91** | 9.7% | **322.46** | **8.5%** | | | |
| 210: II.1. Transport & Storage, Total | 153.77 | 4.8% | 263.36 | 3.7% | 207.37 | 5.5% | | | |
| 220: II.2. Communications, Total | 31.22 | 1.0% | 22.96 | 0.3% | 6.25 | 0.2% | | | |
| 230: II.3. Energy, Total | 68.75 | 2.1% | 331.31 | 4.7% | 75.72 | 2.0% | | **Electricity** | |
| *23630: Electric power transmission and distribution (centralised grids)* | *50.17* | *1.6%* | *85.17* | *1.2%* | *37.52* | *1.0%* | −2.9 | −3.2 | −4.2 |
| 240: II.4. Banking & Financial Services, Total | 0.93 | 0.0% | 5.40 | 0.1% | 19.12 | 0.5% | | | |
| **300: III. Production Sectors, Total** | **99.23** | **3.1%** | **144.18** | **2.0%** | **144.19** | **3.8%** | | | |
| **400: IV. Multi-Sector/Cross-Cutting, Total** | **97.52** | **3.0%** | **162.00** | **2.3%** | **58.36** | **1.5%** | | **Nutrition** | |
| **500: VI. Commodity Aid/General Programme Assistance, Total** | **390.01** | **12.1%** | **686.56** | **9.6%** | **570.45** | **15.1%** | 0.0 | −1.5 | −3.4 |
| **600: VII. Action Relating to Debt, Total** | **812.50** | **25.2%** | **2667.56** | **37.5%** | **135.34** | **3.6%** | | | |
| **700: VIII. Humanitarian Aid, Total** | **223.50** | 6.9% | **489.09** | 6.9% | **973.03** | **25.7%** | | **cooking-fuel** | |
| 910: Administrative Costs of Donors, Total | 8.70 | 0.3% | 4.10 | 0.1% | 13.85 | 0.4% | −2.4 | −2.9 | **−4.0** |
| 930: Refugees in Donor Countries, Total | 3.58 | 0.1% | 0.53 | 0.0% | 0.58 | 0.0% | | **Assets** | |
| 998: IX. Unallocated/Unspecified, Total | 133.52 | 4.1% | 4.86 | 0.1% | 85.89 | 2.3% | −1.7 | −4.4 | −1.0 |

Note: For comparative purpose, last three columns show the differences in the MPI indicators. Source: author's elaboration. Based on OECD, Creditor Reporting System. Current USD million.

This information allows us to compare at first glance whether it is reasonable to think that aid could have contributed to the achievement of poverty reduction.

The hypothesis is that if a sufficient amount of aid has been produced in the sectors that are most closely related to poverty indicators, it could be expected that it has contributed in some way to said reduction. In cases where a possible impact is identified, we will look for which donor has been most responsible for this aid-poverty alleviation relationship.

(A) Regarding the dimension of deprivation in *education*, Guinea and Liberia receive a similar amount (USD 200 million) while Sierra Leone receives somewhat less (133 million). In relative terms, it is a very low proportion: 1.3% in the "basic education" sector. Liberia dedicated the majority of its ODA to education to this basic subsector (109 million out of 200). It contrasts that the reduction in "Years of schooling" was the lowest in the three countries among the 10 poverty indicators. In a way, it could be said that Liberia was the best profitable for aid to education. With USD 200 million he managed to reduce poverty by −5.5 points due to not being able to go to school attendance. It is noteworthy that most of the aid to education in Liberia was provided by the USA (73 million or 36.5% of the 200 million). Guinea also "profited" the aid well in terms of contribution to educational improvement, since with USD 196 million, it achieved a cumulative −4.9 points in educational poverty, while Sierra Leone received less (133 million) and reduced—4.1 educational poverty.

It is interesting to note how the aid is not mainly intended for education. It is also important to note how the percentages are somewhat skewed by the heavy burdens of debt relief in Guinea and Liberia and by Humanitarian Aid in Sierra Leone (Ebola years).

(B) As regards *health,* it is complex to identify a representative sector of nutrition or infant mortality. In terms of nutrition, the reduction in Sierra Leone stands out (−3.4 points). Received food aid (there are two sectors that are not shown but that can be associated with nutrition: "Development food assistance" (sector 510 of the OECD-DAC classification) and "Emergency food assistance" (sector 72040 of the OECD-DAC classification within Humanitarian Aid). In both cases, aid to Sierra Leone came from the US and Japan. Together they represent 82% of what Sierra Leone received for food aid, which reached USD 126.4 million. It is possible that this aid could have contributed to the reduction of malnutrition in the country and partially explain this remarkable reduction of −3.4 points (in contrast to zero for Guinea and −1.5 for Liberia).

(C) Regarding the dimension of *standard of living*, it is very difficult to assign any aid item that is associated with cooking fuel or with assets, so we do not comment on these two indicators.

With regard to *sanitation*, there is a subsector directly related to it "basic sanitation" but which barely received funding (the largest was Guinea with 5.6 million, which is only 0.2% of its ODA). The same happens with "basic drinking water supply" where Guinea once again received the maximum but only 6.6 million. If the aggregate of the "Water and sanitation" sector is considered, Sierra Leone received the most funds (USD 180 million), accounting for 4.8% of its ODA and this was concentrated in the contributions of the UK and the African Development Bank. The contributions of both represented 81% of what Sierra Leone received for water and sanitation.

In sum, it is highly unlikely that ODA could have contributed to poverty reduction in these two key water and sanitation indicators.

A similar diagnosis emerges from the *Housing* analysis (zero ODA, which does not explain the great reduction of −4.4 points in housing in Guinea). Neither did *electricity*, where Sierra Leone showed a record (−4.2) but barely received USD 37.5 million from the UK (USD 16.4 million and only between 2016-17 and from the IDA of the World bank USD 11, 1 million between 2015-17, the rest of the years was zero). Both contributions represent 73% of what Sierra Leone received in the period for electricity, which barely represents 1% of its ODA.

Looking at the data in detail, ODA for electricity was clearly very low for the three countries and periods (Table 7). Electricity is a key indicator due to its multiple spillovers and interlinkages with other deprivations [42]. It is very implausible that these amounts may explain the high levels of poverty in electrification. Alternative explanations may be data measurement error in the surveys or other financial source such as public budget or private investment funds.

**Table 7.** ODA for electricity (millions USD).

| **Guinea** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Year** | 2012 | 2013 | 2014 | 2015 | 2016 | Total | % | | |
| **Official Donors, Total** | **4.983** | **4.796** | **11.731** | **13.475** | **15.189** | **50.174** | 100.00% | | |
| France | 0.006 | .. | .. | .. | .. | 0.006 | 0.01% | | |
| EU Institutions | 0.118 | .. | .. | .. | .. | 0.118 | 0.2% | | |
| African Development Fund [AfDF] | 4.082 | 3.212 | 4.859 | 7.555 | 11.165 | 30.873 | 62% | | |
| International Development Association [IDA] | 0.776 | 1.584 | 6.872 | 5.920 | 4.024 | 19.177 | 38% | | |
| Liberia | | | | | | | | | |
| **Year** | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total | % donor |
| **Official Donors, Total** | **2.154** | **9.831** | **10.126** | **16.012** | **24.004** | **21.278** | **1.766** | **85.171** | 100.0% |
| Norway | 2.130 | 6.071 | 5.358 | 10.129 | 20.580 | 19.709 | .. | 63.98 | 75.1% |
| United States | 0.024 | .. | .. | .. | .. | .. | .. | 0.024 | 0.03% |
| EU Institutions | .. | 3.760 | 4.767 | 5.883 | 3.302 | 0.076 | 0.129 | 17.917 | 21.0% |
| International Development Association [IDA] | .. | .. | .. | .. | 0.123 | 1.494 | 1.637 | 3.253 | 3.8% |
| Sierra Leone | | | | | | | | | |
| **Year** | 2013 | 2014 | 2015 | 2016 | 2017 | Total | % | | |
| **Official Donors, Total** | **0.357** | **0.247** | **12.467** | **14.039** | **10.411** | **37.521** | 100% | | |
| Japan | 0.357 | 0.247 | 9.219 | 0.201 | .. | 10.025 | 27% | | |
| United Kingdom | .. | .. | .. | 13.835 | 2.627 | 16.462 | 44% | | |
| African Development Fund [AfDF] | .. | .. | 0.071 | .. | .. | 0.071 | 0.2% | | |
| International Development Association [IDA] | .. | .. | 3.177 | 0.003 | 7.784 | 10.964 | 29% | | |

Source: author's elaboration. Based on OECD, Creditor Reporting System. Current USD million.

In the case of Sierra Leone, a likely explanation for the improvement in rural electrification is the Rural Renewable Energy Project (RREP)[14]. The project is supported by the UK's Foreign, Commonwealth and Development Office (FCDO). It is implemented by the United Nations Office for Project Services (UNOPS) on behalf of the Ministry of Energy. The RREP, which spans from October 2016 to May 2022, provides access to clean energy, for sustainable growth of the country's energy capacity. With a budget of 37.7 million pounds, the project is being completed in several phases and aligned with the overall national strategy to tap into Sierra Leone's great renewable energy resources to provide more reliable, environmentally friendly and secure electricity to rural communities. The first phase, which involved the installation of solar power in 54 community health centres and network distribution to one school in Conakry Dee (Port Loko District), was successfully completed in July 2017. A further 44 installations were planned to be completed by 2020 through co-investment with the private sector operators. In total, the RREP will construct in total 94 solar-powered mini-grids and three stand-alone systems installed across the country. The RREP impact is to increase rural communities' welfare through social and economic growth, saved fuel costs, and improved health and education outcomes. The

project will also significantly reduce Sierra Leone's future Green House Gas emissions. To do so, it aims to provide up to four MegaWatts of sustainable renewable electricity in rural communities through mini-grid installations with private sector involvement. In 2018, the project expanded 50 of the previously constructed health centre solar power stations and installed distribution networks throughout each village, creating independent mini-grids. It is remarkably enough that any ODA fund was dedicated to "electric power transmission and distribution (isolated mini-grids)" as it is named in the OECD-DAC 23631 sector classification. Any donor, in any time, and none of the three countries considered in this study.

In a nutshell, the success of −4.2 in the multidimensional poverty indicator for electricity in Sierra Leone is better explained considering other resources than ODA. Only three donors gave foreign aid for centralised grids electric power transmission and distribution. Despite these successes, according to International Energy Agency, there were still 6 million people without access to electricity in 2019 and only 26% of Sierra Leonese have access to electricity: 52% in urban zones but only 6% in rural villages (IEA 2021 [43]).

### *3.4. Sierra Leone Case Study. Using Disaggregated ODA Data*

The purpose of this section is to try to link the evolution of poverty and foreign aid (ODA ammounts). As we explained above, we use for the first time, aid-disaggregated data from the AidData database. As we also have disaggregated MPI, incidence (headcount), and intensity of poverty by districts, we could use this micro-level unit for the analysis. As Table 8 shows, ODA projects for 2013–2017 (the period between the two poverty surveys) came from seven multilateral and three bilateral donors (Ireland, United Kingdom, and Japan).

**Table 8.** Sectors, donors and projects for Sierra Leone collected by AidData.

| Sector | Donors | Projects |
|---|---|---|
| Education | DFID (UK) | 14 |
| | World Food Program | 12 |
| Health | Irish Aid | 4 |
| | Islamic Development Bank | 1 |
| | European Union | 13 |
| Water and sanitation | DFID (UK) | 4 |
| | European Union | 1 |
| Energy | JICA (Japan) | 1 |
| Government and civil society | Irish Aid | 1 |
| | DFID (UK) | 9 |
| | African Development Bank | 1 |
| | International Organization for Migrations | 2 |
| | UNDP | 1 |
| | European Union | 41 |
| | JICA (Japan) | 1 |
| Other sectors | OPEC<br>European Union<br>DFID (UK) | 49 |

Source: Author's elaboration.

Based on data form multidimensional poverty country briefs, we computed and ranked the changes in MPI, headcount (Hc) and intensity (A) of poverty and the aid received by district between 2013 and 2017 (Table 9).

**Table 9.** Poverty and foreign aid by districts.

| Rank MPI | | Rank Hc | | Rank A | | AidData2013–2017 by Districts | | |
|---|---|---|---|---|---|---|---|---|
| Kenema | −0.194 | Kenema | −29.7 | Kailahun | −9.8 | Kono | 17,141,417 | 17.8% |
| Kono | −0.194 | Kono | −26.0 | Kambia | −8.3 | Tonkolili | 12,759,820 | 13.2% |
| Kambia | −0.186 | Bo | −23.6 | Tonkolili | −7.9 | Kenema | 10,610,602 | 11.0% |
| Port Loko | −0.175 | Western rural | −23.5 | Koinadugu | −7.6 | Kailahun | 7,514,619 | 7.8% |
| Kailahun | −0.172 | Port Loko | −23.2 | Moyamba | −7.5 | Bo | 5,636,842 | 5.9% |
| Bo | −0.170 | Bombali | −22.8 | Kono | −7.0 | Bombali | 5,611,655 | 5.8% |
| Moyamba | −0.161 | Kambia | −20.3 | Bo | −6.7 | Bonthe | 5,395,457 | 5.6% |
| Koinadugu | −0.140 | Western urban | −19.5 | Port Loko | −6.0 | Pujehun | 5,277,832 | 5.5% |
| Tonkolili | −0.138 | Moyamba | −17.2 | Pujehun | −5.2 | Koinadugu | 4,802,252 | 5.0% |
| Bombali | −0.136 | Kailahun | −16.8 | Kenema | −4.9 | Moyamba | 4,686,429 | 4.9% |
| Western rural | −0.118 | Tonkolili | −12.9 | Western urban | −4.4 | Port Loko | 4,547,227 | 4.7% |
| Pujehun | −0.108 | Koinadugu | −12.2 | Bombali | −2.5 | Western rural | 4,546,554 | 4.7% |
| Western urban | −0.099 | Pujehun | −11.4 | Western rural | −1.6 | Kambia | 4,177,529 | 4.3% |
| Bonthe | −0.062 | Bonthe | −10.3 | Bonthe | −0.5 | Western urban | 3,601,264 | 3.7% |

Source: Author's elaboration.

The Pearson correlation between aid (column 8) and change in MPI (column 2) is −0.4139; between aid (column 8) and poverty incidence (column 4) is −0.2682 and between aid (column 2) and intensity of poverty (column 6) is −0.2573.

Data of the table shows that Kenema district was where MPI decreased most, especially because of the incidence (−29.7%). Aid for the Kenema ranked the third with 11% of the total aid.

In the same vein, Kono district was the second in the reduction of MPI, incidence and was the district where more aid was allocated (17.8%).

Kambia is an example of a district where poverty was reduced especially in intensity (−8.3%) but was penultimate in aid allocation (4.3%).

Bonthe district was where the poverty reduction was smallest under the three indicators (MPI, incidence and intensity). Bonthe received 5.6% of total aid.

All in all, although we cannot show robust evidence that aid does not causally explain the poverty reduction in Sierra Leone, we show some evidence that -at least at district level- it is a reasonable hypothesis. Further and more detailed evidence could come from projects impact evaluations (using random control trials or other rigorous techniques for attributing causality), but this level of evidence is out of the purpose of this paper.

## 4. Discussion

The hypothesis of the paper was that, conversely the micro-macro paradox identified by Mosley (1986) [17] a macro-micro paradox might be detected, at least in these three Sub-Saharan countries. Mosley found that ODA flows might show positive results when the goals of the ODA projects were evaluated, but there was not any positive macro result when aid and growth were analysed. We have identified a positive cointegration between ODA and GDP (macro effect), but this result is not enough to show that ODA was an effective financial instrument to reduce multidimensional poverty when a sectorial and spatial analysis were carried out (meso or micro effect). In fact, the main findings of the

paper are that, although a positive cointegration between ODA and GDP may be identified, ODA flows were not focused on the sectors that are more related to multidimensional poverty indicators and -at least in the case of Sierra Leone- neither on the districts where multidimensional poverty were higher.

It is worth bearing in mind that a macro predictive model between aid and growth was not our main interest. We did not want to offer policy measures based on past data, on how aid can increase economic growth. We are more interested in showing how ODA flows and poverty indicators are linked, in the vein of the 2030 Agenda and Sustainable Development Goal 1 and target 1.2. "By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty *in all its dimensions* according to national definitions". If poverty is multidimensional and ODA flows try to reduce poverty, how are they linked?

Thus, we propose a macro-micro paradox opposite to that of Mosley, who estimated that aid worked in the micro sphere but did not transfer to the macro (GDP per capita). Our argument is that, although cointegration (correlated trends) in macro variables can be identified with aid, this is not enough to believe that aid is reducing poverty (multidimensional). As such, our results suggest a reversal macro-micro paradox.

The political economy consequence of our results is that the analysis of the aid-growth nexus is not enough to state the effectiveness of foreign aid and its contribution to reach SDGs targets. A micro analysis based on disaggregated data is required[15]. Aid data based on geospatial allocation on ODA project and the poverty indicator that was intended to reduce, is necessary when the research question is whether ODA flows are linked to multidimensional poverty results at the country level[16]. The theory of change that underlies our framework can be seen in Figure 12.

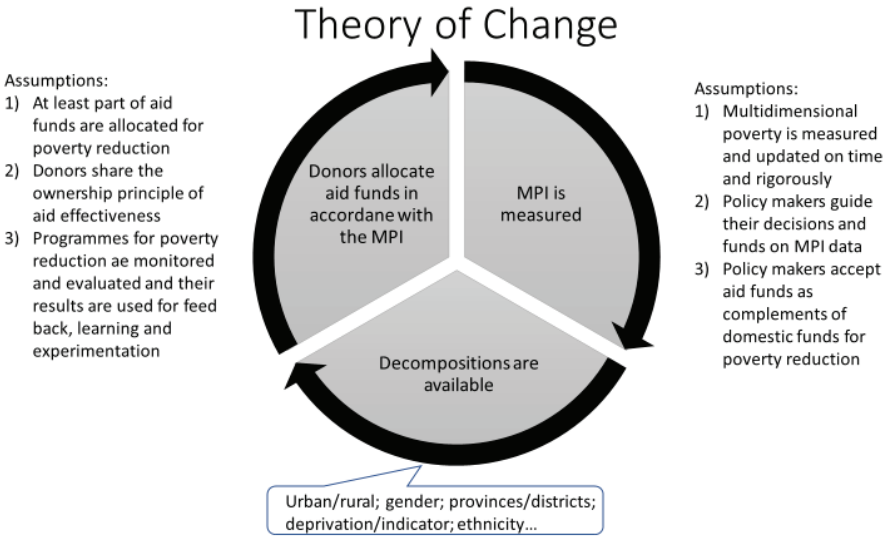


**Figure 12.** Theory of the change that underlies the relationship between ODA and MPI. Source: Author's elaboration.

IPM allows for disaggregated poverty indicators by space (urban or rural, districts), groups (ethnic, gender), sex (male, female), ages (especially for youths and children) or deprivation (each of the ten indicators). This information is not being systematically considered by ODA donors in their plans and aid allocation criteria. In other words, the four effectiveness principles of the Global Partnership for Effective Development Co-operation (country ownership, focus on results, inclusive partnerships and transparency

and mutual accountability) should be a norm, not an aspiration[17]. We have shown great room for maneuvering to improve their implementation in the cases of Guinea, Liberia and Sierra Leone (see Table 5).

Our results, especially in the case study of Sierra Leone, show that country ownership, defined as "countries set their own national development priorities, and development partners align their support accordingly while using country systems" is still more a wish than a reality. Donors might take advantage of Sierra Leonean national multidimensional poverty index and data [44] as a base line to align their ODA contributions, at least those that have the specific intention of reducing poverty (ODA for the poor). This would be a sign that the Global Partnership's work is going further than the irrelevance.

Linking ODA to MPI indicators can be a concrete and successful good practice in line with the Global Partnership Action Area 2.6. "*strengthening development effectiveness at subnational level to achieve the SDGs*". The Partnership echoes the low capacity that cities, municipalities, local and regional authorities have to exert a real influence on donors allocations, but the Partnership only offers a space for dialogue and knowledge sharing on how to overcome the challenges that implementing the 2030 Agenda implies. Our recommendation to associate ODA projects and programmes to multidimensional poverty indicators might help to overcome the level of vagueness and rhetoric of the Partnership discourse. We believe that linking ODA to multidimensional poverty indicators, disaggregated by space, groups, sex, ages and deprivations may be an effective contribution to "*enhance international support for implementing effective and targeted capacity building in developing countries to support national plans to implement all the SDGs, including North-South, South-South and triangular cooperation*" (target 17.9. of the 2030 Agenda for Sustainable Development).

## 5. Conclusions

Using a VECM, we identified significant positive cointegration between ODA, GDP and its components for Guinea, Liberia (with caveats) and Sierra Leone. This finding is in line with the effect in other regions (see Dash 2021 [45] for South Asian countries) and the use of cointegration techniques [46].

However, when we analyse ODA by sectors and their links with multidimensional poverty indicators, we do not find a close relationship. Finally, in the case of Sierra Leone and using disaggregated aid data, we find that districts with higher poverty incidence and intensity are not those who received more aid. Regarding electricity access, it was other public and private funds that explain the success in the rural electrification coverage in Sierra Leone.

Instead of the Mosley's micro-macro paradox, we find a macro-micro paradox in the sense that despite the positive cointegration results, there is not enough convinced evidence that ODA has contributed to the remarkable positive multidimensional poverty results in these countries, even when the Ebola's outbreak has happened.

The policy implications of these findings are clear: ODA donors can make better contributions to multidimensional poverty reduction. They should incorporate the poverty indicators disaggregated in rural and urban zones in their foreign aid allocation plans. Their monitor and evaluation exercises should be focused on these poverty measures if the 2030 Agenda for Sustainable Development is taken seriously into account. The multidimensional poverty indicators are already aligned with Sustainable Development Goals. Better ownership is needed, especially when some recipient countries, such as Sierra Leone, have elaborated their own multidimensional poverty index and development plan [44] which has disaggregated information by rural and urban areas, regions and districts.

To improve our knowledge and certainty of the effects of ODA on poverty, it is necessary that aid projects are linked to a particular multidimensional poverty indicator. Nowadays this information is not available for many recipient countries. We could only use Sierra Leone's case for an initial study. More research is needed to link the, perhaps, rhetorical purpose of aid to eradicate poverty (SDGs target 17.2) and to get a clearer

knowledge to what extent aid is responsible for the results of SDG-1, target 1.2., both in rural and urban places.

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## Notes

1 One option is to use cluster analysis as Larrú et al. (2021) [24].

2 See https://www.oecd.org/dac/effectiveness/thehighlevelforaonaideffectivenessahistory.htm (accessed on 19 October 2021) for a brief summary of the Forums.

3 Literaly, "We emphasize that international public finance plays an important role in complementing the efforts of countries to mobilize public resources domestically, especially in the poorest and most vulnerable countries with limited domestic resources. An important use of international public finance, including official development assistance (ODA), is to catalyse additional resource mobilization from other sources, public and private. ODA providers reaffirm their respective commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 per cent to 0.2 per cent of ODA/GNI to least developed countries" (number 43).

4 The share is only 14% for developing countries. Foreign Direct Investment reaches 51% in developing countries, whereas is only 29% in least developing countries.

5 Porteus shows that 45% of all economics journal articles and 65% of articles in the top five economics journals are about five countries (namely, South Africa, Nigeria, Ghana, Kenya and Ethiopia) accounting for just 16% of the continent's population. 91% of the variation in the number of articles across countries can be explained by a peacefulness index, the number of international tourist arrivals, having English as an official language, and population. The majority of research is context-specific, so the continued lack of research on many African countries means that the evidence base for local policy-makers is much smaller in these countries. In the Porteus work, neither the volume of trade nor the foreign aid received by each country, could explained the attention received in academic journals [47].

6 According to UNCTAD classification among 47 countries: https://unctad.org/topic/vulnerable-economies/least-developed-countries/list (accessed on 25 November 2021).

7 Guinea ranked 175 out of 189 countries in the Human Development Report 2018, whereas Liberia was 181° and Sierra Leone 184°. Their HDI values were 0.459; 0.435 and 0.419 respectively.

8 The other members are Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Gambia, Guinea, Guinea-Bissau, Liberia, Malí, Níger, Nigeria, Senegal y Togo.

9 The source of these data is UN ComTrade database.

10 Sierra Leone's exports to Guinea in 2017 were 1.84% of the total exports and 1.93% to Liberia. Imports from Guinea to Sierra Leone were 0.78% and 0.08% from Liberia.

11 This dataset represents the most comprehensive project-level data tracking international development finance. The base of the Research Release is all core data exported from the AidData Portal at www.aiddata.org. The Research Release serves as (1) a time-stamped version of AidData's core data, which allows users and researchers to replicate their research results, and (2) a version of the data that is provided in a flat-table structure, allowing for users and researchers to analyze annual commitments more easily. This dataset was developed by AidData with the support of AidData's core funders, including the Hewlett Foundation.

12 Oxford Poverty and Human Development Initiative (2015). "*Sierra Leone Country Briefing*", Multidimensional Poverty Index Data Bank. OPHI, University of Oxford, January.

13 We get the data from OPHI (2020) Global MPI Country Briefing 2020: Sierra Leone (Sub-Saharan Africa).

14 Source http://www.energy.gov.sl/home/rural-renewable-energy-project/ (accessed on 9 November 2021).

15 See for example Shao & Wang (2021) [48] analysing the Japanese aid to China.

[16] For instance, Dreher et al (2019) [49] used and geocoded 1650 Chinese development finance projects across 3097 physical locations committed to Africa over the 2000–2012 period to analyse if current African political leaders' birth regions receive substantially larger financial flows from China than other regions.

[17] In fact, this was the main conclusion of the 21st meeting of the Global Partnership Steering Committee for the next High-Level Meeting scheduled for late 2022.

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# Contributions of Intercultural Socioenvironmental Justice to the 2030 Agenda in the Colombian Caribbean

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**Abstract:** The 2030 Agenda has influenced the design of public policies in Colombia and other countries in the region, but there are many gaps in the way a global policy can be interpreted and adapted to the territories. Thus, this article aims to critically evaluate the public policy of sustainability implemented in the Colombian Caribbean and to suggest contributions from an intercultural socioenvironmental justice perspective. For this purpose, the public policy of sustainability that orients the plans for the use of insular ecosystems in Cartagena de Indias has been examined and confronted with local evidence that shows significant changes in the forms of life and ecological degradation in multi-temporally analysed coverages. Methodologically, this research is based on three aspects: the theoretical discussion of the notions of sustainability and justice in public policies, spatial databases to analyse the transformation of landscapes and ethnographic work with Afro-descendant peoples to recognise their socioecological systems. We found that the public policy of territorial planning aligned with the 2030 Agenda nominally includes a rights approach, but management practices or governance structures do not consider the very high asymmetry in land tenure, the growing private and non-participatory regulation of coasts and the sea or the exclusion of Afro-descendant peoples who claim tenure and autonomy rights. Then, we propose integrated dimensions of sustainability that overcome the socioecological negativity observed and articulate criteria of intercultural justice in public, social and environmental policies.

**Keywords:** sustainability; socioenvironmental justice; interculturality; 2030 Agenda; Colombian Caribbean; common goods; Afro-descendants

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## 1. Introduction

The Sustainable Development Goals (SDGs) are an ambitious set of 17 goals and 169 targets that were defined and developed through an unprecedented conversation between UN member states and local authorities, civil society, the private sector and other stakeholders. Several researchers have analysed the implementation criteria and contextualisation at the regional and local scales [1–3]. In the Caribbean, for example, as a result of analyses of social inequality, socioenvironmental conflict and institutional weakness, it is imperative to adequately localise the SDGs by recognising existing barriers in local and regional governments and the deficit in social participation in development policies [4,5]. One of the most neglected issues in sustainability policies is the relationship between the rights of Caribbean coastal and fishing communities and the protection of marine life (SDG 14). A dualistic analysis seems to prevail that places ocean conservation on one side and the rights of fishing populations that face the rigorous challenges of climate variability on the other side. Studies such as Haughton [6] and Clay & Olson [7] have already noted the decline of fisheries and the impoverishment of communities that are highly dependent on the sea.

It is important to recognise that the meanings that have been assigned to sustainability are diverse, so it is necessary to identify the concepts and practices that underlie policies that adopt notions of sustainable development in their design and implementation [1,8]. A case that allows for a critical examination of the scope of sustainability is the Colombian Caribbean, a region in which various policies overlap. On the one hand, the state has reinforced protected areas in marine–coastal ecosystems, and on the other hand, on the same coasts, real estate and hotel growth has led to a relaxation of the land market and the issuance of environmental licences that have enabled large parts of the coastlines to be transformed into areas of urban expansion for tourism use. Both conservation and hotel growth policies have generated a framework of conflict with local communities that aspire to have their rights to land and sea recognised and, thus, to facilitate their equitable participation in the decisions that transform the region and compromise their present and future way of life.

The case of Barú shows that the struggle for sustainability—that is, the effort to make a community's way of life viable and enduring in an integral sense—is not the same as sustained or sustainable development in the terms in which public policy offers it to local communities. Tourism, conservation and real estate growth on the coasts, as will be shown, are aligned with the interpretation that the Colombian policy model applies to sustainable development. Therefore, differentiating sustainable development from sustainability is crucial [9], because the data show that the model adopted on the Caribbean coasts is unsustainable from a human and ecological point of view. The search for sustainability implies sociohistorical reflexivity regarding what is viable and what is not. Additionally, sustainability is not merely instrumental [10], since the subjects have built a model of occupation and use of nature that is based on the feasibility or reproducibility of their way of life, knowledge of the biophysical environment, commitment to future generations and affirmation of their way of life in the midst of many adversities.

In this context, the objectives of this research are: first, to critically evaluate the public policy of sustainability in the Caribbean, especially those related to the planning and management of coasts and seas; second, to analyse the changes in the island's ecosystems based on a multitemporal study that enables a biophysical verification of the state of the ecosystems and drivers of transformation; third, to delve into the systems of use of Afrodescendant people who inhabit the island and their perceptions and interactions with the public policies that are implemented in the region; fourth, to articulate an analytical framework of intercultural socioenvironmental justice that we consider necessary after analysis of the public policies and empirical evidence from the case study; and fifth, to offer analytical and practical guidelines for public policy to more adequately assemble the ecological, social and cultural sustainability, with a serious consideration of the socioecological systems and rights of communities that are affected by the design of public and private development strategies that tend to be imposed. Thus, this research presents an in-depth analysis of a conceptual framework to analyse how certain public policies of the Colombian state apply to these territories and their implications at the biophysical, social and cultural levels in regions such as the Caribbean with ecological fragility and settlements of ancestral peoples along the coasts. Achieving sustainability requires a more horizontal understanding that takes into account the socio-diverse communities that can contribute to the goals of the 2030 Agenda.

Beyond a common dispute in the sphere of environmental governance, the Caribbean shows that these problems involve profound social differences and various actors' valuations of the nature of common goods and how to incorporate them into economic development and conservation models. The processes of conservation and real estate development in the hotel sector are advancing in parallel with public policies that enable their consolidation. However, the agenda for the recognition of collective tenure rights is not advancing, even though Colombia ratified the ILO Convention 169 on the rights of indigenous and tribal peoples in 1991. Regardless of its legal commitments, the state has implemented a regressive approach in interpreting and recognising communities of

the islands and Caribbean coasts that do not have legal security for their lands or areas of preferential use. This approach has generated intercultural conflict, because policies developed under the protection of discourses that pretend to combine sustainability and development do not respect the historical rights of these communities, leading to asymmetrical intercultural conflict between the state and traditional communities. Thus, the situation of legal pluralism that is expressed in Caribbean coastal communities' own rights and in the legal capacity of the state is not equitable.

There are two distinct cultural strategies. On the one hand, the state, together with the private sector, dissociates conservation and economic growth from the collective rights of the communities that have ancestrally inhabited the coasts. On the other hand, the strategy of the communities does not dissociate the conservation of nature from the practice of their rights in their way of life, which has coexisted with the marine–coastal ecosystems and, despite certain limitations, allowed them to harmonise their practices with ecological sustainability to a great degree. Responses to the challenge of environmental conservation, together with the promotion of dignified ways of life, lead to diverse cultural strategies that articulate different social identities, which must be examined for both correctness and sustainability before nature, society and equity with other communities are affected by the strategies.

## 2. Theoretical Framework

### *2.1. Environmental Crisis and Conservation in Coastal–Marine-Protected Areas*

While biodiversity conservation is a necessity to ensure the structure and functionality of ecosystems [11], it must always be linked to the needs of local stakeholders and their historical or circumstantial relationship with areas affected by protected area declarations [12]. In the follow-up to SDG 14, the seas and marine resources are recognised as a key indicator insofar as the oceans cover three-quarters of the Earth's surface, support 5% of global GDP, directly and indirectly generate nearly 200 million jobs and, therefore, have the potential to contribute to food security [13].

Climate change, overfishing, marine pollution and a growing list of other anthropogenic factors threaten the oceans. Many marine environments are approaching or have reached their critical tipping points, and rising ocean temperatures and sea levels are projected to push ecosystems to their points of no return. This trend has been clear since the first global integrated assessment of the marine environment, and it is even more pronounced in the data presented in the most recent UN assessment [14,15]. Among the environmental problems of greatest concern for the use of the sea are aggregations of *Sargassum* algae (*Sargassum natans* and *fluitans* species) [16].

From the perspective of ocean use, a Lancet report details the variations and increases in the sea surface temperature, which pose a threat to seafood productivity, in the territorial waters of 95 countries [17]. In fact, the catch of marine fish has decreased since 1988, while the production of farmed fish has increased. This contrasts with the per capita fish consumption, which has increased steadily since 1960; in fact, the report notes that approximately 3.3 billion people, especially those living in coastal countries, depend on seafood. Regarding coastal countries, such as those of the Greater Caribbean, the Lancet report states that, of the 146 million people living in coastal areas, 27% are living in minimal development conditions.

### *2.2. Intercultural Socioenvironmental Justice and Territorial Rights*

We consider it necessary to introduce and articulate a third dimension, intercultural justice, in addition to the dimensions of social and environmental justice, in a visible and operative way. These three dimensions are operationalised in the analysis of public policy, the transformation of ecosystems and the social impact of communities, along with their contributions to the SDG targets, since their ways of life and sustainable practices are based on nearly three centuries of historical experience on the island.

Thus, intercultural justice requires a context of social and cultural pluralism. This implies the right of communities or peoples who have a different way of life because of a historical practice of cultural self-determination not to be discriminated against in comparison to other social actors who may in fact be favoured by public development policies. Additionally, they have the right to be actors in their own model of human development. This implies not only consultations on public decisions that affect their territory and way of life but also the capacity to make autonomous decisions about these issues.

At the same time, the systematic articulation of socioenvironmental justice with intercultural justice makes it possible to recognise and evaluate the specific contributions and responsibilities of each group and its way of life or development in terms of the common challenges of society and humanity as a whole, as well as the ecological challenges of the planet. Therefore, the intended corrections of the demands of different groups or social actors must be evaluated systematically and considered in an integrated and inseparable manner for the sake of internal equity and equity within the group itself and correctness in relation to nature and ecological sustainability. Additionally, it must not prevent other sustainable ways of life of groups affected by their own demands or the particular intended model of social development [10].

In recent decades, a growing global awareness of inequities in human development for broad sectors of global society and an ecological crisis at the planetary level has emerged. The two problems can no longer be perceived or addressed in an unconnected manner, since public responses at different scales should not prescribe strategies dividing these two dimensions that negatively affect social existence. Therefore, we must consider a socioenvironmental crisis that, in various ways, weakens and threatens natural life and human ways of life, especially among social groups that suffer the greatest inequalities. This requires not only a factual but also an ethical recognition of the interdependence between nature and human communities. The articulation of just and sustainable relations within each society also requires the recognition of a sphere of duties towards nature and other living beings. However, precisely because of this interdependence, damage to nature also affects communities, especially the poorest and most vulnerable, and their sustainability [18]. Therefore, social justice today goes hand-in-hand with environmental justice, forming an inseparable construct.

In this context, we briefly point out some milestones where demands for justice have articulated and integrated social and environmental justice due to the inseparable correlation with human existence.

Environmental justice implies analysing the historical configuration of a territory, identifying the link between the ecological and political structures of environmental conflicts and carefully reviewing the economic, political, sociocultural and historical variables that underlie environmental conflicts [19]. This process incorporates variables such as social, economic and racial equity into not only the natural base but also the ways in which the territory is created and administered [20]. In a field that seeks an equitable distribution of environmental burdens and benefits across society, therefore, individual and collective recognition of the needs, capacities and identities of the affected communities is required to ensure their effective participation in the decisions that affect them [19]. This is a precondition for a process of redistributing access to natural resources and pollution burdens.

Environmental justice is closely related to ecological distributive conflicts, since this type of conflict involves access to and regulation of a set of common goods that are disputed by various actors with unequal power relations [20,21]. Such conflict can be explained by, among other factors, the mercantilist valuation of nature that leads to regimes of the invisibility of ecosystems and those who inhabit them as imaginaries and ways of life are imposed that reduce these ecosystems and communities through an economic and exploitative rationality [22].

However, the relationships and levels of justice are not only articulated internally within each community in terms of the necessary equity among its respective members and in its dealings with nature but also must be recognised before the affected ones, before the

plurality of communities and, when necessary, in terms of different ways of life. Thus, the justice that articulates each society is also at stake in "external" relations [23]. A context of social and cultural pluralism exists both internally, in states such as Colombia, and internationally. This pluralism is not usually accompanied by relations of effective mutual recognition but is crossed by forms of power that articulate the hegemony of some groups over others and that distort and prevent equity between communities and their particular identities and ways of life.

According to Rodríguez [24], Colombia has incorporated into public policy cross-cutting pacts that address sustainability by proposing producing by conserving and conserving by producing. These pacts are associated with the goals of responsible production and consumption, climate action (SDG 13), the life of terrestrial ecosystems (SDG 15) and affordable and non-polluting energy (SDG 7).

Thus, the development of public policies aligned with the 2030 Agenda, at both the national and international levels, requires the involvement of all those affected. All stakeholders should be included in the validation of development and sustainability policies, especially in regard to the management and governance of common goods, which are an essential part of the territorial rights of Afro-Colombian peoples.

The specialised literature uses the term common-pool resources to refer to a set of ecosystems that are used by groups of actors who build adaptive relationships governed by formal and informal institutions, i.e., formal as in rules and norms, such as laws, and informal as in explicit or tacit behavioural agreements [25]. The commons are characterised by the difficulty of excluding anyone from them and by the reduction in the availability of resource units as more people or groups use them [26,27]. This implies that many actors, not always under the same economic conditions or with the same possibility of exercising power, access and use or restrict the use of resources in different ways.

The theoretical debate on the effective management of common-pool resources and their sustainability covers several spectra. On the one hand, state institutionality and the promotion of centralised rules are increasing, and on the other hand, the commons are being privatised [28]. In contrast to the dichotomy of public and private, the idea of protecting collective management systems through local regulatory arrangements has emerged as a strategy for resource conservation [26,29]. It is essential to investigate the privatisation of environmental goods and services, which, in the literature, is associated with enclosures, exclusion and commodification of ecosystems, as a nodal concept in this research [30,31]. The privatisation of land for the implementation of projects that benefit groups translates into inequality [32].

In addition, the tension between collective property and private property has been the subject of interdisciplinary analyses that differentiate between property and rights to resources. On the one hand, ownership implies formality, since rules are established and protected by states [33], and although it encompasses a set of rights that qualify tenure (open access and communal property), it can be classified as public or private [34]. Natural resources are associated with rights of access, extraction, management, exclusion, and alienation [35], which are determining factors in nested systems of use and governance. The approach based on the relationship between culture and law, such as legal pluralism, which emphasises native peoples' own laws and customary practices that articulate or clash with formal normative systems of states with multiculturalist doctrines, is no less important [22].

One of the challenges of public policy on common goods in the context of the discourses and practices of sustainability in recent years—Ostrom detailed this challenge well into the 2000s—is the inexorable task of undertaking systematic institutional evaluations given the transformations of the problems; the positions of the actors; the patterns of interaction and the adaptive rules when confronting problems of degradation of natural systems, overexploitation, corruption and marginalisation. In addition, several authors have insisted on a transdisciplinary approach to the study of the commons and its contribution to sustainability [36,37].

## 3. Materials and Methods

### *3.1. The Colombian Caribbean as a Case Study: Barú as a Collective Space since Colonial Times*

In the Colombian Caribbean, the region where the empirical cases of this research are located, there are communal lands and other common-pool resources, such as savannah and low-tide areas in the insular zone. Geographical, environmental, legal and economic studies have pointed out that these areas are characterised by richness in the functionality of their ecosystems and by being the ancestral lands of ethnic groups, mostly Afro-descendant populations [38]. However, these studies have considered the privatisation of spaces for community use and the degradation of resources that provide sustenance to native populations, particularly access to water, to be among the main problems [39,40]. In summary, the irruption of private use of collective territories is an important axis of discussion in the study of the sustainability of common-pool resources and development models.

It is well-known that the tourism industry is important in the Caribbean [41]. Much of the degradation of mangroves and other problems detailed below is the result of excessive use of coastlines for the hotel and real estate industries, which have represented and commodified the Caribbean as uninhabited leisure beaches [42]. One of these emblematic places is the island of Barú, located south of Cartagena. It is a region that has historically experienced tension between native populations and other private and state actors. Almost all disputes are related to the use, distribution, control of and access to environmental goods and services in the continental area and in the extensive marine space that constitutes the territoriality of the *baruleros.* This space is a maritorium, in the term of Ivelic & Segura [43], meaning a habitable sea without land as a limit or an obstacle.

To plan urban and rural land use in Colombia, regional governments have created land use plans and development plans. These instruments have served as the basis for the incorporation of the SDGs into local governance and are, to a great extent, the basis for the report that the state is preparing to follow up on the adoption of the 2030 Agenda in its domestic policy. A review of the Land Use Plan of Cartagena de Indias, one of the most important cities in the country and the Greater Caribbean, shows that its political, economic, and the administrative planning model is disconnected from the socioecological reality of the islands and coastal areas, because, among other reasons, it does not recognise that these are spaces inhabited by native communities. This plan was formulated 21 years ago, and recent studies have estimated that it is an insufficient instrument for 72.7% (32 out of 44) of the evaluated items [44].

Barú was not an island until 1649, when it was separated from the mainland by the construction of the Dique Canal. It is surrounded by the Bay of Cartagena and the Bay of Barbacoas and is inhabited by five Afro-descendant communities organised through legal instruments that have existed in Colombia since the proclamation of Law 70 of 1993, also known as the Black Communities Law. The immediate context is the Corales del Rosario National Natural Park, which, today, has 120,000 hectares of mangrove forests on the coastline and marine area under this figure of protection and is mainly in the immediate vicinity of the community of Barú[1]. Since 2009, the inhabitants of this region have led important organisational movements in efforts to inscribe their ways of life, their territories and their political stakes in the framework of identity politics [45].

Anthropologist Carlos Duran broadly analysed the importance of the organisational life of the *baruleros* and the early achievement of the seven *caballerías* of land that today represent, above all, a symbolic foundation of a struggle that has not ceased[2]. Duran (2007) affirmed that the community was organised around social, economic and cultural dynamics that differ from those propagated by the mestizo nation of capitalist development. The community continues to have serious difficulties in being recognised by the state for various reasons, including the rebellious character of the *palenqueros* and *arrochelados* [46].

In 1851, the year in which slavery was abolished in Colombia, the Afro-descendant settlers of Barú bought seven *caballerías* that were part of this territory; the local community retains the memory of the immense work that it undertook to pay the 1200 pesos that were the price of these lands. Wilmer Gómez, a leader and cultural manager of the community,

affirmed, "These lands were bought by 5 neighbours of Barú in representation of the whole community; they bought them on 19 June 1850, and finished paying on 27 May 1851". The collective character of these lands fell on the acquired *caballerías*, where these five *baruleros* yielded, renounced and transferred in favour of all the inhabitants of the town the right to use and enjoy them. The public deed itself states that "the mentioned lands in no time can become private property, nor patrimony of any person or family".

In this way, access to land was guaranteed for the entire community located in Figure 1 in an attempt to avoid what would inevitably happen years later: the individual appropriation of land. Today, Barú has a population of approximately 3000, and communal lands are scarce. The people live on an estuary protected by mangroves amidst coasts that have been privatised for the use of hotels and the luxury houses of people from outside the community. Their main common good is the Caribbean Sea, since fishing and sailing are historical practices of this community.

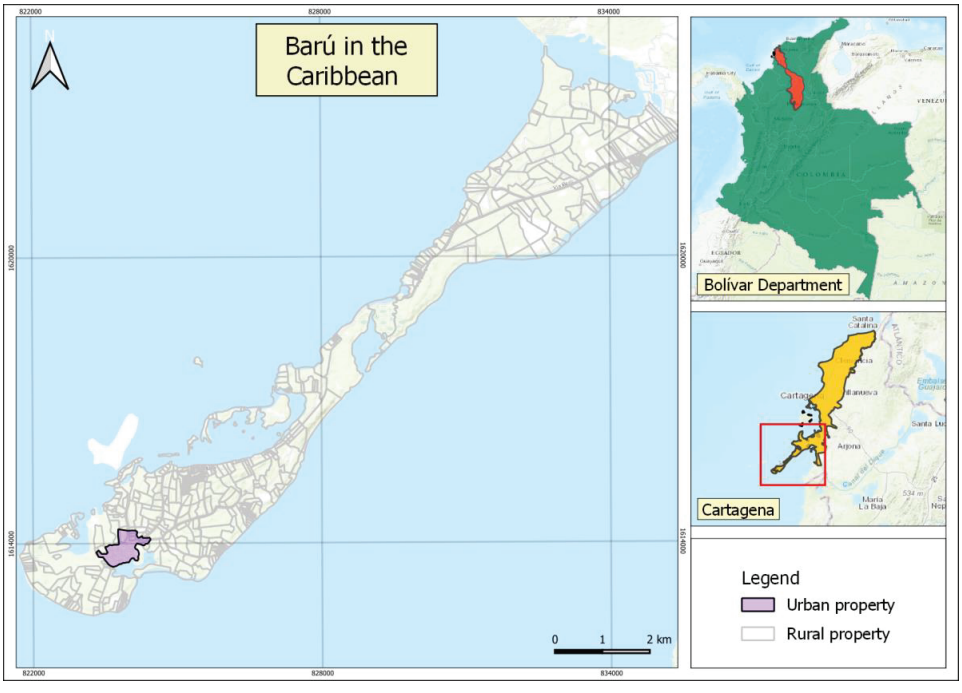


**Figure 1.** Location of Barú in the Caribbean.

Faced with the imminent loss of land and marine areas, in 2017, the community of Barú asked the Colombian state to award it approximately 2400 hectares as collective lands and requested that the state recognise the coasts and the sea as areas of preferential use. Community leaders inventoried the main fishing areas and estimated for at least 19,000 miles the areas of maritime use for navigation routes, links with neighbouring peoples and, in general, the sustenance of their ways of life. After many legal and social tensions, the Colombian state has still not responded substantively to the community's request, which is inexplicable given that this community has been present in the territory for more than 300 years and has a property deed dating back to 1851. The state claims that this deed is no longer valid and that, today, the entire island is owned by people who are mostly from outside the community [47].

### *3.2. Methodology*

The methodological strategy combined spatial analysis of coverage; analysis of cadastral mapping for tenure status and structures; fieldwork guided by focus groups, semi-structured interviews and questionnaires [48] and a documentary review of Caribbean environmental public policy aligned with the 2030 Agenda. All interviewees were fully informed about the scope and main objective of the research, as well as the subsequent use and dissemination of the collected information. Prior to the interviews and focus groups, voluntary and informed consent was requested, and the anonymity and privacy of the interviewees were guaranteed. In the community of Barú, there are currently approximately 250 fishermen, all men; fieldwork was carried out with 142 fishermen and other members of the community who are authorities of the community council. A total of 4 focus groups and 22 interviews were conducted between July and August 2021, differentiating fishermen associations and specialties by type of fishing practice and fishing gear (divers, live-bait fishing, medium and large species fishing—Serranidae family—and mollusc gatherers).

In this methodological design, various techniques were used to identify and contrast qualitative, spatial and documentary information. Thus, different levels and scales of analysis were used to identify which approaches to sustainability are followed by environmental public policies in the Colombian Caribbean and what the associated practices and effects are (see Table A4 in Appendix A). For this purpose, the results of fieldwork with fishermen's organisations and leaders of the ethnic authorities of Barú allowed us to contrast the ways in which the city's management plans, coastal area management plans and ocean regulation plans have been operationalised. Additionally, policy frameworks have been formulated since 2011 and reformulated under the guidelines of Agenda 2030 in 2015 and 2021. Likewise, an ecosystemic analysis was based on a review of the state of land cover on the island that emerged from the spatial analysis. The results are presented according to the prioritisation of dimensions of justice for the analysis.

In the spatial analysis, this region emerged as a diverse coastal landscape with ecosystems of high conservation value, such as mangroves and tropical dry forest. These ecosystems are increasingly vulnerable due to tenure and use conflicts that were documented in the research from satellite images of 1987, 2004 and 2017 available for processing and analysis through ArcGIS software and contrasted with other research from the region [47,49,50].

## 4. Results

The results of this research are structured in three levels of analysis according to the objectives. First, the ethnographic work provided an in-depth reading of the social and ecological conflicts that have worsened with the new public policy models that favour conservation, real estate and hotel growth on the island but do not advance with equal speed in recognising the territorial rights of the Afro-descendant population. The next level of structuring of the results details the quantitative biophysical evidence of land cover transformation, mainly the transition from natural coverage to intervened areas that show the degradation of essential natural systems for the livelihoods of local communities and the ecological stability of the island. Consequently, we show the findings of the critical review of public policy on sustainability at the national and regional levels, the goals of the Colombian state in terms of SDGs and the policy frameworks that were designed with a rights-based approach on the surface but disintegrate social, environmental and cultural criteria in practice

### *4.1. Socioecological Conflict from the Actors' Point of View*

Many of the conflicts that have made Barú a centre of disputes over land, coasts and natural resources have to do with the imbalance in the state's regulation of the rights of use of native populations. Individual tenure and collective tenure rights are in serious confrontation. Márquez [38], Bolaños et al. [47] and the Observatorio de Territorios Étnicos [51] typified the main conflicts in Barú and proposed differentiating those originating from land sales from those originating from private and state investment projects, such as the

creation of the Corales del Rosario National Natural Park. In addition, the influence of private actors must be considered given the tourism boom and the construction of luxury houses since the late 1970s.

Today, the island of Barú is a landscape in which the dispossession and enclosure of the public is palpable, as stated by its inhabitants and as shown by the aerial photographs on Figure 2. The inhabitants have lost the best beaches and access to the sea, which has uprooted a community of fishermen and damaged the socioecological systems of fishing and agriculture. Both agriculture and fishing production declined in the 1980s, when land sales increased, national park restrictions and prohibitions were strictly enforced and the inhabitants of Barú found new jobs in tourism and hotel construction. The testimonies summarised in Table 1 show the tensions that are real obstacles to a sustainability agenda that exists only in public policy documents and the discursive framework of the state.

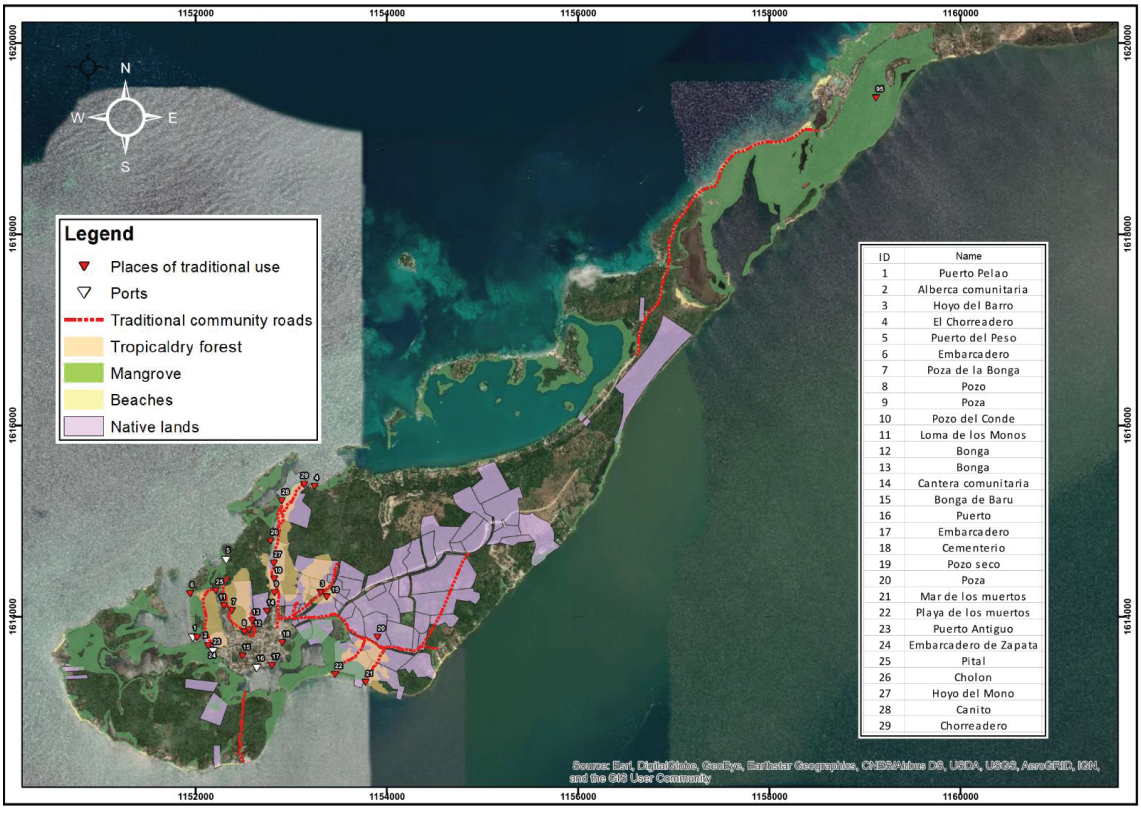


**Figure 2.** Community use areas on Barú Island. Sources: Spatial analysis of Google Earth images (2021) processed in ArcGIS.

**Table 1.** Synthesis of focus groups with fishermen.

| Dimensions of Justice | Ecological | Social | Intercultural |
| --- | --- | --- | --- |
| Changes perceived by the local community related to territorial conflicts | In Barú, everyone was a fisherman. Until the 1990s, the average fisherman caught up to 10 kilos, and 20 kilos in the most productive months. Species such as jack mackerel and snapper were available with little catch effort.<br>As there were no tourist boats or jet skis, there was little noise in the sea, and the fish were not chased away.<br>Yes, there were luxury houses on the coasts, but they had not closed the mangrove swamp, nor had they prohibited the people from approaching the ports to catch live bait.<br>What affected fishing the most is that the luxury houses and hotels made artificial beaches and removed sea grasses, causing serious damage.<br>Additionally, agriculture has decreased by 80%, according to the focus group:<br>"*Barú Island became one of the main suppliers of agricultural products to Cartagena; we regularly sent boats and sailboats with tomatoes, loquats and bananas*". | The arrival of new inhabitants to the island generated many changes in the forms of local organisation. Most shocking was that the native population was considered cheap labour, and their historical presence and way of life were not valued.<br>The new owners of the island closed the beach areas that had always been spaces for community use. Most properties with access to the sea to which wealthy families from the interior of the country arrived meant the loss of the coast, the beach, and the mangroves because these owners did not allow the presence of the natives except for those who were hired for service work.<br>The community does not understand why the state allowed beaches, coasts, and mangroves to be appropriated by private individuals and hotels. | Local communities enjoy constitutional recognition and differential rights. The community authorities know this and enforce it, but in very asymmetrical contexts of power. A leader commented in the focus group,<br>"*As authorities of the territory, we are called to prior consultation. It is a right and an obligation of the state to carry it out for any project on the island that affects us. The problem is that the consultation has become a procedure for the community to approve the project; we are not considered, and the project cannot be modified even when we have warned that it could be harmful to the community. That is why many people say that prior consultation is a mere formality*".<br>This ignoring of the subjectivity of the fishermen and, in general, of the entire native community has led to the loss of identity references as a community. According to the focus group,<br>"*Already many young people want to be employees of the hotels and are not interested in the history and life project of the community*". |

Sources: Data obtained during fieldwork, 2021.

In contrast to the narratives and perceptions of fishermen and community members, the state has prioritised other dimensions of the SDG targets on the basis of a technocratic and instrumental knowledge system that involves little dialogue with local and ecological realities such as those of Barú. The follow-up report of the Colombian state presented in 2021 is proof [13]. In this report, the SDGs with the greatest progress are 6 (clean water and sanitation), 8 (decent work and economic growth) and 14 (undersea life). However, fieldwork and the interpretation of satellite images show that in the region analysed, there is no access to aqueducts or sewage systems, and employment of the population is reduced to sporadic hiring in the hotel sector, so SDGs 6 and 8 are still far from the targets. Regarding SDG 14, as explained in Section 4.3. the Colombian government reported some targets as being 100% in compliance by focusing its analysis only on the creation of protected areas.

### *4.2. Ecosystem Status*

Regarding ecological sustainability, the data are convincing. Table 2 shows that coastal land cover has decreased in terms of shrublands and floodable forests, while the urban fabric and recreational facilities have grown. Highly floodable forests showed a recovery in 2017 due to community reforestation processes and the actions of environmental authorities. In the marine area, artisanal fishing spots went from 98 to only 10 fishing areas where this

activity can be practised. That is, between 1987 and 2021, the community lost access to approximately 90% of its marine territory.

**Table 2.** Hedging analysis.

| Land Cover | 1987 (Ha) | 2004 (Ha) | 2017 (Ha) |
|---|---|---|---|
| Dense shrubland | 1,081,833 | 851,562 | 419,169 |
| Dense highly floodable forest | 1,002,868 | 765,026 | 850,652 |
| Recreational facilities | 0 | 26,069 | 31,482 |
| Discontinuous urban fabric | 0 | 14,823 | 60,530 |

Sources: D satellite images of 1987, 2004 and 2017 available for processing and analysis through ArcGIS software.

The environmental analysis used satellite images from 1987, 2004 and 2017 to create multitemporal documentation of land-cover changes evidencing the loss of natural covers such as dense shrubs (tropical dry forest) and dense highly floodable forests (mangroves) and an increase in artificial covers such as recreational facilities and discontinuous urban fabric. Table 1 shows the evolution of private establishments closely related to the invasion of traditional community lands. This pattern of privatisation in coastal areas has direct impacts on the community's livelihood systems, as the Barú people are essentially a fishing community that currently has restricted access to maritime areas.

According to the fieldwork, what best explains the loss of access to fishing resources is a combination of environmental regulations, the tourism boom and the consolidation of hotels and luxury houses that have privatised the coasts and navigation lines.

Figure 2 shows that most of the areas available to the community are in the interior of the island. Regarding the traditional roads that show access to the sea, three are in dispute with private owners from outside the community. The map shows that, except for the extreme southeast (points 21 and 22 on the map), there are no places for community use on the edges of the sea.

### *4.3. Competing Strategies and Governance*

National public policies and local governance instruments in the Caribbean incorporate a rights-based approach at the rhetorical level, i.e., they are formulated with inclusive language, but in practice, there is no intercultural dialogue. For example, the Land Management Plan (POT for the Spanish acronym)[3] takes a general perspective that the territory is an attractive platform on which to structure an economic development model but neglects other dimensions of sustainability. In this framework, any development is subordinated to the guarantee and viability of national and regional objectives. The general objective for Cartagena is stated as follows: "to ensure its vocation as a tourist center of the Caribbean, a competitive international port and an industrial city that promotes the reactivation of the rural area and favours the development of commerce and support services for the productive sectors" [52].

The planning and land use instruments mention "strengthening and integration of cultural identity" and "integration of the environmental dimension", but the loss of the identity of Afro-Caribbean communities is becoming increasingly serious and could be irreversible within a few years, as shown by anthropological studies in this region [38,40,46] It seems senseless to subordinate the cultural identity of the native communities to their previous integration, to the governmental system and to the actions and macroprojects of the POT. How can native communities be valued in this way? Is the POT or the institutional planning of rural space a possible scenario of articulation to process disputes over common goods? The displacement of activities due to changes in land use has forced the inhabitants to modify or disregard their ancestral practices.

The collapse of agriculture and fishing in favour of tourism or jobs in large companies has radically changed ways of life in Afro-descendant communities. The general objectives of the POT are a proposal for the development of rural and suburban land to facilitate territorial integration and articulation between different economic sectors of the district,

with the rural component inserted into and subordinate to the general component of the plan. Such territorial integration points to a standardisation of models and regulations that is contrary to the rights-based approaches that these public policies rhetorically claim to follow. Empirical evidence shows that the articulation of different territorialities and ways of life is not sought; rather, the approach is to subordinate the territoriality of the natives to a general planning vision.

The guarantee of development of the life plans and use models that the communities seek to defend remains uncertain, limiting the implementation of their own or local forms of planning with greater levels of autonomy in the management of ecosystems. The constitutional rights of Afro-descendant communities appear to be insufficient; they are in open conflict with the objectives and planning systems that are said to be inclusive and aligned with the 2030 Agenda. These communities have access to the management plans only as guests who are invited to discuss territorial distributions and systems of use, as stated in the focus groups in Table 1. There is no figure or space where there is a dialogue on the initial objectives to be resolved by the planning. This fissure is especially problematic in relation to Afro-descendant communities with widely recognised rights. There is no recognition that governance is a function of the self-determination process.

### The 2030 Agenda in the Colombian Caribbean Sea

Colombia has a robust strategy for the implementation of the SDGs[4]. It has a system of strategies, monitoring, reporting and accountability that is based on dialogue with stakeholders in the different territories of the nation. In formal terms, the strategy is well-conceived in terms of operability and access to information. However, it could be improved if a model of intercultural environmental justice were adopted in socioecological spaces that require it, for example, in community territories of the Caribbean, spaces of common use or public goods inhabited by native communities that, in most cases, have not received formal recognition of their presence.

Colombia presented a follow-up report on compliance with the SDGs up to 2021. The overall percentage of SDG progress in Colombia was 72.58%, according to the official report recently published by the government [13], with 54.83% progress towards the 2030 target. The goals with the greatest lag in terms of meeting the annual targets were SDG 2 (zero hunger), 10 (reducing inequalities) and 13 (climate action). Surprisingly, SDG 14 was the only one for which 100% progress towards the annual target and the 2030 target had been achieved. This is due to the strong conservationist approach to constructing the indicators of this commitment. The indicators measured the percentage of marine water monitoring stations with an acceptable to optimal Marine Water Quality Index (MWQI) category and hectares of marine protected areas. Although these are highly relevant indicators, there was no measurement of the processes of social appropriation of the seas, the sustenance of marine life for artisanal fisheries and the socioecological crisis facing the marine environment. Therefore, these parameters are incomplete, because they do not monitor the local populations that live on the sea and whose livelihoods are based on marine resources.

The Caribbean is a shared sea, since, due to its environmental and social affinities, it has been recognised as a unit by the United Nations Environment Program and, since 1992, has been called the Greater Caribbean or Caribbean Basin. As an ecosystem, it is an extensive region of the Western Atlantic that has a complex geological history. It encompasses the entire Gulf of Mexico and the northern coast of Brazil [53].

Public policies within the framework of sustainability must situate the Caribbean as a unit and consider integral actions among the countries of this great basin [54]. Many factors of ecological fragility are facing this ocean owing to the influence of hydrometeorological phenomena that degrade agricultural production soils. For example, the impact of water temperature change on coral reefs has led to a phenomenon known as bleaching, which leads to the loss of the structure and functionality of corals. In addition, water pollution problems have resulted from industrial discharges, increases in the amount of solid waste

and the enclosure and privatisation of beaches and coastlines, which affect the structure and functionality of ecosystems, especially due to tourism.

The impacts of the degradation of natural systems are perceived in the livelihoods of the Caribbean population, and the collapse of fishing systems that have generated serious food security problems since the 1980s is of concern. Dependence on food imports ranged from 40% to 70% in Caribbean countries as of 2021, according to FAO data [55]. Therefore, it is not surprising that hunger is increasing in coastal areas and that SDG 2 has the greatest lag in Colombia.

## 5. Discussion

To move towards a sustainability that integrates the dimensions of justice, it is convenient to start at the beginning: understanding the territorial reality of the communities and establishing consensual objectives and plans. The shortcomings of Cartagena's territorial and environmental planning instruments should therefore be addressed and resolved in any proposal to be approved in participatory scenarios guided by intercultural socioenvironmental justice. For this reason, the following is a discussion of imbalances in the sustainability model that Colombian public policy has designed and applied in this part of the Caribbean, taking the case into account to suggest and support improvements in the model.

### *5.1. A Disappearing Way of Life*

Artisanal fishing is the basis of the *baruleros'* traditional knowledge of the sea and navigation. However, fishing is in crisis in much of the Caribbean. Variations in water temperature, agrochemical pollution, urbanisation without environmental planning, the removal of marine ecosystems and, finally, tourism are some of the causes that have been pointed out by experts on the subject, who identify fish as one of the most threatened taxonomic groups in the area [56].

In Barú, conflicts over common goods or natural resources are caused by access to legitimate tenure rights in the face of actions that may threaten them, as stated by the FAO: "Private and collective tenure are limited by the rights of others and by measures adopted by States for purposes of general interest. Such measures should be determined by law only for the purpose of promoting the common welfare, in particular the protection of the environment" [57].

Not even the creation of the protected area has allowed sea grasses and corals to recover. In fact, highly conflictive situations have arisen between natives and park authorities due to the unequal application of environmental legislation. As Gudynas stated [58], environmental conflict involves the availability of and access to natural resources and is framed within confrontations that occur in the public space between organised collective actors with different environmental perceptions, values or perspectives. Such conflict undoubtedly involves states and their environmental policies.

All these conflicts have the same effect, and the privatisation of public lands, whether reserved wastelands and/or places of traditional use by the *baruleros*, is an authentic spatial injustice. According to spatial and cadastral data, the main land sales in areas of special environmental protection have occurred in places that have access to the sea, generating mangrove clearing and filling of marshes and other bodies of water.

All of this has serious implications for the conservation of ecosystem services, as the filling of beaches and cutting of mangroves have direct effects on the general state of the ecosystems that contribute to the maintenance of fisheries, the containment of coastal erosion and the conservation of biodiversity in permanent or temporary habitats for important species.

One of the major problems of the tourism boom on the island is the change in rural land use on the lands that are the traditional territory of Barú. The public policies through which these decisions are adopted allow the development of diverse economic activities in the territories. In 1993, 140 hectares of the island were declared a tourist-free zone. In 2005,

the national government issued guidelines for the country's largest tourism project in the Playa Blanca sector, which has generated many conflicts between the state, businesspeople and natives over ownership of the land and use of the beaches, which are essential to one of the traditional livelihoods of many families in the native communities.

As of 2021, more than 45 public–private investment projects had been identified on the island; of these, the inhabitants considered that 30 were generating greater pressure on the limited spaces available for the natives. Even with the achievements in prior consultation as a protection mechanism, the businesspeople–state–communities relationship continues to be very unequal, as do the environmental impacts and contradictions, with respect to the possibility of safeguarding territorial rights and local governance of natural resources.

The rise of tourism has proletarianised the islanders' way of life, which was formerly autonomous. This implies dependence for the inhabitants on the companies that have control over the economic activity and, therefore, implies an asymmetrical social relationship. Thus, we can recognise greater justice in a greater capacity for self-determination in the economic sphere not only in a political and cultural sense but also in real equality for these members of society in relation to other actors.

Fieldwork with the fishermen of Barú has enabled us to accompany the reflective exercises led by the community authorities (community council) from a collaborative approach based on academic knowledge. Although the capacity of scientific work in political transformations is limited, the results of this type of research contribute instruments and other points of view to the advocacy strategies of the communities with the state, the private sector and their own members.

### *5.2. Half-Hearted Justice*

The Barú community was closed to outsiders for decades after the collective title was granted in 1851. The strategy was to conserve the territory: to remain and not give outsiders an opportunity to take it, even if this implied some drastic measures. Barú community leader Wilmer Gómez recalled, "At that time there were only *baruleros* in the territory because they would not let you marry outsiders. It was like a condition to maintain the territory" (interview, 2021). This helped to strengthen community life, as reflected in agrofood practices where planting was done without wires and with natural boundaries such as painted trees. In Barú, it is said that, at least until 1940, people owned the harvest but not the land; the land belonged to everyone [46].

Together and on a daily basis, the inhabitants were defining the community use of places within and outside the town. The coconut bonanza began at the end of the 1860s and lasted for more than 80 years. It not only energised the economic life of the inhabitants but also became a strategy for the occupation and settlement of neighbouring lands, such as Islas del Rosario and the San Bernardo Archipelago, where *barulero* farmers arrived to plant and care for the crops and then settled permanently [46].

The coconut crisis in 1950 reinforced fishing and the arrival of large tourism investors to buy the lands of peasants who were desperate because of large losses on their farms and the lack of state support. This situation generated the main conflicts that still exist today in the region. These conflicts are based on socioenvironmental inequality in accessing the best ecologically endowed areas: access to fresh water, access to beaches, better-drained areas and the presence of mangroves and other forest cover.

At present, the native communities of Barú and the neighbouring islands that have participated in prior consultation scenarios believe that reformulating the public policy of sustainable development is indispensable, since it does not fit in the same equation as promoting private investment and conservation areas and excluding local communities. That is not what the 2030 Agenda is about or what the SDGs are aiming for. The commodification of ecosystems that reinforces inequality does not contribute to sustainability.

In this reformulation or reimagining of public policies for sustainable development, based on Ostrom's postulates [26], access to information is crucial. For example, local communities must have comprehensive data to understand the implications of state and

native community lands for multinational hotel companies. If access to information is partial and unbalanced as a result of ill-considered prior consultations between the state, private actors and the community, as Ostrom stated, actors must make choices based on incomplete knowledge of all possible alternatives and their likely outcomes.

All this occurs in a contradictory universe, since the Colombian government promotes private investment as a way for the country's economy to recover in the post-conflict scenario but neglects the socioenvironmental conflict resulting from the privatisation of common goods [59]. In the design of policies that are aligned with the 2030 Agenda, false social inclusion is evident since the autonomy of Afro-descendant communities is recognised. However, the participation and information of these communities are limited in the scenarios of large tourism investments in their ancestral lands. This design creates a whole arsenal for new social and ecological conflicts.

Thus, a problematising look at sustainability policy in the terms that intercultural socioenvironmental justice demands can contribute to the repertoires of Afro-descendant social movements, which generally address land claims and biodiversity conservation in an articulated manner. Currently, the main social movement in Colombia is the Proceso de Comunidades Negras (PCN for the Spanish acronym), which has managed to reposition the policy of collective land titling in the framework of the Peace Accord [60] and generated scientifically informed positions on climate vulnerability and the contribution of peoples to biodiversity conservation[5]. The community of Barú has participated in political processes promoted by the PCN, but the movement's interest in the situation of coastal peoples and their claims for rights to the use of the sea remains scarce. Thus, this research can find areas of debate that contribute to the necessary transformations of environmental governance in the Caribbean.

### *5.3. Guidelines for Bringing Intercultural Socioenvironmental Justice Closer to Agenda 2030*

From a critical perspective, in the implementation of the 2030 Agenda, the negations that can arise through public governance when other actors, points of view and integrated dimensions of sustainability are marginalised must be identified. In addition, this denial must be overcome through the integration of actors, perspectives and dimensions that are treated in a disjointed manner. To this end, certain guidelines are proposed to integrate critical factors (an improvement of contextual knowledge and implemented policies) and potential factors for a new action to overcome negations.

(1) An expansion of the theoretical framework is necessary for the understanding of a critical analysis of SDG policies.
(2) The social and cultural conflicts between the asymmetric actors (state, private sector, local community) existing in the territories of SDG implementation that cannot be uncovered through conventional analyses and that are reduced to public actions to achieve the SDG targets should be considered.
(3) The implementation of policies aligned with the SDGs cannot disarticulate the systemic and co-dependent nature of the relationship between different goals and their targets.
(4) The differentiated contributions of local communities with their own ways of life to the SDGs with respect to the contributions of states should be recognised. Therefore, it is a matter not only of allowing communities to participate but also of maintaining the capacity for the self-determination of culturally differentiated local actors in the orientation of local public policies.

In the specific case of Barú, the Colombian state is currently waiting to resolve the request for a collective title presented by the community. If the state grants this collective title, this would help provide a formal basis of recognition that would strengthen the roots, land tenure security and use of common goods from governance and integral sustainability schemes (tenure rights, recognition of the autonomy of the Afro-descendant community, dialogue between territoriality models, and the conservation of the social-ecological system).

As has been argued, Afro-Caribbean peoples do not have a vision of the territory that rejects conservation or economic growth [46]. On the contrary, they are aware of the degradation of the natural system and the decline of fishing. The arrival of the hotel and tourism sector has not only brought problems but also boosted the local economy. However, the models that have been implemented embody only partial sustainability. The community actors see the effective recognition of their rights stagnating, the ecosystem degrading and the state and other actors leaving them without the capacity to develop their own model of socioecological sustainability.

The guidelines for intercultural justice then result from the contrast between and critical examination of the two strategies: that of the state and private actors on the one hand and that of local communities on the other hand. There is intercultural justice when the way of life of the community that is affected by the public policies in question is not impeded. In a situation of power asymmetry, traditional community governance cannot be assured given the impossibility of imposing it by public coercion; thus, the recognition and cooperation of the state are required for its continuity. Although the state formally recognises the communities, at the same time, the full exercise of their rights is impeded because the state, with its conservation policies, limits the native population's access to fishing and navigation zones and favours and legitimises the introduction of new actors from the private sector, which also impedes the collective way of life.

The systematic articulation of the three dimensions illustrated in Figure 3 represents a proposal to examine and guide marine–coastal public policies aligned with the 2030 Agenda in Colombia. The case of Barú shows that at all three levels, there are obstacles that prevent the integrated achievement of sustainability.


**Figure 3.** Variables for examining the degree of intercultural socioenvironmental justice.

Governance arrangements are supposed to be mechanisms for addressing socioenvironmental crises and problems such as ecological-distributive issues [61], the degradation of natural systems, environmental justice or overexploitation. However, the intercultural character is often omitted from these environmental governance arrangements [10]. The Colombian Caribbean shows that problems of inequity in land distribution, a lack of participation in environmental policies, unequal distribution of rights to natural resources, human rights violations, food insecurity and exclusion of communities, among other factors, hinder the implementation of truly sustainable strategies. Exercises of power are determinant in environmental governance because the allocation, control and coordination of resources are influenced by the actors favoured in decision-making [62]. The rights of authority in decision-making associated with private property, in terms of power, favour those who formally own the land [63].

According to Arrieta [49], even if the community of Barú manages to persuade the Colombian state to issue the communal property title of the island, a large part of the spaces that were formerly areas of collective use have already been privatised. Privatisation has transformed the territory biophysically and has promoted other imaginaries among local inhabitants about the beaches. as well as notions of what is public and what is restricted. This new rationality that comes with private investment and that has used deforestation for the construction of hotels and recreational houses is changing the notion of the collective and fracturing community cohesion.

The study of common goods and multilevel governance tends to be based on a restrictive political theory in the understanding of inequalities and asymmetrical systems of rules and norms. The Caribbean cases, from which progress on the SDG targets is reported, do not include an adequate characterisation of the conflicts generated by the policy itself that allow little room for manoeuvring for native populations who are witnessing the materialisation of restrictive policies that degrade their livelihoods and ways of life.

Such degradation involves marine areas, or the *maritorium* (marine territory). Oceanic spaces are socioecological systems, so they cannot be monitored exclusively on the basis of data from meteorological stations or protected areas, as is currently reported in the degree of progress towards SDG 14. These places considered inhabited seas have deteriorated owing to factors such as over-occupation of the coasts, which increases the risk of flooding for local fishing populations.

The strategies analysed (state and private actors and community) define a space that is endowed with meaning and content as a way of articulating a social presence differentiated and differentiable by the mode of political articulation (state vs. communal) and economic articulation (which divides the territory between conservable and exploitable vs. integration of economic activities on a continuum of human use and enjoyment and conservation throughout the territory). This is a model of rationality that De Certeau [64] defined as scientific sense: the knowledge of the environment that expresses dissociation between a contemplative knowledge applicable to the protected reserve area and a model of strategic rationality that is projected in the exploitable zone vs. a reproductive rationality [65] in which reproduction of community life is linked to the sustainability of the natural world.

## 6. Conclusions

First, we believe that current governance in the area under consideration does not integrate the environmental and social dimensions and respect for the cultural identity of local communities. Although the designs of public governance carried out thus far have mentioned the need to articulate these three dimensions in economic, industrial and social development policies, these dimensions of development, the fruits of a modernising strategy, prevail over ecological preservation, increased levels of equality and freedom for local communities and self-determination of their way of life.

Second, and in view of the above, the dimensions of ecological, social and intercultural sustainability and justice, which, in some ways, are rhetorically present in public policies, cannot be considered separately, since they are interdependent. The systematic nature of the dimensions that integrate intercultural socioenvironmental justice demands that the three levels, owing to their mutual co-dependency, be integrated into the public policies of the 2030 Agenda and applied in governance policies. Socially balanced development that respects nature and the plurality of humanity must be a consequence of the integration of the levels of justice and sustainability and is not compatible with a development strategy that takes precedence over these levels or disarticulates them.

Third, a comparative examination of the degree of justice and sustainability between the two strategies considered here, the modernising public–private social development strategy with a predominance of instrumental rationality and the community development strategy that assumes a reproductive rationality [65], shows not only the differences noted above but also the greater capacity of the latter strategy to combine human development, equity and sustainability in an integrative manner. In this sense, this strategy is relevant

and pertinent in promoting the objectives of the 2030 Agenda, particularly goals 2, 10 and 14. One of the best elements of Barú, as in other islands of the Greater Caribbean, is that the character of the collective is not mere rhetoric, nor is it reduced to a proclamation of the customary rights of Law 70 of 1993. In fact, Barú, both in the period of slavery and in the early days of abolitionist measures, was a unique example of community organisation and collective access to land and sea. Thus, this island is a case of enormous importance to show the impacts of modernising policies in the Caribbean and the current treatment of Afro-descendant populations by public policies for sustainable development.

Fourth, the Colombian government, within the framework of the 2030 Agenda, recognises that the increased pressures on ecosystems—which have diminished their functionality and supply of ecosystem services—also expose limitations in the generation of knowledge and research on oceanic issues [13]. This raises the challenge, according to the government, of articulating different disciplines to generate knowledge that supports decision-making and achieves greater socioenvironmental justice. However, the intercultural dimension of justice is not operative, since the government has not considered that, to generate better interventions from the public sector, this same generation of knowledge must include local communities: the people who know the sea and who have carried changes in their environments and their ways of life in their memory and in their local ecological knowledge. This intercultural barrier of not validating the knowledge of fishermen and not considering them valid subjects in a scientific conversation about the SDG targets is one of the great obstacles to sustainability.

Fifth, in this sense, we reaffirm the complex and integrated consideration of a public policy perspective that necessarily integrates intercultural socioenvironmental justice to treat traditional communities with equity and to recognise and position them as necessary actors in the struggle for sustainable human development, which integrates diversity and human wealth. Thus, research such as this study can have a practical impact on the community. Part of the reflective exercises led by the community authorities (community council) is to collaborate with fishermen in demonstrating how their way of life is reconfigured, and the community authorities are accompanied and complemented by academics with new approaches and instruments that become strategies for advocacy within and outside the collective.

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## Appendix A

**Table A1.** Instrument designed for recording and guiding semi-structured dialogues with stakeholders about the sustainability dimensions.

| **Spaces Regulated in Land Use Planning Policies (POT)** | **Type of Stakeholder Involved** | **Main Changes Perceived in The Natural System (Ecological Sustainability)** | **Major Perceived Changes in Livelihoods and Ways of Life (Cultural Sustainability)** | **Forms of Participation of Native Communities in Governance Decisions** |
|---|---|---|---|---|
| Beaches | | | | |
| Shorelines for navigation | | | | |
| Weighing shallows | | | | |
| Mangroves | | | | |
| Floodplains for community agriculture | | | | |
| Tropical dry forest areas | | | | |

**Table A2.** Instrument designed to facilitate focus groups with community members.

| Level 1: What explains the ecological and social changes on Barú Island? | | |
|---|---|---|
| Factors | Consensus | Disagreements |
| Stakeholders involved | | |
| Periods or milestones | | |
| State participation | | |
| Community participation | | |
| Participation of people from outside the community | | |
| Guarantees of prior consultations (Con. 168 of the ILO) | | |
| Other | | |
| Level 2: Effects on cultural and ecological sustainability (depending on the corresponding group, emphasis is placed on certain biophysical or identity-related areas). | | |
| Main impacts | | |
| Food security | | |
| Free movement | | |
| Cultural practices | | |
| Transmission of knowledge | | |
| Other | | |

**Table A3.** Instrument to guide dialogues and focus groups about the valuation and local perception of the ecological and cultural effects on the management of the commons caused by the privatisation of coasts and other areas that have been administered by the community.

| Common Goods Regulated in Sustainability Policies | Sentences or Statements That Coincide with the Local Perception |
|---|---|
| 1. The beach | 1.1 The change in the regulation of the beach with the arrival of private projects has negatively affected the community.<br>1.2 The community has been able to adapt to the changes brought about by the restriction of use of former community beaches.<br>1.3 The loss of community beaches (which are now privately controlled) irreversibly damages the livelihoods of the people of Barú.<br>1.4 The establishment of private beaches does not negatively affect local communities.<br>1.5 The establishment of private beaches brings benefits to local communities. |
| 2. The coastline | State understood as the Maritime Directorate (DIMAR) and National Natural Parks<br>2.1 The regulation exercised by the state authorities to order the navigation lines negatively affects fishermen and navigators of the community.<br>2.2 The community has been able to adapt to the changes and restrictions imposed by the state's coastal and navigational regulations.<br>2.3 The loss of areas for navigation and fishing along the coastline causes irreversible damage to fishing activities and free circulation in the Barú Sea.<br>2.4 The establishment of regulations for navigation and fishing in the littoral does not negatively affect local communities.<br>2.5 The establishment of restrictions on coastal navigation and fishing brings benefits to local communities. |
| 3. Mangroves | 3.1 Regulation of mangroves by actors outside the community (outsiders, private) negatively affects fishermen and boaters in the community.<br>3.2 The community has been able to adapt to the changes and restrictions on the use of mangroves brought about by external actors.<br>3.3 The loss of mangrove use for fishing and recreation generates irreversible damage to local communities.<br>3.4 The establishment of mangrove access barriers does not negatively affect local communities.<br>3.5 The establishment of mangrove access barriers brings benefits to local communities. |

**Table A4.** Levels and scales of analysis to identify sustainability approaches in environmental public policies in the Colombian Caribbean.

| Scales | Levels of Analysis | Materials | Methods |
|---|---|---|---|
| National (Colombia)<br>Regional (Cartagena Island region) | Degree of incorporation of environmental, social and intercultural dimensions into the formulation of goals and projection of policies aligned with the 2030 Agenda | - Public policy documents<br>- Follow-up reports<br>- Government plans and land-use plans formulated as of 2015 (as a milestone in the formulation of the SDGs) | Documentary review and contrast of sources based on categories of analysis |
| Local (Barú Island) | Environmental, social and cultural sustainability policies actually implemented<br>Effects of 2030 Agenda public policies on local livelihoods | - Satellite images for analysis of land-cover status<br>- Socioenvironmental diagnoses formulated by state environmental authorities and management plans formulated by the communities | Land cover analysis through the multitemporal contrast of satellite images available for the analysed island (using ArcGIS software) |
| Microscales (spaces for collective use) | - Common property use practices<br>- Implications of community livelihoods | Systematisation of interviews and focus groups with fishermen and other inhabitants of the island | Focus groups (4), semi-structured interviews (22) with a scope of 142 people contacted |

## Notes

[1] It was declared a national natural park in 1977, and the area has been expanded in subsequent decades. The entire coastal area of the community of Barú is within the national park, so the competent authorities in the management of the area regulate the uses of the ecosystem in this community.

[2] *Caballerías* is a unit of measurement that has existed in the Caribbean since the colonial period. Its equivalence to the current metric system is not clear. In modern agrarian procedures, the state entities in charge study each case individually to determine the equivalence in hectares.

[3] The Land Management Plan (POT for the Spanish acronym) is a technical instrument with a legal scope that each municipality of the country prepares to plan and organise its territory. Its objective is to integrate physical, socioeconomic and environmental planning, which must be conducted in consultation with civil society. It has existed since the issuance of Law 388 of 1997.

[4] See document Consejo Nacional de Política Económica y Social (CONPES 3918 of 2018). https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/3918.pdf (accessed on 2 April 2022).

[5] It is increasingly visible that expert panels and decision-makers in environmental policies are recognising the contributions of indigenous peoples to biodiversity conservations. For example, the Glasgow Climate Summit considered increasing the direct funding to native peoples and local communities and recognised the importance of closing the gap in access to secure tenure rights in environmentally important areas such as Barú.

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MDPI

*Article*

# Importance of Land in SDG Policy Instruments: A Study of ASEAN Developing Countries

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**Abstract:** Allocating land-related social, economic, and legal benefits to people is crucial for meeting the commitments made by various countries for achieving sustainable development goals (SDGs). Economic growth in developing countries in the Southeast Asian region is very rapid, requiring primary resources such as land, which poses challenges for implementing nationally determined commitments towards SDGs. This paper quantitatively compares the relevant policy instruments issued by the key ASEAN countries to analyze the importance of land provision in achieving the specific SDGs. Using content analysis to formulate a framework for comparing the various policy instruments and strategic plans, the article identifies the importance of land use in various policy instruments focused on achieving SDGs. Most countries use authoritative instruments to incorporate land-related aspects. The use of the symbolic, capacity-building, and incentive instruments is relatively lesser. Many countries give prominence to land for providing shelter or as an economic resource, while land use for managing gender equality is negligible. Policy makers could incorporate a more balanced mix of instruments and those addressing different dimensions of land use while redesigning their policy or strategy documents to implement SDGs.

**Keywords:** ASEAN; content analysis; land; policy; sustainable development goals

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## 1. Introduction

The development paradigm based on meeting the needs of the current generation without hampering the needs of future generations was the basis for sustainable development as articulated by the World Commission on Environment and Development in 1987 [1]. This concept has been the basis of various agreements related to sustainable living amongst the countries, leading to the formulation of eight millennium development goals (MDGs) [2]. Subsequently, The United Nations Sustainable Development Summit adopted the sustainable development goals, comprising 17 goals, whose progress is measured through 169 specific indicators [3,4]. These goals were ratified by less than 193 member states. Various countries have formulated their strategies, through nationally determined commitments, to chart their respective progress to achieve the SDGs.

The concept of sustainable development is based on three pillars of economic growth, environmental protection, and social inclusion, each of them receiving a fair share in the Declaration of the UN Conference on Sustainable Development titled "The Future We Want" [5]. The focus on sustainable development coexists with achieving a greener economy while eradicating poverty [6]. SDGs have become an integral part of governments' policy and decision-making processes during the last few years. During their quest to implement the SDGs, different countries identify their local challenges and formulate customized solutions to keep track of their anticipated path for sustainable development. As every goal demands precise action or an attitude change [7], many countries have placed infrastructure development and improvement and the use of the available resources at the core of implementing SDGs [8]. A review of the nationally determined commitments

of different countries indicates that countries have concentrated their efforts on reducing greenhouse gas emissions [8]. This emphasis addresses the environmental aspect of the SDG implementation.

Land, traditionally considered one of the factors of production, has been the mainstay for infrastructure development and is crucial for providing various civic services. The social and economic development, particularly in the urban context, depends on the availability of land, which further impacts the levels of hunger, poverty, and well-being [9,10]. With the growing world population, the per capita availability of land has declined. With an increasing demand for land in cities, its availability decreases for sectors such as agriculture. For example, land under agriculture use has declined significantly in Asia. In 2014, agricultural land use was one-third of what was available in 1961. The cropland declined from 0.45 hectare per capita in 1961 to 0.21 hectare per capita in 2016 [11,12]. Land is also used to augment governments' finances through various instruments used to finance infrastructure. Indiscriminate adoption of land-based financing tools has also led to a sharp increase in land price that has exacerbated the inequality between landowners and non-landowners. One of the adverse consequences of rising land prices is housing affordability, with stark differences across various countries [13].

Land has featured predominantly under the SDGs than the MDGs. MDG 7 (ensuring environmental sustainability) considers the land as a resource for improving the lives of slum dwellers. The importance of land is noted to be much more crucial in many SDGs. SDG 1 (removing poverty in all its forms everywhere), SDG 2 (end hunger, achieve food security and improve nutrition, and promote sustainable agriculture), SDG 5 (achieve greater gender equality and empower all women and girls) and SDG 11 (make cities inclusive, safe, resilient and sustainable) have indicators that underpin the land as shelter or source of income. The transformation to a new sustainable development model of the world economy from the hitherto industrial development model would mean better management of the underlying resources, including land. Many countries are developing their national and subnational plans, policies, and legislative instruments that support SDG achievement.

There is a substantial amount of research that focuses on creating indices to evaluate the performance of the SDGs [6,14,15]. Previous research has also discussed the relationship of SDGs with specific resources or sectors such as energy (mostly renewable) or reduction of greenhouse gases [16–18]. Land has been researched from the perspective of forest degradation, soil erosion, wetlands, etc. [19–21]. However, there is scant literature on whether policies or plans associated with SDGs incorporate elements that address land management. This research is inspired by this lack of literature and addresses the knowledge gap regarding the inclusion of land management in SDG-related policies. The research findings intend to provide inputs to a discussion on the current extent of importance accorded to land in the national documents relevant to SDGs' implementation and inspire further research on SDG-related policy analysis [22].

This study compares policy measures or actions undertaken by key developing countries of the Association of Southeast Nations (ASEAN) to address the land-specific indicators in the SDG targets. The ASEAN is an important collaboration in the global economy, with the member countries accounting for 8.5% of the world's population and having the fifth largest GDP, amounting to USD 3.2 trillion [8]. The region has witnessed a rapid economic growth of 5.3% per annum from 2000 to 2018 [23]. The region also consists of the least developed countries (such as Cambodia, Lao People's Democratic Republic, and Myanmar) [24]. According to The Long-Term Climate Risk Index, Myanmar, the Philippines, and Thailand were among the top ten countries most affected by extreme weather events during 2000–2019 [25]. The COVID-19 pandemic has severely impacted the region's economic growth, adding to the challenges of achieving the SDGs [26] (ADB SDG Accelerator Bond, 2021). A study of the key countries in the region would provide pointers for other developing countries for incorporating land in their national policy instruments/strategic documents.

The rest of the paper is structured as follows. The contextual background of the countries being compared is presented in Section 2. The method adopted and the data used for the analysis is described in Section 3. The results and discussions are presented in Section 4. Finally, in Section 5, the conclusions are presented.

## 2. SDG Status of Key ASEAN Countries

This paper studies the SDG policy initiatives of seven ASEAN countries—Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam. As per the SDG Index 2021 [27] report (data for the year 2020), the total ASEAN population was 667.3 million, out of which these seven countries account for about 98% of the population. The data for Brunei Darussalam and Lao People's Democratic Republic is not readily available. Being more developed than the rest of the ASEAN countries, Singapore has also been excluded from this study.

The demographics profile of the seven ASEAN member countries has been set out in Table 1. The Table indicates that a sizeable population in these countries lives in slums. In the Philippines and Indonesia, approximately 10 million people live under $1.90/day.

**Table 1.** Demographics of the key ASEAN developing countries.

| Country | SDG Ranking 2021 | Population (Millions) | GDP (USD Million) | Poverty Headcount Ratio at $1.90/Day (%) | Proportion of Urban Population Living in Slums (%) |
|---|---|---|---|---|---|
| Cambodia | 102 | 16.49 | 27,089.39 | 0.48 | 45.1 |
| Indonesia | 97 | 270.63 | 1,119,190.78 | 2.42 | 30.6 |
| Malaysia | 65 | 31.95 | 364,681.37 | 0 | NA |
| Myanmar | 101 | 54.05 | 76,085.85 | 0.62 | 56.1 |
| Philippines | 103 | 108.12 | 376,795.51 | 6.22 | 42.9 |
| Thailand | 43 | 69.63 | 543,548.97 | 0 | 23.7 |
| Vietnam | 51 | 96.46 | 261,921.24 | 0.85 | 13.8 |

Source: World Bank [28] and Sustainable Development Report website [29].

The Southeast Asian region is estimated to require an investment of about $210 billion per annum for fifteen years between 2016 and 2030 to achieve climate-resilient infrastructure [26]. The region is estimated to have an investment shortfall of 3.8% of its GDP (4.1% when accounted for climate resiliency). The decade from the year 2020 has been termed as the Decade for Action for achieving the SDGs [30]. Most countries have been renewing their commitments and making suitable modifications to their chosen paths to achieve them. The challenges faced by many countries, particularly the ASEAN group, include huge investments, limited integration of SDGs into infrastructure planning, inadequate capacity in the government and private sector, and the complexity in translating the SDG targets, indicators to project outcomes [26].

Even though the ASEAN region has made substantial progress in recent years, the trajectory remains challenging as the pace of implementation is varied. Except for Thailand, none of the countries are in the top 50 countries to achieve the SDGs. Tables 2 and 3 present the current scenario of the SDG implementation process in the seven countries. The statistics of the top-ranked country, Finland, also give a perspective of the difference between the leader and the ASEAN countries. Finland is on track in achieving SDG 1 and is moderate in its progress in achieving SDGs 2, 5, and 11. Thailand leads the ASEAN group, followed by Vietnam and Malaysia on the SDG Index score. The rest of the four countries have similar scores and figure in the second half of the global ranking. Thailand and Malaysia appear to be on track to achieve SDG1, while the other five countries are having challenges in their path. All the countries have significant or major challenges in their progress towards SDGs 2, 5, and 11. Three of the seven countries appear to be stagnating in their progress, while four others appear to be having moderate progress in these SDGs. Thailand, Malaysia, and Myanmar appear to be stagnating in their progress in SDG 2, while

the progress of the other four countries is moderate. The progress of Myanmar, Cambodia, and the Philippines is stagnating in SDG 5, while the status of Indonesia, Myanmar, and the Philippines are similar with regards to SDG 11.

The available data on some of the SDG indicators are presented in Table 3. Malaysia and Thailand have very high access to basic service, i.e., water, whereas the other countries lag in providing access to water to a substantial portion of their population. The disparity in income of small-scale food producers is stark between Vietnam and Cambodia. The share of the urban population living in slums also varies significantly. Myanmar, Cambodia, and the Philippines have more than 40% of their urban population residing in slums; Vietnam fares better than other ASEAN countries with only 13.8% urban slum population.

The COVID-19 pandemic is estimated to have had a further debilitating impact on the ASEAN region's efforts to grow its economy sustainably. It is estimated that more than $250 billion have been invested in the region to support economic recovery from the effects of COVID-19. However, some of these investments have a negative effect on climate resilience and sustainable infrastructure, thereby, hampering the progress towards achieving SDGs as intended [31].

**Table 2.** SDG Index Report Goal wise trend for the seven countries considered for the article.

| Country (SDG Ranking) | 2021 SDG Index Score | 2021 SDG Index Rank | Population in 2020 | Goal 1 Dash-Board | Goal 1 Trend | Goal 2 Dash-Board | Goal 2 Trend | Goal 5 Dash-Board | Goal 5 Trend | Goal 11 Dash-Board | Goal 11 Trend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Finland (1) | 85.9 | 1 | 5,540,718 | GA | On track | SC | Moderate | CR | Moderate | CR | Moderate |
| Thailand (43) | 74.2 | 43 | 69,799,978 | GA | On track | MC | Stagnating | SC | Moderate | SC | Moderate |
| Vietnam (51) | 72.8 | 51 | 97,338,583 | CR | On track | MC | Moderate | SC | Moderate | SC | On track |
| Malaysia (65) | 70.9 | 65 | 32,365,998 | GA | On track | MC | Stagnating | MC | Moderate | CR | Moderate |
| Indonesia (97) | 66.3 | 97 | 273,523,621 | SC | Moderate | MC | Moderate | SC | Moderate | MC | Stagnating |
| Myanmar (101) | 64.9 | 101 | 54,409,794 | CR | On track | SC | Stagnating | SC | Stagnating | MC | Stagnating |
| Cambodia (102) | 64.5 | 102 | 16,718,971 | CR | On track | SC | Moderate | MC | Stagnating | SC | Moderate |
| Philippines (103) | 64.5 | 103 | 109,581,085 | SC | Moderate | MC | Moderate | SC | Stagnating | MC | Stagnating |

Source: Sustainable Development Report (Download Data) [29]. Abbreviations: Goal Achievement—GA, On track or maintaining achievement—On track; Challenges remain—CR, Moderately Increasing—Moderate; Significant challenges—SC, Stagnating—Stagnating; Major challenges—MC, Decreasing—Decreasing.

**Table 3.** SDG Target and Indicator wise data from SDG Gateway.

| Target No | UNESCAPE Target | UNESCAPE Indicator | Unit | Cambodia * | Indonesia | Malaysia | Myanmar | Philippines | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | Access to basic Services | 1.4.1 Access to basic service—drinking water | % of Total Population | 59.2% (2017) | 73.1% (2017) | 99.9% (2017) | 64.3% (2017) | 76.5% (2017) | 98.8% (2017) | 83.5% (2017) |
| 2.3 | Agriculture productivity and income | 2.3.2 Income of small-scale food producers | in 2011 PPP Dollars | 983 (2009) | NA | NA | NA | NA | NA | 2810 (2010) |
| 5. a | Ownership or secure rights over agricultural land | 5.a.1 Ownership or secure rights over agricultural land | % | NA | NA | NA | NA | NA | 58.7% | NA |
| 11.1 | Adequate, safe, and affordable housing | 11.1.1 Urban Slum Population | % of urban population | 45.1% (2018) | 30.6% (2018) | NA | 56.1% (2018) | 42.9% (2018) | 23.7% (2018) | 13.8% (2018) |

Source: SDG Gateway Asia Pacific—Country SDG Profile [32]. * For the indicator numbers—11.2, 11.3, 11.7, and 11.a—data is unavailable on the SDG Gateway website [32].

## 3. Methodology and Data

This research aimed to assess the extent to which land and its related elements have been considered by different countries while developing their respective SDG-related policy documents. Content analysis is preferred for inferring the extent of usage of categories or keywords in a set of documents [33]. This replicable and systematic approach provides a way to interpret a large quantum of data by tabulating it in categories using coding rules. The method allows researchers to systematically sieve through a large volume of data to identify trend/s communicated by stakeholders through the documents [34]. The content analysis method used for this article is adapted from the approach used by Xie et al. in their comparative study of policy instruments to assess how China is faring in implementing the SDGs [35].

The process adopted for the content analysis is set out in Figure 1.

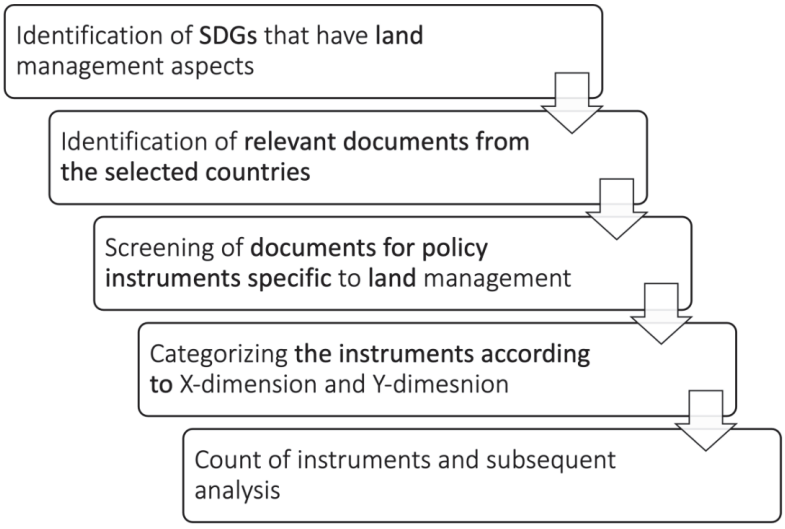


**Figure 1.** Process diagram for Content Analysis.

As a first step, SDG targets with clear land-related indicators are identified. The SDGs and the indicators that mention land either as an economic resource (farming, agriculture), shelter (residential, housing), public space (transportation, recreation, parks, urban green spaces), and to achieve gender equality from the perspective of females being entitled to use the facilities [35] are set out in Table 4 below.

**Table 4.** SDG Targets and land utilization categories.

| Sustainable Development Goal | Target | Land Utilization/Entitlement Categorization as per Targets |
|---|---|---|
| SDG 1 Removing Poverty in all its forms everywhere | 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including micro-finance. | Access to or ownership of land as an economic resource<br>Access to or ownership of land as shelter |
| SDG 2 End hunger, achieve food security and improve nutrition, and promote sustainable agriculture | 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, and fishers, including through secure and equal access to land, other productive resources, and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment. | Access to or ownership of land as an economic resource |
| SDG 5 Achieve gender equality and empower all women and girls | 5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources, in accordance with national laws | Ownership of land for achieving gender equality<br>Access to or ownership of land as an economic resource<br>Access to or ownership of land as shelter |
| SDG 11 Make cities inclusive, safe, resilient, and sustainable | 11.1 By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums | Access to or ownership of land as shelter |
| | 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries | Access to or ownership of land as shelter |
| | 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities | Access to or ownership of land as an economic resource<br>Access to land as public spaces |
| | 11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning | Access to or ownership of land as economic resource |

Source: Authors' compilation from the SDGs [36].

The method used by Xie et al. [35] is based on McDonnell and Schneider's theory for policy instruments analysis [37,38]. The method categorizes the policy instruments based on their nature (into five groups—authoritative instruments, incentive instruments, symbolic and advisory instruments, capacity-building instruments, and system change instruments). Authoritative instruments refer to those possessing official or legal power. By the virtue of government being policymakers, these instruments suggest the implementation of the measures which may demand, guarantee or forbid some actions or things [38]. The authoritative instruments typically cover zoning, urban planning, land use, regional planning, standards, and labelling. The incentive instruments involve the transfer of monetary benefits to the public, agencies, or institutions as defined or suggested by the instrument. They are usually combined with some rule or regulation to ensure the implementation of this rule or regulation as intended by the policymakers [38]. The incentive instruments pertaining to land include taxes, subsidies, property rights, payment for ecosystem services, etc. Symbolic and advisory instruments are used to communicate the policy elements or guidelines for directing the target audience's behavior [38]. The examples were symbolic and adversary instruments include voluntary commitments and guidance documents. Capacity-building instruments focus on developing the capacity of the various stakeholders involved in the process. The capacity-building initiatives can cover a wider gamut of information campaigns, education on infrastructure investments, R&D spending, and procurement, etc. System change instruments refer to those that enable

organizational, institutional, or governance structures for implementing the policies [38]. Directions relating to land readjustment, land information systems, registration, cadastre, and expropriation constitute system change instruments.

These policy instruments are then compared against the four dimensions of land utilization, i.e., land as an economic resource, land as shelter, land access for public spaces, and land and gender inequality. The various types of policy instruments are then plotted against the dimensions of land utilization to reflect the various characteristics of incorporation in policy or strategic documents. The types of instruments are plotted on the X-dimension and the land utilization characteristics are presented on the Y-dimension, as depicted in Figure 2.

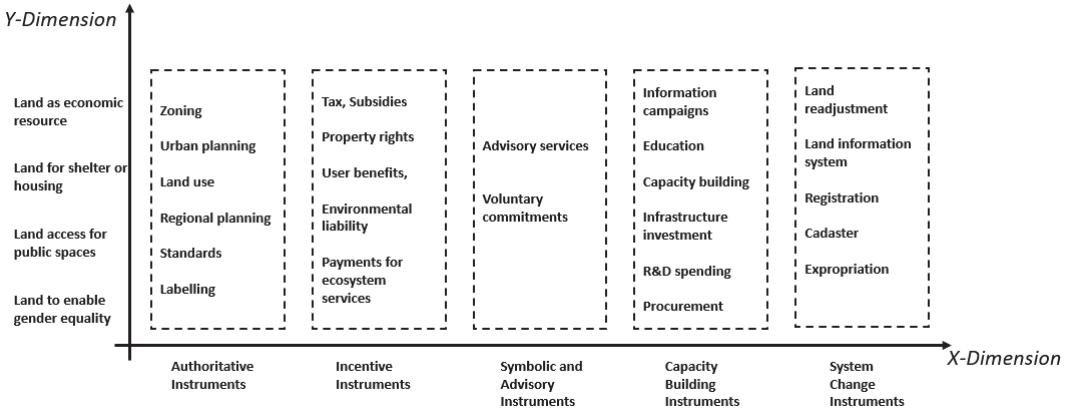


**Figure 2.** Two-Dimensional Framework for Analyzing Policy Instruments.

The list of documents related to land utilization, SDG achievement in different countries, and the document considered for content analysis are presented in Table 5 below. These documents are collated from the respective countries' websites and the list compiled by the Urban Policy Platform facilitated by UN-Habitat [39].

Firstly, all irrelevant data and terms were removed from each document for content analysis. Only the relevant chapters were scanned to identify the measures. The following Table 6 lists the chapters and the text (paragraphs) considered for the research.

**Table 5.** Documents Used for Content Analysis.

| Country | List of Documents | Document Considered for Analysis | Observations |
|---|---|---|---|
| Cambodia | National Strategic Development Plan 2019–2023 [40]<br>Strategic Framework on Decentralization and Deconcentration (2005) [39]<br>National Spatial Policy (2011) [41]<br>Capacity Development for Urban Management Project (2013) [39]<br>Strategic Green Development Plan (2012–2030) [42]<br>National Housing Policy (2014) [39]<br>The White Paper on Land Policy (adopted in 2015) [39] | National Strategic Development Plan 2019–2023 | Latest available document relating to SDGs |
| Indonesia | The National Medium-Term Development Plan For 2020–2024 [43]<br>National Policies and Strategies for Urban Development towards Sustainable Competitive Cities for 2045 [39]<br>National Spatial Policy (late 2000s) [39]<br>National Urban Development Strategy (NUDS) [39]<br>the Master Plan for Expansion and Acceleration of Indonesia's Economic Development (2011) [44]<br>Main Message VNR Indonesia 2021 [45] | The National Medium-Term Development Plan For 2020–2024 | Latest document available setting out the steps/initiatives taken/planned for SDGs. This document is available in English. The other document that could have been considered is Vision 2045, however, it is accessible only in Bahasa language. |
| Malaysia | Shared Vision Prosperity 2030 [46]<br>National Heritage Act [47]<br>National Physical Plan—3 [39]<br>the 11th Malaysia Plan [39]<br>National Urbanization Policy 2 [39]<br>National Housing Policy [39] | Shared Vision Prosperity 2030 | Latest available document relating to SDGs |
| Myanmar | Myanmar Sustainable Development Plan (2018–2030) [48]<br>Myanmar Development Assistance Policy [49]<br>Policy Priorities for 2012–2015 towards the Long-Term—Goals of the National Comprehensive Development Plan [39]<br>National Urban Policy and Smart City Strategy [39]<br>Master Plan for Yangon (draft) [39] | Myanmar Sustainable Development Plan (2018–2030) | Document provides a comprehensive country perspective of the SDG implementation |
| Philippines | Philippine Development Plan (2017–2022) [50]<br>National Urban Development and Housing Framework 2017–2022 [39]<br>National Framework for physical Planning Policy (2001–2030) [39]<br>the National Urban Development and Housing Framework (NUDHF) (2009–2016) [39]<br>Philippines Development Plan 2011–2016 [39] | Philippine Development Plan (2017–2022) | Document provides a comprehensive country perspective of the SDG implementation |
| Thailand | The Twelfth National 2017–2021 Sufficiency Economy Philosophy: Thailand's Path towards Sustainable Development Goals [51]<br>Eleventh National Economic and Social Development Plan 2012–2016 [39]<br>National Urban Development Policy Framework (1991) [39]<br>the Bangkok Metropolitan Administration Global Warming Action Plan 2007–2012 [39] | The Twelfth National 2017–2021 Sufficiency Economy Philosophy: Thailand's Path towards Sustainable Development Goals | Document provides a comprehensive country perspective of the SDG implementation |
| Vietnam | National Action Plan 2018–2030 [52]<br>National Urban Development Programme 2012–2020 [39]<br>Vietnam Urban Upgrading Project (VUUP) 2004–2014 [39]<br>National Urban Upgrading Strategy and Overall Investment Plan (NUUP) [39]<br>Orientation Plan for Urban Development 2025 [39]<br>2030 integrated financing and investment strategy [39] | National Action Plan 2018–2030 | Document provides a comprehensive country perspective of the SDG implementation |

Source: Authors' compilation.

**Table 6.** Text considered for content analysis.

| Country | Document Name | Chapter/Section Considered | Count of Text (Paragraphs) |
|---|---|---|---|
| Cambodia | National Strategic Development Plan 2019–2023 [40] | Chapter 3—Macroeconomic Framework for NSDP 2019–2023<br>3.3—Targets and Policies for 2019–2023, Section 3.26–3.44<br>3.4—Economic Outlook 2019–2023, Section 3.45–3.58<br>Chapter 4—Key Policy Priorities and Actions 2019–2023, Section 4.1–4.191 [40] | 224 |
| Indonesia | The National Medium-Term Development Plan for 2020–2024 [43] | Chapter—6: Strengthening Infrastructure to Support Economic and Basic Services Development<br>Sections considered for Paper—Environmental and Strategic Issues; Objectives, Indicators, and Targets; Policy Directions and Strategies<br>Chapter—7: Strengthening the Environment and Improving Resilience Against Natural Disasters and Climate Change<br>Sections considered for Paper—Environmental and Strategic Issues; Objectives, Indicators, and Targets; Policy Directions and Strategies [43] | 238 |
| Malaysia | Shared Vision Prosperity 2030 [46] | Chapter 6—Strategic Thrusts [46] | 85 |
| Myanmar | Myanmar Sustainable Development Plan (2018–2030) [48] | Goal 3 Job Creation & Private Sector-Led Growth<br>Goal 5 Natural Resources & The Environment For Posterity Of The Nation [48] | 171 |
| Philippines | Philippine Development Plan [50] | Chapter 7—Promoting Philippine Culture and Values<br>Chapter 8—"Expanding Economic Opportunities in Agriculture, Forestry, and Fisheries"<br>Chapter 11—Reducing Vulnerability of Individuals and Families<br>Chapter 12—Building Safe and Secure Communities [50] | 227 |
| Thailand | The Twelfth National Economic and Social Development Plan [51] | Strategy 2—Strategy for Creating a Just Society and Reducing Inequality<br>Strategy 3—Strategy for Strengthening the Economy, and Underpinning Sustainable Competitiveness<br>Strategy 4—Strategy for Environmentally-Friendly Growth for Sustainable Development<br>Strategy 7—Strategy for Advancing Infrastructure and Logistics<br>Strategy 9—Strategy for Regional, Urban, and Economic Zone Development [51] | 357 |
| Vietnam | National Action Plan [52] | Annex 1 [52] | 145 |

Source: Authors compilation based on a review of the documents listed above.

The count of relevant text (paragraphs) in the respective country documents ranges from 85 in Malaysia to 357 in Thailand. From the above-listed text, land utilization-related policy instruments were identified and segregated in the tabulated format (Table 7), as shown in the sample below. Similar information for all the remaining countries data have been provided as Appendix A.

**Table 7.** Content Analysis grid for Myanmar.

| Myanmar | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Create market conditions to enable greater investment in agriculture, aquaculture and polyculture, and mechanization [48] | | | Revise and develop education and training in the agriculture, aquaculture and food sectors, responding to the evolving needs of farmers and the rural private sector [48] | |
| Land & Gender equality | Strengthen urban governance and related policy frameworks, including those related to urban land management, with a focus on gender-specific and youth-related concerns [48] | | | | |

Source: Authors compilation based on a review of the documents listed in Table [48].

## 4. Results and Discussion

Results from the analysis of seven countries' SDG policy and strategic instruments are presented in the Table 8 below. The information in the Table refers to how many times instruments appear under respective categories, and the percentage of their appearance for the respective country. All the countries have a diverse mix of authoritative instruments, incentive instruments, capacity-building instruments, symbolic and advisory instruments, and system change instruments.

i. Categorization of Policy Instruments: X-Dimension

Table 9 below presents the extracted information of the distribution of the category of instruments for each country. The number of instruments across all the five categories has ranged between 7 and 20 in different countries. The differences amongst the number of land-related policy instruments across the various countries indicate the lack of uniformity on land-related aspects while progressing towards SDG implementation. The percentage of various categories of instrument used, in descending order, when taken together for all the countries is authoritative instruments (44%), symbolic and advisory instruments (26%), capacity-building instruments (13%), system change instruments (11%), and incentive instruments (6%). It appears that all the countries rely on statutory or legislative mechanisms and provide guidance documents to influence aspects of SDGs rather than focusing on capacity-building, or institutional governance or structural changes, or providing incentives for better behaviour.

**Table 8.** Statistical analysis results of SDGs policy tools implemented by countries.

| Type of Instrument | Type of Land Utilization | Cambodia | | Indonesia | | Malaysia | | Myanmar | | Philippines | | Thailand | | Vietnam | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % |
| Authoritative instruments | Land as Economic Resource | 4 | 20.00 | 2 | 18.18 | 1 | 14.29 | 2 | 22.22 | 1 | 7.14% | 2 | 13.33 | 1 | 8.33 |
| | Land as shelter ownership | 1 | 5.00 | 3 | 27.27 | 1 | 14.29 | 1 | 11.11 | 4 | 28.57% | 1 | 6.67 | 2 | 16.67 |
| | Land access as public spaces | 2 | 10.00 | 0 | 0.00 | 1 | 14.29 | 2 | 22.22 | 0 | 0.00% | 2 | 13.33 | 2 | 16.67 |
| | Land & Gender equality | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 11.11 | 1 | 7.14% | 0 | 0.00 | 1 | 8.33 |
| | Subtotal | 7 | 35.00 | 5 | 45.45 | 3 | 42.86 | 6 | 66.67 | 6 | 42.86% | 5 | 33.33 | 6 | 50.00 |
| Incentive instruments | Land as Economic Resource | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 1 | 6.67 | 0 | 0.00 |
| | Land as shelter ownership | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 21.43% | 0 | 0.00 | 1 | 8.33 |
| | Land access as public spaces | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 1 | 6.67 | 0 | 0.00 |
| | Land & Gender equality | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 0 | 0.00 | 0 | 0.00 |
| | Subtotal | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 21.43% | 2 | 13.33 | 1 | 8.33 |
| Symbolic and advisory instruments | Land as Economic Resource | 2 | 10.00 | 1 | 9.09 | 2 | 28.57 | 0 | 0.00 | 1 | 7.14% | 0 | 0.00 | 0 | 0.00 |
| | Land as shelter ownership | 4 | 20.00 | 4 | 36.36 | 1 | 14.29 | 0 | 0.00 | 1 | 7.14% | 0 | 0.00 | 1 | 8.33 |
| | Land access as public spaces | 1 | 5.00 | 1 | 9.09 | 0 | 0.00 | 0 | 0.00 | 1 | 7.14% | 0 | 0.00 | 3 | 25.00 |
| | Land & Gender equality | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 7.14% | 0 | 0.00 | 0 | 0.00 |
| | Subtotal | 7 | 35.00 | 6 | 54.55 | 3 | 42.86 | 0 | 0.00 | 4 | 28.57% | 0 | 0.00 | 4 | 33.33 |
| Capacity-building instruments | Land as Economic Resource | 0 | 0.00 | 0 | 0.00 | 1 | 14.29 | 1 | 11.11 | 1 | 7.14% | 2 | 13.33 | 0 | 0.00 |
| | Land as shelter ownership | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 1 | 11.11 | 0 | 0.00% | 0 | 0.00 | 0 | 0.00 |
| | Land access as public spaces | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 1 | 6.67 | 1 | 8.33 |
| | Land & Gender equality | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 0 | 0.00 | 0 | 0.00 |
| | Subtotal | 2 | 10.00 | 0 | 0.00 | 1 | 14.29 | 2 | 22.22 | 1 | 7.14% | 3 | 20.00 | 1 | 8.33 |
| System change instruments | Land as Economic Resource | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 3 | 20.00 | 0 | 0.00 |
| | Land as shelter ownership | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 1 | 11.11 | 0 | 0.00% | 1 | 6.67 | 0 | 0.00 |
| | Land access as public spaces | 1 | 5.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 1 | 6.67 | 0 | 0.00 |
| | Land & Gender equality | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00% | 0 | 0.00 | 0 | 0.00 |
| | Subtotal | 3 | 15.00 | 0 | 0.00 | 0 | 0.00 | 1 | 11.11 | 0 | 0.00% | 5 | 33.33 | 0 | 0.00 |
| Total | | 20 | 100% | 11 | 100% | 7 | 100% | 9 | 100% | 14 | 100% | 15 | 100% | 12 | 100% |

**Table 9.** Distribution by Instrument Category.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments | Total |
|---|---|---|---|---|---|---|
| Cambodia | 7(35%) | 1(5%) | 7(35%) | 2(10%) | 3(15%) | 20(100%) |
| Indonesia | 5(45%) | 0(0%) | 6(55%) | 0(0%) | 0(0%) | 11(100%) |
| Malaysia | 3(43%) | 0(0%) | 3(43%) | 1(14%) | 0(0%) | 7(100%) |
| Myanmar | 6(67%) | 0(0%) | 0(0%) | 2(22%) | 1(11%) | 9(100%) |
| Philippines | 6(43%) | 3(21%) | 4(29%) | 1(7%) | 0(0%) | 14(100%) |
| Thailand | 5(33%) | 2(13%) | 0(0%) | 3(20%) | 5(33%) | 15(100%) |
| Vietnam | 6(50%) | 1(8%) | 4(33%) | 1(8%) | 0(0%) | 12(100%) |
| | 38(44%) | 5(6%) | 23(26%) | 11(13%) | 10(11%) | 87(100%) |

Among all five categories, the proportion of authoritative instruments is highest in all countries except in Indonesia, making it the most prominently used instrument category. Incentive instruments have not been used in Indonesia, Malaysia, and Myanmar, whereas the Philippines mentions three incentive instruments. Thailand mentions two, while Vietnam and Cambodia have one incentive instrument. Except for Myanmar and Thailand, all the other countries have symbolic and advisory instruments. Cambodia has the maximum number of symbolic and advisory instruments, followed by Indonesia, the Philippines and Vietnam. Every country, except for Indonesia, has mentioned capacity-building instruments in their policy documents. However, the number of instruments is low, ranging from one to three per country. Cambodia, Myanmar, and Thailand mention system-change instruments in their policy documents, while the other four countries do not have any instruments under this category.

Indonesia has used only two categories of instruments, symbolic and advisory instruments. Cambodia has used all five types of instruments, with authoritative instruments, symbolic and advisory instruments being the more prominent categories. Malaysia has the least number of policy instruments relating to the land (7) and has used three types of instruments, with no incentive or a system change instrument. Similarly, Myanmar also has fewer instruments (9) and does not have any under the category of incentive instruments and symbolic and advisory instruments. The policy documents of the Philippines mention instruments under all the categories except the system change instrument category. Thailand also has instruments under all the categories except the symbolic and advisory instruments category. However, Vietnam does not have any system change instrument has instruments in all the other categories.

Government still use authoritative instruments as the preferred means to implement their plans. However, the usage of the other types of instruments indicates their increased openness to consider alternative mechanisms to communicate their intentions and translate the same into desired outcomes. The symbolic and advisory instruments are the next prominent category that points to the government's willingness to reach out through more guidance and best practices' dissemination efforts. These policy instruments are typically characterized by their adoption with lower prior requirements, wider stakeholders, and lower investment. The success of these instruments relies on greater dissemination and propaganda to reach a wider audience. These instruments have the potential to create consensus across different societal groups, and foster partnerships to implement the land-related policies. The capacity-building instruments, and the system change instruments are not the widely used categories across the ASEAN countries. This indicates that the countries, while important to implementing land-related policies, are yet to support the implementation of SDGs through more comprehensive education or to commit resources to augment the institutional structures for land-related aspects. The use of incentive instruments appears to be insufficient across all the ASEAN countries. While the incentive instruments need to be used judiciously, they have the potential to quickly reduce the gap between the expectations of the governments and the operative conditions on the ground.

As the countries are currently behind in their stated commitments of achieving the SDGs, it might be helpful to investigate the role of incentive instruments in greater detail.

ii. Categorization of Policy Instruments: Y-Dimension

Table 10 below presents the extracted information of the land utilization distribution in each country's policy instruments. Land utilization in the policy instruments is categorized into four groups, namely, land as an economic resource, land as shelter, ownership, land access for public spaces, and land for gender equality. The SDG-related policy instruments of all the seven countries incorporate elements relating to land as an economic resource, land as shelter, and land access for public spaces. However, the elements related to land for gender equality do not seem to be as important as the other three categories.

**Table 10.** Distribution by Land Utilization Category.

| | Cambodia | Indonesia | Malaysia | Myanmar | Philippines | Thailand | Vietnam | Total |
|---|---|---|---|---|---|---|---|---|
| Land as Economic Resource | 7(35%) | 3(27%) | 4(57%) | 3(33%) | 3(21%) | 8(53%) | 1(8%) | 26(30%) |
| Land as shelter ownership | 8(40%) | 7(64%) | 2(29%) | 3(33%) | 8(57%) | 2(13%) | 4(33%) | 32(37%) |
| Land access as public spaces | 5(25%) | 1(9%) | 1(14%) | 2(22%) | 1(7%) | 5(33%) | 6(50%) | 24(28%) |
| Land & Gender equality | 0(0%) | 0(0%) | 0(0%) | 1(11%) | 2(14%) | 0(0%) | 1(8%) | 5(6%) |
| | 20(100%) | 11(100%) | 7(100%) | 9(100%) | 13(100%) | 15(100%) | 12(100%) | 87(100%) |

The count of the policy instruments related to land for shelter have the highest mention, with 37% of the total. The policy instruments related to land as an economic resource and land access for public spaces are almost equal at about 30%. The count of the policy instruments relating to utilization of land for gender equality show the lowest importance, at about 6% of the total. With eight each, Cambodia, the Philippines, and Indonesia, with seven policy instruments related to land utilization as shelter, have the highest number in the ASEAN region. All the other countries have two to four policy instruments related to land utilization for shelter. Thailand has the highest number of policy instruments mentioning land as an economic resource (8), followed by Cambodia (7). Vietnam's policy document has only one mention of land as an economic resource. All the other countries have three to four policy instruments mentioned in their respective documents. Vietnam's policy document mentions six policy instruments for land utilization for public spaces. Cambodia and Thailand have five such policy instruments. All the other countries have one or two policy instruments related to land utilization for public spaces.

A review of the land utilization policy instruments in Cambodia indicates that the highest importance is accorded to land usage for shelter (8) followed by utilization of land as an economic resource (7) and the availability of land for public spaces (5). This document does not have any policy instrument relating to land utilization for addressing gender inequality. Limited land availability, high reliance on the agriculture and fisheries sector, and the historical turmoil that the country has witnessed leading to social inequality could be the reasons for such a distribution. Cambodia's National Strategic Development Plan is based on its Rectangular Strategy Phase IV, which is a progressive improvement on the earlier phases. This document focuses on land, in terms of real estate, urbanization, construction, land use, and public private partnership. The document mentions developing laws related to the land—particularly land management, housing, and construction. The overarching focus appears to be on making affordable housing available using land reforms as a tool and encouraging public private partnerships. The policy instruments also ensure that illegal settlements are regularised as per the prevailing provisions.

The pattern is similar for Indonesia, with seven instruments for utilization of land for shelter, three instruments relating to land utilization as an economic resource, and one pol-

icy instrument for utilizing the land for public spaces. The fast-growing urban population, leading to greater aspirations for affordable housing, and the general congestion, particularly in the country's urban areas, could have influenced such a distribution. Indonesia's 2020–2024 National Medium-term Development Plan (RPJMN) is part of the 2005–2025 National Long-Term Development Plan (RPJPN). This plan has integrated the sustainable development goals to such an extent that, now, many of the SDGs are inseparable from the Indonesian Government's current development agendas. Moreover, this document acts as a precursor to the broader Vision 2045, whose objective is to achieve sustainable infrastructure, improved public services, and high human development. The focus of the policy instruments has been on providing legal certainty to land rights, enabling better access to land through land banks, promoting urban renewal, using public land for affordable housing find augmenting the income of the farmers and fisheries sector.

Out of the seven policy instruments relating to land in Malaysia, four relate to land as an economic resource, two relate to land utilization as shelter, and one for land access for public spaces. No policy instrument directly refers to land utilization for addressing gender inequality. Malaysia's Shared Vision Prosperity 2030 document has been developed keeping 15 guiding principles and 8 enablers at the core. The focus of land utilization in the policy document is on making the rural, semi-urban, and unutilized land more economically beneficial. There is an increased focus on ensuring equality for the indigenous people, balanced regional development, improving access to common infrastructures such as hospitals, transportation modes, etc. and access to affordable housing.

Myanmar has three policy instruments, each relating to land utilization as an economic resource and for shelter, two instruments relating to land for public spaces, and one for addressing gender inequality. Myanmar Sustainable Development Plan—MSDP (2018–2030) has been crafted by keeping 3 pillars, 5 goals, 28 strategies, and 251 action items in focus with a long-term vision to achieve broad objective of making Myanmar prosperous, democratic, and peaceful country. MSDP focuses on different cross-cutting themes such as equity and inclusion, sustainability in all its forms, conflict-sensitive approaches, and democratic principles. This plan aligns with SDGs and domestic and international commitments of the country as a part of the ASEAN Economic Community (AEC), Greater Mekong Subregion (GMS) Strategic Framework, and others. The land related policy instruments focus on strengthening the legal rights of urban households, creating an institutional and governance infrastructure to support the same, improving the quality of life through better public infrastructure, and implementing a national housing strategy that focuses on affordable housing for the low-income groups.

The Philippines also has instruments across the four land utilization categories. Eight of its instruments relate to shelter, three relate to land as an economic resource, two address gender inequality, and one relates to land access to public spaces. The Philippine Development Plan—PDP (2017–2022) has been built on three pillars of enhancing the social fabric (Malasakit), reducing inequality (Pagbabago), and increasing growth potential (Patuloy na Pagunlad). This plan focuses on alleviating poverty (in agriculture and lagging regions) and inequality. The land-related policy instruments emphasize strengthening housing as a means to eradicate poverty, having a better land titling system through appropriate institutional governance structures, providing incentives for affordable housing, and providing better public infrastructure, particularly for low-income households.

Thailand has accorded the highest importance to land as an economic resource (8) followed by utilization of land for public spaces (5) and the availability of land for shelter (2). It does not have any policy instrument that addresses land for gender inequality. Thailand's Twelfth National Economic and Social development Plan focuses on self-sufficiency and people-centred development. The land related policy instruments focus on enhancing land ownership opportunities in order to augment income, particularly of low-income groups, applying economic instruments to ensure land rights, the development of land banks, and to support infrastructure to ensure efficient land management.

Vietnam has the highest number of policy instruments accorded to land utilization for public spaces. It has four instruments that address the utilization of land for shelter and one instrument each for the other two categories. Vietnam's National Action Plan focuses explicitly on the SDGs-related indicators and outlines the phased implementation and activities to be performed by various entities. The national plan emphasizes urban development, promotes participation by various sectors to increase housing affordability, and provides incentives and initiatives to attract investments in housing.

The ASEAN countries put more prominence to making land available for shelter/housing. The other two major uses in the SDG policy and strategy documents are using land as an economic resource and making land available for public spaces. Cambodia and the Philippines have the greatest number of instruments for land use as shelter, whereas Malaysia and Thailand give more prominence to land use as an economic resource. Myanmar has given equal importance to land usage as an economic resource and shelter. Vietnam is the only country with the highest number of instruments relating to land usage for public spaces.

The approach used for the study is a semi-quantitative analysis method that examines the contents of the policy documents in a systematic manner. This research studied the representative policy and strategy documents of the ASEAN countries to implement SDGs. The intention is to investigate the importance attached to land-related issues in implementing SDGs. However, there is no uniform or established mechanism to classify the policy documents and there are no standardized coding mechanisms. The classification system adopted in this paper synthesizes the work done by MacDonald and Elmore [37], Ingram and Schneider [38], and Xie et al. [35]. Another element that needs to be considered is the extent of usage of various instruments or the ideal combination of instruments needed for achieving the desired outcome. Given the early stage of the SDG policy formulation and incorporation of the land-related aspects, the equilibrium quantum of land-related instruments in the overall SDG implementation documents cannot be accurately estimated. This research assumes that the relative appearance of the types of instruments or the purposes of land usage is consistent with the intention of the respective governments. The relative presence of a particular type of policy instrument or the land use mentioned could be due to the broader range of elements that need to be covered. Hence, the equilibrium required of the respective land-related policy instruments would need to be studied in greater detail. There are numerous documents developed at the sub national level that also have elements related to land. A more extensive study in the future incorporating a wider group of countries at both national and subnational levels would provide a perspective of how much importance land related issues have been accorded in the SDG implementation.

## 5. Conclusions

The research investigates the importance accorded to land in various policy and strategy documents developed by countries in their quest to achieve SDGs. The policy and strategy documents of a representative group of countries from the ASEAN region have been studied using content analysis to draw inferences on how the land-related aspects have been used. Ensuring land availability for the shelter/housing purposes is the primary focus of the ASEAN countries. All the countries have their own priority areas where they have higher number of instruments; for example, Malaysia and Thailand have given preference to land used as economic resources. However, Cambodia and the Philippines have given preference to land use as shelter. For Malysia and Thailand, there is no specific policy instrument that is related to land utilization while addressing gender equality. Myanmar's policy instruments give equal preference to land as economic resource and land as shelter/housing. Land use for public space has the highest policy instruments for Vietnam. The usage of different types of instruments is not relatively balanced across the region. All the countries have, predominantly, used authoritative instruments. The usage of more collaborative, transformative, and capacity-promoting building is not as widely used. The reliance on authoritative instruments depicts greater control and supervision,

which demonstrates the importance attached to the incorporation of land-based aspects in achieving the SDGs. The substantially lower use of other categories of instruments may compromise the strength of the executive, weaken partnership spirit and collaborative ventures. The dimensions of the land usage demonstrate a strong emphasis on providing shelter and promoting economic use. The importance of making land available for public spaces is relatively lower, while the number of instruments that indicate land availability to promote gender equality is significantly less.

The achievement of SDGs would mean a fair distribution of societal benefits and is contingent upon a myriad of factors, including the ability to implement initiatives and projects. SDG achievement is contingent upon a balanced, cohesive presence of all the elements pertaining to land. Incorporation of the various dimensions of land in their respective policy and strategy documents by the respective countries signals their commitment to sustainable development. Giving greater prominence to instruments that promote capacity-building, institutional reforms can form is a stronger foundation for the accelerated achievement of SDGs. As the countries progress towards their respective committed dates of achieving SDGs, there would be a need to strengthen the policy aspects that would necessitate the adoption of a wider range of instruments. A proper equilibrium in the various categories of the instruments and the different dimensions of land usage could be considered with the policymakers for fostering sustainable development.

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## Appendix A

**Table A1.** Cambodia.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Preparing four regulatory documents: (1) drafting the Law on Management of Valuation Services and Real Estate Services; (2) developing the Law on Mortgage Business Management; (3) developing the Law on Real Estate Development Business Management; (4) drafting a Prakas on the Management of Consumer Goods Business and developing the real estate valuation standard. | | Pushing for the amendment of the law on investment, and the effective enforcement of this law and the law on special economic zones. | | Continuing to enhance land reform and accelerate the development of a master plan and land use plan for land management, urban planning and construction, at both national and sub-national levels, aiming to manage and use land more efficiently |
| | All of these require the RGC to place priority on: (1) promoting agriculture sector and rural development; (2) sustainable management of natural resources and culture; (3) strengthening urbanization management; and (4) ensuring environmental sustainability and readiness to respond to climate change. | | All the decrees and sub decrees have been listed under planned actions title—basically proposed actions in the NSDP—document | | |
| | Proposed developing laws: (1) Law on Construction, (2) New Law on Land, (3) Law on Land Management and Urbanization, (4) Law on Housing, (5) Law on Cambodia's Coastal Area Management and Development | | | | |
| | Strengthening the competency to manage urbanization, land use plan for the capital, developing land use plans for municipalities, district-khan, commune-sangkat nationwide; preparing strategic directions for land zoning; and residential management by using technology. | | | | |

**Table A1.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as shelter ownership | Proposed National Policy on Public Private Partnership on Land | Incentives Policy and National Program for Affordable Housing Development. | Encouraging the settlement of disordered buildings in municipalities and urban areas in the form of on-site development or resettlement in accordance with Directive No: 03 on the settlement of temporary buildings on state land that are illegally occupied in the capital, municipalities, and urban areas | Developing the map for the temporary construction sites and poor communities and housing loan information in the capital and provinces. | Continuing social land concession programs to distribute lands to 500 poor and landless families per year and to distribute 500 land plots and/or houses per year to the armed forces standing at the borders. |
| | | | Promoting the construction of housing units for rent and sale to low and medium income and vulnerable people in accordance with the National Program for Development of Affordable Housing. | | |
| | | | continuing to focus on managing the real estate sector and strive to promote affordable housing in line with the RGC's policies | | |
| | | | Promoting construction sector development and arrangement of cities and urban areas, especially Poipet and Bavet, by enhancing the development and enforcement of laws, regulations, technology and construction standards that ensure quality, safety, beauty, efficiency and smart city principles, as well as strengthening the implementation of an affordable housing program. | | |

**Table A1.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land access as public spaces | Proposed National Policy on Public Private Partnership on Land | | Further enhancing the beauty and services in cities and major urban areas through managing waste and sanitation; preparing pedestrian sidewalks, parking spaces, public parks; constructing rivers' edges and dam; improving public order and lighting in the city; conserving buildings of historical values; and enhancement of the quality and use of public transport in the city. | Formulating an infrastructure master plan for main cities and urban areas to support the development of roads, railways and waterways, electricity networks, and clean water networks, especially sewage and water treatment systems. | Formulating policies and strategies: National Policy on Public Private Partnership on Land and National Strategy on Municipality and Urban Area Development. |
| | Proposed National Strategy on Municipality and Urban Area Development. | | | | |
| Land & Gender equality | | | | | |

**Table A2.** Indonesia.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Strengthening traditional institutions and customary villages, protecting the rights of indigenous people in accordance with applicable laws including customary/communal land rights | | Increase farmer's income by an average of 5% p.a. and fisher's income 10% p.a. (SDG targets) Increasing availability, access, and quality of food consumption | | |
| | Improving the legal certainty of land rights through: (i) certification of land rights especially in areas directed as corridors of economic growth and equity, and also in the surrounding areas, including transmigration areas | | | | |
| Land as shelter ownership | Expanding housing finance facilities, especially for people with no permanent income and who build their houses independently | | At the national level, policy integration is urgently needed in all supply chains for housing, especially in relation to land and financing. | | |
| | Utilizing state-owned land to support the provision of housing for middle and lower-income groups | | Inclusive urban renewal and land consolidation in the context of creating a city without slums | | |
| | Providing resources for Land Object of Agrarian Reform (TORA), including releasing forest areas; Implementing land redistribution, among others, for the development of transmigration areas; | | Increase public access to affordable, proper, and safe housing for 1 million households | | |

**Table A2.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| | | | The policy directions and strategies in the context of fulfilling the needs for adequate, safe and affordable housing and settlements in urban areas are to develop a public housing system through the provision of simple flats to own or rent that are integrated with the public transportation system, using the approach of forming urban public housing agencies in the respective metropolitan areas by providing land, managing assets, and rejuvenating areas including the developing new towns. | | |
| Land access as public spaces | | | Providing land for development in the public interest through the establishment of a land bank, and improvement of land services through modern, digital-based services and recruitment of civil servants as land measurement officers | | |
| Land & Gender equality | | | | | |

**Table A3.** Malaysia.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Developing regional economic ecosystem including enhancing entrepreneurship programmes, encouraging start-ups and boosting rural industry competitiveness to bridge urban-rural economic disparity | | developing suburban, rural areas and underutilised land to be competitive and creating more employment opportunities | Implementing a holistic rural development action plan by taking into account ecosystem development, human resource/talent, financing, skills and entrepreneurship, logistics and communications; | |
| | | | Smart Farming refers to the wide use and integration of high technology that is environmentally friendly in farming activities, in order to increase the quantity and quality of domestic harvests, while at the same time reducing the agriculture sector's dependence on labour. For example, drones can spray insecticide and internet of things (IoT) sensors can analyse farmland and monitor farming produce. The effectiveness of smart farming can be strengthened with automation, precision agriculture applications and vertical farming. | | |

**Table A3.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as shelter ownership | Granting of land title to the indigenous should also consider their opportunity to participate in the development stream and the right to continue practising their culture and heritage. Therefore, issues on indigenous land ownership need to be given due consideration and a specific policy should be formulated to address them. | | Community in economic transition involves vulnerable groups including communities that have migrated from estates, urban poor groups and settlers, and rural people in urban and industrial settings. Among these groups' issues are home ownership, access to basic facilities, and quality education. These issues need to be addressed thoroughly, to improve their social mobility and increase their participation in higher-income economic activities. | | |
| Land access as public spaces | Improving access to basic facilities and infrastructure in rural areas such as hospitals, health centres, schools, roads, jetties, bridges, markets and telecommunication infrastructure | | | | |
| Land & Gender equality | | | | | |

**Table A4.** Myanmar.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Create market conditions to enable greater investment in agriculture, aquaculture and polyculture, and mechanization | | | Revise and develop education and training in the agriculture, aquaculture and food sectors, responding to the evolving needs of farmers and the rural private sector | |
| | Enhance irrigation and drainage services, and support more efficient and sustainable water management systems | | | | |
| Land as shelter ownership | Strengthen urban households' land rights/tenure and property rights and enforcement | | | Strengthen rural households' land tenure, property rights and related enforcement capacities | Develop and effectively implement a national housing strategy, including low-cost housing and housing for vulnerable groups, and implement affordable housing projects including resettlement of squatters and the improvement of slum areas |
| Land access as public spaces | Develop sustainable public transport systems, including school transportation systems, that are safe, convenient and accessible to all | | | | |
| | Ensure that quality of life considerations such as water management (retention and reticulation) and expansion of public spaces (centres of learning/libraries, parks, playgrounds and green areas) are fully integrated into urban planning frameworks and decision making | | | | |
| Land & Gender equality | Strengthen urban governance and related policy frameworks, including those related to urban land management, with a focus on gender specific and youth-related concerns | | | | |

**Table A5.** Philippines.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Ensure and protect the land tenure security of ARBs by completing the LAD and immediately install ARBs in awarded lands upon the issuance of emancipation patent or CLOAs. An inventory of lands and profiling of ARBs will be conducted to ensure an updated status of land distribution in the country and guide the delivery of support services in agrarian reform communities and clusters. | | "Physically link production areas to markets through road and rail-based transport, inter-island water transport and logistics system." | Develop an integrated color-coded agricultural map to identify the comparative advantage of specific areas. It will contain updated sub-national information on soil characteristics, water availability, climatic types, topography, and socioeconomic conditions. The map will inform production decisions about suitable crops and agricultural activities | |
| Land as shelter ownership | Strengthen housing as a platform to reduce poverty and improve social outcomes. Housing programs will be linked with other social development programs. It will help maximize the "multiplier effect" of the provision of housing units as a means to reduce poverty, generate jobs and employment, and spur downstream economic activities | The budget will consider a proposed policy on an income-based subsidy scheme that will bridge the gap between housing costs and varying income levels of families | Intensify implementation of alternatives and innovative solutions to address the housing needs of the lower income classes and vulnerable sectors. Solutions such as public rental housing, mixed-income/mixed-use housing development, housing microfinance initiatives, incremental housing programs, and housing cooperatives will be used to enhance housing affordability. These solutions will help address the issue of low occupancy rate and cater more sustainably to the needs of the homeless, poor, and underprivileged beneficiaries. | | |

**Table A5.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| | Develop integrated neighbourhoods and sustainable communities, particularly for low-income households. This is to ensure that housing and auxiliary services and needs of resettled ISFs are adequately satisfied. The physical infrastructure of housing and location of human settlements must also ensure compliance with disaster risk reduction and management (DRRM) and climate change adaptation (CCA) requirements to mitigate risks and address vulnerability | In addition, voucher-type direct subsidies for socialized and economic housing will be explored. A voucher-type scheme can expand the delivery mechanism to include NHA and SHFC and the HDMF, LGUs, and government financial institutions (GFIs). Such a scheme introduces competition among players that comply with the substantive and procedural requirements of the Urban Development and Housing Act of 1992. | Adopt viable land acquisition approaches and fast-track the inventory of lands for socialized housing development. | | |
| Land as shelter ownership | Strengthen partnerships with stakeholders. As a cross-cutting strategy, the sector will strengthen its multi-stakeholder partnerships through a participatory approach. This ensures that local shelter plans are linked with the National Resettlement Plan (NRP). It will encourage PPPs for housing projects and improve the developers' compliance to the policy of balanced housing development. The government will also harness the services of volunteers from the academe, corporate, nongovernment, and international organizations in delivering social services, providing technical assistance, responding to disasters, and undertaking humanitarian efforts. | Housing finance reforms shall be instituted to meet the needs of starting families. The HDMF contribution system should be restructured to better match the earning profile and the required payment stream. | Inventory of lands and cadastral surveys will be fast-tracked to hasten the process of identifying land for housing projects. | | |

**Table A5.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as shelter ownership | Housing finance reforms shall be instituted to meet the needs of starting families. The HDMF contribution system should be restructured to allow for a better match profile of members and the required payment stream. | | The decentralization of housing and urban development efforts will be reinforced, especially on local shelter planning, comprehensive land use planning with a ridge-to-reef approach, land acquisition and development, curbing proliferation of informal settlers, implementation of a Regional Resettlement Action Plan (RRAP), and pursuit of NUA and SDGs, in coordination with the NGAs. | | |
| Land access as public spaces | | | Enhance green spaces in urban areas | | |
| Land & Gender equality | Secure tenure in affordable, safe and disaster-resilient housing will be provided to underprivileged and homeless families. Provide for the needs of the vulnerable. Cultural aspects, gender-responsive when providing housing for different groups, cultural accessibility will be considered when providing housing for different genders and be elderly- and persons with disability-friendly. | | A gender responsive CDD ("peoples' plan") approach will be promoted to involve the beneficiaries in the entire development process. Such an approach will help increase occupancy rates and efficiency in the collection, improve estate management, and ensure inclusive access to and control of housing and human settlement services and benefits. | | |

**Table A6.** Thailand.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Enhance land-ownership opportunities along with promoting sustainable and holistic land access rights. Measures include land allocation to landless poor farmers, with conditions preventing the transfer of land transfer-training; financial provision for job-creation; expansion of opportunities to access professionally-relevant information, news and knowledge. | Collect land taxes progressively. | | Developing models and processes of knowledge transfer in agricultural practice to farmers in order to change their systems to become compatible with climate change and to realise the potential of their land | Finally, a land bank should be established as a mechanism for distributing landholdings to farmers and poor households such that they would have land to earn a living as well as for shelter |
| | Integrate land management mechanisms to establish the overall direction for land policies towards fair distribution of ownership. | | | Design efficient land leasing systems to create opportunities in land utilization. | Advocating the passage of a Protecting Agricultural Land Bill |
| | | | | | The strategy on green growth for sustainable development emphasizes fair distribution of land solve the problem of public land encroachment and provide the poor with common rights to use land. |
| Land as shelter ownership | Formulate measures that prevent land ownership by foreigners. | | | | |
| | | | | | Finally, a land bank should be established as a mechanism for distributing landholdings to farmers and poor households such that they would have land to earn a living as well as for shelter |

**Table A6.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land access as public spaces | Foster universal and tailor-designed infrastructure that emphasizes appropriateness for children, women, disabled persons, the elderly and disadvantaged groups. This aims to have equal access to public services and equal opportunity to develop themselves to their fullest potential. | Apply economic instruments when providing communities with common land rights for collective use in developing the product revenue for communities. | | Build a database system for land management, and issue clear and complete ownership documents for all types of public land. | The Community Land Title Act should be pushed forward so that communities can collectively manage land and natural resources efficiently |
| | Develop land management systems and resolve public land encroachment. | | | | |
| Land & Gender equality | | | | | |

**Table A7.** Vietnam.

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land as economic resource ownership/access | Review, make recommendations to improve the existing system of legislation to ensure equal rights for citizens, particularly women, the poor and the vulnerable, to access economic resources, basic services, the right to use land and natural resources, the right to own and exercise control over other forms of property as provided for by the Constitution. | | | | |
| Land as shelter ownership | Review, make recommendations to improve the existing system of legislation to ensure equal rights for citizens, particularly women, the poor and the vulnerable, to access economic resources, basic services, the right to use land and natural resources, and the right to own and exercise control over other forms of property as provided for by the Constitution. | Continue to implement preferential policies for investment flows into housing schemes for low-income and medium income people; to eliminate temporary houses and slums in urban areas. | Adopt policies that encourage various sectors to participate in housing development, rent houses based on market mechanisms in order to meet the needs of target groups who are able to afford it. Face affordability constraints. | | |
| | Issue policies that support housing development in order to provide housing to social welfare beneficiary groups who are in need of housing but are unable to afford it, based on market mechanisms. | | | | |

**Table A7.** *Cont.*

| | Authoritative Instruments | Incentive Instruments | Symbolic and Advisory Instruments | Capacity-Building Instruments | System Change Instruments |
|---|---|---|---|---|---|
| Land access as public spaces | Improve management mechanisms for urban development. Develop an urban government model that ensures effectiveness and efficiency in sustainable urban management and development. | | Issue guidelines on the planning of green urban areas, a set of indicators on green urban areas in order to guide urban development. Develop a set of criteria on the planning of green spaces, public spaces in urban areas, and issue technical/economic norms for green tree parks. | Develop processes for communities to participate in the preparation of urban planning schemes, urban development projects, urban management work generally. | |
| | Review urban centre master plans from the perspective of sustainable urban approaches (green urbanism, urban ecosystems, and urban economics) and plans for urban spaces to ensure the efficiency of ecological economics/issues. | | Encourage investment, mobilize increased resources from society at large for the development of green spaces in the development of urban and population areas. | | |
| | | | Speed up the construction of green urban centres, ecological urban centres and green public works. | | |
| Land & Gender equality | Review, make recommendations to improve the existing system of legislation to ensure equal rights for citizens, particularly women, the poor and the vulnerable, to access economic resources, basic services, the right to use land and natural resources, the right to own and exercise control over other forms of property as provided for by the Constitution. | | | | |

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# Moving the 2030 Agenda Ahead: Exploring the Role of Multiple Mediators toward Perceived Environment and Social Sustainability in Residential Neighbourhoods

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**Abstract:** Neighbourhood safety represents an important topic of study to illustrate the reasons behind the increases in crime and mitigate its effects in neighbourhoods. This study examines how the social and environmental features of neighbourhoods may influence the social sustainability of residents based on the assumption that the perception of safety and social cohesion mediates the effects of neighbourhood environment on social sustainability. A quantitative method was employed to collect data from residents in a low-rise residential area in Penang, Malaysia. The results of structural equation modelling (SEM) indicated the positive and significant effect of neighbourhood accessibility on perceived disorder, whilst the effect of accessibility on social cohesion was negative. Disorders may comprise social and physical disorders, and may have a negative effect on perception of safety, but not on social cohesion. The relationship between disorders and social sustainability is serially mediated by the perception of safety and social cohesion. This implies that those who perceived high disorderliness in a neighbourhood environment reported a lower level of perception of safety, social cohesion and lower levels of social sustainability. Attempts need to be made to reduce neighbourhood disorderliness to pave the way for 2030 Agenda goals implementation.

**Keywords:** social sustainability; accessibility; disorder; perception of safety; social cohesion; multiple mediators

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## 1. Introduction

The necessity of sustainable development emerges from an implied conflict between the rapid human changes and the low speed of the renewal process of environmental resources [1]. This conflict can especially be seen within cities, where most transformations have occurred, changing them to the places where the sustainability procedure is difficult and required [2]. With the adoption of the 2030 Agenda by the United Nations, the Sustainable Development Goals (SDGs), as a set of goals and indicators, guide global development attempts in the years from 2016 to 2030. These 17 goals encompass a wide range of sustainable development issues, with the hope that governments will consider these goals to confront excessive poverty and the challenges of ensuring environmentally, socially and economically sustainable development in their respective societies [3]. The SDG framework of the 2030 Agenda defines a reference of worldwide guidelines, which are not mandatory, but beneficial in assisting policy development even at the local level of urban areas [4]. To make the 232 indicators of all 17 SDGs mentioned in the 2030 Agenda operational, countries must adjust and concretise them for their respective context [5].

Therefore, sustainable development has the essential objective of local and political decision-makers [6]. Principally, the 2030 Agenda is a comprehensive action plan that attempts to eradicate poverty and hunger; to reduce social and economic inequalities; to make communities safe from any form of crime; to build inclusive communities; to

improve people's well-being, health and education and learning; to keep human rights and promote gender equality; and to protect resources for the life of the planet underwater and on land [7]. In general, these 17 SDGs are unified and in line with the three aspects of sustainable development: (i) the environment based on the conservation of natural resources, (ii) the economy based on the good quality of life for all people and (iii) the society based on people's basic needs. While more complex dimensions of sustainability are developed and debated, sustainability is generally considered concerning the three mentioned aspects [8]. During the last few decades, the majority of the sustainability discourse has been influenced by ecological perspectives. The last decade, in particular, has experienced an increasing interest in the social features of sustainability [9]. Given that Sustainable Development Goals (SDGs) have emerged as a new urban agenda, a growing interest in social aspects of communities can be observed. Urban sustainability discussion idealises a theoretical model comprising three integrated aspects: environmental, economic and social [10]. Evidence suggested that both social and physical characteristics of the neighbourhood environment can influence the residents' daily life and their social interactions [11]. Sustainability debates are no longer limited to the environmental dimension, but may also incorporate economic [12] and social dimensions [13]. Although numerous studies have investigated the neighbourhood environment and individuals' health among residents, research focusing on the effect of neighbourhood characteristics on social participation through formal and informal social roles is limited [14].

Whilst scholars tried to develop theoretical definitions and actions regarding the social aspect of sustainability [15], communities continued to negotiate the subjective nature of theoretical concepts that define socially sustainable communities. Social inclusion and cultivating a sense of belonging are known to be important components of social sustainability [16]. Notably, social sustainability is a multiscale phenomenon that started integrating into the urban decisions and designs from small- to large-scale from a neighbourhood to the region, for instance [17]. Evidence also states that the majority of the available sustainability assessment tools provided to measure the results of sustainable development goals merely cover the social aspect of sustainable development to a limited extent and are mainly characterised by the environmental dimensions of sustainability [18].

Increased exposure to neighbourhood disorders can have far-reaching implications for neighbourhood social aspects. Neighbourhood disorders, such as physical disorder (e.g., unkempt lawns and gardens, graffiti, littering and dumping of rubbish in public areas, poor street lighting, numerous vacant houses [19]) and communities with low levels of trust and connections [14] have been shown to prevent adults from participating in social activities. Perceived physical and social neighbourhood disorders have been linked with increased perception of safety and decreased social cohesion due to avoidance behaviours [20].

The relationship between perceived neighbourhood environment, such as perceived resources or problems (e.g., neighbourhood safety), neighbourhood social environment (e.g., social cohesion) and social sustainability is less clear [21]. As such, perceptions can affect the social and physical aspects of the residents' life, more so than objective characteristics in and of themselves [22]. Thus, examining the perceived neighbourhood environment can provide complementary information which can be useful in disentangling the effects of the neighbourhoods' social sustainability. Moreover, among numerous physical factors including land use mix [23], meeting places [24] and a mix of housing types [13] is neighbourhood accessibility, which is an important approach in evaluating the physical quality of neighbourhood environments [25]. However, studies on establishing the association of social cohesion and perception of safety as mediating factors are rarely available.

Although a large body of knowledge has recently been produced on this topic, as the urban social sustainability discourse has consequently moved from an 'under-theorised' status to an 'insufficiently theorised' status, further theoretical research should be conducted to consolidate the discourse and advance its theory. There is a need to build on these efforts and develop frameworks which may offer a comprehensive structure for analysis to link the qualitative and quantitative aspects of social sustainability [26]. Although there

are agreements about the general definition of sustainability and its relationship with neighbourhood characteristics, no worldwide solution for a sustainable neighbourhood has emerged. Previous studies are generally about case studies from developed countries. Few studies have been conducted from the developing countries' context. Consequently, based on precedent studies and seeking to reconcile the existing gaps, firstly, this study examines an integrated model of the neighbourhood environment, social cohesion, perception of safety, and social sustainability with micro-scale neighbourhood environment variables, which are rarely taken into account, in order to thoroughly investigate the relationship between the neighbourhood environment and social sustainability. An investigation of the causal relationships by using structural equation modelling (SEM), which has rarely been employed in the existing studies, comes second. Notably, the study empirically investigates the relationship between the physical and social characteristics of neighbourhood and social sustainability, considering the mediating role of social cohesion and perception of safety in an Asian context, especially in a rapidly urbanising and multi-ethnic society, such as Malaysia.

## 2. Theoretical Background

### *2.1. The 2030 Agenda and Sustainability*

SDG#11 follows sustainable development regarding cities with 10 targets and 14 indicators at a worldwide level, which are neglected variously at the national level [27]. These indicators incline to be statistical and sometimes refer to the architectural dimension: especially pertaining to the social aspect, these indicators refer highly to social equity, equal accessibility of resources, social interaction and health and quality of life, which are more subjective indicators and yet main targets of sustainable development [28].

Therefore, the construction sector plays a significant role in the issue of SDG#11, with regard to the complicated relationship between the human need for space and the limitation of this resource [29]. This study mainly focuses on SDG#11, which deals with urbanisation and seeks to 'make cities inclusive, safe, resilient and sustainable' [30]. In this sense, SDG#11 is the result of a process that starts at the global level in the search for sustainable development in a broad sense and increasingly evolves to recognise the key role of cities [31], providing a comprehensive reference model for the pursuit of sustainable development addressing several interlinked issues, with a focus on urban sustainability [32]. It can be considered as a global normative framework for urban transformations and urban policies. Its Target 11.7 requires cities by 2030 to provide access to safe and secure public spaces for all and to improve urban management through better urban policies and regulations [33].

Although social sustainability is the least developed component of sustainable development, it has been discussed as a fundamental part of sustainability since the 21st century [34]. The assessment of sustainability is based on the employment of various investigation and assessment approaches to generate information considering the choice, as they provide data necessary to investigate the outcomes of human actions for sustainable development [35]. Only, in recent years, there has been more attention drawn to the issues related to social sustainability as a fundamental component of sustainable development [36]. Moreover, evidence shows that identifying the level of sense of safety from the standpoint of sustainable development and determining the boundaries of safe existence allow for setting strategic medium or long-term goals [37]. In this sense, the usage of multi-criteria methodological frameworks is found for evaluating social sustainability; for instance, Munda [38] suggested the social multi-criteria evaluation method as a beneficial method for the application of social choices to the complicated contemporary problems. Meanwhile, Sierra et al. [39] reported several examples of multi-criteria methods, including social aspects. Given that the urban environment is a multidimensional system, projects must pay attention to different points of social and environmental views to make sustainable cities and architectures; consequently, multi-criteria evaluation is a useful framework to address them [40]. Due to increasing social inequalities, the formation of class distinc-

tions and crime issues in the society, a growing interest in social aspects of communities can be observed.

Sustainability is no longer known as a mere environmental concern, but as a broad concept, which covers environmental and social aspects [41]. In a general perspective, social sustainability strategies attempt to improve the residents' quality of life and most relevant human needs including cultural and psychological ones, adaptability and consequently, sustainable development [42]. However, as previously mentioned, the social dimension of sustainable development goals regarding environmental and social suitability is limitedly studied and needs to be further investigated. The following research hypothesis has been developed:

**Hypothesis 1 (H1).** *Accessibility is positively associated with disorder.*

### *2.2. Social Disorganisation Theory*

Social disorganisation theory was developed out of the University of Chicago during the 1920s. Shaw and McKay [43] work on urban communities revealed that high levels of residential instability, high levels of ethnic heterogeneity, poverty and family disruption, which are generally recognised components of disorganisation, diminishes the ability of communities to realise common values and maintain effective social control resulting in communities that are socially disorganised. Social disorganisation theory draws attention to the relationship between community organisation, formal and informal community social control [44]. This theory also refers to the inability of a community structure to comprehend the common values of its inhabitants and preserve effective social controls [45] and suggests that moral social orders created by social interactions can determine deviant behaviours and establish the needed bonds to control these behaviours [46]. As such, societal growths and urbanisation processes can disrupt the residents' social bonds, weakening social norms and their power to regulate and control deviant behaviours and disorders [47].

Flawed social structures in communities may lead to more disorders because the community is incapable of effective control and cannot prevent them [48,49]. Neighbourhood environmental characteristics are the pillars of social disorganisation theory, which states that residents of cohesive communities can control crime and disorder [50]. When neighbourhood community social cohesion is disrupted by negative neighbourhood structural characteristics, residents do not effectively self-regulate behaviours leading to social disorganisation [51,52]. This study focuses on this particular pillar of social disorganisation theory. Therefore, the following hypotheses have been driven from the results of previous studies.

**Hypothesis 2 (H2).** *Social cohesion is positively associated with social sustainability.*

### *2.3. Social Sustainability*

The concept of sustainability gained prominence after publishing the Brundtland [53] report and social sustainability was considered as a component of sustainable development. Social sustainability can be defined as an ability to sustain the public community, since 'sustain' refers to maintaining a given state that is specified by both physical and non-physical characteristics. Therefore, physical characteristics such as accessibility, attractive public spaces, and social characteristics such as social capital, community and safety can affect social sustainability. Despite these fragmented approaches, a few studies attempted to investigate the relationship between social capital and possible determining factors of social sustainability, including the sense of community, residential mobility, attending the community affairs, etc. [54]. Developing sustainable communities requires urban planners and community organisers to make decisions which may affect environmental, economic and social systems. The most underdeveloped of these dimensions remains social sustainability [10].

One of the prime challenges regarding the term "social sustainability" is the difficulty to conceptualise it. No agreement exists on the criteria to be considered whilst assessing the concept of social sustainability so far [55]. The social sustainability components have not been fully recognised. This is due to the difficulty in quantitatively measuring social sustainability compared to economic or environmental sustainability [56,57]. However, the main attention is paid to the effect of the neighbourhood environment as potential venues for social interactions on social sustainability [34,58].

Whilst the focus of social sustainability studies has traditionally been on the macro scales (city and region), the focus has been shifted recently towards micro scales (neighbourhood and community) [18,59]. Furthermore, social sustainability 'hard' themes, such as employment and poverty alleviation, are increasingly being complemented or replaced by 'soft' concepts, such as social interactions and sense of place [35]. Dempsey, Bramley, Power and Brown [16] mentioned physical factors which are associated with sustainability including aesthetic public areas, satisfactory housing, adequate and proper local environmental facilities, accessibility and a walkable neighbourhood. According to McKenzie [60], social sustainability is a life-enhancing condition within communities which arrived through a process. Moreover, successful social capital is recently shown to be helpful in addressing the challenges of the COVID-19 pandemic [61].

Overall, the basic criteria of social sustainability which will not change over time are the three aspects of social capital, cohesion and exclusion [62]. According to Lotfata and Ataöv [34], definitions of social sustainability in an urban context are presented under four categories of theoretical frameworks; (1) theories that mainly consider the existing positive conditions of urban life, stating that decisions regarding environmental or economic issues must not be higher than the community's ability for change; (2) the second framework generally focuses on the measurement of concepts, such as social interactions and sense of belonging; (3) definitions which are characterised by a focus on the future and the continued improvement of individual wellbeing to the future generations; and (4) the theories that offer a functionalist comprehension of social sustainability as a way of providing cohesion. The second framework, which relies on the assessment of social interaction (cohesion and inclusion), is the one most needed in urban neighbourhoods. For this study, a socially sustainable neighbourhood refers to a neighbourhood characterising communal involvement and social control over the neighbourhood. On the basis of the above discussion, the following hypothesis can be put forward:

**Hypothesis 3 (H3).** *Accessibility is negatively associated with social sustainability.*

### *2.4. Perceived Physical Environment*

Social sustainability can be directly influenced by neighbourhood environmental factors. These influencing factors can be mainly categorised into two groups: social and physical factors [16]. The reasons why people tend to avoid neighbourhoods with high levels of disorder is wide in range. According to contributing literature, physical neighbourhood characteristics such as street connectivity and accessibility [63,64], neighbourhood walkability [65], street noise [66], residential satisfaction, exterior environment condition and safety from traffic were associated with social interactions and quality of life [63,67].

Wilson and Kelling [68] discussed in their Broken Windows theory, as well as Skogan [69] in the Disorder and Decline model, that disorder feeds back into the development or maintenance of social ties and the extent to which residents exercise social control on deviants. An increase in physical disorder may ruin the residents' cohesion and processes of social control over time [70] and may cause residents to leave the neighbourhood [71]. Physical signs of decay and social disorder, such as littering, vandalism or graffiti, may erode people's feelings of regular control and surveillance over the neighbourhood environment [72].

A relatively limited study exists which focuses explicitly on social sustainability, whilst a broader literature exists on the effects from disorder on overlapping concepts of social

capital, social cohesion, social inclusion and social exclusion. For instance, Dempsey [64] found that suggesting that the quality of neighbourhood environment has a strong influence on social sustainability is inaccurate. Those features, which were consistently associated with social sustainability, tend to be dependent on the residents' perception. Dave's [23] research also revealed that higher household density and population density have no negative effects on social sustainability. Moreover, Yoo and Lee [54] found that a significant relationship exists among the neighbourhood physical environment, social capital and social sustainability. Larimian and Sadeghi [55] also provided the significance of improving neighbourhood environment characteristics and their positive and significant relationship with different dimensions of social sustainability and overall social sustainability. Therefore, these discussions lead to the following hypothesis:

**Hypothesis 4 (H4).** *Disorder is negatively associated with social sustainability.*

*2.5. Perceived Social Environment*

Social factors, such as social cohesion, social capital and safety can influence social sustainability [54]. Safety is the ontological influencing factor on social sustainability. Safety, and the perception of safety for humans and even non-humans, is the main principle which affects sustainability and social sustainability [73].

A properly designed and well-maintained neighbourhood environment provides a friendly and healthy atmosphere in the neighbourhood, which encourages physical activity and social interaction [24] and contributes to the residents' perceived safety and security and the social and visual appeal of the neighbourhood [72,74]. Therefore, the following hypothesis is drawn based on the above discussions.

**Hypothesis 5 (H5).** *Accessibility is negatively associated with perception of safety.*

Quality of neighbourhood perceived social environment exhibited a relationship with social capital [75] and social sustainability [76,77]. That is why researchers collaborate on a global scale to develop strategies help maintain social contact and thus reduce the psychological impacts of isolation during the COVID-19 pandemic [78]. Even if online, social relationships should be established online to share valuable information and obtain more knowledge from others [79]. Therefore, the following hypothesis has been driven based on the above discussion:

**Hypothesis 6 (H6).** *Perception of safety is positively associated with social sustainability.*

Furthermore, both actual crime rate and perceived feeling of safety may hinder the attainment of social sustainability in urban neighbourhoods. Social cohesion and inclusion are claimed in theory and policy to contribute to sustainable, fair and strong communities for the present and future [73]. This relates to a prevailing social order in neighbourhoods and the support of social interaction and networks between all residents. The sustainability of a community is about the ability of society itself, or its manifestation as a local community, to sustain and reproduce itself at an acceptable level of function. This is associated with social capital and social cohesion as concepts, which would encompass social networks, norms of reciprocity and features of social organisation [80], along with the integration of resulting social behaviour [81]. The sustainability of a community involves social interaction between community members; the relative stability of the community, the existence of and participation in local collective institutions, formal and informal and levels of trust across the community, including issues of safety from threats in the community [16]. On the basis of social disorganisation theory and the aforementioned discussions, the following research hypotheses are drawn:

**Hypothesis 7 (H7).** *Accessibility is negatively associated with social cohesion.*

**Hypothesis 8 (H8).** *Disorder mediates the relationship between accessibility and social sustainability.*

**Hypothesis 9 (H9).** *Perception of safety mediates the relationship between disorder and social sustainability.*

**Hypothesis 10 (H10).** *Social cohesion mediates the relationship between disorder and social sustainability.*

**Hypothesis 11 (H11).** *The relationship between disorder and social sustainability is serially mediated by perception of safety and social cohesion.*

## 3. Materials and Methods

### *3.1. Study Area*

The study area is a typical low-rise housing neighbourhood in Penang, Malaysia. In terms of ethnic composition, the area consists of a homogenous neighbourhood, which includes single-storey and double-storey houses. It is located in the central part of Penang Island. A probability sampling method was employed to select samples from the population. Overall, the area consists of approximately 1700 properties. A systematic sampling with a random start was employed to select the samples.

A team of interview staff were trained to administer the field survey and walk from house to house to conduct a person-administered survey with residents who were 18 years old or older. The main wage earner or the spouse in each household were identified as the survey respondent. Letters were sent to all selected samples a week before the first questionnaire interview was scheduled, informing the respondents of the purpose of the study. The survey was conducted before the COVID-19 pandemic which covered a sample of 247 residents (after data cleaning) with a response rate of 73%. The purpose of dispatching the letters was to ensure that the participants were aware of the study and that they would have made up their mind to participate to the survey. Prior to conduct the survey, the respondents were asked a screening question. The question involved asking respondents whether they have lived at the address for at least a year. Respondents who have lived there less than a year were excluded from the survey. Ethics approval was sought by the Ethics Committee of Universiti Sains Malaysia, involving human participants.

### *3.2. Survey Instrument*

The current study is based on a quantitative approach, which employed a questionnaire survey and an observation checklist to collect data. The survey in this study was part of a larger study conducted in Penang, Malaysia, which covered a wide range of social and physical characteristics of the residents and neighbourhood environment. It comprises several sections to capture the respondents' demographic characteristics, their perceived social and physical disorder, perception of safety, social cohesion and social sustainability. An exploratory factor analysis (EFA) was performed to extract the first-order factor structures of the second-order disorder construct, comprising social and physical disorder as first-order constructs [19]. Before executing the main survey, a pilot survey was conducted to check the content validity and ensure that all items and respective constructs in the survey are valid for the target samples. A team of enumerators, which comprises two postgraduate students, was trained to conduct the survey and the observation checklist.

Accessibility was measured using two items: provision of sidewalks and traffic volumes [82]. These items were measured using an observation checklist for each street segment. To measure disorder, 13 items were developed based on previous studies [19,83,84]. These items include physical and social disorder. Participants responded to a series of statements related to different problems in the neighbourhood environment on a seven-point Likert scale (1 = highly not problematic, 7 = highly problematic) and the EFA was used to understand the underlying structure of the data. Physical disorder includes: (1) unkempt lawns and gardens; (2) houses and unattended fences; (3) upkeep of children's playgrounds;

(4) littering and dumping of rubbish in public areas; (5) poor street lighting; (6) vandalism or graffiti on public properties; and (7) the condition of streets, sidewalks or road signs. Social disorder includes: (1) inconsiderate or disruptive neighbours; (2) noisy neighbours and loud parties; (3) problems regarding selling and dealing of drugs; (4) uncontrolled pets; (5) teenagers hanging around streets; and (6) motorbike racing.

Perception of safety refers to the degree to which individuals feel safe within their neighbourhood area [85,86]. Respondents were asked how safe they feel when (1) walking alone in the street during the day; (2) walking alone in the street after dark; (3) walking alone in neighbourhood during the day; (4) walking alone in neighbourhood after dark; (5) alone at home at night; and (6) in a park/playground in neighbourhood during the day. The response categories were based on a five-point Likert scale (1 = very unsafe, 5 = very safe). Social cohesion is the belief that other residents will act for the common good in the neighbourhood, adopted from previous studies [83,84,87]. This variable was measured based on the agreement of respondents with the social cohesion statements. The six items were (1) willingness to help neighbours; (2) closely knit neighbourhood; (3) trust in neighbours; (4) neighbours talk together; (5) neighbours get along with each other; and (6) neighbours share the same values.

Social sustainability was adopted based on previous studies [18,54,76]. Although Larimian and Sadeghi [55] employed the EFA-CFA approach to develop a measurement scale for social sustainability using a multi-dimensional model, no agreement exists on the criteria to assess this concept [21]. For the purpose of this study, we expanded on former studies by proposing a comprehensive measure of social sustainability in the neighbourhood environment which considers its multidimensional and complex nature. We focused on the dimensions of social sustainability related to the environment, using the neighbourhood as the scale of analysis. The model was developed by considering the effects of the social and physical aspects of the neighbourhood. The items were: (1) feeling sense of belonging to neighbourhood; (2) feeling a member of neighbourhood; (3) intention to keep living in neighbourhood; (4) participation in neighbourhood affairs; and (5) keeping an eye on what occurs in front of the house. The response categories were based on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

### *3.3. Statistical Analyses*

The proposed model and hypotheses were tested by performing a partial least squares (PLS) analysis using the SmartPLS3 software [88]. PLS was used because of its aptness to the exploratory nature of the study, in which some of the hypothesised relationships amongst the variables had not been previously tested. As the model comprises a higher-order construct, PLS is an appropriate software. A nonparametric bootstrapping method with 5000 replications was performed to examine the significance of the path coefficients amongst the latent variables.

## 4. Results

### *4.1. Respondent Profiles*

The respondents have an average age of 45.2 years (SD = 14.37), and 50.2% of them are female. The majority of the respondents are Chinese (92%), followed by Malay (4%) and Indian (4%). Therefore, the profile shows a homogenous of survey respondents in terms of ethnicity. In terms of religion, the majority of respondents are Buddhist (80%), followed by Christian (13%), Muslim (4%) and Hindu (3%). Most of the respondents (77%) are married and living with spouses. Slightly over 50% of the respondents are educated at the university/college level, followed by secondary level (41%), primary level (6%) and informally educated (2%). The majority of respondents are homeowners (87%) and living in the neighbourhood more than 15 years (M = 18.73, SD = 12.02). According to the respondents' profile, residents in the study area are considered as stable families.

### *4.2. Assessment of Measurement Model*

PLS-SEM was performed to assess the proposed model and test the research hypotheses. Several criteria were considered to determine the validity and reliability of the measurements, including outer loadings, convergent validity, composite reliability and discriminant validity (Tables 1 and 2). As shown in Table 1, the smallest outer loading value is 0.726 (PercSafety5), which exceeded the threshold of 0.6 [89]. The threshold value of 0.7 was considered for Cronbach's alphas, rho-A, and composite reliability (CR). As indicated in Table 1, all constructs have reliabilities of more than 0.70, which were acceptable. Convergent validity was measured by the average variance extracted (AVE), in which the threshold value is 0.5 [90].

**Table 1.** Measurement model results for the latent constructs.

| Constructs | Items | Loadings | Alpha ($\alpha$) | CR | rho_A | *t* Value | AVE |
|---|---|---|---|---|---|---|---|
| Social sustainability | SocSus1 | 0.918 | 0.951 | 0.963 | 0.952 | 76.648 | 0.838 |
| | SocSus2 | 0.950 | | | | 143.652 | |
| | SocSus3 | 0.951 | | | | 138.030 | |
| | SocSus4 | 0.900 | | | | 59.772 | |
| | SocSus5 | 0.856 | | | | 36.980 | |
| Social cohesion | SocCoh1 | 0.821 | 0.913 | 0.932 | 0.919 | 25.513 | 0.696 |
| | SocCoh2 | 0.822 | | | | 34.013 | |
| | SocCoh3 | 0.822 | | | | 23.973 | |
| | SocCoh4 | 0.887 | | | | 44.780 | |
| | SocCoh5 | 0.875 | | | | 47.224 | |
| | SocCoh6 | 0.773 | | | | 21.775 | |
| Accessibility | Pathway | 0.953 | 0.671 | 0.842 | 0.973 | 46.309 | 0.730 |
| | Traffic | 0.743 | | | | 11.257 | |
| Perception of safety | PercSafety1 | 0.871 | 0.901 | 0.923 | 0.917 | 33.889 | 0.668 |
| | PercSafety2 | 0.795 | | | | 14.149 | |
| | PercSafety3 | 0.871 | | | | 29.339 | |
| | PercSafety4 | 0.810 | | | | 15.072 | |
| | PercSafety5 | 0.726 | | | | 19.269 | |
| | PercSafety6 | 0.822 | | | | 26.043 | |
| Physical disorder | PhysicDis1 | 0.867 | 0.944 | 0.955 | 0.946 | 42.456 | 0.752 |
| | PhysicDis2 | 0.901 | | | | 70.358 | |
| | PhysicDis3 | 0.917 | | | | 80.051 | |
| | PhysicDis4 | 0.791 | | | | 22.913 | |
| | PhysicDis5 | 0.864 | | | | 39.566 | |
| | PhysicDis6 | 0.822 | | | | 28.663 | |
| | PhysicDis7 | 0.899 | | | | 60.708 | |
| Social disorder | SocDis1 | 0.838 | 0.930 | 0.945 | 0.931 | 36.768 | 0.741 |
| | SocDis2 | 0.853 | | | | 25.816 | |
| | SocDis3 | 0.885 | | | | 47.782 | |
| | SocDis4 | 0.832 | | | | 33.993 | |
| | SocDis5 | 0.898 | | | | 64.733 | |
| | SocDis6 | 0.857 | | | | 42.625 | |

**Table 2.** Assessment of reliability and validity of constructs.

| | Accessibility | Perception of Safety | Physical Disorder | Social Cohesion | Social Disorder | Social Sustainability |
|---|---|---|---|---|---|---|
| Accessibility | **0.854** | | | | | |
| Perception of safety | −0.052 | **0.817** | | | | |
| Physical disorder | 0.305 | −0.389 | **0.867** | | | |
| Social cohesion | −0.142 | 0.311 | −0.115 | **0.834** | | |
| Social disorder | 0.380 | −0.176 | 0.747 | −0.097 | **0.861** | |
| Social sustainability | −0.324 | 0.193 | −0.224 | 0.750 | −0.215 | **0.916** |

Note: The diagonals (in bold) represent the square root of the AVE.

Three criteria were considered to examine the discriminant validity of the study constructs. Firstly, following Fornell and Larcker [90], the square root of AVEs of each construct should be greater than the correlation estimate amongst the constructs (Table 2). Secondly, the heterotrait–monotrait (HTMT) ratio and confidence interval should be less than 0.85 and 1, respectively [91]. Table 2 shows that the square root of AVE exceeds the inter-correlation of the constructs in the proposed model, thus suggesting that the model has acceptable discriminant validity. Meanwhile, Table 3 shows that the HTMT ratios and corresponding confidence intervals for each pair are less than 0.85 and 1, respectively, thus indicating that the model possesses convergent and discriminant validity.

**Table 3.** Heterotrait–monotrait (HTMT) results.

| | Accessibility | Perception of Safety | Physical Disorder | Social Cohesion | Social Disorder |
|---|---|---|---|---|---|
| Perception of safety | 0.182<br>CI.90 (0.131, 0.287) | | | | |
| Physical disorder | 0.329<br>CI.90 (0.232, 0.469) | 0.413<br>CI.90 (0.286, 0.527) | | | |
| Social cohesion | 0.163<br>CI.90 (0.093, 0.320) | 0.324<br>CI.90 (0.199, 0.442) | 0.153<br>CI.90 (0.128, 0.250) | | |
| Social disorder | 0.405<br>CI.90 (0.282, 0.554) | 0.185<br>CI.90 (0.118, 0.311) | 0.796<br>CI.90 (0.724, 0.861) | 0.134<br>CI.90 (0.113, 0.249) | |
| Social sustainability | 0.379<br>CI.90 (0.234, 0.523) | 0.186<br>CI.90 (0.124, 0.311) | 0.235<br>CI.90 (0.114, 0.365) | 0.795<br>CI.90 (0.715, 0.861) | 0.227<br>CI.90 (0.106, 0.380) |

The potential for common method variance (CMV) was assessed by conducting Harman's one-factor test [92]. CMV will be observed when more than 50% of the variance was explained by the first factor. Therefore, all items for the latent constructs were introduced into the factor analysis, and the unrotated matrix indicates that the first factor explains 33% of the variance. Thus, CMV is not an issue in this study.

### *4.3. Assessment of the Hierarchical Disorder Construct*

This study treats disorder as a second-order construct comprising two first-order reflective constructs (physical and social disorder) which represent 13 items. The degree of explained variance of this hierarchical construct is reflected in its components; namely, physical disorder ($R^2$ = 89.8%) and social disorder ($R^2$ = 84.7%). The entire path coefficient from disorder to its dimensions is significant at $p < 0.01$.

### *4.4. Assessment of the Structural Model*

#### 4.4.1. Direct Effects

Table 4 indicates the results of the path analysis, which is conducted to test the hypothesised direct effects amongst the latent variables. As depicted in Figure 1, the effects of accessibility on social cohesion ($\beta = -0.139$, $p < 0.05$) and social sustainability ($\beta = -0.184$, $p < 0.01$) were significant and negative, whilst accessibility has a positive effect on disorder ($\beta = 0.364$, $p < 0.01$). However, no significant association exists between accessibility and perception of safety ($\beta = 0.072$, $p > 0.05$). These findings implied that those who resided in street segments with a high level of accessibility reported lower levels of social cohesion and social sustainability and higher levels of perceived disorder.

As hypothesised, disorder has a negative effect on social sustainability ($\beta = -0.109$, $p < 0.05$), whilst social cohesion has a positive effect on social sustainability ($\beta = 0.736$, $p < 0.01$). Meanwhile, no significant relationship exists between perception of safety and social sustainability in the study area ($\beta = -0.080$, $p > 0.05$). Therefore, the results support H1, H2, H3, H4 and H7, but H5 and H6 are rejected. The $R^2$ value for social sustainability is 0.622.

**Table 4.** Path coefficient and hypothesis testing (direct effects).

| Hs | Relationship | $\beta$ | $t$ Value | Decision | $f^2$ | VIF |
|---|---|---|---|---|---|---|
| H1 | Accessibility → Disorder | 0.364 | 6.751 *** | Supported | 0.152 (Moderate) | 1.000 |
| H2 | Social Cohesion → Social sustainability | 0.736 | 18.661 *** | Supported | 1.268 (Substantial) | 1.128 |
| H3 | Accessibility → Social sustainability | −0.184 | 4.276 *** | Supported | 0.076 (Small) | 1.180 |
| H4 | Disorder → Social sustainability | −0.109 | 2.277 ** | Supported | 0.025 (Small) | 1.283 |
| H5 | Accessibility → Perception of safety | 0.072 | 0.820 | Not supported | 0.005 | 1.152 |
| H6 | Perception of safety → Social sustainability | −0.080 | 1.817 | Not supported | 0.014 | 1.227 |
| H7 | Accessibility → Social Cohesion | −0.139 | 2.107 ** | Supported | 0.020 (Small) | 1.158 |

Beta = regression weight, $t$ values are computed through bootstrapping procedure with 247 cases and 5000 samples; ** $p < 0.05$, *** $p < 0.01$.

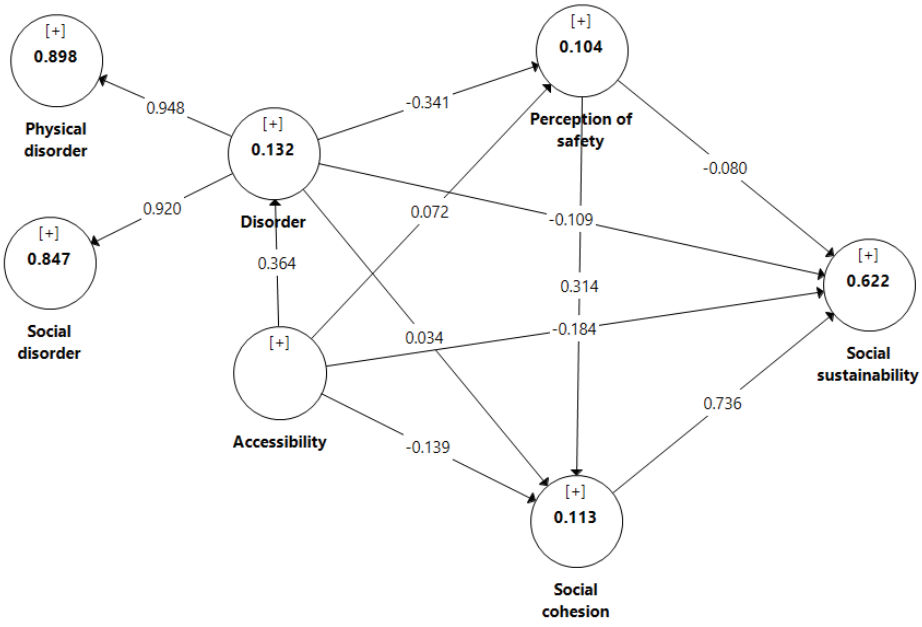


**Figure 1.** Parameter estimates of the PLS analysis.

4.4.2. Indirect Effects

This study estimates four mediating relationships, as indicated in Table 5. The $t$ values were calculated using the bootstrapping procedure suggested by Hayes [93] with 5000 samples by reading the specific indirect effects from the PLS output. Results show that $t$ values of two indirect effects (H8 and H11) are significant at the 0.05 and 0.01 levels, respectively. Therefore, H8 and H11 are supported, while H9 and H10 are rejected.

To examine the strength of the mediation effects, the study calculated variance accounted for (VAF), where VAF > 80% implies full mediation, 20% ≤ VAF ≤ 80% indicates partial mediation and VAF < 20% does not indicate any mediation, as suggested by Hair et al. [89]. VAF was calculated to estimate the magnitude of the indirect effect by dividing the indirect effect by the total effect [94]. The VAF value indicates that approximately 29% of the total indirect effect of accessibility on social sustainability is explained by the partial mediating effect of disorder. Meanwhile, the relationship between disorder and social sustainability is serially and partially mediated by perception of safety and social cohesion.

**Table 5.** Hypothesis testing (indirect effects).

| Hs | Specific indirect Effect | Path Coefficients (O) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | *p* Values | Decision | VAF (%) |
|---|---|---|---|---|---|---|---|
| H8 | Accessibility → Disorder → SS | −0.040 | 2.112 | 2.112 ** | 0.035 | Supported | 28.57 |
| H9 | Disorder → PoS → SS | 0.027 | 1.602 | 1.602 | 0.109 | Not supported | – |
| H10 | Disorder → SC → SS | 0.025 | 0.061 | 0.411 | 0.681 | Not supported | – |
| H11 | Disorder → PoS → SC → SS | −0.079 | 0.021 | 3.705 *** | 0.000 | Supported | 58.09 |

Note. *** $p < 0.01$; ** $p < 0.05$, VAF (variance accounted for) = indirect effect/total effect. SC = Social cohesion; PoS = Perception of safety; SS = Social sustainability.

The $R^2$ values suggested that approximately 13% of the variance in disorder is explained by accessibility, whereas accessibility and disorder explained approximately 10.5% of the variance in satisfaction. Accessibility, disorder and perception of safety explained approximately 11% of the variance in social cohesion. The effect size ($f^2$) was also calculated to estimate the extent of the influence of an independent latent variable on the dependent variable. Effect size was calculated based on the change in the coefficient of determination ($R^2$). According to Chin [95], the values of 0.02, 0.15 and 0.35 indicated that the effect size is small, moderate and substantial, respectively. Results show that accessibility and disorder have small effects on social sustainability, whilst social cohesion has a substantial effect on social sustainability. This shows the importance of social cohesion on social sustainability. Moreover, accessibility has moderate and small effects on disorder and social cohesion, respectively.

The multicollinearity amongst the variables in the model is also tested, and the results did not highlight any cause for concern in using variance inflation factor (VIF), in which values are all below the suggested threshold of 5.00, as shown in Table 5 [96]. Hair et al. [89] suggested that the predictive relevance of the model should be examined through a blindfolding procedure. The $Q^2$ values for disorder ($Q^2$ = 0.080), perception of safety ($Q^2$ = 0.062), social cohesion ($Q^2$ = 0.070) and social sustainability ($Q^2$ = 0.486) are > 0, suggesting that the model has sufficient predictive relevance.

## 5. Discussion

As hypothesised, results indicated the negative and significant effect of accessibility on social cohesion and social sustainability. This argument is consistent with the findings of a recent study in compact neighbourhoods [21]. However, this result is inconsistent with the precedent studies [97,98], which revealed that accessibility and distance dynamics improve social interactions. The possible explanation could be that when the neighbourhood accessibility increases, the level of physical activity and the number of vehicles increase [54]; therefore, it may lead to the presence of strangers, who may disrupt the process of social cohesion and social sustainability. Another possible explanation is that a comparatively low neighbourhood accessibility may be beneficial to the social cohesion because a lack of strangers can pave the way for closely knit neighbourhoods, which are likely to exchange information, work together to achieve common goals and reinforce those relationships. This is consistent with a recent study [21,99]. Consequently, when social cohesion and social sustainability diminishes, more social and physical disorders appear.

The findings offer the following theoretical implications. The findings of this study indicate that neighbourhood environment characteristics in both social and physical aspects are pivotal indicators for the feeling of safety and a socially sustainable neighbourhood. A nicely designed and well-maintained neighbourhood should be among the utmost priority of urban planners and decision-makers. Similarly, this study provides new insight into the role of multiple mediators which may affect the relationship of the neighbourhood

environment and social sustainability. Based on the findings, a powerful socially sustainable community with a high rate of social cohesion and perception of safety is attributed to residents who experience less disorder in their neighbourhood. Another theoretical implication refers to the multi-dimensional measure of disorder at the neighbourhood level operationalised as a second-order concept comprising social and physical disorder.

This study shed more light on the multi-scalar research area of urban neighbourhoods' social sustainability, which was unclear in the literature [17]. Previous research has indicated that the perceived quality of neighbourhood environment has a positive effect on social cohesion and social sustainability [54,81,100]. Our findings expanded on such research by revealing that the more people perceive their social and physical area of residency as being degenerated, the less they reported social cohesion and social sustainability.

In terms of the practical implications, this study suggests that urban local authorities should enhance the living conditions of residents by taking social and physical aspects, such as attempts to design and make beneficial use of public areas, plan occasional neighbourhood gatherings and regular maintenance of existing neighbourhoods. Furthermore, they can limit the accessibility of residential areas by available urban planning strategies to lessen the rush and chaos within the neighbourhood.

Using a quantitative approach, this study aimed to develop and validate a social sustainability framework based on an integrated model in the Malaysian context to improve the capability of urban neighbourhoods in facilitating social interactions and perceptions of safety, which is consistent with sustainable development goal #11. This further implies that both social and physical characteristics of the neighbourhood environment play a vital role in enhancing social sustainability at the neighbourhood scale. Social sustainability, in other ways, may contribute to improve the lives of residents. The social sustainability framework in this study includes several key elements of safe neighbourhoods in Malaysian context to enhance safety and social sustainability in neighbourhood environments. The current study also focuses on sustainable cities and societies to provide a better living environment, which is consistent with the Key Economic Growth Activities (KEGA) 12 under the Malaysia Shared Vision 2030 (SPV2030) initiative. The Malaysian government has established SPV2030 to mitigate the income inequality, strengthen social capital and improve wellbeing. Therefore, Malaysia needs to revise the development framework to preserve the environment and other resources in a sustainable manner; thus, the process of national development must be conducted by changing and adapting the social ecosystem to fulfil social sustainability and ensure social equality and social capita growth.

## 6. Conclusions

The present study aims to test a conceptual model which proposed the relationship between the social and environmental features of neighbourhoods and the social sustainability of residents based on the pivotal mediating role of the perception of safety and social cohesion, which mediated the effects of the neighbourhood environment on social sustainability. The conceptual framework was based on social disorganisation theory, and data was collected from a homogenous neighbourhood, including typical low-rise housing in Penang, Malaysia. By contrast, no significant relationship was found between accessibility and perception of safety. However, it is unsurprising, as few relevant studies also reported a weak effect of accessibility on the perception of safety [101]. These limitations are also acknowledged by a recent study [21]. By contrast, they found a positive relationship between accessibility and safety in compact neighbourhoods [21], which may refer to different types of neighbourhoods in terms of density.

Overall, results indicated that low-rise neighbourhoods have their promises in terms of social environment. The most explicit promise is that neighbourhood disorder is negatively associated with perception of safety, which is consistent with previous studies [102–104]. Results further suggested that disorder mediates the relationship between accessibility and social sustainability and the relationship between disorder and social sustainability is serially mediated by the perception of safety and social cohesion. This implies that those

who perceived high disorderliness in a neighbourhood environment reported a lower level of perception of safety, social cohesion and lower levels of social sustainability.

## 7. Limitations and Directions for Future Research

This study has a few limitations to be acknowledged. Firstly, while this study encompasses a wider range of dimensions than previous studies, it limited the concept of social sustainability and used it widely in its aspect of neighbourhood social sustainability. More dimensions could be considered, such as social satisfaction, social equity and population density in future studies. Secondly, the social and physical environment disorders were measured by subjective means, but the neighbourhood accessibility was measured with an observation checklist by the authors. Therefore, the findings could be different if the subjective measures were applied. An issue to consider in future studies is how best to measure subjective and objective disorderliness in the neighbourhood environment. Finally, the present study area represents a typical homogenous neighbourhood, which includes typical low-rise housing in Penang, Malaysia. The findings may not necessarily be applicable to other heterogeneous and/or high-rise neighbourhoods. Thus, further studies should be conducted to examine the other environmental dimensions which may influence the urban neighbourhoods' social suitability.

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