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Bridging and breaking silos: Transformational governance of the migration–sustainability nexus

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Sustainability and migration are typically treated as discrete policy spheres in international, national, and local fora, separated in governance structures and institutions. This results in policy incoherence that hinders just transitions toward more sustainable societies cognizant of mobile realities. This explorative effort identifies the (dis)connections between policy domains using data collected on how the sustainability–migration nexus is governed in four countries with a special emphasis on urban areas: Belgium, the Netherlands, Sweden, and the United States. Results of 73 interviews show that migration and sustainability actors find it challenging to see how they could be working together and that migrants are rarely conceived of as sustainability actors and/or targeted populations of sustainability policy. Despite the cross-sectoral nature of sustainability, it appears that migration and sustainability are sequestered into silos that hinder collaborative actions. Lamenting the existence of silos is not enough to encourage new lines of thinking or practice in how sustainability is governed; therefore, we examine the evidence to ascertain current barriers blocking synergetic governance and the opportunities for change perceived by respondents via three critical elements of transformations toward sustainability: structural, systemic, and enabling conditions. We argue that for sustainability transitions to happen, a wider set of societal actors needs to be included from policy intention to action, but that this transformation may require more than policy integration via horizontal coordination. It demands reflexivity and pluralistic pathways that close vertical gaps between national and municipal levels and diminish structural inequalities as they intersect with migration type and status.

migration | transformations towards sustainability | sustainability governance | urban sustainability | reflexivity

Significance

Human mobility shapes the global sustainability landscape: mobile lifestyles and multicultural settings affect how places develop. The confrontation between different ways of thinking about and practicing sustainability can reconfigure socioeconomic patterns in highly diverse cities. Yet, this research shows that sustainability and migration are currently isolated from one another in policy thinking and action. Migration is thought of as external to sustainability concerns and migrants are left out of national and urban sustainability planning. However, research itself may help stimulate new, more integrative and inclusive conversations among actors who have an interest and an influence at the migration–sustainability nexus.

Human mobility shapes the global and local sustainability landscape. Mobile lifestyles and multicultural settings have implications for how countries and cities develop, impacting local and transnational behaviors, practices, and conceptualizations of sustainability. The collision of practices and values can confront and reconfigure socioeconomic patterns including consumption behaviors (1–3). Migrants contribute knowledge, networks, skills, and everyday sustainability practices that are informed by their lived experiences (4, 5). Yet, contemporary models of sustainability fail to sufficiently account for population movements and to acknowledge the transformative power of migration (1).*

There is widespread discussion of both sustainability and migration as global political challenges of the 21st century, but there is little understanding of how they relate and, consequently, how they can be addressed together in a cohesive fashion. Migration may affect sustainability targets across social, economic, and environmental pillars and at local and national levels. The International Organization for Migration argued that migration is a cross-cutting phenomenon that is relevant to all 17 Sustainable Development Goals (SDGs), "for which success is contingent upon the due consideration of migration and migrants" (6). The full participation of migrants in sustainable development, however, is hindered by governance approaches that fail to recognize, and therefore maximize, this potential (7).

To date, few studies seek to understand how migration, and human mobility more broadly, interacts with sustainability and how migrants are incorporated in local and national sustainability efforts, although there has been some discussion at the international level of sustainability governance (8). With the impacts of climate change expected to drive more migration to urban areas, addressing the nexus between migration and sustainability within cities is likely to grow in importance (9). This explorative study is located within this emerging line of research, focusing on governance in urban destination areas,

*We deploy migration and migrants as an inclusive term covering various migration pathways and statuses, including refugees.

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based on 73 semistructured interviews with national and subnational officials and civil society members in four developed countries—Belgium, the Netherlands, Sweden, and the United States—representing a range of approaches to governance, institutional structures, urbanization, and migration histories. The study identifies four cities with large international migrant stocks and flows of Brussels, Amsterdam, Malmö, and Worcester, respectively, within which to explore sustainability and migration governance. It seeks to identify and better understand the barriers to, and opportunities for, more synergetic governance of sustainability and migration from the perspective of policy actors, who may not have previously considered the nexus but who nonetheless have an interest and influence on it. We analyze a) how policy actors perceive the (dis)connections between migration and sustainability; b) the practical challenges that practitioners face in considering migration within sustainability governance; and c) the opportunities for transformational change in the future.

Rigid, fixed governance institutions that rely on vertical organizational structures at the expense of horizontal coordination—or the "silo approach"—can negatively affect the likelihood of transformations toward sustainability. In the hopes of overcoming policy silos as a hindrance of traditional vertical governance models, we identify structural, systemic, and enabling conditions that, together, may hold the key to unlocking transformations toward sustainability that acknowledge and include migration and migrants in a more just fashion. Through this integrative and reflexive approach, we explore potential pluralistic, synergetic pathways toward more inclusive, sustainable futures and seek to ignite further research and policy discussion on the migration–sustainability nexus.

Transformational Change at the Migration–Sustainability Nexus

Migration and Sustainability Governance. Migration scholarship has extensively chronicled how migration can have both negative and positive impacts on development (10, 11). Additionally, rich literature examines migration as a transformative process for origin, transit, and destination points alike, with migrants bringing innovative skills, practices and behaviors, investment and entrepreneurship, and cultural diversity (4). Migration has been examined as an important adaptation strategy to change, including climate change, and as a process of social transformation itself that is embedded within and shaped by other global changes (12–14). However, this knowledge and policy expertise on migration as social transformation has yet to transfer to the migration–sustainability nexus, where little is known about how migration affects transformations toward sustainability.

Empirical studies that directly link migration to sustainability concerns are few, and explicit, targeted policy processes and measures even fewer. The Millennium Development Goals (MDGs, 2000 to 2015) hardly made mention of migration, except in negative terms, highlighting abuse of migrants' rights (para. 215), the potential to spread epidemic disease (para. 104), and asserting that rural-to-urban migration "tends to increase poverty" (para. 119) (15). Migration gained more traction in the SDGs (2015 to 2030), in which 11 out of 17 goals contain targets and indicators relevant to migration. Nonetheless, migration was not considered a major domain, and the Agenda frames migration as a "temporary and unplanned phenomenon that needs to be managed, rather than as an inherent and longstanding part of sustainable development and social transformation" (16).[†] Furthermore, it articulates migration's contribution to development largely from the perspective of origin areas through the generation of financial remittances (goals 10 and 17), rather than social remittances.[‡] Migrants' contribution to improving access to better health care and education (goals 3 and 4), changing gender relations (goal 5), or political change (goal 16), for example, is missing.

Agenda 2030 pays little attention to migration as it contributes to transformations toward sustainability in destinations. Migrants play a significant role in defining both social, economic, and environmental aspects of the city and in impacting the core areas of city administrations, including that of planning, jobs, housing, and education (5, 18). At the same time, public attitudes, migration policies, segmented labor markets, and residential segregation are some factors that shape the incorporation and participation of migrants in their destination societies (19, 20). Negative attitudes toward immigration, restrictive migration policies, or migrants' work in low-paid, temporary occupations are factors that can challenge social cohesion and migrants' full inclusion in sustainability transitions. Integration policies also play a role, where some countries, such as the Netherlands and more recently Sweden, favor temporary integration rather than longer-term settlement through a more comprehensive approach to migrants' rights, opportunities, and security such as the one in Belgium or the United States (21).

Migrants' contributions tend to increase with integration because they have greater opportunity to realize their potential with access to better education, labor market, and entrepreneurship opportunities (6). Evidence shows that place attachment and trust facilitate social cohesion and proenvironmental behaviors (22). In this context, attention should be directed to approaches to immigration governance in the host society as potential enablers or barriers to more transformative governance of the migration–sustainability nexus. Integration is now central in debates on settlement of newcomers. It emerged from critique of assimilation, an approach where immigrants are expected to change and completely merge with the dominant culture and society. Integration, instead, can be seen as a two-way process emphasizing the acceptance by both the nondominant groups and the dominant society of the right of all groups to live as culturally different peoples (23, 24). A broader approach is that of social inclusion, directing focus to the legal–political and socioeconomic dimensions of the host society (23). The latter two are generally considered in what Alexander (25) identifies as pluralist attitudes to migration, in which municipalities acknowledge the positive potential of migrants for the city, enriching local urban culture and economy.

As migration continuously shapes aspects of sustainability in the city, and the city shapes the incorporation and participation of migrants, a better integration of migration and sustainability governance is necessary to facilitate migrants' contribution to sustainable cities and communities (goal 11). Yet, the local level of governance remains understudied in this respect.

From Silos to Policy Integration. The division of migration and sustainability in research and in policy is not exceptional, although it is underexplored. Silos are a defining organizing principle across several social institutions: government departments, company divisions, university faculties, and international institutions, for instance. All these are commonly organized into discipline-, issue-, or sector-based silos to simplify decision-making, concentrate expertise, and expedite implementation. Such divisions are often

[†]Prepared during the so-called European "migrant" or "refugee crisis," the Agenda conceptualized development as a means of keeping people "at home" by improving living standards in origin areas – implying migration was a symptom of development failure (15).

[‡]Social remittances include ideas, practices, beliefs, skills and values transferred or exchanged and circulated through migration (17).

taken for granted, attributed to historical working relationships and organizational cultures (26). However, while silos may be efficient organizational divisions for some policy issues, they can come at a cost to issues that do not fall neatly into a single sector. In public policy scholarship, policy silos have long been critiqued for their inability to tackle complex, intertwined, cross-cutting, and transversal policy issues such as sustainability but also cyber security (27); smart green infrastructure (28); natural resource management (29); and other "wicked problems" (30, 31).

Delays in decision-making, redundant efforts, ineffective services, among other problems may result from the failure to engage effectively in horizontal coordination, leading to "action incoherence" (32, 33). Given the increased complexity of societal problems, academics and policymakers alike have called for better integrated governance approaches to deal with these problems more effectively. In the best-case scenario, scholars assert, programs would be designed in a way that would produce policy integration in that "all policies that influence one another would be designed in ways that produce synergy, or at a minimum reduce conflicts" (34, pp. 1).

Despite the transversal nature of sustainability, governance targets like SDGs have been critiqued for being overly sectoral in their outlook (35). Social, environmental, and economic pillars of sustainability are interconnected and interdependent, as are their related policy domains, e.g., water, climate, energy, food, housing, and health. When these domains are structurally "siloed," progress toward SDGS may be stifled at best, and at worst, it can lead to counterproductive outcomes, whereby a strategy to reach one goal may undermine progress toward another (32, 36, 37).

There have been numerous calls for policy integration from the academic community, civil society, and the private sector, arguing that an integrated, nested approach to sustainable development is essential to achieving actual progress (35–40; 41). These underline the need for new forms of collaboration, cross-sectoral strategies, and integrative thinking when it comes to how actors govern toward sustainability (42–44). These calls are echoed in earth system governance (45), nexus approaches (35, 36), and the planetary boundaries framework (46). In many policy arenas, the call to "bridge silos" has become an almost cliché refrain. Most studies assume that policy integration is desirable (47), but it should be noted that there are also those that question the universal expediency of policy integration. Candell (48) notes that policy comes with significant costs and pitfalls and underlines the importance of assessing the desirability and the feasibility of policy integration.

Transformational Change to Sustainability. What type of change is needed (and feasible) for effective sustainability governance is subject to debate. Is "bridging silos" through improved horizontal coordination enough for meaningful policy integration? No longer satisfied with business-as-usual approaches based on incremental or marginal changes, transformational change is increasingly discussed as a necessary response to rise to the complexity of global climate risks and sustainable development (49–52).

There is a growing body of literature on what these transformations should look like within sustainability science, but migration and general population mobility have been largely left out of these discussions despite the evidence showing that migration shapes social transformation, defined as a fundamental shift in the way society is organized that goes beyond continuous, incremental change (2, 13, 14), and is also shaped by broader global change (3). Academic and political conversations on transformative sustainability governance, and transformation theories more broadly, tend not to engage with this literature and to overlook the ways in which the mobility of people internally and internationally might affect local, national, and global sustainability targets in both positive and negative ways. This is partially because it is difficult to capture these dynamics and partially because they take static, sedentary perspectives on societies (16). This limits explanations and intervention strategies for sustainability reflective of mobile realities and diverse populations. We, therefore, engage with this gap by drawing on empirical research with migration actors and sustainability actors in order to encourage discussion on how transformations toward sustainability might be more inclusive of migration and cognizant of the multicultural settings in which sustainability governance takes place.

It is important to note that while a great deal of literature emerges on "transformations toward sustainability," the definition of transformation or what constitutes transformational change varies (53). We take transformations to be complex, dynamic, evolving, and involve change in multiple systems (e.g., social, institutional, cultural, political, economic, technological, and ecological) (54, 55). We understand migration processes as social and demographic transformations that also drive and are driven by transformations in other domains. For instance, urbanization drives migration, which subsequently reinforces and shapes urbanization processes (56). Thus, transformative change is likely to emerge from "coevolutionary interactions between multiple systems, and […] cannot be viewed in a narrow disciplinary-bounded or deterministic way" (55).

Results

Establishing (Dis)connections. Results from Belgium, the Netherlands, Sweden, and the United States indicate that migration (internal or international) is not explicitly or directly factored into national or local, urban sustainability planning and sustainability is seldom considered within migration and integration governance. The collection of data itself was hindered by the perception that migration issues fell outside the scope of sustainability governance and vice versa. Few potential respondents claimed to act within both policy spheres, and they hesitated to express something beyond the scope of their institutional mandates and individual competences. Fielding study participants, identified by local partners through an initial stakeholder mapping as having an interest and/or influence at the migration–sustainability nexus, proved more difficult than expected. Both migration actors and sustainability actors questioned their ability to add value to the study because they "only" worked in one domain and were unaware of the linkages. This initial interaction with participants from the four sites provided early indications of the disconnect between these policy domains in rhetoric and suggested that this may also translate into practice. Moreover, these refusals and reluctances confirmed the challenges for cross-sectoral collaboration when policymakers are not able to identify potential synergies (38).

Reluctant participants were reassured that they need not be specialists in migration and sustainability, which ultimately limited the refusal rate. In a welcome outcome, the interviews conducted tended to be transformative in the sense that they prompted interviewees to find links between migration and social, economic, or environmental aspects of sustainability that they may not previously have considered and to reflect upon potential synergies. Several respondents[§] across sites and levels of governance cited their participation

[§]The acceptance to participate in the study may also reflect a certain open-mindedness to the nexus. The results could be even more pessimistic had the refusals accepted to be part of the study, but refusals were also explained by time and resource pressures of the global pandemic during the period of study.

as a catalyst to think—in many cases for the first time—about how to incorporate migration in sustainability policy-making:

> *We don't think about integration in that way. We think that the transition will happen for everyone who lives in a place and that everyone has the same possibilities no matter their background, but it's not that simple. We need to be much more aware about this and I think your project plays an important role there.* (National Official, Sweden).

> *No. I have to say that when I got your request, I quickly googled sustainable governance, migration, etc. and I couldn't find anything there. I thought, "I can't wait to see what they produce" (laughs). So, no, no, really, it's something that's not there. That's pretty innovative. When I read it, it forced me to think about it and to discuss it with you, but I thought it was great in the sense that it showed that the governance of migration is not limited to opening or closing borders*. (National Official, Belgium).

> *And that is why making this appointment took quite a long time. Because I did not see a role for myself on this subject and now that we talk about it, well, you indicated several links that are there, or could be there. So, yes, [the interview] helped me in my thinking. But still and I think that was a conclusion half-way in this conversation. It is not a link that is widely seen and including myself. So that is perhaps something that you could contribute to, to see how we can benefit it and if we would do that a bit more*. (National Official, Netherlands).

While the interviews may influence future policy design and programmatic action, data indicate that at present, migrants are largely excluded throughout the policy process. When asked whether any recent or ongoing efforts toward sustainability considered or targeted migrant or newcomer populations, policymakers struggled to find examples:

> *I actually have never seen people also taking this [migration] dimension into consideration. So, if you find in your research that this could play a positive role, I hope your report gets traction and people take it up because I do not have any examples of where it is happening already.* (National Official, Netherlands).

> *Like I was saying before, there are now some trends that involve more comprehensive thinking about the impact of migration in society and also relates to sustainability and issues. But there are no projects or policy programs whatsoever aimed at the participation of migrants in sustainability. This link between sustainability and migration is not made explicitly. Neither in terms of policies, but also not in terms of specific programs or projects.* (National Official, Netherlands).

> *It is perhaps at the cultural level that things are done in this sense, indirectly. But not directly with sustainable development in relation to immigration. I don't think we have any mechanisms, well it doesn't come to me spontaneously, maybe it exists, but I'd have to look into it a bit more.* (City official, Commune mayor, Brussels, Belgium).

Moreover, because migration is not considered a major domain in the SDG framework, it then leaves room to maneuver in various directions, from connecting it to all imaginable goals or letting it slip through the cracks. In Malmö, collaborations across silos are mostly within narrower social aspects of integration. In broader sustainability planning, such as in the city's 10-y environmental program, it remains unclear how to connect integration and sustainability:

> *We are trying to figure that out. I think it's mainly the social services and employment committee that is thinking about it. (…) We are creating these initiatives for the environment and the climate for the next ten years and then we've added into the directives that we need to have the integration aspect there in order to have a just transformation. How to do that I'm not really sure.* (Subnational official, Environmental department, Malmö, Sweden).

Thus, even when certain departments or committees acknowledged migration, no concrete connections were made in implementation.

Barriers to Synergetic Governance. Participants were asked what they perceived to be the links between migration and sustainability, if sustainability efforts considered migrants/migration, and if reception/integration efforts included sustainability (depending on the expertise of the respondent), and to identify which barriers prevented or hindered more integrative governance approaches. One of the barriers preventing these connections to be made was indeed the separation of sustainability and migration into disconnected departments and responsible institutions. Respondents in both Belgium and the Netherlands agreed that a lack of horizontal coordination and consensus-reaching across departments are obstacles to holistic sustainability transformations. Issues of migration and sustainability tend to be connected to different ministries or departments that could have conflicting interests or budgets. For instance, in the Netherlands, migrants' social and economic inclusion was the responsibility of the Ministry of Social Affairs and Employment, whereas environmental issues were under the Ministry for Economic Affairs and the Environment. In the city of Brussels, with 19 administrative communes, each with its own mayor, police force, and programs, but also migration characteristics, a lack of coordination and dialogue meant that commune officials were sometimes unaware of efforts and programs in another.

While collaborations on the SDGs may be used to promote constellations of different actors horizontally, transformative governance that bridges the gap between migration and sustainability is also hindered by disconnects in vertical governance on migration and reception. For example, practical responsibilities of reception and integration are increasingly dealt with at the local level, but national reception policies have become increasingly restrictive in places like Sweden. This limits local level policymakers' possibilities to create inclusive programs and tap into the transformative possibilities:

> *I wish that when it comes to integration and establishment, the national government would take more responsibility and not just push that on municipalities. I think we would be better at solving these issues if we had collaborated more on it.* (City Official, Social Services and Employment, Malmö, Sweden).

> *I would say that there's a lot of nice work being carried out locally and regionally that concerns sustainability, but their boundaries are quite small and they are very limited by the economic possibilities given to them from national politics, and also legislation. I often see local and regional solutions that are really great and that, with the right conditions, could*

take big steps forward but there's a lack of true support for that politically. I'm thinking particularly of economic support and quick responsiveness to ideas and needs, recognize them, and then respond to them. (National Official, Sweden)

This vertical disconnect between national–municipal levels inhibits the formation of potentially transformative approaches. The lack of a long-term approach to integration policies and programs that leads to constant fluctuations between local and national budgets and responsibilities is also an obstacle in the Netherlands:

Twenty to thirty years we put a lot of money into organizations and then five years later we had to put money back there [central level]. Are we going to take care of everything back from a central position? And then decentralization, centralization, it goes a bit like this. (…) Before 2013, we were responsible for civic integration [local level]. That was taken away from the municipalities, it became a national responsibility. And responsibility for people themselves. Now it is coming back again. Eight years ago, we had a great infrastructure to help all these people, and now we have to rebuild everything. In that sense, there is a lack of sustainability (City official, Municipality of Amsterdam, Netherlands).

In the United States, the elected administration's influence on federal initiatives also has a profound impact on how transformative integration policies might form. The administration of Donald Trump redirected funding away from integration efforts, particularly affecting the federal Office of Refugee Resettlement, which delivers support to refugee integration through a national network of voluntary agencies each with local affiliates. With the election of a new president, this has shifted again:

But we know at the national level, for example, or under the new leadership of Joe Biden, there are also some movement that comes from advocates for immigrants and newcomers to establish a new American center at the federal level, which is a great. So obviously, there are some movements that take into consideration the migrant and newcomer populations. (State migration official, City of Worcester, USA).

These institutional silos, vertical and horizontal disconnects, do not bar migrants' participation in sustainability initiatives, but they do hinder it. Often, migrants are subsumed by general programs as residents of cities, but their specific vulnerabilities and/or capabilities are not considered. At the city level, many respondents preferred an inclusive approach to sustainability that intentionally avoided "singling out" migrants because they were concerned that targeting migrants could be discriminatory:

We don't do that division. If we have a sustainability project that is aimed towards a school or all inhabitants in a neighborhood … we never divide it. It's not specifically directed towards newcomers but they are just as welcome as anyone else. (Project member, Malmö municipal housing, Sweden).

For me, I don't make a distinction between migrants and others, it's a policy I've always had […] So, it doesn't matter if you come from abroad, if you are a child of immigration or if you have been Belgian for a long time […], we have to help you and we have to find solutions for your situation. (City official, Commune mayor, Brussels, Belgium).

Migrants' lack of participation was then traced by several participants to various integration obstacles such as insufficient language skills or knowledge about the host society or irregular administrative status.

To learn the language and find employment, these two things are incredibly important. In order to be able to engage you have to have an understanding for how it works in Sweden and what are the written and unwritten rules here. These things are very important in order to be accepted by Swedes and to be able to work for sustainability transformations. (National Official, Sweden).

This would sometimes result from normative integration approaches that could neglect migrants' self-identified priorities. In Sweden, where integration was regularly framed as the process of the migrant to "fit" into Swedish society (i.e., an assimilation), sustainability policy at the national level also took this perspective. Emphasis on creating capacities that empower migrants to act on their own behalf would sometimes focus on making migrants adjust to the culturally dominant context by encouraging migrants to adopt "Swedish environmental values." This approach was pointed out by some policymakers as a key obstacle to forming more diverse sustainability policy that maximized the potential benefits of migration:

We design our reception system from an assimilation perspective, that people should learn how we do things, and there's no two-way communication, like what do you bring that we can learn from. That's not on the agenda. (National Official, Sweden).

Envisioning more diverse sustainability policy at the city level, policymakers expressed pluralist attitudes, emphasizing the incorporation of migrants' knowledge while pointing to discrimination in the labor market as a reason for its exclusion:

If you come from another country, you have knowledge and experiences that we don't know of. It's the knowledge exchange that is very important. (City official, Urban Planning, Malmö, Sweden).

There was a woman who had built a system providing electricity for a whole village in Iraq. So much competency and could have contributed to our society, but she applied for jobs for over ten years and didn't even get the chance to come for an interview. I'm thinking about this woman, incredibly competent, and how unfortunate it is that we miss out on her competencies whilst she's living in Sweden. So, we need to become better inclusion (City Official, Labour market and Social services, Malmö, Sweden).

Thus, it was not only siloed structures that prevented the inclusion of migrants, but also the migration and integration governance approach in a given site. Respondents also acknowledged structural barriers to migrants' participation and contribution to transformations to sustainability, such as when xenophobic or racist narratives influence exclusionary urban planning processes, restrictive asylum and reception policies, education, and labor markets. For example, low-income migrants tend to be positioned in an unfavorable housing system concentrated in areas of cities with profound social inequalities.

How respondents identified barriers to synergetic governance, it should be noted, depended on how and if respondents perceived migrants as a social group—and thus a target audience for

sustainability—considering the heterogeneity in socioeconomic and cultural profiles in the highly diverse cities.

> *Every community is different in terms of their needs and in terms of how they define their integration in their new communities. So the challenge is also kind of defined or linked to these certain populations that are being resettled. So, some challenges could be applicable to certain groups, but they are not applicable to others.* (State migration official, Massachusetts, USA).

> *I'm part of some European networks and there they often talk about migrants as a group, but in Malmö we talk about Malmö citizens. It's a bit of a statement to not divide our population (…) It can be really discriminatory to not make a group visible and the challenges that that group faces, but it can also be very inclusive because we are not pointing out the migrant group as one group. The migrant group is not homogenous.* (City Official, Malmö, Sweden).

In Brussels, one of the most diverse cities in the world and the de facto capital of the European Union, respondents noted that many international migrants were, in fact, more advantaged than their native-born counterparts and well-off migrants were contributing to increasing socioeconomic inequalities and high housing prices. Actors' perceptions of the category, or categories, of "migrants" then influenced their perceptions of the links with sustainability governance and whether there was any benefit to directly targeting them.

Overall, these barriers resulted in a limited number of initiatives across the cities that explicitly integrate migration and sustainability. Instead, policies and programs tended to focus on one or the other or on narrower socioeconomic and integration-focused targets that would be seen as contributing to "social sustainability" goals.

Opportunities for Transformational Governance Approaches. After explaining why migration was not considered within sustainability efforts, respondents were asked to reflect on potential synergetic pathways and possible opportunities for the future. We followed the assertion of Scoones et al. (53) that transformations toward sustainability[¶] should draw on "deep, contrasting political traditions, which reflect distinct but overlapping understandings of social processes that generate transformative change" and that contestation may be a positive force for change. Therefore, we here identify complementary approaches within the data that may be used for governance of the migration–sustainability nexus, responding to current barriers to migration's inclusion: 1) "systemic," referring to intentional change targeted at the interdependencies of specific institutions, technologies, and constellations of actors in order to steer complex systems toward normative goals; and 2) "enabling" focused on fostering the human agency, values, and capacities necessary to manage uncertainty, act collectively, and identify and enact pathways to desired futures, and 3) "structural," referring to fundamental changes in the way production and consumption is governed, organized, and practiced by societies (53) (Fig. 1).

For governance to be transformative, it requires overcoming some of the persistent obstacles to sustainability in contemporary politics and government institutions including structures, approaches, or mindsets that perceive migration to fall outside the realm of sustainability concerns. The issue of silos, i.e., migration and sustainability being treated by different departments without cross-fertilization, presents a systemic challenge that cities are able to address to some degree with already existing collaborative instruments. In the Netherlands, similar challenges are addressed by the creation of working groups between different ministries and by promoting collaboration between different ministry actors with different expertise. In Malmö, the local implementation of Agenda 2030 is repeatedly emphasized as promoting cross-department collaboration and push departments to work with each other to achieve common goals:

> *Every administration looks at how they can contribute to achieving the UN global goals … We collaborate very well. Before when we had the city divided in areas, I felt like we were working in silos. Every city area was working independently. Some had gotten further and some not so far. But now when we have these committees, like the social services and employment committees, we work with the whole city. It becomes much easier to collaborate with other administrations*. (City Official, Social Services and Employment, Malmö municipality, Sweden).

Such intentional change targeted at the interdependencies of departments and actors is a potential first step to systemic transformation, but it is too early to identify its effects. In Malmö, collaboration is operationalized within the framework of Agenda 2030 and thus limited by the Agenda's narrow vision of migration–sustainability links. Again, migration and sustainability links are mostly found by policymakers in the field of social policies while links to the ecological dimension remain relatively unexplored. The potential of the systemic approach to promote the role of social change (migration) in ecological dynamics and vice versa is yet to be fulfilled.

Moreover, some respondents in the four sites flagged the need for systemic culture change that addresses institutional policies that exclude social groups such as migrants. The need for systemic and organizational transformations to address the lack of diversity in terms of migration background in decision-making positions was also pointed out by interviewees as a path forward. Addressing this, enabling opportunities were identified in the data regarding supporting initiatives, projects, and participation of and by migrants, especially at the local level. This could include efforts to empower migrants' participation in local democracy through advisory boards, encourage entrepreneurship, or to support involvement in sustainability initiatives like urban gardening projects.

Promisingly, there was an overall recognition that migrants' human, economic, social, and cultural capital can contribute to transformations toward sustainability and that enabling components play a crucial role in tapping into this. Enabling approaches to sustainability governance, therefore, may support more recognition of migrants as sustainability actors through valuing the knowledge, skills, and values (i.e., social remittances) brought by migrants to destinations, challenging assimilationist approaches such as those identified at the national level in Sweden or temporary integration as in the Netherlands, and supporting comprehensive integration approaches such as those in the United States and Belgium:

> *[W]e have people who come and who are quite solicitous in a municipality like Ixelles, quite demanding even, because they have experiences from their country, where they*

[¶]Scoones et al. refer to "transformations to sustainability"; however, we see sustainability as an evolving target that can only be progressed towards in keeping with sustainability literature. Therefore we deploy the phrase "transformations towards sustainability."

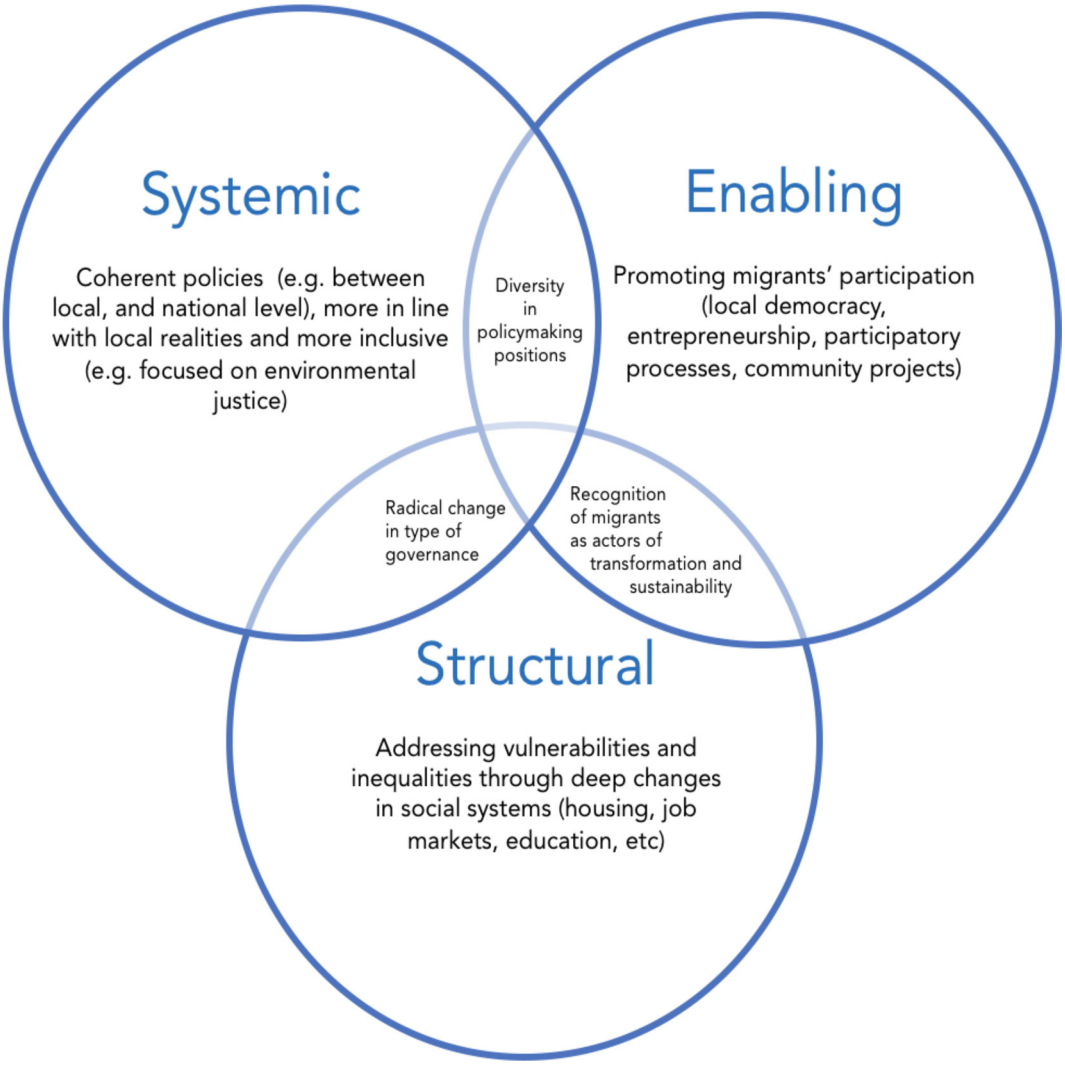

Fig. 1. Examples of pluralistic transformational approaches adapted by authors from Scoones et al. (53).

> *say "at home this is how it is, so why don't you do it like that ?" […] It makes society move. In a way, the bicycle, and the place of the bicycle in the city, is because there are people who come from countries where the use of the bicycle is much more widespread, and so they demand that there be more room for it [...] So, this kind of tension exists, but we don't photograph it by saying "this comes from someone who comes from abroad". It happens that this diversity brings this as an answer. But the more you do a broad participatory process, the more you will have this kind of proposal.* (City official, Brussels, Belgium).

Thus, while recognizing the value of migrants' perspectives, respondents preferred the encouragement of overall diverse participatory processes rather than migrant-specific ones:

> *So, for me it's not migrants, how can citizens participate in the ecological or sustainable transition or whatever you want? It's participation. So, it's the processes that ensure that everyone can contribute their skills or their approach, their know-how, their opinion in these processes.* (City official, Commune mayor, Brussels, Belgium).

Recognizing the heterogeneity of migrant residents, moreover, policy actors suggested that pathways forward may be more intersectional and indirect. Migrants' intersections with other target groups, e.g., poverty, youth, and race, offer the indirect pathway through which migrants enter sustainability initiatives. Approaches that target specific areas of cities with high migrant populations that are underserved or with lower participation were highlighted in Brussels:

> *[The] main objective is not to say "we must include migrants and residents", but to reach a maximum number of Brussels residents without looking at the label on it. And the fact is that in certain municipalities, there is a high proportion of the population that is of immigrant origin, and this is where they do not know the language, do not know the practices, are not informed by regional or national pressure, and so we have to reach them in a more targeted way.* (City Official, Advisor, Brussels Department of Climate and Environment, Belgium).

In the Worcester site, respondents cited specific city-wide "diversity, equity, and inclusion" policies that incorporate migrants into broad antiracism initiatives, whereby migrants as a social group are recognized in terms of overlap with racial and socioeconomic characteristics, such as poverty. Deliberate efforts include the new Massachusetts (state) climate statute addressing "environmental justice communities;" as well as the Environmental Justice Executive Order that runs across agencies in Massachusetts and

requires accommodation and inclusion of "environmental justice populations" including migrants. Funding mechanisms allow local policymakers to designate specific communities—including those with high percentages of migrants—for state and national programs toward a green transformation.

> *So under the new statute, we're supposed to, we're required to look at residents that are of environmental justice populations and environmental justice populations have three criteria. One is low income. Another is people of color, neighborhoods of a certain percentage threshold. And the third area is limited English proficiency. So that captures a great number of people. But a chunk of migrants and newcomers certainly would fall into one of those three categories. So, in that way, some of our programs, like our summer grant programs, are privileging EJ [environmental justice] communities. They will add an extra one to two or three points for a grant project where an applicant says that they're working with an environmental justice community or they've partnered with the leaders of that community or they are a gateway city.* (State official, Massachusetts, USA).

Thus, the way forward may not be to target migrant as an isolated social group with unique needs, but rather cross-cutting and intersecting needs- or vulnerability-based initiatives.

Last, enabling, participatory approaches were most favored by respondents, but these may not go far enough in addressing structural inequalities and barriers. Structural approaches to transformational governance, focusing on the ideological underpinnings and deeper structural dynamics of social systems, hold the opportunity to address increasing root causes of vulnerabilities identified by respondents, including aspects that lie beyond the scope of more agency, bottom-up focused enabling approaches. We found that although cities may struggle in addressing deep-seated issues like xenophobia or labor market discrimination, city-to-city collaborations and dialogues, in which cities share best practices, can promote structural transformations toward sustainability:

> *How can we make sure the people who come here […] can integrate with us? Maybe more on the political or policy level [by] communicating our experiences and the things we encounter to the Member States […] Also, the European Commission and other cities in Europe might be open to sharing their own knowledge and good practices [….] You cannot keep walking [around] defending how we're doing and saying we're the best and we don't have to change anything anymore. [You have] to try to find synergies with other cities and keep improving and also to make sure that you don't neglect certain groups of people, and it's always good to talk to other cities who can give you an example* (City Official, Amsterdam, Netherlands).

Structural change may prove the most difficult to overcome and perhaps require the greatest transformation to address intersectional blockages to sustainability. Intersectional inequalities in housing, education, the job market, and so on require radical changes in governance and at societal levels yet to be articulated in our findings. However, if structural change is implemented, this can lead to other forms of change. For example, if inequality in education and labor market discrimination against migrants decreases, migrants may have greater resources with which to participate in community actions targeting sustainability, and more likely to be represented in national and local politics, therefore effecting systemic and enabling transformations.

Discussion

Cross-sectoral cooperation is critical to governing toward sustainability, which is why nexus and other integrative research approaches have gained traction both as a scientific pursuit but also as they can produce actionable knowledge (36, 57). As one of many nexuses relevant to sustainability, this study explored (dis)connections between migration and sustainability governance as well as what opportunities there might be to integrate them through the eyes of national and subnational policy actors. Interviews in Belgium, Sweden, the Netherlands, and the United States revealed that there are often more gaps than overlaps between sustainability and migration governance, but also that the barriers to synergetic, inclusive governance go beyond the lack of horizontal coordination mechanisms to bridge silos. Additional barriers included vertical gaps between national and local policies and approaches to migration and integration, exclusionary practices in urban planning and labor markets, xenophobia, and the difficulty in addressing diverse migrants as a single "target group."

Beyond acknowledging that migrants were often left out of sustainability efforts, participants were asked to identify opportunities to overcome existing silos and to advance toward governance that integrates migration. We proffer that no one solution can address the multitude of obstacles across sites or within them: a pluralistic approach is needed that recognizes and encourages human agency, while also making systemic and structural changes (Fig. 1 provides select examples). This, therefore, encourages neither a top–down or bottom–up, macro- or meso-approach to sustainability, but rather one that takes multiple pathways toward integrative governance (57).

Based on our findings, we propose to (re)consider the way different institutional actors understand migration. Being a migrant has different meanings depending on organizational priorities and expertise. Institutions focusing on impacts of climate change at the global level are likely to understand migration from a different perspective than local social services providing basic resources to the most vulnerable populations in the city or than departments promoting employment and economic development. Some actors will frame migration as a threat to security, some as a source of vulnerabilities, and others will rather see migrants' opportunities to contribute to labor markets and innovative economies. To overcome this, we may need to transform our policy thinking away from migrants as embedded in static communities and toward thinking more broadly about people's mobile approaches to sustainability. For example, many cities already enable their citizens to enjoy residency in more than one place to allow them to develop flexible livelihoods and encourage their civic participation (58); extending these policies to mobile noncitizens would remove a source of discrimination and enable adaptive movement more broadly.

We acknowledge that nexus thinking helps us tackle complex societal problems like sustainability but that the sheer number of sectors to be considered can overwhelm even the most ambitious of policymakers. Although our research was concerned with one particular nexus, in order to move beyond narrow views shaped by institutional specialties, we suggest that sustainability governance could incorporate in any field of action (environmental, economic, or social) how power, stratification, and diverse ideas and experiences over the life course in different places shape people's vulnerabilities and strengths and their agency in contributing to sustainability transitions in the places that they live. This holds true beyond the migration–sustainability nexus, and this could be a way to include migration considerations in policy-making and

interventions without necessarily differentiating between typologies of migrants and nonmigrants, an intersectional pathway also preferred by participants. In the United States, for example, the Massachusetts Executive Office of Energy and Environmental Affairs defines Environmental Justice as the right of all people to be protected from environmental hazards and to live in and enjoy a clean and healthful environment. The 2021 Environmental Justice Policy reinforces that "all communities must have a strong voice in environmental decision-making regardless of race, color, national origin, income, or English language proficiency, that such voices can influence environmental decision-making", (Environmental-Justice-Policy_version 6.24.2021.pdf). Mapping EJ communities in Worcester shows an intersectional understanding of household risk across income levels, minority identity, and language isolation. Such practices have the dual benefit of 1) avoiding the "groupism" denounced by many participating officials and 2) allowing policymakers to tackle multiple sectors that cut across social groups (59–61).

Our study also revealed that networking events, exchange of experiences, and support of local grassroots activities are also potential sources of inspiration and innovation for policy actors. Beyond discrepancies in priorities and competitive budgets, long-term collaborative initiatives between migrants, policy, and civil society actors working at local, subnational, and national levels, within and beyond national borders such as in the European Union, have the potential to facilitate innovative thinking and find synergies across horizontal and vertical levels. Collaborative approaches between different departments contributing to environmental and social dimensions of sustainability could help to identify and address incoherent priorities, as well as promote a more integrative approach to transform multicultural societies toward sustainability. City-to-city dialogues and joint efforts by networks such as the C40 Cities Climate Leadership Group and the Mayors' Migration Council around urban climate migration and displacement have already shown that cross-sectoral collaboration is both possible and can be beneficial. Vertical coordination mechanisms and events may similarly foster policy coherence without diminishing scalar expertise.

Based on our findings, migration, and human mobility more generally, should feature more prominently in frameworks emerging in sustainability science. Clark and Harley built an impressive Framework for Research in Sustainability Science, intended as a checklist of terms and concepts identified through empirical data "that have proven sufficiently useful to merit consideration in future research on sustainable development" (57, pp. 342). In this framework, migration is subsumed under the category of "horizontal connections"; however, this does not adequately capture the significance of migration. Migration is important enough to transformations toward sustainability that it ought be elevated as a critical element within the sustainability science "checklist."

Finally, this study revealed the transformative power of research. We align with sustainability scholars Dryzek and Pickering that reflexivity is "the antidote to pathological path dependency" (62, pp. 34) and assert that when combined with deliberation, defined as "debate and discussion aimed at producing reasonable, well-informed opinions in which participants are willing to revise preferences in light of discussion, new information, and claims made by fellow participants" (63, pp. 309), they can facilitate transformative governance toward sustainability. Questions to policy and civil society representatives around the links between migration and sustainability and the role their institution could play triggered their reflexivity. They prompted reflections on their performance and how governance could be reconfigured and respondents' interest in further exploring in their work the interplay between migration and sustainability. While our findings may not offer universal policy solutions, this research will hopefully prompt more scientific research and policy conversations about the role of migration in reaching more sustainable, inclusive futures.

Materials and Methods

Findings come from data collected from December 2020 to November 2021. Semistructured interviews were conducted in four countries and four cities: Amsterdam (Netherlands), Brussels (Belgium), Malmö (Sweden), and Worcester (United States). On the one hand, the four cities were selected because of their diversity in terms of areas of origin and migrants' administrative status: while Malmö and Worcester are traditional destinations of asylum seekers and refugees, Amsterdam and Brussels are historical destinations of labor migrants. On the other hand, we selected cities in countries with more or less favorable integration policies in terms of basic rights, equality of opportunities, and opportunities for long-term settlement–with Sweden and the United States offering more favorable integration policies than Belgium and the Netherlands, although Sweden has recently shifted to more temporary approaches (21). Although the targeted sample size (n = 84) was not reached, largely owing to the increased burden on individual time and resources attributed to the global pandemic, a total of 73 interviews were conducted by local teams.

Each team was responsible for the selection of respondents according to a harmonized process following an initial stakeholder mapping exercise based on 1) interest and 2) influence. The mapping exercise was conducted to identify who the key decision-makers are, but also to identify the institutions and people that do not have much influence but have an interest in the governance of migration toward sustainability. Teams started identifying key institutions at a) the national and b) subnational level, before identifying the contact points within institutions for interviews. Once the initial mapping was performed, stakeholders were tagged according to their dimension of sustainability: 1. environmental, 2. economic, and 3. social. We then sought to balance participants across pillars. As governments and organizations are not structured around these dimensions, some actors covered multiple aspects, in which case, teams identified the primary dimension of interest and influence.

Respondents were categorized into three types: national officials, subnational officials,[#] and civil society representatives (Table 1). Although we were interested in multi-scalar governance, the distribution of the sample was weighted toward local/subnational officials. The distribution of participants was intentionally planned to favor subnational government officials in order to concentrate findings on the urban experience and local level, where most sustainability efforts are implemented. The sample included such diverse sectors as sustainable development, mobility and transportation, urban planning, integration and reception, mayoral offices, and environmental well-being. This allowed for the inclusion of both migration/integration perspectives and more traditional sustainability actors.

Most interviews were conducted via online platforms owing to restrictions in place because of the global pandemic. Two interview guides were developed together with field teams to ensure the applicability to all sites: one for national government officials and civil society organizations and one for subnational officials and civil society. Interviews were semi-structured with a short closed-question Likert scale module included. We adopted a common procedure throughout the data collection process to ensure comparability of findings.

Once data were collected, each team then translated (if necessary) the guide from English into relevant languages. Non-English interviews were then transcribed and translated into English for analysis. Transcriptions were coded using a common codebook across sites with targeted themes of migration and sustainability governance using NVivo software.

Ethical approval for research design was awarded by The Geography Ethics Committee at the University of Exeter under ethics application eCLES-Geo000056 Migration, Transformation and Sustainability. Additional approval

[#]With each country having various government structures (state, city, province, etc.), we categorize sub-national versus national actors.

Table 1. Breakdown of sample by site, field of expertise, and actor type

Reference		Field of expertise			Geopolitical scope			
		Environment/ Sustainability	(Im)migration/ development	Other	Sub-national representative	National representative	Non-governmental representative	Other
Belgium	BE-N1	■				■		
	BE-N2	■			■			
	BE-N3		■		■			
	BE-N4	■			■			
	BE-N5		■			■		
	BE-N6	■					■	
	BE-N7		■		■		■	
	BE-N8			■		■		
	BE-N9	■				■		
	BE-N10	■					■	
	BE-N11	■					■	
	BE-N12			■	■			
	BE-N13	■				■		
	BE-N14	■				■		
	BE-N15			■	■			
	BE-N16		■				■	
	BE-N17	■			■			
	BE-N18	■					■	
	BE-N19	■			■			
	BE-N20			■	■			
	BE-N21			■	■			
the Netherlands	NL-N1		■				■	
	NL-N2		■				■	
	NL-N3			■		■		
	NL-N4	■			■			
	NL-N5	■				■		
	NL-N6	■						
	NL-N7			■		■		
	NL-N8		■					■
	NL-N9	■				■		
	NL-N10		■		■			
Sweden	SW-N1		■			■		
	SW-N2	■				■		
	SW-N3			■	■			
	SW-N4	■				■		
	SW-N5			■	■			
	SW-N6		■			■		
	SW-N7	■				■		
	SW-N8		■				■	
	SW-N9	■			■			
	SW-N10			■	■			
	SW-N11	■			■			
	SW-N12	■				■		
	SW-N13		■		■			
	SW-N14		■				■	
	SW-N15		■		■			
	SW-N16		■			■		
	SW-N17	■			■			
	SW-N18	■					■	
	SW-N19		■				■	
	SW-N20	■				■		
USA	US-N1				■			
	US-N2				■			
	US-N3					■		
	US-N4				■			
	US-N5					■		
	US-N6						■	
	US-N7				■			
	US-N8						■	
	US-N9						■	
	US-N10				■			
	US-N11				■			
	US-N12				■			
	US-N13					■		
	US-N14					■		
	US-N15						■	
	US-N16				■			
	US-N17				■			
	US-N18				■			
	US-N19				■			
	US-N20						■	
	US-N21				■			

was obtained for the Worcester site from the Clark University Institutional Review Board.

Data, Materials, and Software Availability. Some study data available (Transcripts of qualitative interviews anonymized according to the informed consent of participants will be available from the UK Data Service ReShare. Readers may request access from the lead author, Caroline Zickgraf, at Caroline.Zickgraf@uliege.be).

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