Just Sustainabilities and Local Action: Evidence from 400 Flagship Initiatives

Just sustainabilities has emerged as a powerful discourse to guide local action towards sustainability. As an overarching discourse, it prescribes four policy principles: (1) addressing wellbeing and quality of life; (2) meeting the needs of present and future generations; (3) enabling justice and equity in terms of recognition, process, procedure and outcome; (4) living within ecosystem limits. Following previous calls for engaging public and private actors in just sustainabilities, this paper inquiries about the extent to which these principles can be realistically integrated in local environmental governance.

A database of 400 sustainability initiatives in more than 200 cities in all world regions is analysed to examine whether just sustainabilities principles are already enshrined, explicitly or implicitly, in local sustainability initiatives. This analysis suggests that, in this sample, there is a significant deficit in terms of addressing the principles of justice and equity, and ecosystem limits. However, the data also suggests that local action may already be delivering some aspects of just sustainabilities, even if this is not always explicit. The paper concludes with a call for a coordinated effort to translate a just sustainabilities discourse to local actors leading action on the ground.

Keywords: just sustainabilities, planning, local government, recognition

"Sustainability cannot be simply a 'green', or 'environmental' concern, important though 'environmental' aspects of sustainability are. A truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity are integrally related to environmental limits imposed by supporting ecosystems"
(Agyeman et al. 2002; p. 78)

Introduction

In September 2015, the United Nations Assembly adopted the Sustainable Development Goals (SDGs) to supersede the Millennium Development Goals (MDGs). One notable feature was the introduction of an 'urban goal', Goal 11: "Make cities and human settlements inclusive, safe, resilient and sustainable". Planning was put at the centre of the new urban goal. Specifically, one of the goal's targets specifies how planning has to be: participatory, integrated and sustainable. If this is the kind of planning that can bring about socially and environmentally just cities, how can it be delivered? While this is not a new question in the planning literature, it is a question that gains currency in the light of the adoption of the Sustainable Development Goals. However, despite its ubiquity, sustainability discourses remain contested. Since the Brundtland report, there has been a constant preoccupation with defining precisely the goals of sustainability, seeing ambiguity as a problem rather than an explicable feature of the concept (Connelly 2007). In the wake of persistent challenges, scepticism about sustainability has permeated environmental policy debates (Pearsall et al. 2012). Although sustainability has endured as a powerful environmental discourse, there is still a need to put justice concerns at its core.

This paper follows on from previous calls to adopt 'just sustainabilities' as a universal paradigm in environmental planning and management (Agyeman 2013, Rydin 2013).

Just sustainabilities is a concept that emerged associated with environmental justice proposals and actions led by non-state actors to improve their cities (Agyeman et al. 2002, Agyeman et al. 2003, Agyeman 2005, Agyeman 2008, Agyeman and Evans 2003). Proponents of just sustainabilities responded to attempts since 1992 to link sustainable development to social justice and human rights (such as for example: Schlosberg 2007, Dobson 1998, Salleh 2009, Conca et al. 1995). Most often, the notion of just sustainabilities has been linked to activists' actions on the ground. However, if we move attention from what civil society actors and citizens can do to how planning can support them, the notion of just sustainabilities can be advanced as a set of principles for environmental planning (Rydin 2013).

Can just sustainabilities principles be incorporated in planning practices? This paper seeks to answer this question by exploring the extent to which just sustainabilities principles are already enshrined in a sample of sustainability initiatives, as reported by the actors leading such initiatives. The paper presents, first, a review of the principles of just sustainabilities in relation to environmental planning. The following section explains the development of a methodology for the selection of a sample of 400 local sustainability initiatives and the analysis of just sustainabilities principles. Subsequently, the paper presents the results of the analysis and a discussion of these results. The analysis suggests that, in practice, there is a significant deficit in terms of addressing the principles of justice and equity, and ecosystem limits. The paper concludes that just sustainability principles are not yet widely considered in the explicit aims and objectives of sustainability initiatives at the local level. However, just sustainabilities principles may be advanced indirectly by already existing sustainability initiatives, even when they are not explicitly articulated in their objectives.

Just sustainabilities: a rationale for action

The notion of just sustainabilities emerged as a response to the debates in the late 1990s about the extent to which environmental concerns should be considered in tandem with social ones. ~~Critiques~~Critics of the environmental justice movement emphasised that environmental sustainability and social justice are distinct objectives and, hence, they are not always compatible (Dobson 1998, Dobson 2003). Planners developed a parallel argument by questioning the possibility of conflict-free consensus about environmental action and argued that a focus on the environment distracted social movements from their central goal of achieving social justice (Marcuse 1998). In environmental planning and management, however, environmental sustainability has long been linked to the deterioration of environmental quality, raising questions of social justice and people's quality of life (Agyeman 2008). Equity in access to resources and in sharing the burdens of environmental degradation has always been an integral part of sustainability thinking (McLaren 2003).

Just sustainabilities reclaims a sustainability definition directed towards achieving both inter-generational equity and intra-generational equity, making social justice an explicit goal (Agyeman 2008). Development planning perspectives have long linked environmental sustainability to justice and, hence, to the universal provision of basic services (e.g. McGranahan and Satterthwaite 2000, Satterthwaite et al. 2015, Hardoy and Satterthwaite 1991). Defining justice is not an easy matter, though. Traditional liberal conceptions of distributive justice define it in relation to the allocation of divisible goods among populations. This overlooks justice as a struggle for recognition, whereby intersubjective relations shape any possibility of self-realisation (Honneth 2003). Fraser (2003, 2009) has advocated a multidimensional concept of justice, which recognises the need for redistribution, alongside the politics of recognition- of

emotional, personal and political recognition. She also emphasizes the question of representation as a means to achieve justice both in terms of redistribution and recognition.

Environmental justice debates are closely related to attempts to go beyond distributive versions of justice, incorporating simultaneously recognition and participation in decision-making (Schlosberg 2007, Schlosberg 2013). In relation to sustainability challenges in planning, a multidimensional understanding of justice emphasises that injustices emerge from both the distribution of resources and environmental risks, but also, from framings of environmental problems that preclude alternatives because they follow divergent ontological assumptions (Fraser 2009). Conflicts in environmental planning represent the confrontation between radically different values and visions for the future (Owens and Cowell 2011). Participatory processes help sustaining dialogue, but underlying social relations may tend to reproduce the conditions of social injustice, particularly when dealing with complex environmental issues (Castán Broto 2013). Fraser's analysis of justice supports a systematic analysis of strategies to correct injustices. Fraser differentiates between 'strategies of affirmation', which seek to correct inequitable outcomes without disturbing the underlying political framework, and 'strategies of ~~trasnformation~~transformation', which seek to correct inequitable outcomes by restructuring the underlying generative framework. In sustainability, strategies of affirmation have dominated debates, for example, in eco-efficiency proposals, or in actions to improve processes of environmental governance. The current context of global environmental crisis and the realisation that the poorest are paying the most for unsustainable levels of consumption compel to redefine sustainability as a process of transformation. Sustainability has to be embraced as a transformative project to redefine human-ecological relations in their wider sense, rather than as providing a

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sense of continuation of business as usual scenarios. Sustainability can only be addressed by engaging with the structural causes of environmental degradation, often also associated with processes that lead to inequality and injustice. A change in power relations is essential to create a more equal resource distribution (McLaren 2003). Fraser argues that transformative strategies may seek redistribution, i.e. socialism, or may seek to deconstruct the ideological basis that underlies instances of misrecognition.

Much can be learned from environmental justice debates and activism. Sustainability is linked to the need to provide a collective response through programmes of action that sit everyone at the negotiating table (Adger et al. 2003, Adger et al. 2002). It is 'a vocabulary for political opportunity', powerful enough to mobilise activists and communities for a better environment and better quality of life (Agyeman and Evans 2004). Within debates of climate governance and global environmental change there has been a recognition of the role that local action plays in dealing with equity issues and justice debates (Bulkeley et al. 2013, Bulkeley et al. 2014a, Betsill and Bulkeley 2007). Local governments are key actors leading sustainability action, but they do so alongside other actors from businesses and the third sector (Bulkeley et al. 2014b). Governmental institutions can facilitate the conditions for the adoption and implementation of just sustainabilities (Agyeman and Evans 2003). The question is, however, whether just sustainabilities ideals can be integrated as ubiquitous and recognised policy principles.

What opportunities emerge at the local level for the implementation of just sustainabilities policy frameworks? To what extent do existing sustainability initiatives already open up possibilities for delivering justice? The following section explains a methodology to answer this question with reference to a limited sample of 400 flagship initiatives for sustainability, and an analysis of the incorporation of just sustainabilities

principles in this sample.

Methodology

The research question is: "to what extent are just sustainabilities principles integrated in a sample of flagship sustainability initiatives in cities and urban regions?" Following Agyeman et al (2003) and Agyeman (2013) we identify four principles or conditions that have to be met simultaneously for an initiative to advance 'just sustainabilities' objectives:

- Improving quality of life and wellbeing

- Meeting the needs of both present and future generations

- Enabling justice and equity in terms of recognition, process, procedure and outcome

- Living within ecosystem limits

The objective of this study was to identify the extent to which these criteria guided, directly or indirectly actual existing actions within or related to local governments. For that purpose we compiled a new sample of 400 initiatives from 225 cities in a database. Previous research has shown that database style collection of data may constitute the grounds for studying policy trends in environmental governance (Castán Broto and Bulkeley 2013). The following sections explain the development of this study in terms of: (1) collection of data on flagship initiatives for sustainability; (2) database design; (3) key characteristics of the sample of initiatives; (4) attribution of just sustainability criteria to each independent initiatives and comparative analysis.

Collection of data on flagship initiatives for sustainability

Following the work of Castán Broto and Bulkeley (2013) we first took a sample of 225 cities to develop the search for initiatives. The aim was to have a broad variation of contrasting cities so that the selection would show what kind of socio-environmental initiatives are launched in different contexts, and how these initiatives relate to just sustainabilities criteria. We selected a heterogeneous sample of cities representing all parts of the world and different sizes in terms of urban extent and population. The cities in the sample face different kinds of development challenges, due to the variation in socioeconomic characteristics and their geographic location. The sample also covers a full range of cities with comparatively low income levels and cities with strong economies, including both small urban areas and large megacities. The sample contains 41 cities from Europe and former Soviet states, 22 from North America, 41 from Latin America and the Caribbean, 52 cities from the East Asia Pacific and Oceania, 20 cities from South Asia, 23 cities from North Africa and the Arab states in the Middle East and 33 cities in Sub-Saharan Africa. The population of these cities ranges from a minimum of 5000 people (Embangweni in Malawi) to a maximum of 38 million people (Tokyo in Japan), with an average population of around 6.2 million.

For each city we recorded at least one flagship initiative which advances explicitly sustainability objectives. 'Initiative' refers to actions which are presented, in some way, as delivering a 'fresh approach'. Initiatives thus include projects, that is, clearly delimitated initiatives with ~~an~~a specific aim, but also broader programmes over longer terms which are not confined to ~~an~~a specific intervention. Unlike other databases of projects, this included only initiatives that aimed to have a city-wide impact. ~~The~~Researchers determined that the requirement of being 'flagship' was met when actors leading the initiative presented i~~t~~n as a key leading intervention advancing

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sustainability in the specific context of the city studied. For example, the database includes initiatives that exemplify a city's government's commitment to sustainability, alongside those which are presented as best practice examples or those which are thought of as being particularly innovative or pioneering. The selection placed particular emphasis on local government initiatives, because the database was meant to show what socio-environmental action has been taken by cities. In total, 400 sustainability initiatives were included in the database. Information on the initiatives was collected through systematic internet searches between January 2015 and April 2015. Secondary material was collected for each city from websites of municipal and national governments, private and civil society organisations, news sites, reports, and best practice databases (e.g. UN-HABITAT, ICLEI). Random records One member of initiatives were the research team collected and recorded all the data, and the other member reviewed the sample a posteriori for quality control. (both the quality of the records and the original sources where checked).

Castán Broto and Bulkeley (2013) highlighted that a database constructed through Internet searches and secondary information relies on self-reported data. This means that initiatives are categorised according to the aims and objectives of those delivering or publicising the initiative, often with limited access to information about those who are directly affected by it. Moreover, Internet searches tend to emphasise work by organisations with well-established media outlets (e.g. international NGOs) that will be over-reported in relation to small, local NGOs and local authorities. To this inherent limitations of the method, we have to add our limitations to search for information mostly in English or Spanish. The database is not an accurate report of the whole landscape of local environmental governance, or the impact of these initiatives on the ground. Instead, the database is a tool to understand narratives of sustainability as they

are enacted in flagship initiatives. As these sustainability narratives inform policy making in different urban areas, they provide an indication of the extent to which policy making is informed by the four different principles of just sustainabilities.

Database design

The database is a simple collection of records in which each initiative is represented in a row and attributed different categories. Table 1 summarises the main analytical categories considered in the database. They include information about when and where the initiative took place, and under which governance arrangements (who led it, was there any type of partnership, etc).

[INSERT TABLE 1 NEAR HERE]

Each initiative was categorised a posteriori in relation to a sector, based on the categories used by the World Bank to describe urban climate change initiatives, the environmental focus areas of UNEP, and the themes used by UN-Habitat to categorize what cities do to support sustainable development (WB, 2010; UNEP, 2015; UN Habitat, 2015). The sectors include: air pollution/climate change, ecological protection/biodiversity, energy, housing, land-use/planning, sanitation/water, transport, urban greening/urban agriculture, and waste. Table 1 includes a definition of the kind of initiatives included in each category. The database includes initiatives from other three sectors not included in the World Bank categorieslist above: initiatives for disaster risk management, which includes initiatives that aim to reduce vulnerability to future disasters; eco-cities and eco-business, which includes initiatives that support environmentalenvironmentally-friendly industries and projects carried out within a spatially limited area withinin a city wherein which a high degree of "green" planning, technologies and designs are applied; and urban greening and urban agriculture, which

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includes initiatives that aim to increase or protect urban forests and support urban agriculture. Each initiative was categorized according to their stated aims, depending on the information available. For example, a climate change mitigation initiative ~~can be based on increasing~~could refer to an initiative to increase the share of renewable energy, which means that the "air pollution/climate change" category and the "energy" category overlap. In this case, the initiative is categorized according to what has been stated as the key aim of the project: either to reduce greenhouse gas emissions or to increase the share of renewable energy.

Key characteristics of the sample of initiatives

During the data collection period we ~~aimed at developing~~developed a heterogeneous sample ~~that would~~to reveal a wide diversity of sustainability initiatives. In terms of when the initiatives took place, there are only a few which took place before the 1990s~~, and the~~. The majority have taken place in the 2000s. The first initiative recorded, for integrated transport planning in the city of Freiburg, was originally launched in 1969. Our sample reflects ~~the fact~~ that sustainability initiatives did not emerge~~d~~ out of the blue after the 1992 Río Declaration, but rather, there was a wealth of environmental management experiences that sustainability proponents built upon.

In terms of geographical distribution, the sample reflects an effort to include initiatives from different geographical regions (Table 2): 22% of the initiatives have been carried out in East Asia and the Pacific, 8% in South Asia, 16% in Europe and the former Soviet states, 15% in North America, 17% in Latin America and the Caribbean, 6% in North Africa and the Arab states in the Middle East, and 18% in Sub-Saharan Africa.

[INSERT TABLE 2 NEAR HERE]

The initiatives have also been deliberately selected to create variation in between the ten sectors included in the study. Figure 1 shows the distribution between the categories, with the largest number of initiatives related to sanitation and water and the smallest number to eco-city building and eco-business projects. As expected, there is a strong correlation between the sector of the initiative and the region where the initiative takes place, reflecting the fact that sustainability action is most often shaped by the conditions in which it takes place. For example, initiatives to reduce air pollution tend to emerge in rapidly urbanising areas in East Asia Pacific and Latin America and the Caribbean. Energy-related initiatives appear in cities in more developed regions (Europe and former Soviet States, North America) which have higher rates of energy consumption per capita. Housing and upgrading projects emerge in cities in Latin America and the Caribbean and Sub-Saharan Africa, in contrast to initiatives in East Asia Pacific and Europe which tend to be more technologically and business-oriented. Water and sanitation projects tend to appear in cities in Sub-Saharan Africa, where there is an obvious infrastructure deficit. These observations confirm our expectations about the representativeness of the sample of the sustainability initiatives that take place in different regions of the world.

[INSERT FIGURE 1 NEAR HERE]

In line with previous studies, local governments play a key role leading sustainability action in our sample, with municipal authorities leading directly over half of the selected initiatives (55%). However, the sample also includes initiatives which, while local, involved different actors (Figure 2). This reflects that local governments are rarely the only actor leading sustainability action at the local level, particularly in contexts in which they lack capacities to intervene in this area. A small number of

initiatives (7%) were led by government institutions beyond the local level, from the metropolitan to the national level. Also, 24% of the initiatives were led by civil society actors including local NGOs (17%), international NGOs (5%), local communities (1%), and academic institutions (1%). Finally, 15% of initiatives were led by businesses, including 3% of initiatives that involved a public-private partnership. There is a strong correlation between the type of actor, the region where they operate and the sector of intervention. This follows a priori expectations and experiences of local governance. For example, local authorities have a comparatively lesser role in regions where the governance structure limits their operation, such as North Africa and Arab States and South Asia. Civil society has a stronger role in regions such as Sub-Saharan Africa and Latin America and the Caribbean where they have traditionally played a central role delivering sustainable housing, water and sanitation, and urban greening in a context in which local governments often lack resources and capacities. Not surprisingly, business are most often associated to energy-related initiatives, eco-cities and eco-businesses.

 [INSERT FIGURE 2 NEAR HERE]

Attribution of just sustainabilities' criteria

The final stage of investigation consisted of assessing whether the different dimensions of just sustainabilities were explicitly considered in the design and implementation of each initiative. Following the review above, we considered four criteria: wellbeing and quality of life, the needs of both present and future generations, justice and equity in terms of recognition, process, procedure and outcome, and ecosystem limits. For each initiative and each criterion we recorded whether the criterion had been addressed directly, indirectly or not addressed at all. The criterion is directly addressed if the stated aim of an initiative focuses on the criterion explicitly. The criterion is indirectly

addressed if the outcomes of the initiative are likely to contribute towards the criterion. While directly addressed criteria could be matched with stated objectives, indirectly addressed criteria were assessed in relation to the authors' subjective appreciation of the impact, based on the information available. Finally, when neither the criterion is addressed explicitly, nor the outcome is likely to contribute, then the criterion was thought as not being addressed by that particular initiative.

We found practical problems in the exercise of linking the stated aims and potential impacts of an initiative with each of the 'just sustainabilities' criteria. First, there are not fully developed definitions for all criteria, as they contain highly contested notions of justice, recognition and limits, just to mention a few. Second, there are ambiguities in terms of attributing the aims of an initiative to a particular principle, when initiatives hardly use the exact same wording. The two authors worked together to revise each other's attribution of criteria from initial collective discussions of small samples of initiatives, to the systematic attribution of criteria to the whole sample, building a degree of consistency during the process. To illustrate the subjective process of attribution, the following examples explain some of the dilemmas we found.

For example, the criterion of wellbeing focused on considering whether the aim of an initiative is to contribute to improving the quality of life and wellbeing of the population. Initiatives that provide housing and sanitation were thought to contribute directly to an improved quality of life. A waste management or recycling initiative may indirectly contribute to improved quality of life by providing a cleaner living environment, but this is not the direct aim of the initiative. By contrast, a renewable energy project may not necessarily contribute to improved quality of life of an urban population, unless it delivers direct benefits for that population, such as, for example,

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pollution ~~reduction.~~prevention and control. The quality of life criterion refers to existing populations, and therefore does not consider, for example, reduced ~~impact~~impacts of climate change on future populations.

To examine the criterion of meeting the needs of both present and future generations, we also looked at whether an initiative has directly addressed the living conditions and resource availability for future generations. For example, initiatives that are based on long-term planning often address this criterion. Also, initiatives that aim to reduce vulnerability to future risks, such as climate change impacts or earthquakes, address this criterion. Initiatives that aim towards resource conservation are considered to indirectly address the issue of conditions for future generations, by preventing or slowing down the speed of which current populations deplete natural resources.

Agyeman's (2013) criterion of justice and equity refers to four different aspects of these concepts: recognition, process, procedure and outcome. In this study, an initiative that explicitly deals with ~~either~~any of these aspects is considered to directly address the criterion. Recognition refers to providing political or social recognition - an example is initiatives that deal with the rights of excluded social groups and strategies for social inclusion. Another example ~~would be~~is initiatives that create social and political representation and formal channels of communication for previously excluded populations. The aspects of process and procedure refer to the introduction of ways of planning and decision-making for resource and service allocation that are based on principles of fairness and/or representation. This includes initiatives to introduce new planning systems, for example participatory planning and participatory budgeting, as strategies to solve urban challenges. Outcome refers to the explicit consideration of the distribution of harms and benefits and the extent to which the initiative addresses that

directly, for example, with direct attempts to redistribute resources.

The criterion of living within ecosystem limits refers to the consideration of carrying capacities and ecological limits. The notion of limits emphasises whether an initiative has addressed explicitly the relationship between development and available natural resources and ecological limits. For example, EcobudgetsecoBudgets that take into account resource constraints and base resource protection and conservation schemes on such constraints have the notion of limit at their core. Initiatives to protect biodiversity and urban ecosystems have also been considered as directly addressing this criterion. Generally, mitigation initiatives that aim to improve resource efficiency, resource conservation and recycling or reduce environmental deterioration meet the criterion of living within ecosystem limits but only indirectly.

Results

Independent consideration of just sustainabilities criteria

To what extent are just sustainabilities principles- assessed here as separated criteria- already embedded in ongoing sustainability action at the local level? The first step of analysis, a simple headcount of how many initiatives considered each of the criteria, suggests that there is an enormous variability in terms of what criteria are addressed and how (Figure 3)

[INSERT FIGURE 3 NEAR HERE]

Quality of life and wellbeing was the criteria considered most often in our sample of sustainability initiatives. Only 11% of initiatives did not consider it, and 28% of initiatives had quality of life and wellbeing as an explicit aim. Common examples in this category include sustainability initiatives to provide housing, sanitation

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infrastructure, and access to water and mobility. Often these initiatives are carried out in a "developing country" context or as part of international development projects. This criterion is also addressed indirectly in initiatives that have a primary environmental aim, such as reducing waste and pollution, which contributes overall to improving the quality of life in the city. Common examples include urban sustainability plans, strategies to shift towards non-motorized transport, recycling and clean-up campaigns, city greening initiatives and resource conservation schemes. There were, however, examples that did not include this criterion. For example, the database includes climate mitigation initiatives that consist of investments into factory retrofits or other green business models, investment into renewable energy plants, and energy and water efficiency schemes based on reducing the consumption of natural resources. These type of initiatives will have a positive effect on wellbeing only if and when combined with strategies to achieve social objectives, such as reducing poverty.

The second criterion most commonly addressed is that of meeting the needs of both present and future generations. Out of the sample of initiatives, 18% directly addressed the criterion explicitly. The largest number of initiatives directly related to this criterion includeincludes initiatives for climate change mitigation and adaptation, as well as disaster risk reduction projects, which are based on the logic of protecting future generations from the impacts of climate change. Another example is planning schemes that explicitly consider present and future development trajectories. For example, Freiburg has aimed to providedeveloped transport solutions that willto prevent urban sprawl, and has protected a certain amount of urban green space from development. Other cities have adopted similar land-use and zoning policies that protect forest areas, hillsides and wetlands for future generations. Also, several local governments have adopted environmental programs as part of school educationseducation policies, with

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the explicit aim of building a more sustainable society which will be manifest through the actions of future generations. Strategies to create a long-term supply of resources based on integrated recycling schemes, such as the water reclamation schemes used in Singapore and Windhoek, reestablishment of natural water cycles in Nagoya and a closed-loop water system in Kisumu were also included in this category. However, the majority of initiatives address this criterion only indirectly (70%). A large amount of initiatives contribute only to energy efficiency schemes, water conservation schemes and recycling schemes. ~~These kind of~~Those initiatives that focused only on provision of sustainable services and infrastructure for current populations without any consideration of long-term implications were categorised as not meeting the criterion (13% of the initiatives).

In contrast, the criteria of equity and justice and ecosystem limits were much less prevalent in sustainability initiatives at the local level. The justice criterion was directly addressed in 18% of the initiatives. Most of these examples consisted of the introduction of new urban planning and management practices to handle socio-environmental issues. Initiatives that met the criterion include, for example, the Naga City Participatory Planning Initiative (NCPPI) that involved local-community leaders and stakeholders in local planning processes, the Citizens' Committee for a Green Seoul that aims to build a sustainable city through citizen participation, the programmes for public participation in protection biodiversity and natural habitats in the city of Bonn, and Belo Horizonte's Municipal Sanitation Plan that relied on participatory planning to provide urban sanitation. There are also examples of initiatives to upgrade infrastructure and services through knowledge co-production, such as the upgrading of Audi União informal settlement in Curitiba or the Baan Mankong initiative to improve informal settlements in Bangkok. Some examples of waste collection initiatives and housing

provision projects may also aim specifically to create recognition for excluded social groups. Among the initiatives that focus on outcomes, the two-decade initiative for the democratization of municipal management for equitable and sustainable development in Cotacachi, Ecuador, uses planning mechanisms to facilitate the equitable distribution of economic and material resources. Bayamo LA21 in Cuba, uses spatial planning and infrastructure provision to promote non-motorised modes of transport (such as the bike-taxi) that facilitate the mobility of the urban poor. The share of initiatives that ~~addresses~~address the justice criterion indirectly (24%) includes projects that ~~aim to~~ work with community populations or collaborate with stakeholders in, for example, waste management and recycling or in climate change adaptation projects, but that remain fundamentally top-down oriented and where there is not a ~~fully~~full integration of justice principles in the initiative's objectives. Sustainability initiatives included in this category are often environmental projects that aim to improve conditions for socially vulnerable groups, such as a project for composting combined with food production for Roma populations in Velingrad, or urban agriculture projects that provide food or livelihoods for migrant populations. This criterion has the largest share of initiatives that do not address the criterion at all (58%).

The last criterion has the smallest share of initiatives that addressed it directly (7%). Relatively few initiatives in the sample consider carrying capacities and ecosystem limits explicitly. Initiatives that aimed at integrated resource protection were rare. Instead, most initiatives in this category ~~aim for~~focused on the protection of urban biodiversity and ecological systems. Several of the initiatives ~~aim~~intended to create green networks that will constitute improved natural habitats for flora and fauna in the city, for example the Rio de Janeiro rainforest belt and the Durban Metropolitan Open Space System. Other initiatives ~~are based on creating~~create inventories of species that

exist in the city, ~~as well as~~alongside strategies to protect biodiversity based on this process of data collection (e.g. São Paulo). We found a relatively limited number of initiatives that use the notion of limits or planetary boundaries as guiding principles for environmental management and redistribution. Resource conservation, reuse and protection activities were thought of as contributing to this aim indirectly if the notion of limits was not explicit (55%), but as much as 39% of initiatives did not have a recognisable component that addressed the notion of ecosystem limits.

Simultaneous consideration of just sustainabilities criteria

Achieving just sustainabilities depends on the simultaneous consideration of the four criteria. However, simultaneous consideration was rarer than we expected. Table 3 provides a summary of sustainability initiatives that meet multiple criteria. When considering the extent to which criteria had been considered or addressed indirectly, not explicit in the activity's objectives, the analysis suggests that most initiatives, 45% address 3 of the criteria, and 21% of the sustainability initiatives actually met all of them. However, when examining whether the criteria had been actually addressed explicitly, the outlook is bleak. ~~Aside of~~There were 47% of sustainability initiatives which did not consider any of these criteria explicitly. From the rest, very few initiatives (16%) addressed more than 1 initiative, and only 3 addressed 3 criteria.

The two criteria that are most often addressed explicitly and simultaneously are justice and wellbeing (46 initiatives). This is also the two criteria that are both indirectly addressed in the largest number of initiatives (183). For example, there are several examples of initiatives that aim to provide sanitation and housing through processes of knowledge coproduction or participatory planning. An example is the work carried out by the Shack Dwellers Federation in Windhoek in Namibia, which aims to improve the

lives of the poor by securing affordable land and shelter and improving the living conditions of those excluded from commercial housing and financial processes, using a community-driven approach. Another example is from the city of Rosario in Argentina, where the Rosario Habitat project aims to improve the living conditions of low-income families living in informal settlements in the city through a holistic, participatory process. These two criteria can be directly addressed in sustainability initiatives that use participatory budgeting, where decision-making processes based on greater citizen influence can contribute to, for example, the provision of health or sanitation services.

However, for such a large sample, the number of initiatives that address any other two criteria directly is surprisingly small. For example, there are only 8 initiatives that address both wellbeing and present and future generations, such as initiatives that reduce vulnerability to disasters while also improving service delivery for current populations. An example of this is an initiative in the city Karachi in Pakistan that aims to reduce the vulnerability of ~~flooding of~~ coastal communities to flooding while improving water and sanitation infrastructure. There are also 8 initiatives that address both the future generation and justice criteria, for example, in projects that aim to improve the conditions for environmental protection in the long-term following participatory decision making processes. The example of the city of Freiburg in Germany, that has relied on direct citizen participation in its environmental planning processes, is frequently mentioned as an example of local institutions working with citizens for environmental action (although it builds upon a legacy of political activism through the ~~green~~ Green ~~party~~Party). This has, among other outcomes, resulted in a city plan that regulates expansion in a way ~~to prevent~~that prevents urban sprawl and limits development in designated areas to protect agricultural land and water resources. In Barcelona, the municipal government cooperates with over a hundred organizations to

develop GHGs emission reductions plans. In Lima, the project LiWa implements participatory decision making for climate change adaptation. The criterion of ecosystem limits, however, rarely overlaps with any other criteria.

Addressing more than two criteria directly is rare. For example, a wetland protection project in Granada, Spain, involves the protection of biodiversity in the coastal wetlands in the region. Public participation has been central to this project, together with a strong concern for meeting the needs of future generations. Guntur's ~~Ecobudget~~ecoBudget project, in India, based on the city's carrying capacity, has contributed to significant improvements in managing of water resources, developing innovative strategies for waste management, and increasing the protection of greenspaces. The project has also contributed to the incorporation of environmental concerns ~~into~~in the city's political and administrative processes as well as innovative problem-solving approaches that resulted from a public participation process.

A simple analysis shows correlation between the regional distribution of sustainability initiatives and whether they addressed the criteria of wellbeing and quality of life and justice and equity (Table 4). The largest number of initiatives that directly address wellbeing have been carried out in Latin America and Sub-Saharan Africa. This includes a large number of initiatives related to improving quality of life through provision of basic resources and services, such as water, sanitation, housing and transport. In Europe, North America and the East Asia Pacific region, a much greater number of initiatives address wellbeing indirectly.

Latin America and the Caribbean is the region with the largest number of initiatives that address directly equity and justice. This may be explained both by the tradition of participatory decision-making processes launched by municipal governments in this

region and the active demands of NGOs and communities. The region with the second largest number of initiatives which address equity and justice is Sub-Saharan Africa, where many local and international NGOs have launched projects that put justice at their centre. The regions with the lowest number of initiatives directly addressing the justice criteria have been carried out in the East Asia Pacific and North Africa and the Arab States in the Middle East. For the two other criteria statistical analysis shows no correlation (Table 4): the distribution is much more even between regions, reflecting the number of initiatives selected per region rather than any other trend.

Equally, the results show that different actors tend to promote some criteria over others. Like in the analysis of regional distribution, statistical analysis shows strong correlation between the distribution of sustainability initiatives led by different actors and the extent to which the initiatives address either wellbeing and quality of life or equity and justice; in contrast, there is no significant correlation with the criteria of both present and future generations or of ecosystem limits. Civil society organisations (especially local NGOs) are the type of organization that ~~has directly addressed~~most likely will address both wellbeing and justice in their sustainability initiatives. Wellbeing and quality of life is also a central concern in most sustainability initiatives led by local governments, although most often than not this concern is not addressed directly.

Discussion

The principles advanced by proponents of just sustainabilities are not entirely alien to the work that currently takes place at the local level to advance sustainability more generally. Wellbeing and quality of life is the most commonly addressed criteria, both directly and indirectly. Local governments often join environmental action with co-benefits which legitimate their work. Wellbeing and quality of life may also constitute a

point of entry for international development organisations. Equally, the criterion of meeting the needs of both present and future generations follows a vocabulary that has been widely accepted and developed since at least the Brundtland report. It is enshrined in the most common definitions of sustainability and has been deployed in the widest variety of contexts. In contrast, the biggest deficits relate to the criteria of equity and justice and ecosystem limits. Regarding the former, there is still a democratic deficit in sustainability initiatives in most parts of the world. Sometimes this responds to lack of capacity, but often, this is the result of an overall emphasis on top-down, technocratic solutions in the belief that achieving the right outcomes is more urgent than the process whereby they are achieved. This shows that, at the local level, the environment is not yet recognised as a matter embedded in political struggle. While political struggle is often at the heart of some of some of the most pioneering initiatives at the local level, from straw bale housing to sharing food practices, expert-led solutions predominate at the city-wide level. Participatory environmental planning is rare, let alone transformative strategies towards the recognition of disempowered and disenfranchised groups.

The notion of ecosystem limits is still not widely integrated in local sustainability initiatives. An echo of Dobson's critique emerges here, as this suggests that social concerns such as wellbeing and quality of life can only be advanced at the expense of the Earth's preservation. However, an alternative reading emerges if we consider how the debate is framed. There is resistance to embrace the notion of limits because it challenges the growth-dependency paradigm that is at the heart of contemporary planning thought (Rydin 2013). Growth means different things in different contexts, but still captures the imagination of urban managers. Hence, achieving just sustainabilities requires a deconstruction effort for the whole redefinition of the functioning of

contemporary economies, both by addressing the material basis of the economy and the way in which people thrive through processes of sharing and collaboration, rather than just exchange (McLaren and Agyeman 2015).

The research also shows that criteria are rarely considered simultaneously. The criteria are not mutually exclusive, and yet, very few initiatives ~~did consider~~considered more than one of them explicitly. The notion of just sustainabilities brings together principles that seem disconnected in sustainability discourses. When considering the indirect effects of the initiatives we observe that many of these criteria are entirely compatible, and they are frequently addressed together. There is no doubt that these four concerns are frequently present in practice. The question is whether they can be integrated in a coherent policy discourse to guide a new generation of transformative initiatives. The four criteria would be best addressed by focusing on the criteria which are most often excluded, addressing the democratic deficit related to equity and justice and deconstructing ~~the~~ notions of growth that prevent a collective ~~consideration~~evaluation of the notion of limits, within an overall framework that integrates wellbeing co-benefits and long-term planning.

The analysis of factors that influence the explicit adoption of the criteria suggests that there is a great difference between criteria whose application depends on where the initiative takes place and who leads it (wellbeing and quality of life; equity and justice); and criteria whose application does not depend on those factors (present and future generations; ecosystem limits). The two former criteria refer to the more politically-oriented aspects of just sustainabilities, and their articulation is more frequent in contexts of great resource and service ~~deficit~~deficits, where civil society actors may be actively involved. The two later criteria, in contrast, are both criteria that were

originally formulated in 'high level' spheres, by academics and policy makers. They are an explicit part of global discourses of sustainability, two ideas that have travelled easily across different contexts even though the notion of ecosystem limits has been proven difficult to implement in local initiatives.

Conclusions

The analysis suggests that just sustainability principles are not yet widely integrated in mainstream discourses of urban environmental planning. Yet, the high percentage of initiatives that addressed one or two criteria indirectly suggests that already existing sustainability initiatives could advance just sustainabilities if actors leading these initiatives ~~pay~~paid greater attention to its four principles, particularly ~~specially~~ addressing the democratic deficit in environmental action and ~~paying explicit attention to the notion of~~addressing explicitly ecosystem limits. This is a positive message for local governments and associated actors who could contribute to the overall goal of achieving just sustainabilities.

However, the analysis also shows that while sustainability initiatives at the city-wide level may address different aspects of just sustainabilities, this is most often done through what Fraser (2003) calls strategies of affirmation (e.g. emphasising the association of environmental protection and urban health; recognising that flourishing needs are not the same as those for mere survival; incorporating participatory methods in environmental governance; redefining methodologies to acknowledge the resource basis of the economy). These are all strategies which seek to address injustices but they do not necessarily challenge the fundamental structures of social organisation and knowledge production that produce injustices in the first place.

Just sustainabilities cannot betray the transformative intent that inspires it. Bringing the four principles simultaneously forces practitioners to move towards such transformation, away from comfort zones and received environmental policy wisdom. Deliberate redistributive efforts alongside strategies to address recognition struggles are difficult and rare. Calls to delink wellbeing or political freedom from unrestricted consumption (Agyeman 2013), to envisage human futures away from growth paradigm (Schneider et al. 2010), or to revindicate alternative means to imagine the good life in notions such as 'the Buen Vivir' (Gudynas 2011) belong to a class of transformative strategies which attempt to deconstruct mainstream paradigms but that have not yet found translation into mainstream planning practice.

Just sustainabilities is not a ready-made recipe to deliver concrete initiatives, but a set of principles that should guide, rather than dictate, action. Just sustainabilities is a discourse of hope. Its objective is to deliver discursive tools that can be appropriated by different actors to inspire visions of future sustainable and just cities and make them, or at least part of them, happen.

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