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Urban Food Systems Strategies in Latin America – A Tool for Local Implementation of the Sustainable Development Goals?

by

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Abstract

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This study aims to examine how local governments originated from the global South, through Urban Food System Strategies (UFSS), are realizing global sustainability priorities as outlined by the Sustainable Development Goals (SDGs). This study is based on the policy analysis of three Latin American UFSS, with the aim to detect synergies and connections between the UFSS and the SDGs.

The primary contribution of this study is the comprehensive overview of the synergies and connections between UFSS developed by the Latin American cities and the SDGs. The secondary contribution is the positioning of the findings from UFSS created by cities in Latin America, in relation findings on UFSS from cities in North America.

The study concludes that although clear synergies and connections with the SDG exist, they are less wide and deep in Latin American UFSS than in North American UFSS. However, the study argues that the level of convergence with SDGs does not determine the quality of the UFSS, and problematizes the application of northern innovation such as UFSS as one-size-fits-all solutions to Southern contexts. Future research avenues can be concerned with further determining the multi-level governance components of UFSS synergies with global goals, as well as evaluating the practical enactment of the same.

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1   Introduction

1.1   Background

Food plays a central role in human lives, imperative to wellbeing and livelihoods. Globalization and the movement of people and foods, have led to the emergence of a global food system. The feasibility – from a sustainability perspective – of todays global food system is being questioned, as its two endpoints; food production and food consumption, are leading to increasingly negative externalities. Food production is the largest cause of environmental change, responsible for up to 30% of global greenhouse gas emissions and 70% of freshwater use. The conversion of land to agricultural use is the largest factor causing extinction of species (Caron, y de Loma-Osorio, Nabarro, Hainzelin, Guillou, Andersen & Bwalya, 2018; Willet, Rockström, Loken, Springmann, Lang, Vermeulen & Jonell, 2019). Unhealthy diets make up the largest global burden of disease; 2,1 billion adults are overweight or obese, which is linked to a steep rise in cardiovascular disease and the doubling of global prevalence of diabetes during the last 30 years (Willet et al., 2019). Simultaneously, after decades of steady decrease, the rates of hunger have increased across the planet in recent years (WHO 2017; FAO; 2018). Consequently, the global food system – including all the steps from farm to fork to waste management – is increasingly seen as one of the key systemic challenges related to the transition towards a sustainable future. The structure, the activities, the actor configurations and the governance of the global food system is, according to several researchers, in need of a complete overhaul (Marsden & Morley 2014; Moragues-Faus & Marsden 2017; Sonnino & Spayde 2014). As expressed by Haddad & Hawkes (2016: 32); "It is no longer about feeding a starving world – the aim should be to nourish everyone in a way that can be sustained environmentally, economically and culturally".

The term "food system" is defined by Willett et al. (2019: 4) as "All elements and activities that relate to production, processing, distribution, preparation, and consumption of food". It is graphically displayed by Loboguerrero, Campbell, Cooper, Hansen, Rosenstock and Wollenberg (2019: 2) in figure 1.1, as a complex system of activities and outputs with both

social and environmental welfare aspects connected to it. Caron et al. (2018) points to the multifaceted nature of food systems, and argues that they serve as vehicles for interaction between a variety of aspects; food security, nutrition, human health, social justice, climate change and viability of eco systems.

Figure 1.1 The food system concept (Loboguerrero et al., 2019:2)

Food System ACTIVITIES

Producing food: natural resources, inputs, markets,…
Processing & packaging food: raw materials, standards, storage requiremnet,…
Distributing & retailing food: transport, marketing, advertising,…
Consuming food: acquisition, preparation, customs,…

Food System OUTCOMES Contributing to:

Social Welfare
- Income
- Employment
- Wealth
- Social Capital
- Political Capital
- Human Capital

Food Security i.e. Stability over time for:

FOOD UTILISATION
-Nutritional value
- Social Value
- Food Safety

FOOD ACCESS
-Affordability
- Allocation
- Preference

FOOD AVAILABILITY
-Production
- Exchange

Envoronmental Welfare
- Ecosystem Stocks & Flows
- Ecosystem Services
- Access to Natural Capital

The governance of food system transformation is an emerging field of study (Hope & Brons, 2016), but recent years have shed light on the importance of the urban aspects of transition processes connected to food systems (Morgan, 2009; Morgan & Sonnino 2014; Sonnino & Spayde 2014). With an explicit aim toward sustainability, cities are emerging as key players in the global food arena, and municipal governments across the world are taking action to transform and improve their local food systems. Urban Food System Strategies (UFSS) are becoming part of the mayoral toolbox in an increasing number of cities, and international pacts and city-collaboration forums such as the Milano Urban Food Policy Pact are accelerating the development of city level action, oriented towards reforming food systems

(Ilieva, 2017; Morgan, 2009; Morgan & Sonnino 2014). How cities decide to focus their efforts matters; although cities only occupy 2% of the earth's surface, they consume 75% of the globally harvested natural resources, create 50% of the global waste generated, and are responsible for 60-80% of the global green house emissions. In addition, they stand for 80% of the global GDP generated (UNEP, 2017). Cities are also vulnerable actors in in the politics of food (Morgan & Sonnino, 2014). Urban areas are increasingly malnourished environments where obesity, under nutrition and increased food insecurity coexist (Willet et al., 2019), and as the majority of cities are dependent on imports from rural hinterlands as they are not producing their own food, volatile food prices and the impacts of climate change on food production puts stress on urban food provision (Dubbeling, Campbell, Hoekstra & Veenhuize, 2009).

In sum, cities have good reasons to engage in transformation of the complex web of processes and actors that food systems make up, and while doing so, they have a great possibility to create global sustainability impacts.

1.2   Problematisation

The transition towards sustainable food systems, global and local, is a key subject for researchers and policy makers. Academia is discussing how to steer, monitor and harvest the strongest possible, and most holistic positive impacts from such transformations. One intent to streamline the overall global quest towards sustainability is through the Sustainable Development Goals (SDGs, an in depth presentation and discussion follows in section 2.2). Formulated by the United Nations (UN) in 2015, they offer a supra-national framework guiding and monitoring progress towards "sustainability" and many argue that food system transformation is intimately connected to their achievement (Glaser, 2012; Griggs, Nilsson, Stevance & McCollum, 2017; Rockström & Sukhdev 2016). Consequently, the SDGs can provide a lens to assess the efforts of food system transformation in terms of its contribution to global sustainability.

This thesis is concerned with assessing the local level contribution of food system transformation through UFSS, to global sustainability priorities as captured by the SDGs.

Previous research on this topic has been conducted, resulting in claims that UFSS' are promising tools for local SDG implementation (Ilieva, 2017).

Current research on the relation between UFSS' and SDGs is however, to a large extent, focused on the global North. North American cities are applauded for creating UFSS that synergize with the majority of the SDGs, UFSS' that "have the potential to amplify and consolidate national and international efforts in this direction and facilitate a more synergistic approach to SDG implementation" (Ilieva, 2017: 1). However, there is a research gap surrounding the UFSS' of cities in the Global South – and their potential synergies and connections – with the SDGs. In order to better understand to what extent UFSS' can serve as a tool for local level implantation of the SDGs, the geographical research focus needs to be extended. Cities in the global South will constitute an important arena for food transformation; in terms of production, the global food system is dependent on food produced in and transported from the global South. As for consumption – the majority of population growth and urbanization is set to take place in developing countries (OECD/FAO, 2019). Therefore, further investigation is needed to understand how city-level strategies in developing country contexts – contexts with a different set of realities and prerequisites for policy development (Reardon, 2016), synergize or oppose with global goals and targets. The analysis of UFSS' developed by local governments from the global South, and whether they confirm or reject the findings from the global North, can thus contribute with insights for the global food system. This knowledge is valuable for increased understanding of how local action can enact global goals, how that action may vary in different contexts and how the local aspects of food governance are connected to the implementation of the Agenda 2030 and the SDGs.

The number of UFSS' created by cities from the global South is on a steady rise (Reardon, 2016), and the possibilities for research through case studies are many. With the highest proportion of urban population in the world, the burgeoning of slums and the high levels of inequality and informality that comes with it, Latin American cities provide an interesting starting point for exploration of the synergies and connections between UFSS' originating from the global South, and the SDGs.

1.3   Purpose and research questions

This thesis aims to extend the research on cities from the global South as actors in a global food transformation. The purpose is to examine local governance realization of global governance priorities, or more precisely – how global goals and targets like the SDGs are being realized through UFSS' created by Latin American local governments. The primary contribution of this study is to undertake a comprehensive overview of the synergies and connections between UFSS' developed by cities located in the global South, and the SDG goals and targets. The secondary contribution is the positioning of the findings from UFFS created by cities in Latin America, in relation to a study of UFSS' from cities in North America. In order to achieve this, the following research questions have been established:

1. *In what way can Latin American UFSS be regarded as tools for local implementation of the SDGs?*

In order to answer RQ1, a supporting RQ has been added:

1.1 How do Latin American UFFS' synergize with SDG goals and targets?

2. *How do the results from Latin American UFSS' compare to findings from the global North?*

2 Literature review and theoretical framework

By discussing key concepts and theories, this chapter sets out to explore and provide an understanding of the academic field of relevance to the research purpose. The first section outlines the rationale behind cities and local governments as important actors in the global context. It also introduces the concept of UFSS and their potential strengths and weaknesses. The second section presents the SDGs, and summarizes their potential synergies with food and food systems, as well as their suggested appropriateness for local implementation. The final section highlights North-South implications through context and place sensitivity aspects of development.

2.1 Local actors

2.1.1 Powerful and ambitious cities

For the first time in history, most of the world's population is urbanized, and there is now a consensus about the importance, or even the centrality, of urban processes (Barnett & Parnell, 2016). Already in 1992 in the Rio Earth conference, cities were given a key role as active stakeholders contributing to sustainable development (Quarrie, 1992), and cities are increasingly taking active part in the sustainability debate by asking for and committing to e.g. greenhouse gas emissions (UN, Ecuador, 2016). In a range of global development and sustainability policy debates held during the last decade – including climate change, economic growth, poverty eradication, public health and food security – cities have become important units (Moragues-Faus & Morgan, 2015).

"cities have acquired a new role: namely, to drive the ecological survival of the human species by showing that large concentrations of people can find more sustainable ways of co-evolving with nature" (Morgan & Sonnino, 2010, p. 210).

Barber (2013) reasons that the pragmatism and problem solving nature of cities, the collaborative nature and creativity that cities foster, makes them better suited than nations to take concrete action. He even argues for the case to "let mayors run the world", given that nation states seem unable to react to global challenges in the way that cities are.

Consequently, both academia and the local governments themselves are increasingly viewing cities as important actors for addressing global challenges. Cities are, and can become even more influential in shaping the sustainability of the global food system. Drawing on this perspective, this study is engaged with the notion of cities as key actors in international development and the creation of a sustainable food system.

2.1.2   Governance and capacity for action

Polycentric theory, first envisaged by Michael Polanyi (1951), later applied to both urban networks studies by Davoudi (2002) and Hague and Kirk (2003), and to governance studies by Ostrom (1999), confirms the claims about powerful cities and argues for the ability of independent municipal sustainability action enabled by local capacity. The very motto of Agenda 21, to "Think global and act local" provides local actors such as cities with a mandate to play a significant role in governance for sustainable development (ICLEI, 1996). Ostrom (1999) describes polycentric systems as characterized by multiple governing authorities of a different scale rather than a monocentric unit, differing from the traditionally hierarchical notions of government where the nation state has the supreme power and influence and lower units of government operate at the directive of the nation state. Emerging from Tiebouts (1956) notion of local governments independently striving to promote efficiency in a variety of public policy areas, the polycentric understanding rests on the assumption that local actors have a better understanding of local needs and are therefore better equipped to take action than higher governmental authorities (McGinns, 1999). The polycentric assumption is that the public's presumed environmental concerns will bring the local government to act upon the public's expectations through the undertaking of local sustainability policy, and that the challenge is to bring the right resources to meet the expectations (Hanna, 2005). Homsy and Warner (2015), suggests that the celebrated polycentric governance does not, in isolation, generate a high degree of sustainability policy adoption. Proving the importance of supportive frameworks on national level, they propose that multilevel governance models are more efficient in terms of sustainability policy adoption. This suggests an inter-connected and

jointly supportive construction of governance where local policy, national legislature and international goals can work together in a consistent manner to amplify benefits and the achievement of the end goals.

The literature stream focusing on urban sustainability has received critique for ignoring the interaction of economic, social and political processes across and between different levels and systems of governance (Gibbs and Jonas, 2000; Gleeson and Low, 2000) Bulkeley and Betsill (2005) argues that it is necessary to engage with the processes which shape local capacity and political will for sustainable development at multiple sites and scales, and thereby step beyond the local as a reference frame. Frug and Barron (2008), joined by Sharp et el. (2011), argue that the ability of local governments to enact policies is limited or enhanced by the overarching political framework of higher authorities. According to Bowman and Kearney (2012), mayors and city managers report to have increasingly limited authority, and when it comes to local options for sustainability policy, Benner and Pastor (2011) claim that legal frameworks at higher governmental levels play an important role.

The multilevel governance framework is the coordinated network where local, regional, national and/or global governance bodies sets common goals and standards upon which all can act, while respecting local knowledge and diversity (Bulkeley, 2010; Corburn, 2009). Multilevel governance stresses the importance of co-produced knowledge and policy, up as well as down levels of government (Corburn, 2009), and recognizes integration of scientific knowledge with local knowledge of society as critical (Jasanoff, 2004). Homsy and Warner (2015) conclude that multilevel governance is more efficient than polycentric governance in terms of implementing sustainability policy; from North America, several examples of state programs resulting in increased local policymaking can be found; such as recycling (Feiock & West, 1993) and land conservation (Howell-Moroney, 2004). Limitations to the multilevel approach are however also documented, such as the possibility of national or regional policy to be insufficient, and that it is common that top down schemes lack local support (Burby & May, 1998).

Valid for both polycentric and multilevel contexts, Gargan (1981) formulated three components of local government capacity:

- The public understanding of appropriate policies and levels of service are summarized as *Expectations*.

- The different issues and the different set of preferences upon which action is required are summarized as *Problems*.
- Lastly, the *Resources* represent the elements that the government can bring to address the problems.

Local governance and its capacity for action seems to have certain room for individual priorities and action, but are nevertheless embedded in a national and international context.

2.1.3   Urban food governance and Urban Food System Strategies

Given the key role that cities can play in multi-level governance processes, it thus becomes relevant to review how local government apply their mandate in the area of global food system governance. UFSS are relatively new tools within municipal governance. The amount of research on urban food systems, and role of cities in transitioning their food systems to sustainability, has expanded over the last years, and so has the number of cities adopting local food charters and strategies (Cohen, 2011; Ilieva, 2017; Morgan, 2009; Sonnino, 2014; Sonnino & Spayde, 2014). In the global North alone, more than 90 cities have formulated food charters or strategies over the last 20 years (Ilieva, 2017). City level emphasis on food systems is supported by, for example, international initiatives such as the 2015 Milano Urban Food Policy Pact, signed by 184 cities from all over the world. Although lacking a single definition, UFSS tends to aim for a holistic assessment of the local food system, in order to provide an overview of the existing situation, and spell out a suggestion on how to improve and develop the food system (Ilieva, 2017). UFSS also tend to unite local government bodies, the private sector as well as civil society (Wiskerke, 2009), but without a given process or stakeholder model for its formulation. There are examples of interdepartmental groups leading the strategic work, food policy councils being introduced, or extensive public consultations made together with close collaboration with civil society.

Critical observers question the effectiveness of UFSS. Bock and Caraher (2014) conclude that in a number of European cases, the UFSS were composed of small scale and disperse activities that will not generate system change. Many food policies do not contain specific objectives or goals, which makes it difficult to monitor and evaluate the extent of their impact (Baker & de Zeeuw, 2015). Shifts in political leadership, uncertain legal and financial resources can make implementation of a long term UFSS challenging (Ilieva, 2017). There has also been noted a tendency amongst city policies to be overly ambitious in relation to the

funding available (Baker & de Zeeuw, 2015). In addition, Moragues-Faus and Morgan (2015) points to the risk that municipal focus on food is driven by, and thereby overly dependent on, highly motivated individuals – so called "food champions". They also point to the complex jurisdictional situation of many UFSS as another potential weakness; involving a range of actors and aligning between various orders of government poses challenges. Financial and human resources to analyse the food system, develop food policy or strategies, and invest in actions to execute the strategy, are other potential shortcomings of UFSS as an effective tool (Baker & de Zeeuw, 2015).

Nevertheless, there are also many advocates for the transformative power of UFSS. Municipal governments across the world have started to acknowledge and reclaim jurisdictional responsibility for food system activities. As of today, in total 186 cities have signed the Milano Urban Food Policy Pact since its launch in 2015 (Milano Urban Food Policy Pact, 2019). The pact takes its departure from the strategic role of cities in creating sustainable food systems and promoting healthy diets. Although seldom legally binding, UFSS can spur change in local legislation – or have at least done so in North America, as in the examples put forward by Ilieva (2017):

- Local laws on organic waste disposal and management (New York City local law 2013)
- Planning guides and notes for urban development, prioritizing urban food growing (Brighton & Hove City Council, 2011)
- Fast food retail bans (Los Angeles City Council, 2008)

Belo Horizonte in Brazil is a frequent example of successful UFSS implementation. Trough supplementary food assistance to food insecure households, price regulation of basic healthy staples, improved linkages between the private food sector and areas with poor food access as well as between rural and peri-urban farmers and city markets, the UFSS is considered to have introduced systemic reform. The initiatives led to – amongst other results - a 25% increase of fruit and vegetables, and a 75% reduction of child malnourishment during the first 12 years of implementation (Rocha & Lessa, 2009). Sonnino (2014; 2016) claims that the emergence of urban food strategies provides an excellent starting point for developing a new agenda, where the conventional approach of addressing single issues is updated to a systemic

approach. She also argues that the new localism that characterizes the rise of UFSS, poses important theoretical and practical lessons to the discussions of a sustainable global food system.

Cities and local governments possess, individually and within their national and international contexts, the capacity to react to global challenges such as the ones created by todays unsustainable food system. The formulation of UFSS – although debated in terms of their efficiency – is an intent to improve the local food system, that may thereby simultaneously create global impact.

2.2 Sustainable Development and the Sustainable Development Goals

The many claims for urgent food system transformation are rooted in the perceived urgent need for increased sustainability. In 1987, the Brundtland report first defined sustainability as 'being able to satisfy current needs without compromising the possibility for future generations to satisfy their own needs' (WCED, 1987: 43). In order to provide guidance for all countries and stakeholders on how to achieve sustainable development, the United Nations adopted the Sustainable Development Goals in the autumn of 2015 (UN, 2015). The 17 goals are based on the experience of the Millenium Development Goals (MDG) (Hák et al., 2016), and they are regarded as the pivotal means of focusing attention on sustainability internationally. The full overview of the SDGs, their targets and indicators can be found in Appendix A. In this paper, the SGDs will be referred to in their shortest form, as displayed in Figure 2.1.

Figure 2.1 Overview of the Sustainable Development Goals (DSDG, 2019)

2.2.1   SDG synergies with food systems

The set of global priorities that make up the 17 SDGs are fundamentally interdependent, and all interact with one another (Griggs et al., 2017). Given this integration, it is argued for the need to address the SDGs through a systemic approach, acknowledging the interconnectedness in order to achieve successful implementation (Griggs et al., 2017; Le Blanc, 2015). In line with this, cross-sectorial systems, like food, can be considered a meaningful frame of reference for the SDGs (Glaser, 2012). In terms of food policy connecting to the SDGs, synergies with SDG 2; focusing on food security, nutrition and sustainable agriculture are perhaps closest at hand. There are however claims that food system transformation poses great potential in terms of reaching a far broader scope of the SDGs and the Agenda 2030. According to Rockström and Sukhdev (2016), all 17 of the Sustainable Development Goals are connected to food systems. FAO summarizes the potential impact of food system transformation as "major" in relation to 14 SDGs, and "contributing" for the remaining three SDGs. The recent EAT Lancet Commission argues that without a radical transformation of the food system, the world risks failing to meet the SDGs (Willet et al., 2019).

Although the exact scope of, and degree to which, food and food systems are intertwined with the SDGs is unclear, there seems to be a consensus about the importance of food system

transformation in order to achieve Agenda 2030 and the SDGs.

2.2.2   Global goals apt for local implementation?

Implementation of the SDGs is deemed a complex process, where many interlinkages and contextual differences between global, national and local levels need to be considered. The importance of collaboration between different levels and actors in order to meet the new goals, is emphasized by the UN, but the 2030 Agenda does not specify where responsibilities lie and who should do what in the process of accomplishing the SDGs (Lo 2014; Weitz et al., 2015; Hoornweg et al., 2016). Cities and urban activities touch upon the majority of the 17 goals (Graute, 2016; Corbett and Mellouli, 2017; Klopp & Petretta, 2017). Graute (2016) suggest to strengthen the presence of local authorities, thereby increasing the problem-solving capacity of multilevel governance of the SDG implementation.

The Milan Urban Food Policy Pact is convinced about the ability and responsibility that cities have to work actively with the SDGs, as stated in the pact:

"Acknowledging that cities and their neighbouring territories will be active in operationalising international processes such as Sustainable Development Goals (SDGs) and targets in the post-2015 Development Agenda…" (Milano Urban Food Policy Pact, 2015: 1)

There are guides available on how to localize the SDGs (Kanuri et al., 2016), and Zinkernagel, Evans and Neij (2018) concludes that although the SDGs provide the possibility for a balanced and integrated approach to the monitoring of urban sustainable development, the large number of indicators, their generic characteristics and the absence of city-specific indicators make them challenging to apply at a local level. They call out the need for further research in order to understand how to adapt the SDGs, the targets and indicators to the urban context. Ilieva (2017) made an attempt to frame local sustainability efforts through the SDGs, when analyzing the content of UFSS from North America. The results suggest that urban food policies constitute an important dimension of the integrated implementation of the SDGs over the next decade, and she argues that

"while not without limitations, urban food systems strategies offer manifold pathways to streamline global, national and local implementation efforts and effectively forward the 2030 agenda over the next decade" (Ilieva, 2017: 1)

Even though there are challenges inherent to the implementation, there are thereby pointers towards the relevance of the application of UFSS as a local tool for implementation of the global SDGs,.

2.3   North-south considerations in achieving global goals

2.3.1   Context and place sensitivity of development agendas

The implications of today's unsustainable food system are not limited to a certain geographical area. National, regional and local governments across the world share a variety of similar challenges and concerns – securing the wellbeing, livelihoods and prosperity of its populations. Their agency and approach to respond to the challenges is however shaped by their institutional arrangements, capabilities, resources, and developmental aspirations (Bebbington, 2000). "Development" can be ascribed with different definitions, given the geographical, economic and social context, across and between networks encompassing the international, national, regional, urban levels (Pike et al., 2014). Along the same lines, long before the SDGs were introduced, Sage (1998) framed the matter as the priority given to "livelihood concerns" over "lifestyle concerns". The argument is that poverty and insecurity assume importance to people's lives, and are socially transmitted in a way that e.g. biodiversity is not. Differences between livelihoods and lifestyles are not only apparent between South and North, but also between and within countries belonging to the global South. It is important to note that the global North and global South are not homogenous geographical spaces, but that pockets of global North appear in the South, and vice versa (Dirlik, 2007). Sage (1998) illustrates with another example; in the poorest of communities, food, shelter and basic services constitute the fundamental environmental problems. In newly industrialized contexts, air pollution rises in importance, while in privileged settings a third set of different problems – availability of green public spaces, for example – would make up the environmental reality. Pike et al. (2014) argue that although development challenges are becoming increasingly global through a growing economic, political and social integration, the responses to these challenges need to properly address context. Context can, and should, thereby tailor development strategies and learning across the global North and South. Waldmueller (2015) proposes that the SDGs are mono-cultural and one-dimensional, far from

as universal and holistic as they claim to be, given their inability to acknowledge the alternative context of the global South. In an unequal world, Parves Rana (2009) highlights the problem of implementing "one size fits all" policies sprung from sustainable city discourse in the global North to cities in the global South. Myllylä and Kuvaja (2005) when discussing the concept of "eco-cities", concludes that notions derived from northern experiences and realities does not resonate with the fundamental challenges that global South contexts presents. For this reason, they suggest that such concepts, originated in a northern context, may be theoretically flawed as a tool when analyzing strategies for meeting urban environmental challenges in the South. Shiva (1993) even argues that the priorities of the global environmental agenda have created a situation where problems that have been caused - and identified - by the North are expected to be solved in the South, through northern innovation.

Consequently, to avoid the uncritical imposition of believes or findings related to SDGs and UFSS originated from the global North, it is relevant to address the context of the global South.

2.3.2   UFSS from a global North and global South perspective

Although food, primarily in the aspect of food security and malnutrition policies, has historically been a research topic aimed at the global South, the emergence of UFSS seems to be a phenomena primarily driven by the global North. The vast body of research on UFSS are studying cities from the global North, although there are also publications including examples of cities from the South. Baker and de Zeeuw (2015), as an example, highlights initiatives from Cape Town and Pretoria in South Africa, Kampala in Uganda and Dar es Salaam in Tanzania.

From existing research, it is indicated that in the global North, UFSS traditionally originates from the angle of public health, but that the trend shows an increasing focus on environmental sustainability and economic equity (Morgan & Sonnino, 2010). Improving the physical access to healthy and nutritious food, supporting community gardens and strengthening local food linkages are common themes in UFSS originating from the global North (Baker and de Zeeuw, 2015). In the global South, research points towards the fact that more attention tends to be given on income generation, employment creation and social inclusion for the urban poor through urban agriculture, increased market access for small scale farmers, and more

recently adaptation and mitigation strategies for climate change induced impacts (Baker and de Zeeuw, 2015). When narrowing the geographical scope further, the author's own search efforts (see methodology section 3.0) indicates that UFSS as a mainstream municipal tool is yet to emerge in Latin America. This finding goes hand-in-hand with the limited academic attention that UFSS in the Latin American context has received. 22 Latin American cities (together with 16 North American cities, 101 European cities, 28 African cities and 27 Asian cities) have signed the MUFPP (Milano Urban Food Policy Pact, 2019), thereby recognizing cities as strategic actors within the global food system, but the literature produced on the topic of UFSS in Latin America is scarce. There are exceptions, as the previously mentioned Belo Horizonte in Brazil, as well as the two cities researched in this study; Quito and Medellín (Dubbeling, Santini, Renting, Taguchi, Lançon, Zuluaga & Andino, 2017).

Consequently, drawing conclusions from Northern findings, such as the ones indicating the potential of UFSS as a local tool for implementation of the SDGs, is difficult. Thus, the present study sets to investigate the synergies and connections between Latin American UFSS and the SDGs, and position them in relation to findings from the global North.

2.4   Theoretical grounding

Drawing from the key findings of the literature review, the theoretical grounding of this thesis can be outlined as the following; The literature review concludes that different models and levels of governance are needed in order to address the challenges of sustainable development, and sustainable food system transformation, and that cities and local governments have a significant role to play in the achievement of the SDGs. The link between North American UFSS as a tool for local action directed towards SDG enactment is documented, even though the efficiency of UFSS stemming from the global North remains debated. The context of the global South may create different prerequisites in terms of agency, resources and priority of cities to contribute to SDGs through UFSS. The Latin American context present a research gap both in terms availability of UFSS, feasibility of the UFSS, as well as the level of overlaps between its content and the SDGs. In order to answer the research questions, the following analytical support was deducted from existing literature, in order to analyze the findings.

The analytical framework presents and links two knowledge streams together as the analytical base for fulfilling the purpose of thesis. To interpret the results from the policy analysis conducted on three Latin American UFSS, insights from multilevel and polycentric governance, and concepts from the north-south discourse will be applied in parallel.
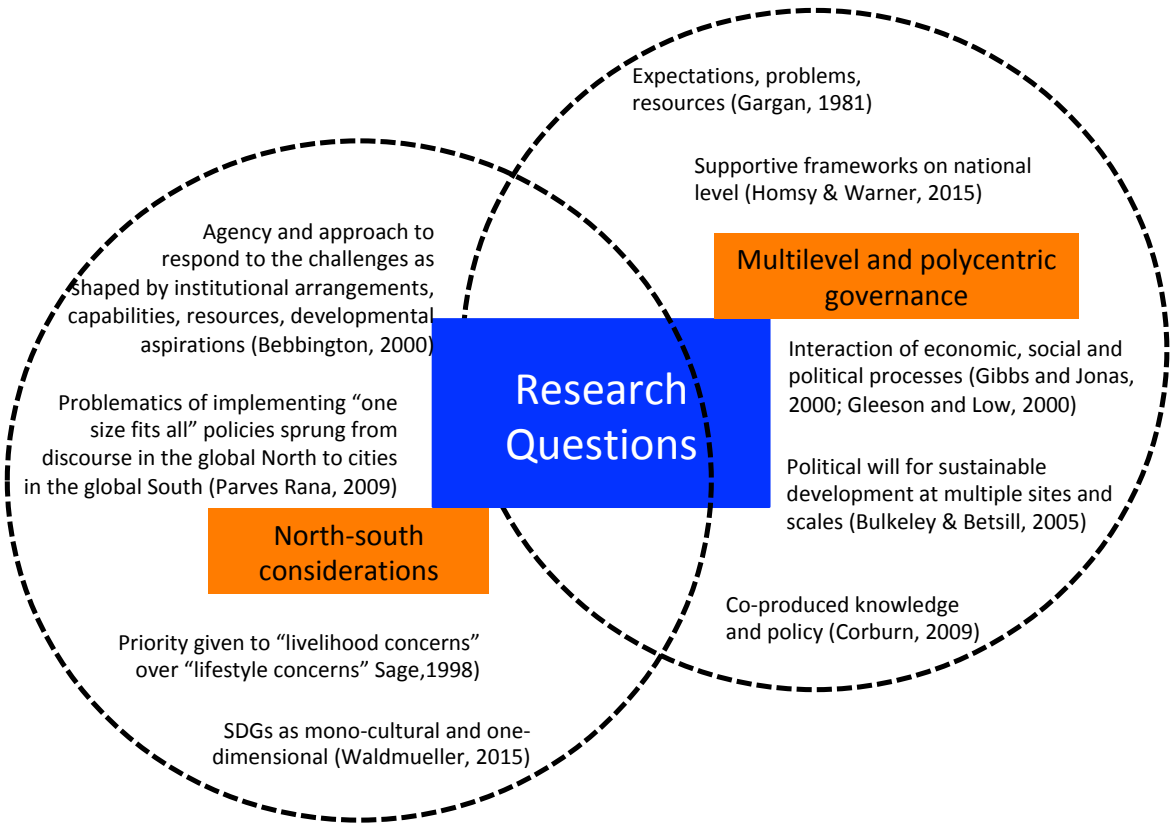
Figure 2.2 Analytical framework

3   Methodology

This chapter provides an outline of the research process. Firstly, it provides the research philosophy and approach. Building on these standpoints, the chapter then outlines the research design, discusses the empirical material collection, and analysis method. Lastly, reflections on the limitations and potential weaknesses of the study are made.

3.1   Research design and approach

This study is based on the policy analysis of three Latin American Urban Food System Strategies (UFSS), and aims to detect synergies and connections between the UFSS and the SDGs. Consequently, three UFSS where collected and analyzed using critical analysis and coding techniques. One part of the analysis was oriented towards the goals, indicators, and the full content of the UFSS. Subsequently, the results from the coded analysis were arranged to allow for comparison between the three Latin American UFSS and earlier findings from North American UFSS.
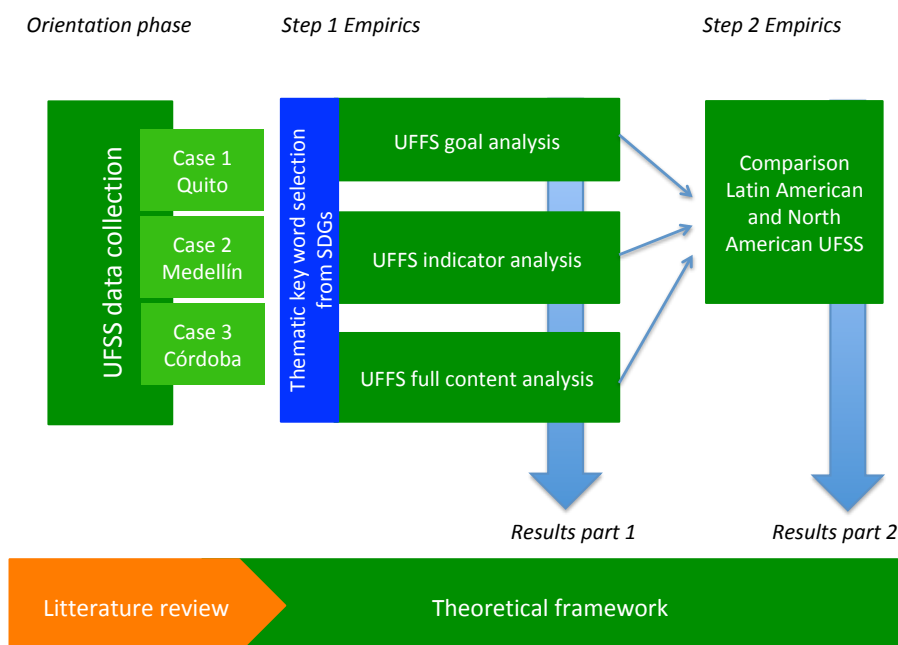
Figure 3.1 Research design

Across the literature, "case study" is referred to in multiple ways; it is treated as a methodology, a method, an approach, a research design, research strategy, and as a form of inquiry (Anthony and Jack, 2009; Brown, 2008; Creswell, 2014; Gerring, 2004; Merriam, 2009; Stake, 1995, 2006; Yin, 2014). Given that the purpose of this research is to understand local enactment of global goals, the present study conforms to Yin's (2014) definition of case study as a research method. Case study offers versatility through its agnostic approach whereby "it is not assigned to a fixed ontological, epistemological or methodological position" (Rosenberg & Yates, 2007, p.447). Philosophically, this case study therefore departs from the generous notion that "case study research is supported by the pragmatic approach of Merriam, informed by the rigour of Yin and enriched by the creative interpretation described by Stake" as expressed by Brown (2008, p.9). The choice of using thematic coding, and categorizing the qualitative findings deducted from the UFSS into quantitative data connects to the ideals of objectivity and generalizability of the post-positivist line of though (Yin, 2014). Nevertheless, as the research consider meaning to be created from each UFSS, the epistemological view of the study is also shaped by a constructivist approach. Adhering to the pragmatic constructivist ideas from Merriams (1998), the analysis aim to generate inductive reasoning and interpretation rather than testing hypothesis. In order to position and reflect upon the South-North differences and future research, an interpretative position as proposed by Stake (1995) was chosen, that views reality as multiple and subjective, based on meanings and understanding.

3.2   Empirical material collection

For the purpose of this study, UFFS were defined as "all municipal policy guide, strategies or plans related directly to agro alimentary questions and/or food and nutrition security". The availability of such strategy or plans, proved to be of significance for the empirical material collection, as food policy documents, and related information was not easily accessible. The access to information and the matter of practicality determined the choice of cities, through the following steps of data collection;

The data collection was initiated through a systematic internet search in Spanish, including all Latin American cities that has signed the MUFPP, together with multiple words related to

food and nutrition strategies / plans. Example of search word combinations: *Buenos Aires plan alimentaria; Buenos Aires estratégia alimentaria; Buenos Aires agroalimentario; Buenos Aires plan nutricional*.

The search efforts were conducted during 2 weeks in April 2019, and resulted in the identification of 1 policy document – El Plan Departamental de Seguridad Alimentaria y Nutricional del Departamento de Córdoba 2013-2019, developed by the province of Córdoba, Colombia. Thereafter, municipal websites were scanned for relevant documents and policies. Out of 22 Latin American signatory cities of the MUFPP, 2 had their UFSS available on their municipal websites (Sao Paolo, Brasil and Medellín, Mexico), in the form of PDF documents possible to download. 7 cities provided mail addresses to civil servants involved in the area of food and nutrition security, and out of 7 contacted by mail, 4 replied. Out of the 4 replies, 2 city representatives provided the requested UFSS (Mérida, Mexico and Quito, Ecuador), and 2 came with the response that the city did not have one.

In total, 5 Latin American UFSS were collected – developed by:
- The city of Quito, Ecuador
- The city of Sao Paolo, Brasil
- The province of Córdoba, Colombia
- The city of Medellín, Colombia
- The city of Mérida, Mexico

Two of the collected UFSS were excluded from the analysis. The Mérida UFSS was not included in the critical analysis, as it did not fulfill the requirements of containing goals and indicators. The one UFSS that was not authored in Spanish - Sao Paolo, Brasil - was excluded for language efficiency reasons.   As a result of the data collection, the empiric base for the analysis were the UFSS developed by the cities of Quito and Medellín, and the province of Córdoba.

To validate and test the results from the coding and critical analysis, and as additional data input to the discussion, opinions and experience from civil servants working in the areas of food and nutrition security was planned. An inquiry to the office of the Milano Urban Food Policy Pact resulted in a list of contact persons in each signatory Latin American city. A

request for a Skype interview was sent out to 16 city representatives. Unfortunately, none accepted to participate in an interview. Due to the lack of response, this method was thus abandoned. Accordingly, the focus of the study was then limited to a policy analysis, focusing on the written commitments from local governments, rather than implementation in practice.

3.2.1   Reflections on collected UFSS

The choice of Latin America as the regional context for the study, was deliberate and based on the rapid urbanization and the high levels of socio-economic inequality that are inherent to the region. The selection of *which* Latin American cities to include in the study, however, was largely based on availability of information, and not through strategic choice. Large cities, with populations bigger than nations, creates bigger impact - even small changes from the city towards achieving the SDGs can be substantial in terms of its effect on the totality. From this perspective, a sample of cities including Sao Paolo, Mexico City, Lima and Bogota (the four biggest cities in Latin America, together making up a population of close to 40 million inhabitants) would be a more suitable selection, but lack of data did not allow for this selection. However, urbanization is and will only partially be taking place through growth of the so called megacities, with populations larger than 10 million people (Sorensen & Okata, 2010). As only about 10% of the worlds urban population will reside in megacities (Cohen, 2006), whereas half of it will live in smaller cites – the majority of the urban growth will take place in smaller cities (less than 1 million inhabitants) and medium size cities (1-5 million inhabitants) – meaning that UFSS of small and mid sized cities will be of significance for the future.

It is notable that one of the UFSS, the Córdoba strategy, is a provincial UFSS and not a city-wide one. It is important to highlight that the population size of the province is comparable to the cities of Quito and Medellín, but the Córdoba strategy represents a more rural place than the other two. The biggest city in the province is Montería, with approximately 400 000 inhabitants. Although the UFSS to a larger extent represent rural and peri-urban areas than the other two, urban-rural linkages are important parts of the majority of UFSS, where the geographical approach tend to be of city-region character (Jennings, Cottee, Curtis, Miller, 2015; Moragues-Faus & Morgan, 2015). The inclusion of the provincial UFSS is thereby not a weakness of the study. Rather, the inclusion of two UFSS developed by Colombian local governments creates the possibility to explore multi-level governance aspects, the degree to

which the cities are subjects to nation wide agendas, or local change agents creating their own contexts, largely independent from national agendas.

3.3   Analysis of empirical material

The systematic review of the three policy documents was conducted through critical content analysis and coding techniques (Miles & Huberman, 1994; Bryman, 2012; Marshall and Rossman 1999). The thematic analysis method allowed for a structured coding approach, increasing research validity and reliability through its ability to mimic the analysis process and comparison of results between the three UFSS (Bryman, 2012).

3.3.1   UFSS content analysis

Firstly, a goal level assessment was carried out, focusing on the level of alignment between UFSS goals and the SDGs. The goals were extracted from each UFSS, compiled and analyzed. Through a thematic analysis, the UFSS goals where grouped into themes and linked towards the most relevant SDG goals (see Appendix B). Some UFSS goals, being broad in their formulation, where linked towards more than one SDG goal. For example the Medellín goal of *"Contribute to the improvement of the nutritional situation and the state of health of the population"* (p.71) was linked to both SDG 2 (Zero Hunger) and SDG 3 (Good Health) The results were summarized in a 3x17 matrix and visualized in a graph.

The same analysis was made to identify of gaps and areas of overlap between the UFSS indicators and the SDGs; the indicators from each UFSS were extracted and analyzed one by one, then grouped into themes and linked towards the most relevant SDG target, based on the content of the indicator (see Appendix B). The number of indicators derived from the planes differed – Quito had 15 indicators, Medellín 51 and Córdoba 25. To aid the just comparison, the results of the indicator level analysis were therefore presented in percentage rather than absolute numbers. Several indicators were potentially relevant for the implementation of more than one SDG, but in order to secure consistency and clarity, each indicator is only cited once. For example, the indicator from the Quito strategy *"Number of strategies that favor the adoption of cleaner production, marketing and transformation practices"* was matched towards target 12.4 (achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and

significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment), but could be argued to also support both SDG 12 target 12.2 (achieve the sustainable management and efficient use of natural resources) SDG target 13.2 (Integrate climate change measures into national policies, strategies and planning) or even SDG target 7.2 (increase substantially the share of renewable energy in the global energy mix).

An additional analysis was then carried out, with the aim to detect overlaps and thematic synergies between the UFSS in their totality and the SDGs. In order to reduce the SDG targets to key ideas that could easily be identified in the UFSS, core thematic words were selected from each of the SDG targets and when relevant, from their respective indicators. See example (translated to English from Spanish, the language used for the thematic word selection and scanning) in table 3.2.

Table 3.1 Example of deriving core thematic words

Target 1.1	Indicator	Core thematic words representing Target 1.1
By 2030, eradicate **extreme poverty** for all people everywhere, currently measured as people living on **less than $1.25** a day.	Proportion of population below **international poverty line** disaggregated by sex, age group, employment status, and geographical location (urban/rural)	• *extreme poverty* • *less than $1.25* • *international poverty line*

With the intent to keep the categories internally consistent and externally divergent (Marshall and Rossman 1999, p154), no core thematic word was repeated in more than one target. Additionally, the SDG targets named with letters (ex. Target 1.a) where not included in the analysis due to the difficulty of separating them content wise from the numbered targets (ex. Target 1.1). There was no fixed amount of thematic words extracted per target.

Each UFSS was then scanned for the selected core thematic words, and each paragraph that contained a matching word was extracted and catalogued in a data set, sorted according to the target they were linked to. A theme, as understood by Braun (2006), captures important features of the data in relation to the research question, while simultaneously representing a pattern of meaning within the data. As the coding was conducted, and the paragraphs where

key thematic words appeared were read "interpretively" (Mason, 2002), contextual themes were identified. The emerging themes resulted in the creation of four categories, describing these different contexts, and the findings from the thematic analysis where structure according to their purpose in the strategy. The core thematic words appeared in the following contexts in the UFSS:

- As included in a reference to law or agreement
- Addressed as background facts or identified as driver of the problem
- As part of a strategic direction or vision
- As included in a proposed action

The categories allowed the understanding, not only the quantitative extent of the included thematic words, but also of their meaning for the UFSS and their potential relevance for the achievement of the SDGs. Examples of each category, derived from the Medellín strategy, can be found in Table 3.2.

Table 3.2 Example of categories displayed through SDG 1, target 1.2

Target 1.2 - *By 2030, reduce at least by **half the proportion** of men, women and children of all ages living in **poverty** in all its dimensions according to national definitions.*	
Categories	**Paragraphs containing core thematic words derived from SDG goals and targets**
Included in a reference to law or agreement:	"CONPES 102 2006 - Establishes the protection network for **poverty** reduction" (Alcaldia de Medellín, 2016: 139)
Addressed as background facts or identified as driver of the problem:	"In the case of **poverty**, Medellín experienced a decrease between 2008 and 2013 of 8.9 percentage points, from 25% in 2008 to 16.1% in 2013; while in extreme **poverty** the reduction was greater, going from 6.1% to 3.0% in the same period of time." (Alcaldia de Medellín, 2016: 35)
Part of a strategic direction or vision:	"It is important to emphasize that the social determinants approach,…to identify carefully the territories and the populations that present greater economic and social inequities and …. take as a starting point the targeting …. households that are in extreme **poverty**" (Alcaldia de Medellín, 2016: 41)
Included in a proposed action:	"Cash handouts to households in situations of **poverty** or extreme poverty, which must be invested under the conditions of the program that delivers them; directed to the improvement of the situation of economic access to food." (Alcaldia de Medellín, 2016: 109)

3.3.2 Comparative analysis between Latin American UFSS' and North American UFSS'

The intention of this analysis is to build on the findings from Ilievas (2017) systematic review and comparative analysis of the SDGs of the 2030, of the New York, Philadelphia, Los Angeles, Chicago and Toronto UFSS. To aid the comparison between North and South UFSS, the results from the systematic review and content analysis made of the Latin American UFFSS was compiled to match the methodological design of the reference study. Consequently, the list of matches inherent to each SDG was then compiled, assessed and presented in the same 4x17 matrix used in the Ilieva (2017) study. The legend was constructed to mirror Ilievas (2017) with four levels of convergence. Depending on the prominence of the SDG theme, a score from zero (the lowest level of prominence) to three (the highest level of prominence.

Table 3.3 Legend for assessment of level of convergence between UFSS and SDGs. Adapted from Ilieva (2017)

Symbol	Level of convergence	*Ilievas (2017) criteria (used to gauge the North American UFSS)*	Authors Critieria (used to gauge the Latin American UFSS)
OOO	synergies with the SDG are prominent	*The SDG is present as an explicit goal/objective and supported by proposals for two or more concrete actions*	The SDG is addressed as a goal, and supported by 2 or more proposed actions
OO	synergies with the SDG are extensive	*The SDG is an explicit goal/objective or is extensively addressed as a subpart of another goal/objective*	The SDG is addressed as a goal, and supported by 2 or more proposed actions
O	synergies with the SDG exists	*The SDG is only mentioned in passing or constitutes a small subpart of a goal/objective*	2 or more of the SDG targets are addressed as strategic directions, and 2 or more proposed actions
-	the UFSS does not have any synergies with the SDG	*There is no explicit mention of this SDG.*	The UFSS does not have any synergies with the SDG: Less than four matches within , a background/driver or through a proposed action

Note that the legend differs to a certain extent between Ilievas (2017) gauging and the authors. In order allow for reflective comparison, the author has tried, to the best of her ability, to mirror the different levels of convergence, but translating the meaning of "extensively addressed as a subpart of another goal", "only mentioned in passing" and "a small subpart" (used in Ilievas (2017) legend), to the coding results generated in this research, proved difficult.

3.4   Limitations to the research

The main weakness of this research is that it builds on a limited empirical base. Three policy documents does not generate findings that are representative of all Latin American cities, and no general conclusions can be drawn of the Latin American context. Given the primary qualitative nature of this study, the concepts of credibility, transferability, dependability and confirmability have guided the research process (Lincoln & Guba, 1985). To exhaust the research question fully, and support creation of regional hypotheses, a greater number of UFSS is needed. Transferability of the study – also referred to as the generalization of the findings by Bryman and Bell (2015), is thereby deemed as low. Nevertheless, with the aim to provide understandable insights to other researchers (Bryman, 2012) the research process and method has been carefully explained in order to facilitate a potential replication and extension of the study (Shenton, 2004). Thematic coding is a straight-forward method, and as it is subject to little or no bias, repeatable, scalable and easily conducted in a fair way (Marshall & Rossman, 1999) over three UFSS, the method conforms to the notions of stability, consistency and accuracy, which together comprise the component of dependability (Lincoln & Guba, 1985). The thematic coding aided the exhaustion of the data, but the results can be misguiding if left without a critical assessment and the search for alternative meanings and explications (Bryman, 2012; Easterby-Smith, Thorpe & Jackson, 2015). The method risks to not capture, in its entirety, the meaning that is sought after. Measures that were taken to avoid this risk were the secondary, interpretative, analysis. As an intent to further increase the level of credibility, the use of triangulation, as suggested by Bryman (2012) and Easterby-Smith, Thorpe & Jackson (2015), an interview with municipal official in Latin American cities was planned. The literature review and findings from the analysis of the UFSS helped design the semi-structured interview guide, that ended up not being used in this study due to lack of

response. General questions on using local policy as a means towards implementing the SDGs, the connection between national level and local level policy in the area of food were formulated to add to the discussion and strengthen the arguments. Given the lack of response, this triangulation was never applied, which leaves the analysis of the empirical findings without the needed critical assessment and the search for alternative meanings and explications (Bryman, 2012; Easterby-Smith, Thorpe & Jackson, 2015).

As a final reflection, it can be pointed out that there are alternative, perhaps better suited, methods of detecting overlaps between the UFSS and the SDGs. The usage of grounded theory as the choice of analysis, as a way to derive themes from the UFSS and compare those to the SDG goals and targets, would have been a way to minimize the authorial voice (Seale, 1999), focusing to a larger extent to the meaning of the data-sets rather than those imposed by the researcher through the thematic analysis anchored in key words from the SDGs.

3.5   Introducing the case studies

Before presenting the empirical findings, this section will provide a (very) short introduction of Quito, Medellín and Córdoba – the three local governments authoring the UFSS that will constitute the base of the analysis. In addition, a brief description of the regional and national context that the cities are embedded in, will be presented.

3.5.1   Quito, Medellín and the province of Córdoba

Two cities and one province, located in Latin America, have created the UFSS that the present study analyses. Quito is the capital of Ecuador, the largest city both in terms of population and GDP/capita. Medellín is the second largest city and economic center of Colombia. The Province of Córdoba, with its capital Montería, is one of the poorest provinces in Colombia.

Table 3.4 Population, poverty and food insecurity rates of Quito, Medellín and Córdoba based on the analyzed UFSS (Departamento de Córdoba, 2013; Alcaldia de Medellín, 2016; Alcaldía de Quito, 2019)

	Quito	Medellín	Córdoba
Population	1,6 million inhabitants	2,5 million inhabitants	1,6 million inhabitants
Poverty	25,6% (2018)	16,1 % (2013)	61,5% (2012)
Extreme Poverty	10% (2018)	3% (2013)	27% (2012)
Food insecure households	*Not specified in UFSS*	*Not specified in UFSS*	60,2% (2012)
UFSS first page			

Figure 3.2 Map showing the location of Quito, Medellín and the province of Córdoba. Source: the author

3.5.2   National context

With a population of 46 million, Colombia's social, economic and political landscape has been significantly impacted by sixty years of conflict, displacing 7,5 million people, creating illicit economies and environmental damage and land expropriation (UNDP, 2018a). In some geographical areas, up to 90% of the victims of conflict and rural dispersed population cannot meet their basic needs (Human Rights Watch, 2019). GDP grew an estimated 2.5% in 2016, but particularly areas with large ethnic populations, have not benefitted from Colombias economic progress (IMF, 2019a). Approximately 43% of the Colombian population is food insecure, but the gravity varies across regions; in the Atlantic coast region the dietary intake is 1000 kcal less per person per day than in Bogotá. The climate risk index classifies Colombia, with exposure to floods, landslides, volcanic activites and earthquakes, as medium risk (UNDP, 2018a). In the last 20 years, the GDP contribution of farming has declined from 15.3 to 6.8% (IMF, 2019a).

During the past decade, Ecuador has made considerable progress with economic and social development. Counted as an upper-middle-income country, poverty declined from 37 to 22% during 2006-2014 (IMF, 2019b), but the country still faces challenges related to chronic malnutrition, limited access to food and employment for refugees, vulnerability to natural disasters and climate change, and limited opportunities for smallholder farmers (UNDP, 2018b). With a population of 17 million, the country also faces rising levels of overweight and obesity. Population growth, soil erosion, exposure to natural disasters, reduced land productivity, land and environmental degradation and climate change are threatening the sustainability of Ecuador's food systems (World Food Programme, 2017).

Table 3.5 Government priorities adapted from World Food Programs summary (World Food Program, 2017; World Food Program, 2018).

Ecuador	Colombia
i) The Ecuadorian constitution of 2008 emphasizes human and environmental rights. Articles 12 and 281 of the constitution guarantee the right to safe and permanent access to healthy and nutritious food	i) The 2015-2018 National Development Plan (PND – Plan Nacional de Desarrollo) emphasizes peace building and governance, reduction of inequalities and strengthening of education
ii) The Coordinating Ministry of Social Development leads multisectoral programmes for targeting the causes of malnutrition	ii) The 2013-2019 National Food Security and Nutrition Plan (PNSAN) has three priorities; ensuring adequate supply and access to nutritious food, enhancing social welfare and quality of life through prevention and reduction of malnutrition and supporting healthy lifestyles, plus improving food and water quality.
iii) The ministry of Public health drives the Full Childhood, Healthy Habits and the Comprehensive Care programmes.	
iv) The Agenda Nacional de Igualdad para la Movilidad Humana (National Equality Agenda for Human Mobility) emphasizes the rights of refugees and returnees.	
v) The National Climate Change Strategy 2012-2025 is expected to create mechanisms for inter-sector dialogue on prioritizing and mainstreaming climate change	

4   Empirical findings

The upcoming chapter introduces the empirical findings from the policy analysis that this study builds on, in order to gain insights about the synergies and connection between Latin American UFSS' and the SDGs. The data collection and analysis created is organized in two categories of empirical findings. Firstly, constituting the main part of the empirical findings, are the results from the coded analysis of the UFSS overlaps with SDGs. As a second part, the findings from the Latin American study is compared to the results from a study made on North American UFSS.
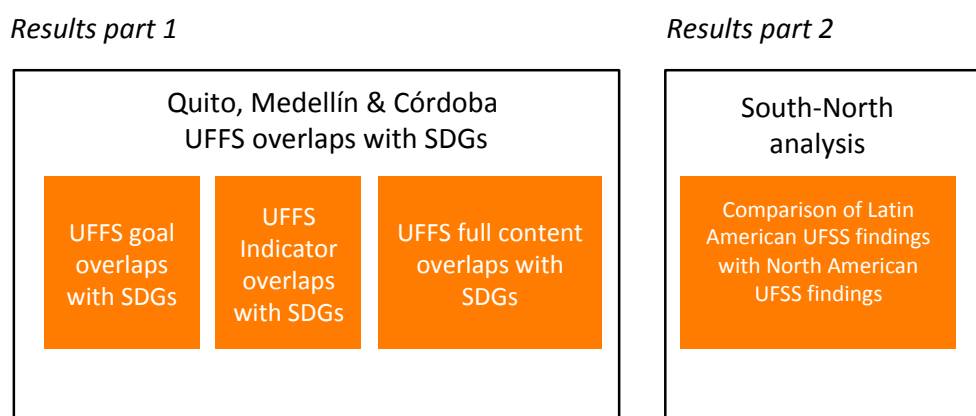
Figure 4.1 Structure and content of empirical findings

4.1   Overlaps between Latin American UFSS' and SDG goals and targets

This section presents in detail the results revealed by the systematic review and comparative analysis of the UFSS of Córdoba, Medellín and Quito, and their overlaps with the goals and targets of the SDGs. The first analysis is concerned only with the explicit goals of each UFSS,

the second focuses purely on the indicators of each UFSS, and the third has an extended focus to include the full content of the UFSS in the search for overlaps with the SDGs.

4.1.1 UFSS' goal overlaps with SDGs

The comparative goal-level analysis of the Quito, Medellín and Córdoba UFSS' reveals certain overlap between the SDGs and the goals set forth at a local level through the UFSS'. The SDG that is subject to the highest degree of overlap is, perhaps not surprisingly, SDG 2 (Zero Hunger). The level of overlap was also extensive with SDG 3 (Good Health). With the exception of the shared emphasis on SDG 2 (Zero Hunger), the analysis did not uncover any clear pattern between the three UFSS'. Rather, it seems like the concept of UFSS provide a flexible base in terms of the goal focus chosen by the municipality.

The two Colombian strategies share the focus on poverty, hunger and health. Both UFSS' depart from the 2013-2019 National Food Security and Nutrition Plan (PNSAN) and are thereby in line with the priorities defined as Colombias national focus in the area of food, as summarized by the World Food Programme (see table 3.5). However, Córdoba has a wider span of overlap than Medellín does, also including SDG 6 (Clean Water & Sanitation), SDG 8 (Decent Work and Economic Growth), and SDG 12 (Responsible Consumption & Production). The Quito strategy, with its forewords written by its initiator, the right wing mayor Mauricio Rodas, positions itself as an "agroalimentary" strategy, and while it does not overlap with SDGs focused on poverty and health, its goals are instead focused on SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable cities and Communities), SDG 12 (Responsible Consumption & Production) and SDG 16 (Peace, Justice & Strong Institutions). Hunger and nutrition is mentioned as part of the foreword but the Quito UFSS departs from a much broader approach, placing emphasis on the systemic challenges and opportunities of the urban food system, in a way that the Colombian UFSS' does not.
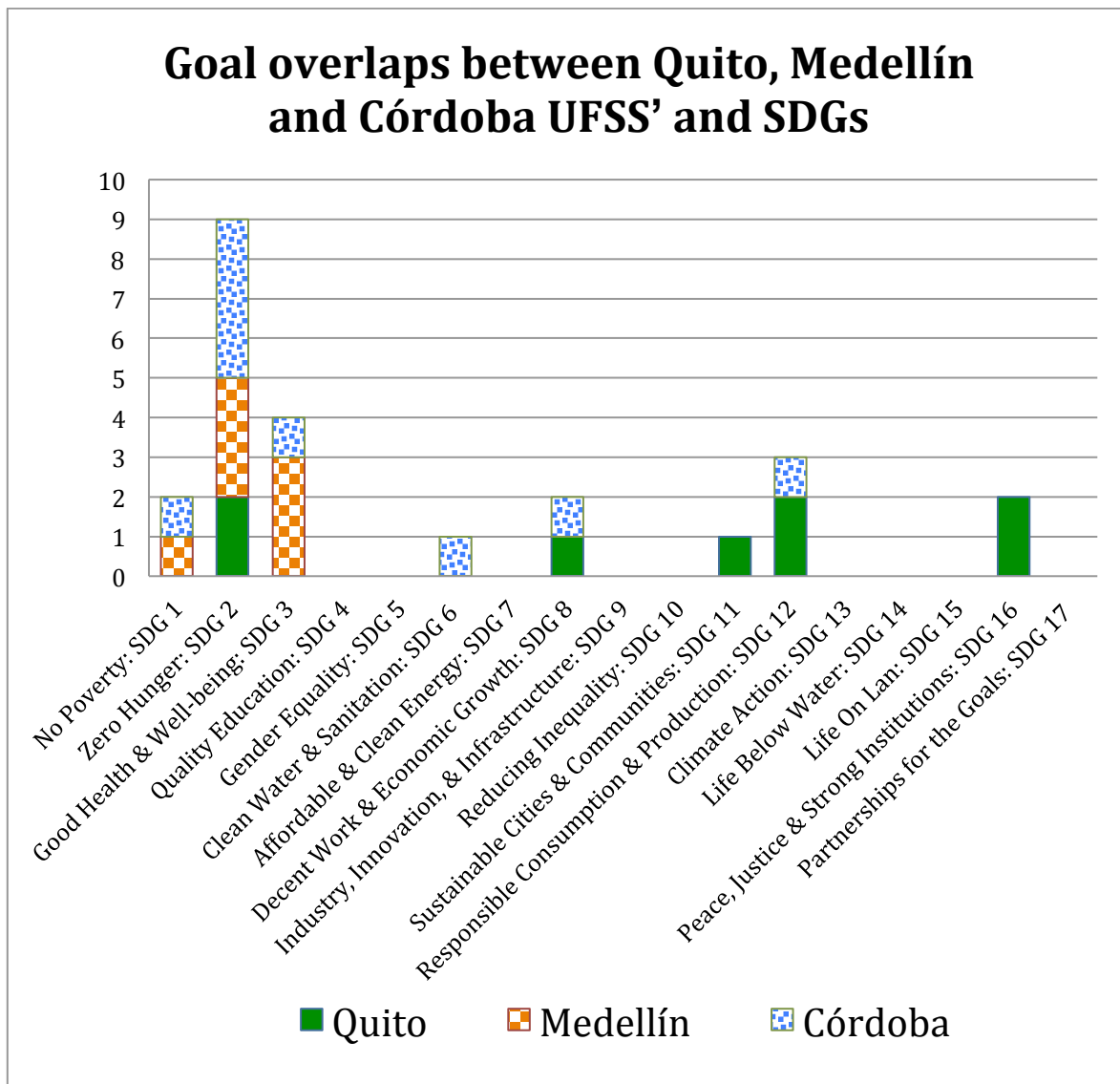
Figure 4.2 Summary of goal level overlap between Quito, Medellín and Códroba UFSS' and SDGs

The number of goals of each UFSS is limited, Quito has 5 goals whereas Medellín and Córdoba have 7 goals each. Consequently, the analysis revealed that more than half – 9 of the 17 SDGs – were not represented in any of the three UFSS' through goals set forward on a local level; no convergence was identified with the SDGs capturing education, gender equality, affordable and clean energy, industry, innovation, and infrastructure, as well as the reduction of inequality. Perhaps more surprisingly, given the large negative externalities that food production accounts for, neither biopreservation or climate action (SDG 13, SDG 14, SDG 15) were present in any of the three UFSS'.

4.1.2 UFSS' indicator overlaps with SDGs

Indicator overlaps between Quito, Medellín and Córdoba UFSS' and SDG goals and targets
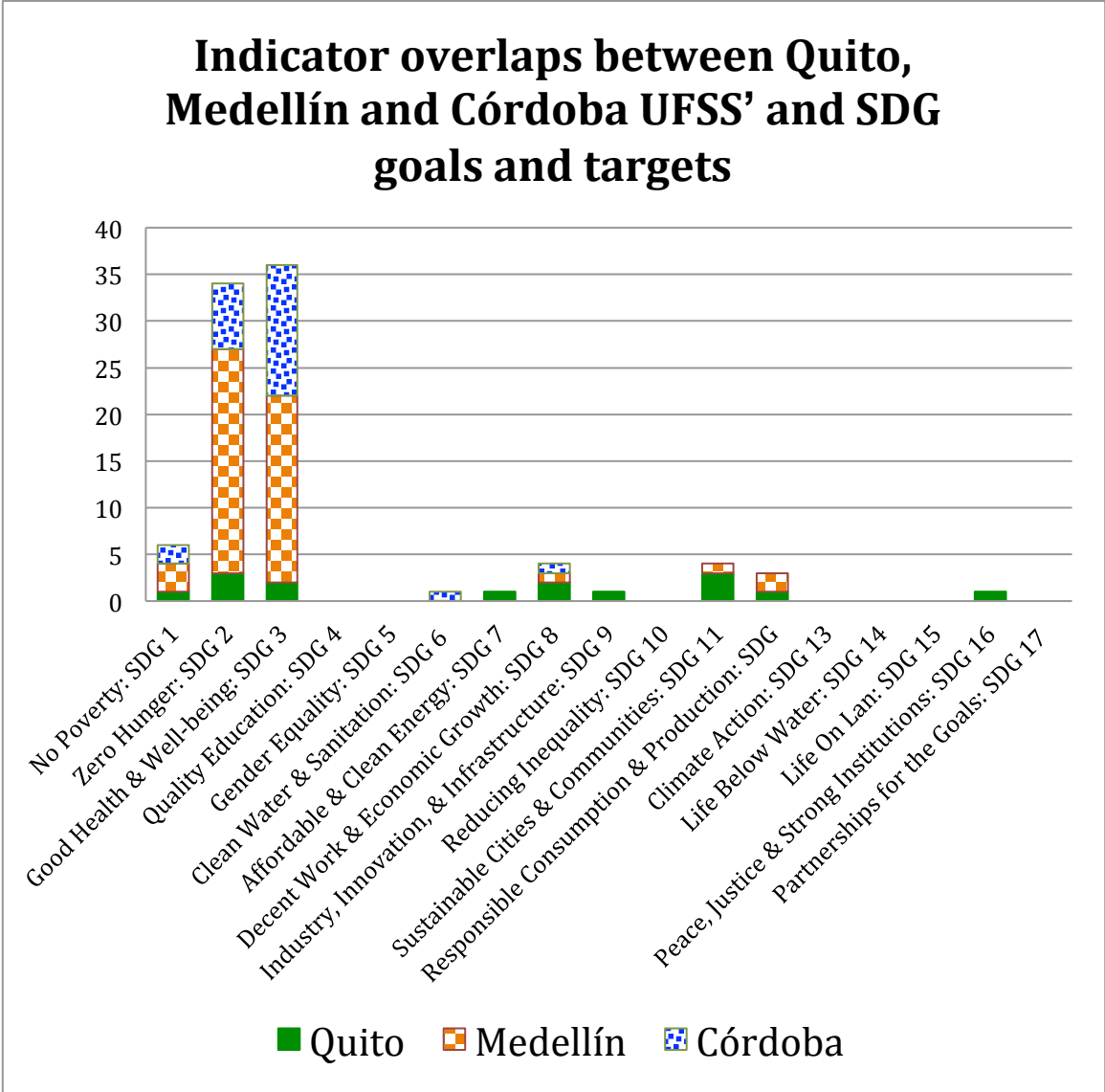
Figure 4.3 Summary of indicator level overlap between Quito, Medellín and Códroba UFSS' and SDGs

As expected, the results from the indicator level analysis mirror, to a large extent, the results from the goal level analysis. However, it is notable that certain discrepancies between the two sets of results can be identified:

- Quito indicators contain matches with a broader range of SDGs than what was identified on the goal level analysis
- Medellín indicators follow the goal, but also extends it scope in terms of overlaps

- Córdoba indicator overlaps mirror the results of the goal level, with the exception of the absence of indicators concerned with responsible production and consumption
- It is also noteworthy, that the two Colombian UFSS' share a more similar pattern in the indicator interface than what was found on a goal-level.

4.1.3   UFSS' full content overlaps with SDGs

The three UFSS' are different in terms of length, language, use of pictures and graphics. The Quito strategy is a shorter, less detailed document with emphasis placed on illustrative explanations, pictures and info graphics. What all three documents have in common is the significantly higher degree of overlaps detected in the full content analysis, rather than on the goal and indicator levels. On the one hand, this could indicate that the UFSS' features high amount of excessive, obsolete content that is not directly related to the goals and targets of the strategies. On the other hand, it could mean that the ambitions to cover a broader set of areas is hindered by the lack of resources to collect, treat and analyze the large amounts of data needed (Zinkernagel, Evans & Neij, 2018) to extend the number of goals and indicators ascribed to the UFSS.

The overlaps found between the examined UFSS' and the goals and targets of the SDGs, all belong to the same four specific contexts, regardless of which UFSS they belong to. The identified overlaps, overlaps identified can all be ascribed to as either;

- Theme 1: Included in a proposed action
- Theme 2: Part of a strategic direction
- Theme 3: Addressed as background or problem driver
- Theme 4: Included in a reference to law or agreement

The upcoming section will first display a graphic overview (Figure 4.4) of the identified four types of contexts, and how the disposition of overlaps with SDGs is divided within and between them. Subsequently, a short summary of each theme – with potential highlights and examples – will be presented.

Summary of Quito, Medellín and Córdoba UFSS synergies with SDGs

Number of coding results

	SDG 1: No Poverty	SDG 2: Zero Hunger	SDG 3: Health & Well-being	SDG 4: Quality Education	SDG 5: Gender Equality	SDG 6: Water & Sanitation	SDG 7: Affordable & Clean Energy	SDG 8: Work & Economic Growth	SDG 9: Industry, Innov., & Infrastr.	SDG 10: Reducing Inequality	SDG 11: Sustainable Cities & Communities	SDG 12: Respons. Consump. & Produc.	SDG 13: Climate Action	SDG 14: Life Below Water	SDG 15: Life On Land	SDG 16: Peace, Justice & Str. Instit.	SDG 17: Partnerships for the Goals
cross-reference to law or decreto	17	13	16	7	2	11	0	0	4	5	0	3	3	0	1	2	4
adressed as background / driver	18	68	64	26	4	18	7	3	22	26	3	13	6	7	9	5	6
adressed as a strategic line	13	32	2	15	2	3	2	2	5	12	0	8	9	2	4	5	7
supported by proposed action	8	25	12	10	3	18	3	4	8	8	1	5	2	2	1	5	7

Figure 4.4 Summary of Quito, Medellín, Córdoba UFSS' content synergies with the SDGs

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Theme 1: SDG overlaps included in proposed actions of UFFS'
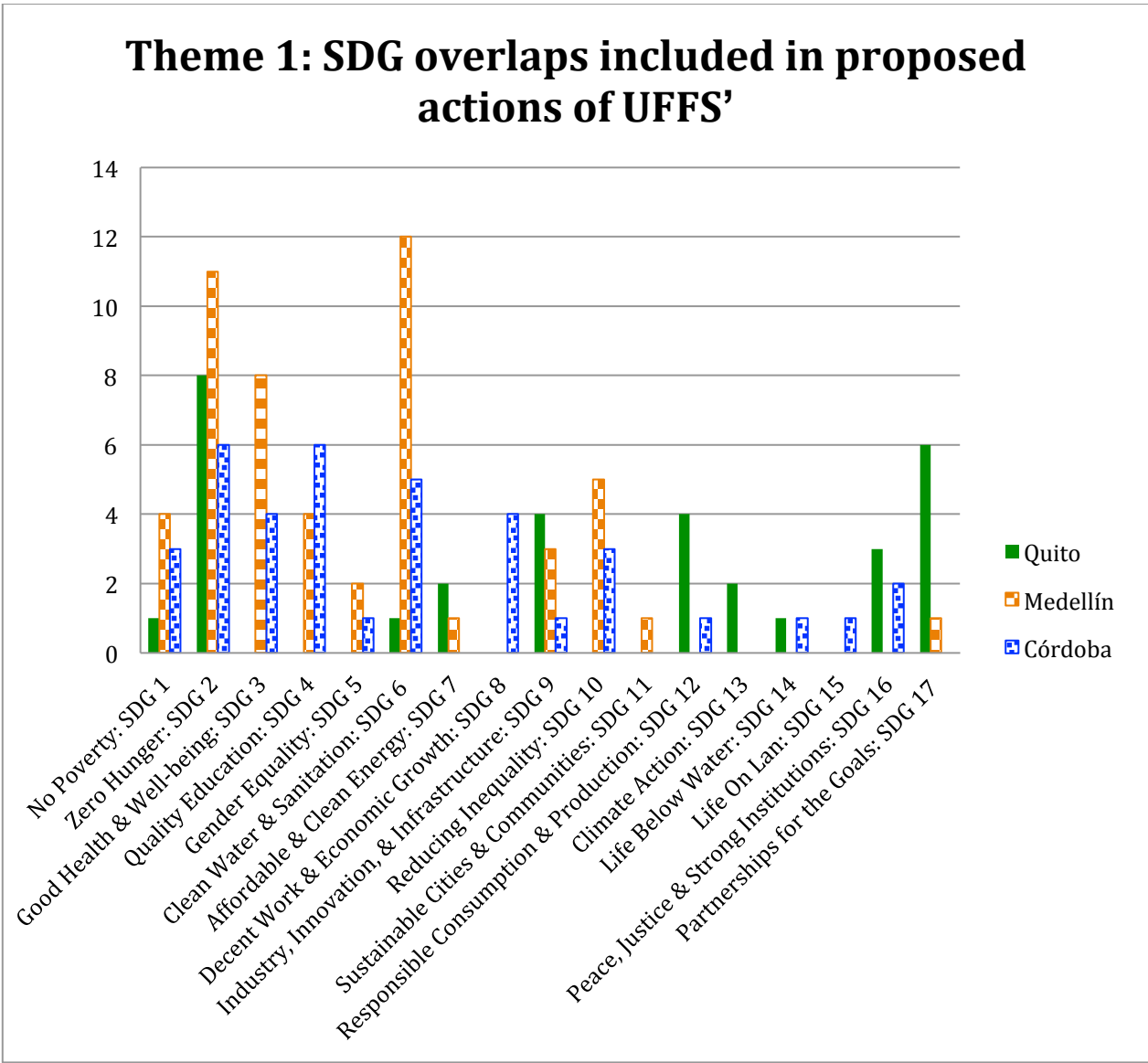
Figure 4.5 Quito, Medellín and Córdoba UFSS' proposed action overlapping with SDG goals and targets

The first theme that stood out in the analysis, was that all three UFSS' provide a variety of proposed actions and program implementations that overlap with a broad range of SDG goals and targets. Although these SDGs are not present on the goal and indicator level, and thereby difficult to measure in terms of actual contribution, all three strategies encourage a large number of tangible actions to improve the life of its citizens. As a matter of fact, all 17 SDG goals where represented through proposed action by at least one of the three strategies.

Noteworthy is the amount of proposed actions put forward by Medellín that matches with SDG 6. Providing safe drinking water for all inhabitants is a priority in the Medellín strategy, and proposed actions include;

"To promote, through effective mechanisms of coordination and articulation with Public Companies of Medellín and with Juntas de Acueductos Veredales[1], the access of the entire population to the drinking water service." (Alcaldia de Medellín, 2016: 90)

And

"Design and implement articulation mechanisms to strengthen epidemiological surveillance that allows monitoring of public health events related to food and drinking water." (Alcaldia de Medellín, 2016: 89)

The Quito strategy differentiated from the other two through a strong focus on SDG 12 (Responsible Consumption & Production) and SDG 17 – the UFSS puts forward several proposals of actions to minimize food waste and facilitate recycling. Extra importance is placed on the contribution of civil society; the strategy features a variety of actions to collect concrete suggestions and inputs from interest groups within different areas (Alcaldía de Quito, 2019).

Standing out was also Córdobas focus on SDG 8 (Decent Work and Economic Growth). There is a substantial section about unemployment and the actions taken to get more people in employment, such as "Develop scale economy projects where access to credit is facilitated and employability and entrepreneurship are promoted, through training processes" (Departamento de Córdoba, 2013: 71) and actions to support tourism; "Support to the association for the promotion of handicraft and ethno-tourism mini-chains with responsibility" (Departamento de Córdoba, 2013: 89).

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[1] A community organization with legal persuasion, non-profit and public interest, responsible under the

Theme 2: SDG overlaps as part of a strategic directions of UFSS'
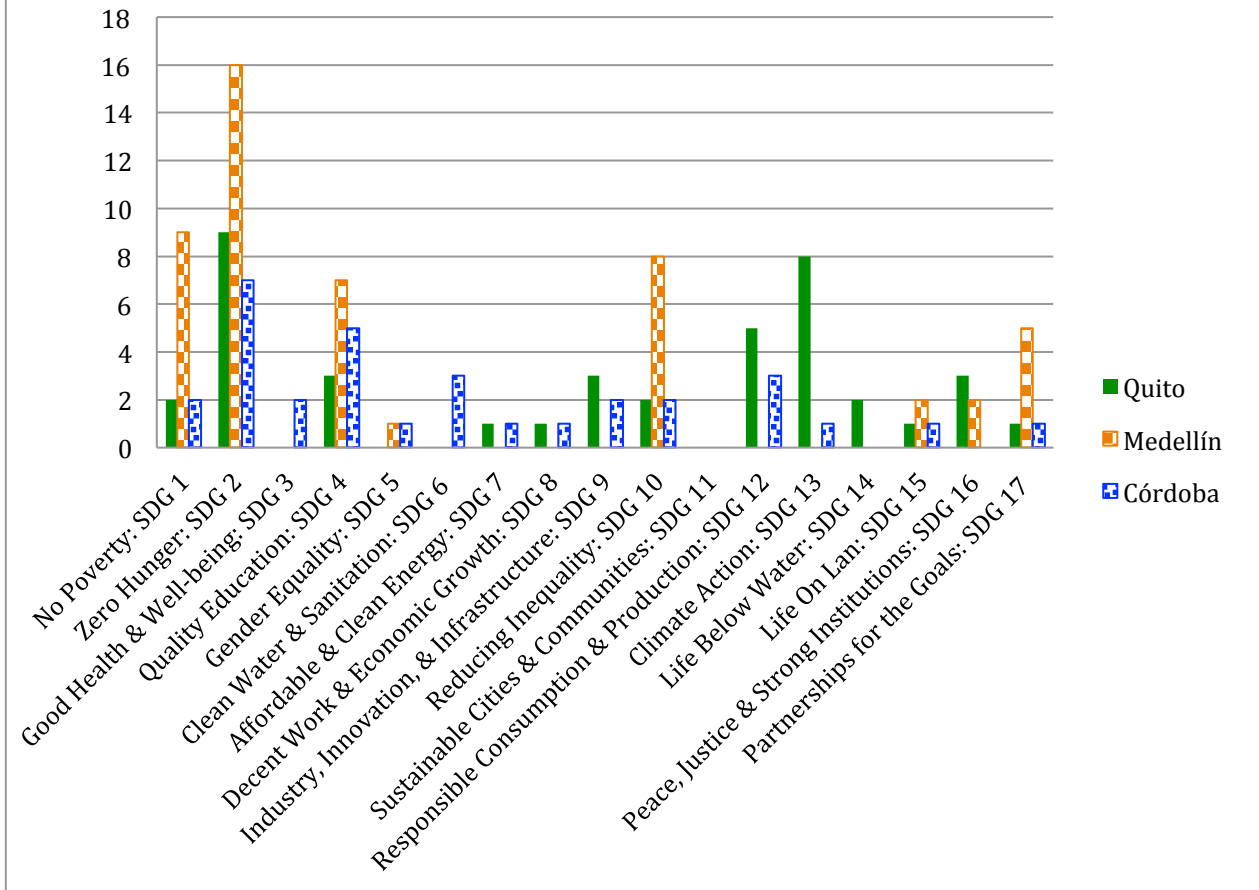
Figure 4.6 Quito, Medellín and Córdoba UFSS strategic directions overlapping with SDG goals and targets

The coded analysis revealed a second theme. When summarizing all three UFSS' they together contain strategic directions or visions that synergizes with almost all of the SDGs. Quito stands out with its significantly higher focus on SDG 12 (Responsible Consumption & Production) and SDG 13 (Climate Action), explicitly expressing the vision of sustainable agro production as well as sustainable consumption, and the wish to "Mitigate and adapt to the effects of climate change" (Alcaldía de Quito, 2019: 20). This points to the fact that although not present as an explicit goal or indicator, the intention from Quito is to contribute to climate change action. In addition, it is pointed out how local businesses in Quito are already steering their operations towards more sustainable ways of working, and that they are aligning with

the SDGs and other international and national agreements. Medellíns top match is on SDG 2 (Zero Hunger) but also exceeds the other cities in terms of prominence of SDG 1 (No Poverty) and SDG 10 (Reducing Inequality). The importance of simultaneously taking action towards food insecurity and poverty is stressed as a strategic direction. For Córdoba, the two main SDGs are SDG 2 (Zero Hunger) and SDG 4 (Quality Education), and the Córdoba strategy is the one which has the broadest spread across the full spectra of SDGs, matching with all except three through their strategic aims and directions. Two examples are SDG 5 (Gender Equality) and SDG 15 (Life On Land); "Social, territorial, gender, environmental and biodiversity conservation equity" (Departamento de Córdoba, 2013: 129) is a strategic direction of the plan, and again with the aim for the plan to "… In order to reduce food waste and preserve biodiversity" (Departamento de Córdoba, 2013: 129).
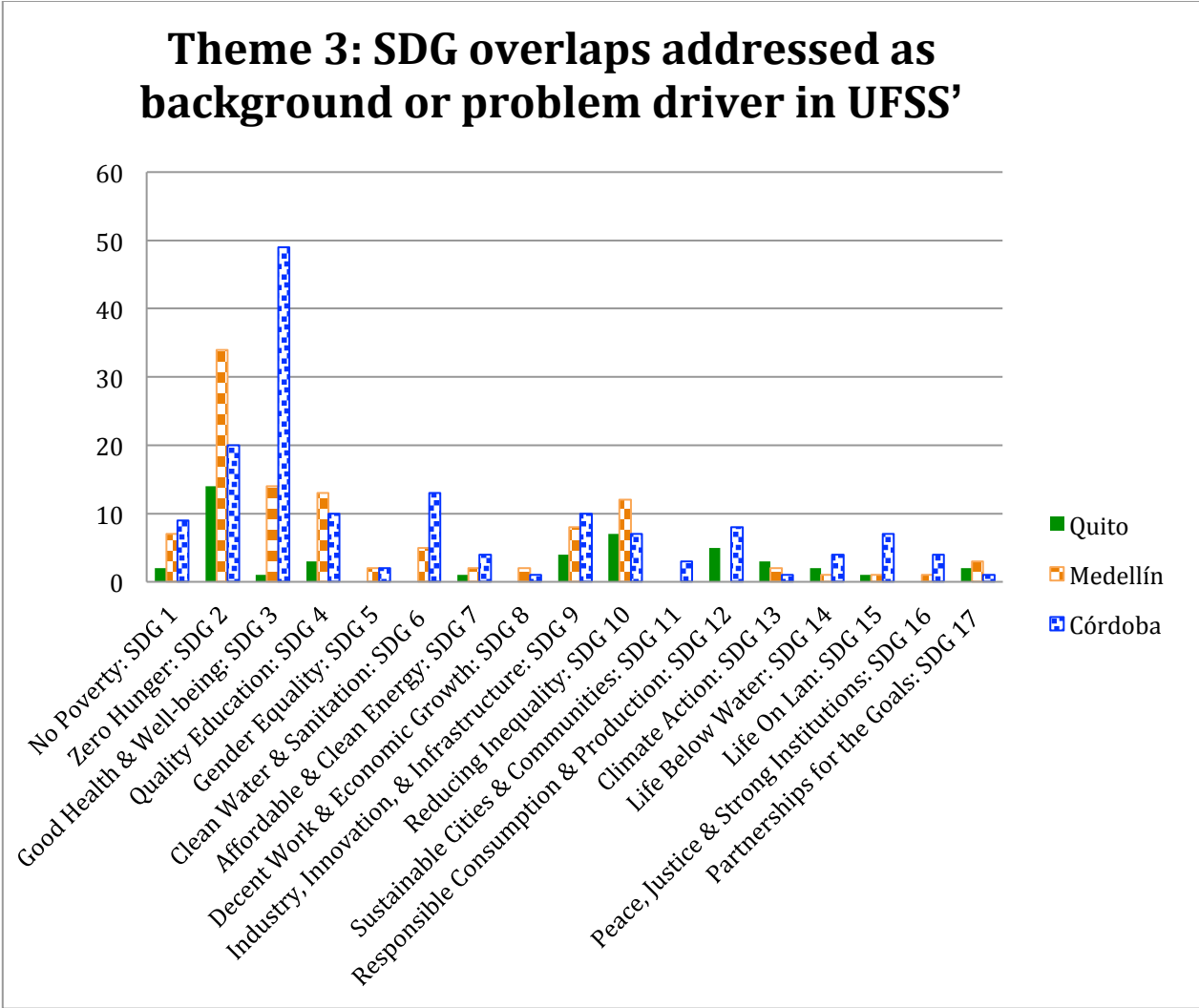
Figure 4.7 Quito, Medellín and Córdoba UFSS' background information / problem drivers overlapping with SDG goals and targets

The third theme confirms the claims highlighted in the literature review, about almost, if not all, SDGs being intimately connected to food. All SDGs were present, in at least one of the three UFSS', in background facts or when explaining the drivers or the main problematic.

Córdoba has a significantly stronger focus on SDG 3 (Good Health). The strategy accounts in detail the amount of deaths caused by HIV/AIDS, hepatitis ABC, malaria, tuberculosis, respiratory- tumor- and a variety of other illnesses. The strategy also points out the air and water contamination that agriculture, mining and fish industry causes, and the water quality and access to water is thoroughly addressed as a prerequisite for a healthy population. SDG 2 (Zero Hunger) received an extensive amount of matches, the large part stemming from the Medellín strategy that presents a large variety of data and trends related to the nutritional status of the population as well as the food insecurity situation. Also Quito had the highest amount of background/driver themed matches with SDG 2 (Zero Hunger), target 2.3, as a lot of emphasis is placed on the productivity of the agro alimentary system, which is pointed out as a driver of food and nutrition insecurity.
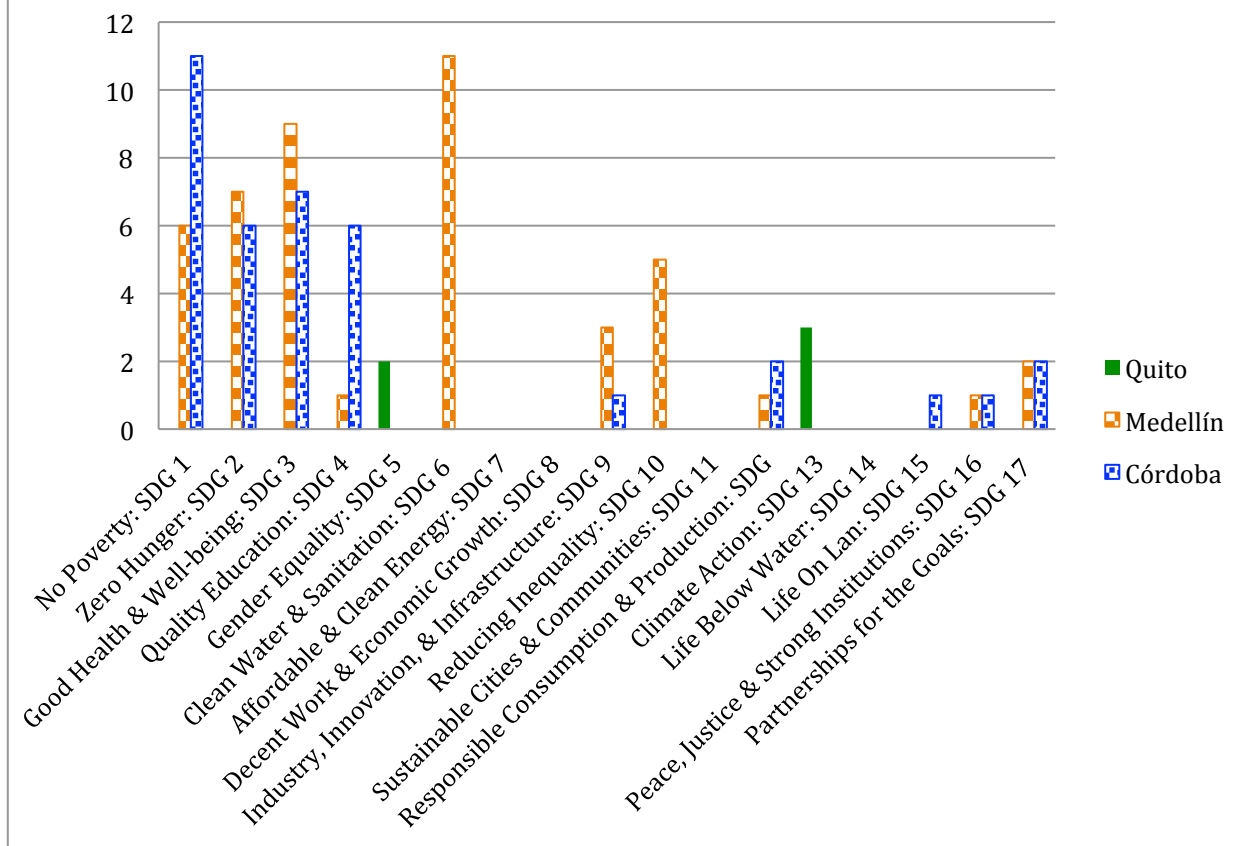
Figure 4.8 Quito, Medellín and Córdoba UFSS' law/agreement references overlapping with SDG goals and targets

The fourth theme highlights the potential importance of national laws and international agreements as a base of UFSS formulation, as both Cordoba and Medellín UFSS features a large number of referrals to laws. It is however apparent that the Quito UFSS does not place equal importance on referring to laws or international agreements – the only SDGs with matches from the Quito UFSS are SDG 13 (Climate Action) and SDG 5 (Gender Equality).

4.2 Positioning the results towards findings from North American UFSS

	New York UFSS	Philadephia UFSS	Los Angeles UFSS	Chicago UFSS	Toronto UFSS	**Quito UFSS**	**Medellín UFSS**	**Córdoba UFSS**
SDG 1: No Poverty	OO	OO	OO	OO	OO	O	OOO	OOO
SDG 2: Zero Hunger	OOO	OOO	OOO	OOO	OOO	OOO	OOO	OOO
SDG 3: Good Health and Well-being	OOO	OOO	OOO	OOO	OOO	/	OOO	OOO
SDG 4: Quality Education	OOO	OOO	OO	OOO	OOO	O	OO	O
SDG 5: Gender Equality	O	O	O	/	/	/	O	O
SDG 6: Clean Water and Sanitation	OOO	OOO	OOO	OO	O	/	O	OOO
SDG 7: Affordable and Clean Energy	OOO	OOO	O	OO	O	O	/	O
SDG 8: Decent Work and Economic Growth	OOO	OOO	OOO	OOO	OOO	OO	/	OOO
SDG 9: Industry, Innovation, and Infrastructure	OOO	OOO	OOO	OOO	OOO	O	O	O
SDG 10: Reducing Inequality	OO	OOO	OOO	OO	OO	O	OO	O
SDG 11: Sustainable Cities and Communities	OOO	OOO	OOO	OOO	OOO	OO	/	/
SDG 12: Responsible Consumption and Production	OOO	OOO	OOO	OOO	OOO	OOO	/	OO
SDG 13: Climate Action	O	O	OO	O	O	OO	/	/
SDG 14: Life Below Water	O	OO	/	O	O	O	/	O
SDG 15: Life On Land	OOO	OOO	OO	OOO	OO	/	/	O
SDG 16: Peace, Justice, and Strong Institutions	/	OOO	OO	/	/	OOO	/	O
SDG 17: Partnerships for the Goals	O	OOO	OOO	OOO	OO	O	O	/

Table 4.1 Legend for assessment of level of convergence between UFSS and SDGs. Adapted from Ilieva (2017)

Symbol	Level of convergence	*Ilievas (2017) criteria (used to gauge the North American UFSS)*	Authors Critieria (used to gauge the Latin American UFSS)
OOO	synergies with the SDG are prominent	*The SDG is present as an explicit goal/objective and supported by proposals for two or more concrete actions*	The SDG is addressed as a goal, and supported by 2 or more proposed actions
OO	synergies with the SDG are extensive	*The SDG is an explicit goal/objective or is extensively addressed as a subpart of another goal/objective*	The SDG is addressed as a goal, and supported by 2 or more proposed actions
O	synergies with the SDG exists	*The SDG is only mentioned in passing or constitutes a small subpart of a goal/objective*	2 or more of the SDG targets are addressed as strategic directions, and 2 or more proposed actions
-	the UFSS does not have any synergies with the SDG	*There is no explicit mention of this SDG.*	The UFSS does not have any synergies with the SDG: Less than four matches within , a background/driver or through a proposed action

When comparing the North American UFSS' to the Latin American UFSS' in terms of prominence of synergies with SDGs, the following can be concluded:

- Latin American UFSS' reveals a higher number of SDGs where "no synergies" can be detected. While North American UFSS' reveals "no synergies" with between 0-2 SDGs per individual strategy, the Latin American UFSS reveals "no synergies" with as many as 4-8.

- Latin American UFSS' reveals a lower amount of "prominent synergies" with SDGs. While North American UFSS' reveals "prominent synergies" with between 9-13 SDGs per individual strategy, the Latin American UFSS' reveals "prominent synergies" with only 3-5 SDGs.

- Except for the prominent synergies with SDG 2, that all strategies reveal, no general conclusions can be drawn from the Latin American UFSS' or from the North and Latin American UFSS' combined in terms of gap and overlap patterns.

4.3   Summary of the findings

The examined local UFSS' feature content that touches upon the majority of the SDGs. Expressed through strategic directions, proposed actions, background information or references to laws or agreements, it can be concluded that the three strategies, in sum considers the complete set of SDGs as relevant to the achievement of the UFSS. In itself, this is a promising acknowledgement of the relevance of SDGs in the local contexts. On the goal and indicator level, the Latin American UFSS' when assessed together, contain clear overlaps with the SDGs, but the scope is more narrow than what is identified when considering the full content of the documents. Principal themes where overlaps were identified is hunger (SDG 2) and health (SDG 3). In addition, poverty (SDG 1), economic growth (SDG 8) and responsible consumption and production (SDG 12) are recognized as areas with overlaps. The analysis showed that on a goal level, 9 of the 17 SDGs were not represented at all in the three examined UFSS'. This could suggest that the predominant focus has been on those goals that

have an explicit relation to the food system, rather than other which can be deemed to have less direct relationships.

Between the three UFSS', both differences and similarities where identified. Certain similarities can be found between the two Colombian UFSS' – the overarching focus on hunger, health and poverty is the same – nevertheless, there are differences both in terms of width and depth of the focus areas. The Quito UFSS reveal a broader focus, with a higher number of SDGs represented, and less focus of poverty and health than the two Colombian UFSS'. When compared to North American UFSS', the Latin American UFSS' shows a lower convergence with SDGs. Even though synergies exists, the Latin American UFSS' leave a higher number of SDGs unrepresented, and a lower number of SDGs are deemed to have prominent synergies with the Latin American UFSS' than the North American UFSS'.

5 Analysis and discussion

The following section will discuss the findings from the policy analysis, guided by the research questions and with the help of the theoretical framework drawn from previous literature. In what way can Latin American UFSS be regarded as tools for local implementation of the SDGs

5.1 Latin American UFSS' as tools for local implementation of the SDGs, and their synergies with SDGs

The analysis of the three Latin American UFSS' conforms to the claims about food systems, and food system strategies, linking to the majority (FAO, 2018), if not all (Rockström and Sukhdev, 2016), SDGs. The findings conclude that all 17 SDGs are present in strategic visions and directions in at least one of the three examined Latin American UFSS', and supported by proposed actions put forward on a local level. In sum, this indicates clear synergies between the local plans and the global priorities. Given the broad nature of the SDGs, and their intent to be holistic and cover different angles (Biermann et al., 2017), the high level of overlaps, when considering the full content of the UFSS, does however not necessarily mean that the UFSS will serve as efficient tools for local implementation of the full range of the 17 global goals. Rather, the level of concrete impact to be expected by the mentioned synergies is unclear, as the goal and indicator analysis reveals a much more narrow focus, where the local priorities overlap with only approximately half of the SDGs. Thus, it can be argued that there is consistency in the broad political vision between the analysed UFSS' and the SDGs, but that implementation through the UFSS' may diverge significantly away from the SDG goals and targets. Two of the UFSS', Medellín and Córdoba, have an outspoken and prominent focus on SDG 2 and 3 (Zero Hunger and Good Health). The potential for augmenting SDG targets through topics drawn from UFSS goals and indicators,

is by far the greatest through those aiming at attaining more equitable, healthy, nutrition and a more productive sustainable agricultural production and support to small scale farmers.

That climate change action, and preservation of biodiversity on land and on water (SDG 13, 14 and 15) are not represented in goals or indicators of the UFSS' can be seen as problematic, given the large negative impacts that food production causes. Whether the reasons behind not focusing on these important parts of the food system externalities, can be ascribed to the lack of expectations from the public, the presence of more urgent problems, or the limited amount of resources (Gargan, 1981), is not revealed by this study. Regardless, this limited approach to the constitution of the food system to does not conform to Figure 1.1 which provide a far broader model and therefore includes other elements.

Local governments operate in a national context, and its interaction of economic, social and political processes (Gibbs & Jonas, 2000; Gleeson & Low, 2000) seem to have a certain level of impact in terms of the occurrence of, and the content prioritized in the UFSS'. The findings from the content analysis of the UFSS' indicate that national embedding may influence how UFSS are formulated, and thereby the extent to which they overlap with the SDGs. The presence of supportive frameworks on national level (Homsy & Warner, 2015) can provide one explanation of the similarities between the two Colombian UFSS', despite the fact that Medellín UFSS is created by one of the richest cities in Colombia while the UFSS developed by Córdoba represents one of the poorest provinces of the same country. Although written in different ways and with different goals and indicators, the two UFSS' rests upon the same foundation of prioritizing the hunger and health aspect, and addresses the topic food insecurity from the same five angles, grounded from the Colombian National Food Security Plan (PNSAN). This could be interpreted as an example of the importance of political will for sustainable development at multiple sites and scales within governance (Bulkeley and Betsill, 2005). The Quito UFSS reveals a different, more scattered focus. Similar heterogeneity is found, to a certain extent, in the summary made by World Food Programme (see table 3.5) of the national plans related to food. Both findings are in line with the idea of multi-level governance and how interaction between different levels can foster the prioritization of sustainability topics.

The findings of this study reveals that although similarities exists, especially between the two Colombian UFSS', that the three examples of Latin American UFSS' are not a heterogenous group. The synergies and connection with SDGs vary in width and depth, and the broad

visions of the policy documents seem to differ from the more narrow focus of its goals and indicators.

Nevertheless, it is clear that the examined UFSS', reveals potential for Latin American cities to contribute to SDG implementation far beyond SDG 11 (Sustainable Cities and Communities), which is normally referred to as the "urban" goal (Zinkernagel, Evans & Neij, 2018).   Whether a broad or narrow focus of local strategies is more efficient in terms of actual results remains unclear from the present research. It is argued that "''global solutions'' negotiated at a global level, if not backed up by a variety of efforts at national, regional, and local levels, are not guaranteed to work well " (Ostrom, 2010: 550). Although cities might be powerful actors in food system transformation and in terms of addressing sustainability, we should not see them operating in isolation, rather as a network with unique and diverse units. The focus and the level of synergies is different between the three UFSS', but as expressed by Kemp and Parto (2005), the transition towards sustainability must be pursued with diversity, creative experimentation as well as humility and commitment. With this outlook, progress is definitely possible.

5.2   Reflections of Latin American UFSS' in relation to previous findings from the global North

Although featuring a small data sample, three case studies, the findings indicate that the dichotomy connected to the comparison between "global South" and "global North" is overly simplistic, given that the revelation of differences both between South-South UFSS' and South-North UFSS'. The North American UFSS' show a clear pattern of both broad and deep integration of almost the full spectrum of the SDGs, whereas the Latin American overlap to a lesser degree and with fewer of the SDGs. It is not possible, through the research made in the present study, to define whether the differences in UFSS between Southern and Northern in terms of overlaps with SDGs, can be explained primarily through local or national differences. Polycentric arguments would support that the local level explains the differences, whereas multilevel theory points to the importance of the national and international context. Either way, the national component does not seem to be the only determinant of the UFSS focus and level of overlaps with SDGs. Even though clear similarities between the two Colombian UFSS', there are also differences between them. It can be interesting to note,

given that resources is an ever present topic in development debates, that the poorer province, Córdoba, had a broader scope of overlaps, targeting higher number of the SDGs than the richer one, Medellín.

The rational behind using the SDGs as a comparative lens on Northern and Southern UFSS' rests upon the notion that the SDGs are universal and set out a single normative base for all nations unlike the Millennium Development Goals (MDGs), which were largely focused on conditions prevalent in the global south. The SDGs have however received critique for being overly simplistic and monocultural, therefore not applicable in all Southern contexts in the same way as they are in the North (Waldmueller, 2015). While northern cities can be praised for their efforts to transform the global food system, one municipality at a time, the bulk of impact towards reaching or failing to reach the SDGs will be made by cities from the Global South. Anticipations, however, on Southern cities to implement UFSS as a contribution to SDG achievement, could on the one hand be seen as an example where the South is expected to solve problems largely created in the North, through Northern innovations (Shiva, 1993). To announce the UFSS as the universal tool for comprehensive local action contributing to solving global problems, risks lessen the importance placed on achieving valuable progress on a local level, in the context the policy was created to address. Along the same line of reasoning, it can be pointed out that for the global South, the link between agriculture, food and cities is not new. Going forward, the most apparent, and damaging, effects of the noxious interplay between hunger, poverty and climate change will be brought to cities in the global South (Morgan 2015). With the access to and availability of food as a primary goal of development, food has played, and continues to play, an imperative role in the development narrative, and topics of urban and peri-urban agriculture, market access and logistical improvements are not recent additions to the food and nutrition security debate (Lang et al., 2009; Moragues-Faus & Morgan, 2015). The notion of UFSS, resonates with recent years increasing calls for integration of policy, cohesion, and action for the development of sustainable food systems (Lang and Barling, 2012; Duncan, 2015; Candel ,2017; Marsden 2016), and has originated from experiences and considerations in the North (Blay-Palmer, 2009). An increased visibility of Southern experiences is however needed in order to feed and contribute to the growing debate around this relatively new space of action. Additionally, a reinterpretation of the experiences started long ago in the global South, can enrich the exchange of ideas and good practices between cities through initiatives such as the MUFPP. The point here, is to highlight that the relevance of a food system strategy is not necessarily

judged by its overlaps with the SDGs. While offering a lens that broadens the perspective, and serving as a clear reminder about the importance to include various elements that might not traditionally be in the core of a food and nutrition security plan – like climate action, biodiversity, ocean protection and so on, a high level of overlap with SDG does not in itself make a "better" UFSS. Going back to Sages (1998) notion about priority given to so called "livelihoods concerns" over lifestyle concerns", it is not surprising that a food and nutrition oriented plan created by a city with high levels of food insecurity does not place education (SDG 4), gender equality (SDG 5) or climate action (SDG 13) as the first priority. Kemp et als. (2005) notion of sustainability governance highlights that policy integration is needed. However, the aim should not be to create one massive policy incorporating all aspects, but rather seek the acceptance of common overall objectives, the coordinated design and selection of policy options, and the cooperative intention of consistency. For example, the city of Belo Horizonte, that has been celebrated for successful programs and governance to combat food insecurity, but has done so without formally calling it "urban food strategy", and without strategically emphasizing potentially interrelated objectives such as climate action, gender equality, protection of wildlife and so on (although the benefits of this food security initiative might well have been rendered also in these additional dimensions). Action has been intentional, coordinated and cross-juristictional, but not formulated and steered from the same holistic approach that the more recent North American urban food system strategies have been (Rocha & Lessa, 2009). Belo Horizonte thereby provides an example of the problematic of implementing "one size fits all" policy discussions sprung from discourse in the global North to cities in the global South (Parves Rana, 2009). Consequently, the level of synergies and connection to SDGs should not be a measure of whether resources, funding and other support is given to a programme or not. However, on the other hand, the connections to SDGs can be used in a constructive manner to facilitate discussion and introduce common element across different strategies, both within a city, between different levels of governance, and across city networks.

6 Conclusion

This study set out to explore UFSS' developed by cities originating from the global South, and how those synergize and connect with SDGs. By providing a comprehensive policy content analysis, the research contributes with an overview of the overlaps between three Latin American UFSS' and the SDGs. The study has found the majority of the SDGs to be considered relevant for the formulation of the Latin American UFSS', primarily given that considerable overlaps can be detected within the strategic directions and the proposed actions that the UFSS' outline. The connection and synergies between the local strategies and the global goals however appear to be stronger on the policy vision level, than on the measurable goal and indicator level. When assessing the goals and indicators, the analysed Latin American UFSS do not appear to be the streamlined, local tools for synergistic SDG implementation that has been argued by previous research. Overlaps do exist, not only with SDG 2 (Zero Hunger) but also with several other SDGs that have direct relations to food, such as SDG 3 (Good Health) SDG 12 (Responsible Consumption and Production) and SDG 8 (Economic Growth). Nevertheless, the UFSS' do not overlap at all with more than half of the SDGs, some of them being the environmentally oriented SDGs like SDG 13, 14 and 15 (Cimate Action, Life on Land, Life under Water) which have very clear links to the food system. This does not align with the findings from North American UFSS, where the identified overlaps with SDGs are significantly wider and deeper. Applying the SDGs as a reference do offer a framing, and potentially useful references, of policies and initiatives at a local, national and international level in order to constructively discuss, and when desired, obtain consistency between global actions and local initiatives. The results of this study thereby question the notion that UFSS, provide a comprehensive frame for local level SDG implementation.

Important to note however, is that care should be taken in terms of using the SDGs as an evaluation method for UFSS'. The present study has evaluated synergies and connections between UFSS and SDGs, not measured the quality or aptness of the UFSS within the context it was designed for. Given the fact that cities have different prerequisites, priorities and developmental aspiration, there can be no "one size fits all" approach to UFSS, in fact, much

of the rational behind cities as powerful entities rests upon their possibility to react in a custom way to the specific needs and expectations of its population. The context of the global South is not heterogeneous, but this rigid dichotomy does provide valuable input to the discussion around UFSS' and cities contribution to sustainable development. This study highlights the importance of not imposing Northern conceptualizations of UFSS to Southern contexts, where hunger and malnutrition have been crucial topics for years, and subsequent action has been taken through a variety of topics (e.g like urban and peri-urban agriculture) long before they started to appear in UFSS from the global North. The experiences and examples from the global South – like the Belo Horizonte successful programs – are thereby much needed in order to diversify the debate around how a food system transformation can be enacted in different ways and with different aims.

Two main questions arise from the results of the present research. The first is concerned with the underlying causes behind the varying degree of overlaps between SDGs and UFSS, both between South-South context, and South-North contexts. This study presents indications of the importance of multi-level aspects such as national embedding, but provides no answer to why some cities place higher priority on certain SDGs than others. Future research avenues could include investigation focused on the relationships between UFSS and national level policies, and/or in-depth analysis and comparison of UFSS developed by cities with similar socio-economic, environmental and political characters. The second question rising from the results of this study, is concerned with the practical enactment of UFSS. The findings revealed that the focus of UFSS can be both narrow and broad in terms of SDG overlaps, but did not explain what strategy is most efficient. This study intended to interview municipal official in order to get insights beyond the written commitments of the local governments, but did not succeed. In terms of achieving the Agenda 2030 and the SGDs, it becomes interesting to investigate not only how and whether UFSS are actually creating a change, but also whether local strategies with broad or deep focus are more efficient. Documented, measurable impact on a limited amount of SDGs may be worth more than ambitious plans targeting the full scope of goals and target?

Either way, the continued journey of contextualizing and exploring how local governments in developing countries use their agency as global sustainability actors through local strategies and initiatives remains essential. So does research aiming to understand and facilitate cooperation and learning between cities North-South as well South-South. As expressed by

the previous UN Secretary-General Ban Ki-moon; 'Our struggle for global sustainability will be won or lost in cities,' and as today, seven of every ten urban residents in the world live in developing countries, cities of the Global south will play the main part.

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Appendix A: Sustainable Development Goals, Targets and Indicators

Please find the complete overview of the 17 goals with their 169 targets and 232 indicators here:
https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202019%20refinement_Eng.pdf

Appendix B: Goals and indicator analysis

SDGs	UFSS goals	UFSS indicators
Objetivo 1 Poner fin a la pobreza en todas sus formas y en todo el mundo (End poverty in all its forms everywhere)	• Garantizar el acceso físico y económico a una alimentación adecuada y sostenible, para las personas con mayores inequidades económicas y sociales. (Medellín) • Acceso de alimentos: Promover e impulsar acciones encaminadas a generar capacidades y mejores condiciones de vida en las familias del departamento de Córdoba, que contribuyan a mejorar sus niveles de ingreso monetario y de satisfacción para enfrentar riesgos alimentarios y nutricionales.(Córdoba)	• Porcentaje de personas que viven en pobreza extrema(indigencia) (Córdoba) • Porcentaje de personas en pobreza. (Córdoba) • Número de instrumentos de gestión de riesgos en las zonas de producción (Quito) • Índice de precios al consumidor para el subgrupo de alimentos en la población de ingresos bajos en Medellín (Medellín) • % de Hogares participantes de las transferencias condicionadas monetarias (Medellín) • % de Personas participantes de programas de complementación o asistencia alimentaria (Medellín)
Objetivo 2 Poner fin al hambre, lograr la seguridad alimentaria y la mejora de la nutrición y promover la agricultura sostenible (End hunger, achieve food security and improved nutrition and promote sustainable agriculture)	• Mejorar el acceso a alimentos sanos y nutritivos para toda la población del DMQ, con énfasis en los sectores más vulnerables. (Quito) • El objetivo es que a partir de la inclusión de los pequeños productores en los puntos masivos de • comercialización se logre una apropiación más directa de la renta producida, dinamizando las economías territoriales y estimulando los actores locales como eslabones directos en la construcción social del proceso de desarrollo territorial. (Quito) • Garantizar la Seguridad Alimentaria y Nutricional de la población del Municipio de Medellín, en especial aquella que presenta mayores inequidades económicas y sociales. (Medellín) • Favorecer la estabilidad, suficiencia, eficiencia y autonomía en el suministro de alimentos priorizados. (Medellín) • Garantizar el acceso físico y económico a una alimentación adecuada y sostenible, para las personas con mayores inequidades económicas y sociales. (Medellín) • Contribuir al mejoramiento de la situación nutricional y el estado de salud de la población. (Medellín) • Implementar y fortalecer la producción, auto abastecimiento, transformación, comercialización y acceso continuo y sostenible a los	• Prevalencia de desnutrición global (peso para la edad) en menores de 5 años. (Córdoba) • Porcentaje de niños menores de 5 años que presentan retraso en talla o desnutrición crónica (Córdoba) • Hectáreas agrícolas sembrada economía campesina (Córdoba) • Distribución del uso del suelo pecuario (Córdoba) • Distribución del uso del suelo agrícola (Córdoba) • Área sembrada en cultivos transitorios (Córdoba) • Producción de cultivos transitorios (Córdoba) • Área sembrada en cultivos permanentes (Córdoba) • Porcentaje de hogares con una mala nutrición (desnutrición, sobrepeso y enfermedades no transmisibles -ENT relacionadas con la alimentación). (Quito) • Porcentaje de producción agrícola sostenible de Quito-Región (área urbana, periurbana, rural) (Quito) • % de Estabilidad de la oferta de alimentos para la canasta priorizada (Medellín) • % de Suficiencia en la oferta de alimentos para la canasta priorizada (Medellín)

alimentos básicos, la salud y nutrición de la población del departamento de Córdoba; trabajando por lograr la seguridad alimentaria y nutricional, motivados por mejorar la calidad y condiciones de vida de la comunidad. (Córdoba)

- Objetivo disponibilidad de alimentos: Incrementar la producción competitiva y sostenible de alimentos que contribuyan a la estabilidad de la oferta y desarrollo del mercado agroalimentario en el departamento de Córdoba. (Córdoba)

- Objetivo Acceso de alimentos: Promover e impulsar acciones encaminadas a generar capacidades y mejores condiciones de vida en las familias del departamento de Córdoba, que contribuyan a mejorar sus niveles de ingreso monetario y de satisfacción para enfrentar riesgos alimentarios y nutricionales.(Córdoba)

- Objetivo Aprovechamiento de alimentos: Contribuir a mejorar el acceso y la calidad en la prestación de los servicios de saneamiento básico y salud pública para garantizar y promover la salud y la nutrición de la población cordobesa.(Córdoba)

- Objetivo Consumo de alimentos: mejorar los patrones de consumo alimentario de la población y rescatar los saberes y conocimientos ancestrales en alimentación, especialmente en la población con condiciones de vulnerabilidad y los grupos con mayor riesgo nutricional y alimentario del departamento de Córdoba. (Córdoba)

- % de Hogares con Inseguridad alimentaria leve, moderada y severa (medición del hambre) (Medellín)

- Prevalencia de riesgo de deficiencia en la Ingesta de proteínas por grupo de edad (Medellín)

- Prevalencia de riesgo de deficiencia en la Ingesta de micronutrientes (Medellín)

- Promedio de ingesta de fibra (Medellín)

- Promedio de ingesta de frutas (Medellín)

- Promedio de ingesta de verduras (Medellín)

- % de Personas que consumen Fibra (Medellín)

- % de Personas que consumen Frutas (Medellín)

- % de Personas que consumen verduras (Medellín)

- % de Malnutrición por indicadores antropométricos en menores de 6 años (Medellín)

- % Malnutrición por indicadores antropométricos en menores entre 6 y 18 años (Medellín)

- % de Malnutrición por déficit y exceso en adultos entre 18 a 59 años (Medellín)

- % de Malnutrición por déficit y exceso en adultos mayores (60 años en adelante) (Medellín)

- % de Bajo peso Gestacional (Medellín)

- Prevalencia de Deficiencia de vitamina A en niños menores de cinco años (Medellín)

- Prevalencia de Deficiencia de Zinc en niños menores de cinco años (Medellín)

- Prevalencia de Anemia en menores de cinco años (Medellín)

- Prevalencia de Anemia en escolares 5 a 12 años (Medellín)

- Prevalencia de Anemia en mujeres en edad fértil (Medellín)

- Prevalencia de Anemia gestacional (Medellín)

| Objetivo 3 Garantizar una vida sana y promover el bienestar de todos a todas las edades (Ensure healthy lives and promote well-being for all at all ages) | - Contribuir al mejoramiento del consumo adecuado y equilibrado de los alimentos. (Medellín) | - APROVECHAMIENTO Porcentaje de niños con bajo peso al nacer (Córdoba) |

- Contribuir al mejoramiento de la calidad e inocuidad de los alimentos consumidos. (Medellín)

- Contribuir al mejoramiento de la situación nutricional y el estado de salud de la población. (Medellín)

- Implementar y fortalecer la producción, auto abastecimiento, transformación, comercialización y acceso continuo y sostenible a los alimentos básicos, la salud y nutrición de la población del departamento de Córdoba; trabajando por lograr la seguridad alimentaria y nutricional, motivados por mejorar la calidad y condiciones de vida de la comunidad. (Córdoba)

- Objetivo Aprovechamiento de alimentos: Contribuir a mejorar el acceso y la calidad en la prestación de los servicios de saneamiento básico y salud pública para garantizar y promover la salud y la nutrición de la población cordobesa.(Córdoba)

- Tasa mortalidad ajustada en menores de 5 años (Por 1000 nacidos vivos) (Córdoba)

- Tasa de mortalidad ajustada en menores de 1 año (por 1000 nacidos vivos) (Córdoba)

- Prevalencia de obesidad abdominal en hombres de 18 a 64 años (Córdoba)

- Prevalencia de obesidad abdominal en mujeres de 18 a 64 años (Córdoba)

- Cobertura de Vacunación con DPT en menores de 1 año (Córdoba)

- Cobertura de vacunación con Triple Viral en menores de 1 año (Córdoba)

- Prevalencia de anemia en niños de 6 a 59 meses (Córdoba)

- Prevalencia de anemia en mujeres de 13 49 años* (Córdoba)

- Meses en la práctica de lactancia exclusiva (Córdoba)

- Meses en la práctica de lactancia complementaria (Córdoba)

- Prevalencia de deficiencia en la ingesta de Vitamina A niños de 1 a 4 años* (Córdoba)

- No. de casos reportados de enfermedades transmitidas por alimentos (Córdoba)

- Número de iniciativas para promover estilos de vida saludables. (Quito)

- Tasa de mortalidad por enfermedad hipertensiva (Medellín)

- Prevalencia de Sedentarismo (Medellín)

- % de Gestantes con Obesidad (Medellín)

- % de Gestantes con Sobrepeso (Medellín)

- Tasa de Mortalidad de menores de 5 años asociada a Desnutrición (Medellín)

- Tasa de Mortalidad de menores de 5 años asociada a Infección Respiratoria Aguda (Medellín)

- Tasa de Mortalidad de menores de 5 años asociada a Enfermedad Diarreica Aguda (Medellín)

- % de Bajo peso al nacer (Medellín)

- % de establecimientos alimentarios de interés sanitario vigilados (Medellín)

- % de Acciones de IVC sanitario de alimentos ejecutadas bajo el enfoque

		de riesgo (Medellín)
		• microbiológica en establecimientos alimentarios (Medellín)
		• % de Muestras de alimentos que cumplen requisitos de inocuidad (Medellín)
		• % de Cumplimiento de BPM en establecimientos alimentarios (Medellín)
		• % de Cumplimiento de BPM en establecimientos alimentarios categorizados como de mayor riesgo (Medellín)
		• Tasa de mortalidad por ETA (Medellín)
		• Tasa de letalidad por ETA (Medellín)
		• % de Brotes de ETA notificados con identificación de agente etiológico (Medellín)
		• % de oportunidad en la notificación de brotes de ETA (Medellín)
		• Prevalencia de la Lactancia Materna exclusiva (Medellín)
		• Duración media de la Lactancia Materna exclusiva (Medellín)
Objetivo 4 Garantizar una educación inclusiva y equitativa de calidad y promover oportunidades de aprendizaje permanente para todos (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all)	-	-
Objetivo 5 Lograr la igualdad de género y empoderar a todas las mujeres y las niñas (Achieve gender equality and empower all women and girls)	-	-
Objetivo 6 Garantizar la disponibilidad y la gestión sostenible del agua y el saneamiento para todos (Ensure availability and sustainable management of water and sanitation for all)	• Objetivo Aprovechamiento de alimentos: Contribuir a mejorar el acceso y la calidad en la prestación de los servicios de saneamiento básico y salud pública para garantizar y promover la salud y la nutrición de la población cordobesa.(Córdoba)	• Índice de calidad del agua IRCA % de municipios que cumplen (Córdoba)
Objetivo 7 Garantizar el acceso a una energía asequible, fiable, sostenible y moderna para todos (Ensure access to affordable, reliable, sustainable and modern energy for all)	-	• Número de estrategias que favorezcan la adopción de prácticas de producción, comercialización y transformación más limpias (Quito)
Objetivo 8 Promover el crecimiento económico sostenido, inclusivo y sostenible, el empleo pleno y productivo y el trabajo decente para todos (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)	• El objetivo es que a partir de la inclusión de los pequeños productores en los puntos masivos de • comercialización se logre una apropiación más directa de la renta producida, dinamizando las economías territoriales y estimulando los actores locales como eslabones directos en la construcción • social del proceso de desarrollo territorial. (Quito) • Implementar y fortalecer la	• Tasa de desempleo (Córdoba) • Número de espacios gestionados para la comercialización directa inclusiva. (Quito) • Número de iniciativas de promoción de alimentos agro biodiversos, seguros y nutritivos. (Quito)

producción, auto abastecimiento, transformación, comercialización y acceso continuo y sostenible a los alimentos básicos, la salud y nutrición de la población del departamento de Córdoba; trabajando por lograr la seguridad alimentaria y nutricional, motivados por mejorar la calidad y condiciones de vida de la comunidad. (Córdoba)

- Objetivo disponibilidad de alimentos: Incrementar la producción competitiva y sostenible de alimentos que contribuyan a la estabilidad de la oferta y desarrollo del mercado agroalimentario en el departamento de Córdoba. (Córdoba)

Objetivo 9 Construir infraestructuras resilientes, promover la industrialización inclusiva y sostenible y fomentar la innovación (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation)	-	• Número de iniciativas que promuevan la economía alimentaria inclusiva. (Quito)
Objetivo 10 Reducir la desigualdad en los países y entre ellos (Reduce inequality within and among countries)	-	-
Objetivo 11 Lograr que las ciudades y los asentamientos humanos sean inclusivos, seguros, resilientes y sostenibles (Make cities and human settlements inclusive, safe, resilient and sustainable)	• Una ciudad inclusiva que define mecanismos de gobernanza sostenibles y • resilientes (Quito)	• Número de cuerpos legales nuevos o reformas que regulan el acceso al espacio público para la venta directa de alimentos frescos o procesados. (Quito)
Objetivo 12 Garantizar modalidades de consumo y producción sostenibles (Ensure sustainable consumption and production patterns)	• Una ciudad que utiliza de manera responsable los recursos en los procesos de producción, transformación de los alimentos (Quito) • Reducir las pérdidas y desperdicios alimentarios a lo largo de toda la cadena. (Quito) • Objetivo disponibilidad de alimentos: Incrementar la producción competitiva y sostenible de alimentos que contribuyan a la estabilidad de la oferta y desarrollo del mercado agroalimentario en el departamento de Córdoba. (Córdoba)	• Disminución del volumen total de anual de desechos (no reciclables) y residuos (reciclables) relacionados a la transformación, comercialización y consumo de alimentos (Quito) • Volumen anual total de residuos de alimentos recuperados y redistribuidos para el consumo humano y para otros usos. (Quito) • Número de estrategias implementadas para disminuir la pérdida y desperdicio de alimentos en volumen y valor en todas las fases de la cadena. (Quito) • Número de establecimientos comerciales y gastronómicos (restaurantes, bares, comedores) con certificados de sostenibilidad y calidad para el local. (Quito)
Objetivo 13 Adoptar medidas urgentes para combatir el cambio climático y sus efectos (Take urgent action to combat climate change and its impacts (Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.)	-	-
Objetivo 14 Conservar y utilizar sosteniblemente los océanos, los mares y los recursos marinos para el desarrollo sostenible (Conserve and sustainably use the oceans, seas and marine resources for sustainable development)	-	-

Objetivo 15 Proteger, restablecer y promover el uso sostenible de los ecosistemas terrestres, gestionar sosteniblemente los bosques, luchar contra la desertificación, detener e invertir la degradación de las tierras y detener la pérdida de biodiversidad (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss)	-	-
Objetivo 16 Promover sociedades pacíficas e inclusivas para el desarrollo sostenible, facilitar el acceso a la justicia para todos y construir a todos los niveles instituciones eficaces e inclusivas que rindan cuentas (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels)	- Una ciudad inclusiva que define mecanismos de gobernanza sostenibles y - Resilientes (Quito) - El objetivo es que a partir de la inclusión de los pequeños productores en los puntos masivos de - comercialización se logre una apropiación más directa de la renta producida, dinamizando las - economías territoriales y estimulando los actores locales como eslabones directos en la construcción - social del proceso de desarrollo territorial. (Quito)	- Número de mecanismos instaurados para promover la gobernanza participativa del sistema agroalimentario de Quito en funcionamiento. (Quito) 1 Política agroalimentaria y/o planes de acción y programas con financiamiento. (Quito)
Objetivo 17 Fortalecer los medios de implementación y revitalizar la Alianza Mundial para el Desarrollo Sostenible (Strengthen the means of implementation and revitalize the global partnership for sustainable development)	-	-

Appendix C: Key thematic words from SDGs

Objetivo 1 Poner fin a la pobreza en todas sus formas y en todo el mundo (End poverty in all its forms everywhere)			Objetivo 2 Poner fin al hambre, lograr la seguridad alimentaria y la mejora de la nutrición y promover la agricultura sostenible (End hunger, achieve food security and improved nutrition and promote sustainable agriculture)		
Indicators	**Codes spanish**	**Codes english**	**Indicators**	**Codes spanish**	**Codes english**
1.1.	pobreza extrema, menos de 1,25 dólares, umbral international	extreme povery, less than 1,25 dollars, international poverty line	**2.1.**	alimentación sana, nutritiva y suficiente, todo el año subalimentación, inseguridad alimentaria moderada o grave	safe, nutritious and sufficient food all year round undernourishment moderate or severe food insecurity
1.2.	mitad la proporción, pobreza	half the proportion, poverty	**2.2.**	retraso en el crecimiento, malnutrición, niños menores de 5 años	stunting, malnutrition, children under five
1.3.	sistemas de protección social, niveles mínimos	social protection systems, floors	**2.3.**	duplicar la productividad agrícola y los ingresos de los productores de alimentos en pequeña escala acceso seguro y equitativo a las tierra los servicios financieros, los mercados Ingreso promedio	access to land, knowledge, financial services, markets Average income
1.4.	derechos a los recursos económicos, propiedad y el control de la tierra, la herencia, servicios financieros, microfinanciación, hogares con acceso a servicios, básicos , documentación legalmente reconocida	rights to economic resources, ownership and control over land inheritance, financial services, microfinance households with access to basic services, legally recognized documentation	**2.4.**	sostenibilidad de los sistemas de producción de alimentos prácticas agrícolas resilientes superficie agrícola cultivada siguiendo prácticas agrícolas sostenibles	sustainable food production systems agricultural practices agricultural area under productive and sustainable agriculture
1.5.	resiliencia , exposición y vulnerabilidad perturbaciones y desastres económicos, sociales y ambientales Pérdidas económicas directas desastre	disaster economic loss	**2.5.**	mantener la diversidad genética de las semillas, las plantas cultivadas y los animales de granja y domesticados y sus correspondientes especies silvestres bancos de semillas y plantas conocimientos tradicionales razas locales riesgo de extinción	maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species seed and plant banks traditional knowledge local breeds risk of extinction

Objetivo 3 Garantizar una vida sana y promover el bienestar de todos a todas las edades (Ensure healthy lives and promote well-being for all at all ages)

Indicators	Codes spanish	Codes english
3.1.	mortalidad materna partos con asistencia de personal sanitario	maternal mortality births attended by skilled health personnel
3.2.	mortalidad de niños menores de 5 años mortalidad neonatal	Under-five mortality rate Neonatal mortality
3.3.	SIDA, la tuberculosis, la malaria hepatitis, las enfermedades transmitidas por el agua	AIDS, tuberculosis, malaria hepatitis, water- borne diseases
3.4.	enfermedades cardiovasculares, el cáncer, la diabetes y las enfermedades respiratorias crónicas suicidio	cardiovascular disease, cancer, diabetes or chronic respiratory disease Suicide
3.5.	abuso de sustancias adictivas	substance abuse
3.6.	accidentes de tráfico lesiones	trafic accidents, injuries
3.7.	salud sexual y reproductiva natalidad entre las adolescentes	sexual and reproductive health-care services, Adolescent birth rate
3.8.	cobertura sanitaria universal medicamentos y vacunas inocuos intervenciones con trazadores seguro de salud	universal health coverage medicines and vaccines health insurance
3.9.	químicos peligrosos contaminación del aire, el agua y el suelo insalubridad del agua, el saneamiento inseguro y la falta de higiene contaminación atmosférica intoxicación no intencional	hazardous chemicals and air, water and soil pollution and contamination. unsafe water, unsafe sanitation and lack of hygiene air pollution unintentional poisoning

Objetivo 4 Garantizar una educación inclusiva y equitativa de calidad y promover oportunidades de aprendizaje permanente para todos (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all)

Indicators	Codes spanish	Codes english
4.1.	enseñanza primaria y secundaria	primary and secondary education
4.2.	atención y desarrollo en la primera infancia y educación preescolar	early childhood development, care and pre- primary education
4.3.	formación técnica, profesional y superior de calidad, incluida la enseñanza universitaria	technical, vocational and tertiary education, including university
4.4	jóvenes competencias necesarias tecnología de la información y las comunicaciones (TIC)	youth relevant skills information and communications technology (ICT) skills
4.5.	disparidades de género	gender disparities
4.6	Alfabetizados, nociones elementales de aritmética	literacy and numeracy
4.7.	ducación para el desarrollo sostenible y los estilos de vida sostenibles, los derechos humanos, la igualdad de género, la promoción de una cultura de paz y no violencia, la ciudadanía mundial	education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship

Objetivo 1 Poner fin a la pobreza en todas sus formas y en todo el mundo (End poverty in all its forms everywhere)

Indicators	Codes spanish	Codes english
1.1.	pobreza extrema, menos de 1,25 dólares, umbral international	extreme povery, less than 1,25 dollars, international poverty line
1.2.	mitad la proporción, pobreza	half the proportion, poverty
1.3.	sistemas de protección social, niveles mínimos	social protection systems, floors
1.4.	derechos a los recursos económicos, propiedad y el control de la tierra, la herencia, servicios financieros, microfinanciación, hogares con acceso a servicios, básicos , documentación legalmente reconocida	rights to economic resources, ownership and control over land inheritance, financial services, microfinance households with access to basic services, legally recognized documentation
1.5.	resiliencia , exposición y vulnerabilidad perturbaciones y desastres económicos, sociales y ambientales Pérdidas económicas directas desastre	disaster economic loss

Objetivo 2 Poner fin al hambre, lograr la seguridad alimentaria y la mejora de la nutrición y promover la agricultura sostenible (End hunger, achieve food security and improved nutrition and promote sustainable agriculture)

Indicators	Codes spanish	Codes english
2.1.	alimentación sana, nutritiva y suficiente, todo el año subalimentación, inseguridad alimentaria moderada o grave	safe, nutritious and sufficient food all year round undernourishment moderate or severe food insecurity
2.2.	retraso en el crecimiento, malnutrición, niños menores de 5 años	stunting, malnutrition, children under five
2.3.	duplicar la productividad agrícola y los ingresos de los productores de alimentos en pequeña escala acceso seguro y equitativo a las tierra los servicios financieros, los mercados Ingreso promedio	access to land, knowledge, financial services, markets Average income
2.4.	sostenibilidad de los sistemas de producción de alimentos prácticas agrícolas resilientes superficie agrícola cultivada siguiendo prácticas agrícolas sostenibles	sustainable food production systems agricultural practices agricultural area under productive and sustainable agriculture
2.5.	mantener la diversidad genética de las semillas, las plantas cultivadas y los animales de granja y domesticados y sus correspondientes especies silvestres bancos de semillas y plantas conocimientos tradicionales razas locales riesgo de extinción	maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species seed and plant banks traditional knowledge local breeds risk of extinction

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	Objetivo 5 Lograr la igualdad de género y empoderar a todas las mujeres y las niñas (Achieve gender equality and empower all women and girls)	
Indicators	**Codes spanish**	**Codes english**
5.1.	discriminación mujeres niñas	discrimination women girls
5.2.	trata explotación sexual violencia física, sexual o psicológica infligida compañero íntimo	trafficking sexual exploitation physical, sexual or psychological violence intimate partner
5.3.	matrimonio infantil, precoz y forzado y la mutilación genital femenina	child, early and forced marriage and female genital mutilation.
5.4.	trabajo doméstico no remunerados	unpaid care and domestic work
5.5.	liderazgo escaños ocupados por mujeres parlamentos mujeres en cargos directivos	leadership seats held by women parliaments managerial positions
5.6.	anticonceptivos y la atención de la salud reproductiva	contraceptive use and reproductive health care

	Objetivo 6 Garantizar la disponibilidad y la gestión sostenible del agua y el saneamiento para todos (Ensure availability and sustainable management of water and sanitation for all)	
Indicators	**Codes spanish**	**Codes english**
6.1.	agua potable a un precio asequible	safe and affordable drinking water
6.2.	servicios de saneamiento e higiene	sanitation and hygiene
6.3.	aguas residuales	wastewater
6.4.	eficiencia del uso del agua estrés hídrico: extracción de agua dulce	water use efficiency water stress: freshwater withdrawal
6.5.	gestión integrada de los recursos hídricos cuenca transfronteriza	integrated water resources management transboundary basin
6.6.	bosques, las montañas, los humedales, los ríos, los acuíferos y los lagos ecosistemas relacionados con el agua	water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

	Objetivo 7 Garantizar el acceso a una energía asequible, fiable, sostenible y moderna para todos (Ensure access to affordable, reliable, sustainable and modern energy for all)	
Indicators	**Codes spanish**	**Codes english**
7.1.	servicios energéticos electricidad combustibles tecnología limpios	energy services electricity clean fuels clean technology
7.2.	energía renovable	Renewable energy

	Objetivo 8 Promover el crecimiento económico sostenido, inclusivo y sostenible, el empleo pleno y productivo y el trabajo decente para todos (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)	
Indicators	**Codes spanish**	**Codes english**
8.1.	crecimiento económico PIB real per cápita	economic growth real GDP per capita
8.2.	productividad económica PIB real por persona empleada	economic productivity GDP per employed person
8.3.	el emprendimiento formalización y el crecimiento de las microempresas y las pequeñas y medianas empresas empleo informal	entrepreneurship formalization and growth of micro-, small- and medium-sized enterprises
8.4.	la producción y el consumo eficientes de los recursos Huella material Consumo de materiales domésticos	resource efficiency in consumption and production Material footprint (MF) Domestic material consumption (DMC)
8.5.	Ingreso medio Tasa de desempleo	hourly earnings Unemployment rate
8.6.	jóvenes no estudian, no tienen empleo ni reciben capacitación	youth not in education, employment or training (NEET)
8.7.	trabajo forzoso formas contemporáneas de esclavitud trabajo infantil	forced labour modern slavery child labour
8.8.	lesiones ocupacionales mortales derechos laborales	fatal and non-fatal occupational injuries labour rights
8.9.	turismo sostenible	sustainable tourism
8.10.	instituciones financieras sucursales de bancos cajeros automáticos cuenta en un banco	financial institutions bank branches automated teller machines (ATMs) account at a bank

	Objetivo 9 Construir infraestructuras resilientes, promover la industrialización inclusiva y sostenible y fomentar la innovación (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation)	
Indicators	**Codes spanish**	**Codes english**
9.1.	infraestructuras transporte de pasajeros y carga	infrastructure, Passenger and freight
9.2.	Empleo en la manufactura	Manufacturing employment
9.3.	industrias a pequeña	small scale industries
9.4.	Emisiones de CO2	CO2 emission
9.5.	Gastos en investigación y desarrollo Investigadores	Research and development (R&D)expenditure Researchers

	Objetivo 10 Reducir la desigualdad en los países y entre ellos (Reduce inequality within and among countries)	
Indicators	**Codes spanish**	**Codes english**
10.1.	crecimiento de los ingresos del 40% más pobre	income growth of the bottom 40 per cent
10.2.	inclusión social, económica y política eliminando las leyes, políticas y prácticas discriminatorias	empower and promote the social, economic and political inclusion eliminating discriminatory laws, policies and practices
10.4.	fiscales, salariales y de protección social	igualdad
10.5.	Indicadores de solidez financiera	Financial Soundness Indicators
10.6.	decisiones adoptadas por las instituciones económicas y financieras internacionales	decision-making in global international economic and financial institutions
10.7.	migración y la movilidad	migration and mobility of

Indicators	Objetivo 11 Lograr que las ciudades y los asentamientos humanos sean inclusivos, seguros, resilientes y sostenibles (Make cities and human settlements inclusive, safe, resilient and sustainable)	
Indicators	**Codes spanish**	**Codes english**
11.1.	barrios marginales, asentamientos improvisados o viviendas inadecuadas	slums, informal settlement or inadequate housing
11.2.	transporte público	public transport
11.3.	urbanización inclusiva planificación y la gestión participativas, integradas	sustainable urbanization participatory, integrated planning
11.4.	patrimonio cultural y natural preservación, protección y conservación	cultural and natural heritage preservation, protection and conservation
11.5.	muertos, desaparecidos, heridos, reubicados o evacuados debido a desastres daños por desastre a la infraestructura crítica y la interrupción de los servicios básicos	deaths, missing and persons affected by disaster disaster damage to critical infrastructure and disruption of basic services
11.6.	de partículas finas	fine particulate matter
11.7.	zonas verdes	green spaces

Indicators	Objetivo 13 Adoptar medidas urgentes para combatir el cambio climático y sus efectos (Take urgent action to combat climate change and its impacts (Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.)	
Indicators	**Codes spanish**	**Codes english**
13.1.	riesgos relacionados con el clima	climate- related hazards
13.3.	institucional respecto de la mitigación del cambio climático	institutional capacity on climate change mitigation

Indicators	Objetivo 12 Garantizar modalidades de consumo y producción sostenibles (Ensure sustainable consumption and production patterns)	
Indicators	**Codes spanish**	**Codes english**
12.1.	planes de acción nacionales de consumo y producción sostenibles	Sustainable Consumption and Production (SCP) national action plans
12.2.	uso eficiente de los recursos naturales	efficient use of natural resources
12.3.	desperdicio de alimentos pérdida de alimentos	food waste Food Loss
12.4.	acuerdos ambientales químicos Residuos peligroso	environmental agreements chemicals Hazardous waste
12.5.	reciclado	recycling
12.6.	empresas que adopten prácticas sostenibles	companies adopt sustainable practices sustainability reports
12.7.	adquisición pública sostenibles	public procurement
12.8.	información y los conocimientos desarrollo sostenible estilos de vida	information and awareness sustainable development lifestyles

Indicators	Objetivo 14 Conservar y utilizar sosteniblemente los océanos, los mares y los recursos marinos para el desarrollo sostenible (Conserve and sustainably use the oceans, seas and marine resources for sustainable development)	
Indicators	**Codes spanish**	**Codes english**
14.1.	eutrofización Costero desechos plásticos flotantes	Coastal Eutrophication Floating Plastic debris
14.2.	ecosistemas marinos y costeros	marine and coastal ecosystems
14.3.	acidificación de los océanos	impacts of ocean acidification
14.4.	explotación pesquera pesca excesiva poblaciones de peces	overfishing unregulated fishing fish stocks
14.5.	conservar zonas costeras y marinas	conserve coastal and marine
14.6.	la pesca pesca ilegal, no declarada y no reglamentada	fisheries illegal, unreported and unregulated fishing
14.7.	pesca sostenible	Sustainable fisheries

Indicators	Objetivo 15 Proteger, restablecer y promover el uso sostenible de los ecosistemas terrestres, gestionar sosteniblemente los bosques, luchar contra la desertificación, detener e invertir la degradación de las tierras y detener la pérdida de biodiversidad (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss)	
Indicators	**Codes spanish**	**Codes english**
15.1.	ecosistemas terrestres y los ecosistemas interiores de agua dulce	terrestrial and inland freshwater ecosystems
15.2.	deforestación bosques degradados forestación reforestación ordenación forestal sostenible	deforestation degraded forests afforestation reforestation sustainable forest management
15.3.	desertificación tierras y los suelos degradados sequía inundaciones	desertification degraded land and soil drought floods
15.4.	ecosistemas montañosos diversidad biológica	mountain ecosystems biodiversity
15.5.	pérdida de biodiversidad especies amenazadas extinción Lista Roja	loss of biodiversity extinction threatened species
15.6.	recursos genéticos	genetic resources
15.7.	caza furtiva tráfico de especies protegidas productos ilegales de flora y fauna silvestres	poaching and trafficking of protected species illegal wildlife products illicitly trafficked
15.8.	especies exóticas invasoras	invasive alien species
15.9.	Plan Estratégico para la Diversidad Biológica	Strategic Plan for Biodiversity

Objetivo 16 Promover sociedades pacíficas e inclusivas para el desarrollo sostenible, facilitar el acceso a la justicia para todos y construir a todos los niveles instituciones eficaces e inclusivas que rindan cuentas (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels)			Objetivo 17 Fortalecer los medios de implementación y revitalizar la Alianza Mundial para el Desarrollo Sostenible (Strengthen the means of implementation and revitalize the global partnership for sustainable development)		
Indicators	**Codes spanish**	**Codes english**	**Indicators**	**Codes spanish**	**Codes english**
			17.1.	ingresos fiscales Total de los ingresos del gobierno	tax collection Total government revenue
			17.2.	Asistencia oficial	development assistance
16.1.	dolosos Muertes causadas por conflictos violencia física, psicológica o sexual	homicide Conflict-related deaths physical, psychological or sexual violence	17.3.	Inversiones extranjeras directas asistencia oficial para el desarrollo y cooperación sur-sur remesas PIB	Foreign direct investments South-South Cooperation remittances GDP
16.2.	castigo físico maltrato, la explotación, la trata y todas las formas de violencia y tortura contra los niños	physical punishment abuse, exploitations, trafficking and all forms of violence against and torture of children	17.4.	Servicio de la deuda	Debt service
16.3.	estado de derecho acceso a la justicia	rule of law access to justice	17.5.	promoción de inversiones para los países menos desarrollados	investment promotion regimes for least developed countries
16.4.	armas ilícitas delincuencia organizada armas pequeñas y armas ligeras	illicit arms organized crime small arms light weapons	17.6.	cooperación regional e internacional Norte-Sur, Sur-Sur y triangular	North-South, South- South and triangular regional and international cooperation
			17.6.	Internet de banda ancha fija	Fixed Internet broadband
			17.7.	transferencia, divulgación y difusión	transfer, dissemination and diffusion
16.5.	corrupción el soborno	corruption bribe	17.8.	el banco de tecnología	technology bank and science
16.6.	instituciones transparentes	transparent institutions	17.9.	Objetivos de Desarrollo Sostenible, incluso mediante la cooperación Norte-Sur, Sur- Sur y triangular	sustainable development goals, including through North-South, South-South and triangular cooperation
16.7.	decisiones inclusivas, participativas y representativas	responsive, inclusive, participatory and representative decision- making	17.10 .	sistema de comercio multilateral Organización Mundial del Comercio Programa de Doha para el Desarrollo arancelario	multilateral trading system World Trade Organization Doha Development Agenda tariff
			17.11 .	exportaciones	exports
16.8.	participación de los países en desarrollo	participation of developing countries	17.12 .	Promedio de los aranceles que enfrentan los países en desarrollo	Average tariffs faced by developing countries
			17.13 .	estabilidad macroeconómica	macroeconomic stability
16.9.	identidad jurídica	legal identity	17.14 .	coherencia de las políticas de desarrollo sostenible	policy coherence of sustainable development
			17.15 .	margen normativo	each country's policy space
			17.16 .	Alianza Mundial para el Desarrollo Sostenible marcos de seguimiento	global partnership for sustainable development monitoring frameworks
16.10 .	homicidio, secuestro, desaparición forzada, detención arbitraria y tortura de periodistas, miembros asociados de los medios de comunicación, sindicalistas y defensores de los derechos humanos libertades fundamentales	killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates fundamental freedoms	17.17 .	asociaciones público-privadas y asociaciones con la sociedad civil	public -private and civil society partnerships
			17.18 .	indicadores de desarrollo sostenible producidos	sustainable development indicators produced
			17.19 .	censo de población y vivienda	Population and Housing Census

Appendix D: Translations of quotes from UFSS

UFSS	Page	Spanish	English Translation
Quito	20	"mitigarse y adaptarse a los efectos del cambio climático"	"Mitigate and adapt to the effects of climate change"
Córdoba	129	"Equidad social, territorial, de género, ambiental y conservación de la biodiversidad"	"Social, territorial, gender, environmental and biodiversity conservation equity"
Córdoba	129	"….con el fin de reducir los desperdicios de alimentos y preservar la biodiversidad"	"… In order to reduce food waste and preserve biodiversity"
Medellín	90	"Favorecer mediante mecanismos eficaces de coordinación y la articulación con Empresas Públicas de Medellín y con Juntas de Acueductos Veredales, el acceso de toda la población al servicio de agua potable."	"To promote, through effective mechanisms of coordination and articulation with Public Companies of Medellín and with Regional Water Boards, the access of the entire population to the drinking water service."
Medellín	89	"Diseñar e implementar mecanismos de articulación para el fortalecimiento de la vigilancia epidemiológica que permita el seguimiento de los eventos de interés de salud pública relacionados con alimentos y con agua potable."	"Design and implement articulation mechanisms to strengthen epidemiological surveillance that allows monitoring of public health events related to food and drinking water."
Córdoba	71	"Desarrollar proyectos de economía de escala donde se facilite el acceso al crédito y se promuevan la empleabilidad y el emprendimiento, mediante procesos de formación"	"Develop scale economy projects where access to credit is facilitated and employability and entrepreneurship are promoted, through training processes"
Córdoba	89	"apoyo a la asociatividad para la promoción de minicadenas de artesanías y etnoturismo con responsabilidad"	"Support to the association for the promotion of handicraft and ethno-tourism mini-chains with responsibility"