Thinking about Just City in

Solid Waste Management in Africa

Experiences of Bertoua in Cameroon

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Syndicat National Autonome des Professionnels
de l'Assainissement du Cameroun

JUSTCiTY

Friedrich Ebert Stiftung

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Note on the authors

The book brings together contributors from academia, civil society and operational sectors of waste management in Cameroon.

- **FOYET GANKAM Arsène Delors — President SYNAPRAC / Teacher, University of Maroua.**

Contribution: *General introduction; Just City experiences in Cameroon; social understanding of the just city; perspectives for Bertoua; general conclusion.*

- **KAPTUE Olivier Pascal — HYSACAM Employee, Maroua Agency.**

Contribution: *Perspectives for a just city based on the experience of Bertoua.*

- **OJUKU TIAFACK — Teacher, University of Yaoundé I.**

Contribution: *Social understanding of the just city in the context of solid waste.*

- **PLUG Kindness NATION — Consultant.**

Contribution: *Just City experiences in Cameroon.*

- **KENGMOE Tchouongsi Emmanuel — Teacher, University of Ebolowa.**

Contribution: *Just City experiences in Cameroon.*

- **LAMBOU Joseph — Civil society actor, entrepreneur.**

Contribution: *Social understanding of the just city.*

- **CHILDREN Bobiyomona Rodrigue Octave — Consultant.**

Contribution: *Perspectives for a just city based on the experience of Bertoua.*

- **ISSEPE MAWO Martin Antoine — Independent Researcher.**

Contribution: *Perspectives for a just city based on the experience of Bertoua.*

Summary

Preface

Dear friends of the Friedrich-Ebert-Stiftung,

Social justice does not just find its roots in politics or state affairs. Our everyday life determines and influences if the world around us is just. This is also true for the way we live and share spaces together.
Cameroon faces several urban challenges when it comes to addressing the issue of what it means to be a *Just City*. While a *Just City* needs many components and questions of housing and transportation are crucial, we would like to look at something else: Waste Management.

Urban waste management in Cameroon is not just a matter of garbage collection. It is a question of social justice, a lever for economic development, a public health imperative, and a major environmental challenge. Considering the integration of *Just City* principles into waste management policies and practices means considering the transformation of a sector perceived as a burden into a real opportunity to build cleaner, healthier, more equitable, and more sustainable cities in Cameroon for all.

Currently, poor waste management is characterised by piles of garbage in cities, hastily filled landfills, a lack of pre-sorting, open-air incineration, and burial, all of which cause major health and environmental problems. This poor waste management is not accidental. It is driven by lax and irresponsible attitudes, weak social norms, and ineffective enforcement mechanisms. Added to these are the informal nature of the sector, poor working conditions, the lack of civic-mindedness among the population, the low involvement of

certain actors, and the excessive responsibility placed on others, particularly young children who are entrusted with garbage collection tasks.

Building just cities in Africa, and in Cameroon in particular, requires all stakeholders, regardless of their roles or influence, to innovate: the principles of just cities provide a solid foundation on which these innovations can be built. This approach requires massive investment in infrastructure, institutional and technical capacity building, the gradual formalisation of the informal sector, the adoption of appropriate regulatory frameworks, and above all, a profound change in attitudes and behaviours. This book aims to be a channel for training, information, and awareness-raising on six new principles of urban justice in the African landscape. Its adoption by Cameroon's ten urban communities and district municipalities will mark a real step towards this vision of a *Just City.*

Christian KLATT,
FES Cameroon Resident Representative

Introduction

In 2020, at least 2.59 billion people lived in metropolitan areas, representing one-third of the world's population and 60% of the urban population (UN-Habitat, 2020). This number could increase by nearly one billion by 2035. At least half of Africa's population is expected to live in cities by 2030 (UN, 2006), and by 2050, two out of three people will live in urban areas (OECD et al., 2025). In Cameroon, the urban population in 2014 was estimated at 54% (UN-Habitat, 2022). This urbanisation is primarily due, on the one hand, to migration and rural exodus linked to the search for employment and/or a better living environment, and on the other hand, to the positive birth-death ratio among populations already living in urban areas.

The development or expansion of urban areas to accommodate these city dwellers is undoubtedly accompanied, on the one hand, by a sharp increase in demand for land, housing, infrastructure, and services (OECD et al., 2022). On the other hand, one of the direct consequences of population growth and urban sprawl, coupled with the rapid evolution of production and consumption patterns, is the increase in waste production (Cirelli and Florin, 2015; Sujauddin et al., 2008). Managing this waste has become a major challenge for the entire world in the current context of rapid development and advanced industrialisation (UN-Habitat et al., 2024), coupled with the emergence of new consumption patterns. In sub-Saharan Africa, waste is growing faster than elsewhere; the total volume produced is expected to triple by 2050 (Kaza et al., 2018).

Managing this waste poses a real challenge for public authorities and local communities in current economic climate, marked by insufficient pre-collection and collection services, and very low recycling rates for certain types of waste. This is compounded by inadequate sorting at the source, poor waste disposal practices in households, and a lack of civic responsibility among a significant portion of the population, characterised by indiscriminate dumping, open burning, and other forms of waste disposal.

This weakness in effective waste management deprives citizens of their constitutional right to a healthy environment and limits employment opportunities. Yet, it represents a real opportunity for many people facing rising unemployment. Indeed, while the unemployment rate averages 13.9% and reaches 28.2% among women (INS, 2022), the solid waste collection rate varies between 42% and 65% (Ngambi, 2015 and Tchuikoua, 2010). The remainder is dumped in nature. In most cases, 97% of households and similar waste that constitutes urban solid waste is recyclable (Foyet and Tchawa, 2018).

Faced with the deterioration of living conditions in urban areas due to the proliferation of waste and the opportunities it presents, numerous actors—working either openly or covertly—strive to clean up the environment while attempting to make the most of this activity for their own survival and for that of the economy (Bahers, 2024; Tsitsikalis, 2024; Lazare et al., n.d.). These actors, often without training or appropriate resources and equipment, operate in unbearable conditions (lack of Personal Protective Equipment, limited knowledge of labour law, and limited understanding of occupational health and safety conditions, among others) In addition to the stigma and marginalisation they face in popular perceptions, they receive very little consideration

and support from administrative authorities and funding institutions. These individuals, whether organised into businesses, associations, or working as sole proprietors, operate according to their means, positioning themselves at one of the existing links in the supply chain (pre-collection, collection, transport, processing, reuse, etc.). Beyond its largely informal structure, this sector employs women, children, and other vulnerable groups, putting their health and even their lives at risk. In formal organisations, these social categories are underrepresented or even nonexistent, or at best, work without contracts or insurance.

Furthermore, urban sanitation is characterised by an uneven spatial distribution of infrastructure and waste collection and transport equipment (Aharinjanahary, 2024 and Biabouo, 2021). While waste collection is effective in planned neighbourhoods with roads and designated collection points, in impoverished neighbourhoods, where overcrowding leads to poverty, the situation is exacerbated by garbage accumulating around houses, on public roads, and in gutters and waterways. This results in an unsightly urban landscape, foul odours, and a proliferation of rodents, insects, flies, and mosquitoes, which are vectors of numerous diseases. In addition, flooding occurs due to the clogging of gutters by the abundant waste. According to the Nationally Determined Contribution (2021), this sector is the third-largest producer of greenhouse gases in Cameroon, contributing 12% of emissions. These emissions (methane, carbon dioxide and nitrogen dioxide) are primarily linked to the dumping of waste in the environment, its transportation to landfills and other treatment sites, as well as poor management practices.

Despite the efforts made, a large part of the waste produced is not recovered or reused; it does not necessarily end up in landfills, but is dumped haphazardly in nature, without effective sorting or prior treatment, thus polluting the environment (African Clean Cities Platform, 2019 and Institut de la Fran-

cophonie pour le Développement Durable, 2024).

The injustices stemming from poor waste management affect both people (workers, women, children, the poor) and nature. Inevitably, cities, supposedly equipped with basic amenities to attract residents, become frightening places; nuisances are omnipresent, and inequalities and injustices are glaring. Urban segregation and the specialisation of neighbourhoods have a definite impact on levels of equality and inclusion, thus exacerbating injustices. The city is therefore the most striking manifestation of the unequal distribution of people and activities in space.

The Just City initiative, translated as Urban Justice or Just City in French, is an innovative concept in urban planning and development. Pioneered by Susan Fainstein, the theory of the Just City emerged in response to growing urban inequalities (Baby-Collin, 2011). According to Socio Health (2024), the concept of the "Just City" represents an ambitious framework for urban development that prioritises equity, inclusion, and democratic participation. This concept places human rights, equity, and participatory democracy at the heart of urban development processes. Fainstein bases her vision of the Just City on three principles: Equality, Democracy, and Diversity. However, in addition to their complexity, she reminds us that a Just City cannot be a good city if one limits oneself to these three principles. Thus, Equity, Inclusion, Dignity, Public Safety, and Accessibility-Affordability and Sustainability are among the principles that, when integrated, would contribute to a just and good city for all. This requires coercive, proactive, and corrective measures to make cities true places of innovation, opportunity, social inclusion, and peace.
In the field of waste management, urban justice suggests that waste, as advocated by the Framework Law on Environmental Management (1996), must be treated in an ecologically sound manner in order to eliminate or reduce its harmful effects on human health, natural resources, and the overallquality of the environment. The city, for its part, far from being a miasma, should be a place that fully meets the aspirations of the legislator, who, from the preamble of the 1996 co-

constitution, stipulates that *everyone has the right to a healthy environment.*

Environmentally sound waste management highlights the dual nature of waste. Waste is simultaneously a refuse and a resource, a nuisance that can cause disease and pollution, and an opportunity, a driver of the economy and a catalyst for youth employment. Environmentally sound waste management strengthens urban justice. This justice, in turn, through its principles, fully contributes to achieving the aspirations of the African Union's Agenda 2063 and the Sustainable Development Goals of the United Nations' 2030 Agenda.

Just City **Experience in Cameroon**

The *Just City* initiative has been structured in Cameroon in several stages since the trade union and ecological transition program led by the Climate and Environment Program.

From the union and ecological transition program at the National Autonomous Union of Sanitation Professionals of Cameroon in *Just City,* **Cameroon**

Through its Union and Ecological Transition program, the FES carries out ongoing actions in the field of waste management.

In addition to the FES Green Conferences, the Foundation initiated the identification and mapping of waste management stakeholders in Cameroon. This study revealed that numerous field actors are involved in the waste sector at various levels, with different intervention strategies and legal statuses. Indeed, while some are organised as formal businesses, associations, cooperatives, or Common Initiative Groups (CIGs), others, the majority, operate independently. Regardless of their organisational form or status, each of these actors is part of a link in the waste management chain.

Thus, we have waste collectors, pre-collectors, collectors, recyclers, landfillers... further along, buyers, transporters, and also trainers and educators. The most sought-after waste fractions are scrap metal, aluminum, plastic (PET, PP, PE, PVC, ABS, PC, and TPE), glass, and, more rarely, soft plastics, textiles, and organic waste. However, this latter fraction accounts for about 70% of the waste produced in major urban centers, and slightly more in secondary towns.

Despite the significant presence of stakeholders on the ground and the existing opportunities, it is clear that no formal framework for consultation exists to unite initiatives, defend interests, and amplify their voices within the sector's decision-making bodies. This unfortunate reality led to the idea of creating a union to bring together waste management professionals. Following various preparatory and training meetings for identified stakeholders in union organisation and management, a clear desire to unite emerged. The National Autonomous Union of Sanitation Professionals of Cameroon (SYNAPRAC) project was thus conceived, developed, and brought to fruition.

Box 1.

The National Autonomous Union of Sanitation Professionals of Cameroon

Through its Union and Ecological Transition program, a component of the Climate and Environment Program, FES undertook to structure the waste management sector. Following a feasibility study, a meticulous mapping of sector stakeholders was carried out in Cameroon's main cities. Key stakeholders operating in Bafoussam, Douala, and Yaounde were invited to various consultation meetings to establish a synergy for improved action, information sharing, training, and representation. In the absence of a genuine organisation capable of fulfilling this role, FES conceived the idea of creating a union. The subsequent training sessions enabled participants to identify opportunities and familiarise themselves with the organisational and operational structure of such a body. Although operating on the ground previously, SYNAPRAC (synaprac@gmail.com) has been officially registered since 2025 under number SN/6. It brings together around one hundred members, including companies, associations, cooperatives, joint initiative groups, and individuals. All are involved in waste management, and their promoters (in terms of the structures) have training directly related to rudology.

Given the existence of this trade union group, and considering the inequalities in access to waste management services and employment, the stigma and marginalisation faced by those involved, and the abundance of opportunities in this sector, FES Cameroon has chosen to focus its efforts on this sector with the aim of contributing to the creation of Just Cities. This aligns with the approach taken by some East and West African countries that have directed their efforts towards transportation and housing. Participation in the first African Urban Planning Forum in Addis Ababa, themed *"The Just City in Africa: Democracy, Social Justice and Sustainability,"* provided an opportunity to share experiences and knowledge on the concept of the Just City and its implementation in various sectors across Africa.

Following the commitment to make Cameroonian cities "just cities" in terms of wa-ste management, a two-day workshop session was organised to present the concept of a just city and its guiding principles, and to gather the initial impressions and perceptions of stakeholders in the waste management sector. Following presentations and discussions, two main resolutions were adopted:

- Start with a pilot city, preferably a secondary city, because major cities like Douala and Yaounde are very complex in terms of the number of actors, the behaviour of citizens, the state of unsanitary conditions and incivility, as well as the administration;
- Conduct field studies in two or three cities to select a single pilot city that meets the criteria of quantity and quality of stakeholders, public understanding of sanitation and just city issues, openness, and acceptance of the project by local authorities. Three cities were proposed: Nkongsamba, Kribi, and Bertoua.

Box 2.

Cities proposed to host the Just City waste project in Cameroon.

At COP 26 in Glasgow in 2021, Cameroon presented its industrial biochar production project as part of its climate and sustainable development strategy. NetZero, the company selected to implement this production, chose the city of Nkongsamba, 150 km north of Douala, as the location for its plant. RedPlast, the company contracted to collect household waste in the city, is a member of SYNAPRAC.

Located on the Atlantic coast, Kribi is a seaside town that welcomes numerous national and international tourists every week. It is beginning its industrial development with the opening of its deep-water port and the establishment of many heavy industries. It is a forward-looking city, a showcase for Cameroon, where initiatives promoting sustainability and even social justice deserve to be implemented.

"During a stay in Bertoua, I was surprised, even astonished, to see that everyone respects the traffic lights, including the motorcycle taxi drivers. It's truly something new in Cameroon to see even motorcycle taxi drivers respecting the lights when there are no police officers present!" exclaimed one participant. "Whatever people say, this population is well-mannered. Bertoua is a city experiencing rapid demographic and spatial growth, which will inevitably lead to a significant amount of waste to manage."

Based on these three proposed cities, Kribi and Bertoua were selected due to their size, functions and the existence of HYSACAM company services, including municipal landfills.

As a partner of the FES, SYNAPRAC is the FES's operational arm in implementing the Just City project in Cameroon. The two entities conducted two field missions in the pre-selected cities to identify stakeholders, assess civic engagement, stakeholder participation, management systems, and the challenges and prospects for the development of the Just City project.

State and situation of waste management in Bertoua and Kribi

Organisation of household garbage collection

For two consecutive weeks, the teams were deployed in the field in both cities to meet with authorities, stakeholders, households and to experience firsthand the realities of municipal waste management. To this end, in addition to site visits for direct observation in the various city thoroughfares and using GPS, spatial data was collected, primarily focusing on the locations of garbage bins and refuse. Meetings were organised with the authorities, during which discussions guided by interview protocols were held, often in a cordial atmosphere.

The interviews, conducted using interview guides, often took place in a friendly atmosphere. the Mayor of Bertoua, the Divisional Officer of Bertoua 1st and 2nd, representatives of the Mayors of Bertoua 1st and 2nd; the representative of the Senior Divisional Officer of Ocean,the representative of the Mayor of Kribi, representatives of the Mayors of Kribi 1st and 2nd; and the Departmental Delegates of the Ministry of Housing and Urban Development (MINHDU) and the Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED). These authorities, responsible for matters relating to planning, public order and safety, the environment, urban planning, and urban development, are all directly involved in sanitation. . The interviews, which also involved economic operators and actors in waste management (HYSACAM, ECOGREEN, STRICAM and door-to-door pre-collectors), focused on the following points: the state of waste management, the sanitation efforts made, the challenges met and any recommendations.

The discussions with households were guided by a digital questionnaire based on a charter of 58 questions, divided into seven themes: Equal access to services, Citizen participation, Social and economic justice, Sustainable development, Respect for diversity, Urban security, and Well-being and quality of life. Across 22 neighbourhoods in Bertoua and 15 in Kribi, respectively, 184 and 143 individuals, ranging in age from 10 to over 60, were interviewed. Among them, 48.91% and 65.73% had completed secondary education, 17.39% and 15.38% higher education, 23.37% and 10.49% primary education, and 9.24% and 4.2% had no formal education in Bertoua and Kribi, respectively. This is a relatively young and educated population, capable of understanding development challenges, the importance of hygiene and sanitation, and the issues of justice.

In many households, it is the children who take care of removing the household waste

(emptying the bin) to the collection points, as shown in the figure below.

Responsible for waste removal within families
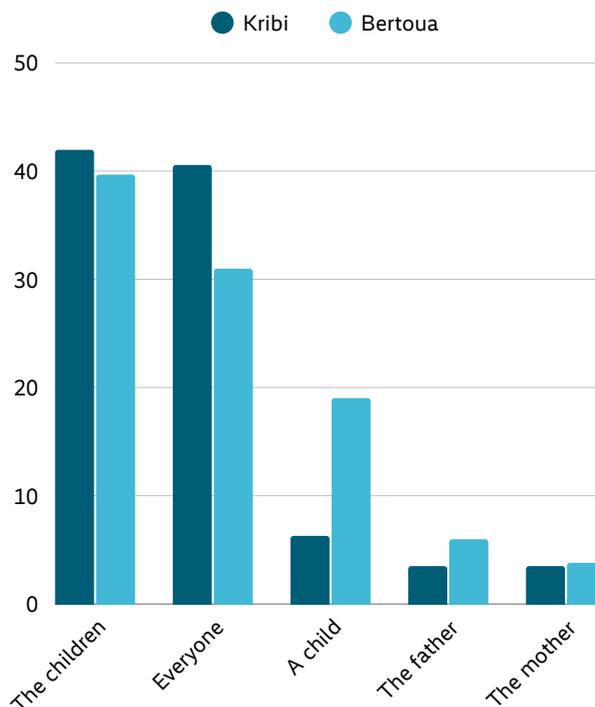
Analysis of the figure shows that in the cities of Bertoua and Kribi, children are primarily responsible for household waste collection (41.96% and 39.67% respectively in Kribi and Bertoua). In rare cases, in households with very young children, parents take care of collecting the waste they dispose of at the dump on their way to work or the market. Thus, waste collection can be the responsibility of all the children in the household, or it can be assigned to a single child. In the latter case, while some other children might do the dishes or other housework, one child in particular is designated to take out the garbage. The choice of this child, as well as all the other children who take out the garbage, does not necessarily take their physical abilities into account.

This is one of the reasons why, given the weight of the load and the distances to be covered, children generally dump the rubbish wherever they consider suitable. In addition, the cities lack waste collection infrastructure. Indeed, 52.45 percent of

the population of Kribi and 53.26 percent of that of Bertoua do not have access to rubbish bins, which forces residents to discard their waste anywhere, as shown in the figure below.

Waste dumping site by the population of Bertoua and Kribi
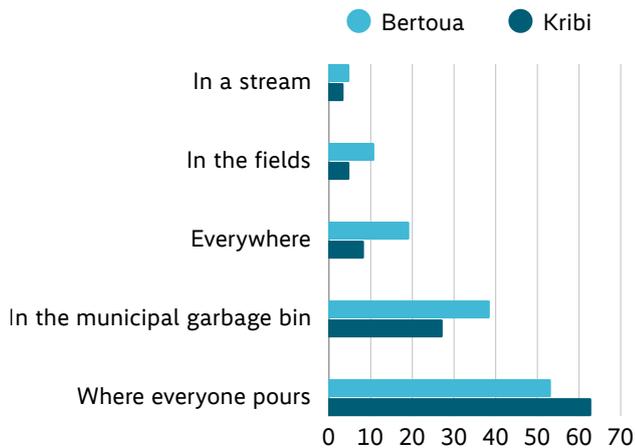
The insufficient number of municipal garbage bins forces residents to dump their waste either in waterways, on public roads, or in any available space near their homes. Furthermore, the bins are often too tall for small children to reach the top of the bin; lacking the height and strength to reach the rim, they empty their waste directly onto the ground. Combined with the lack of civic responsibility among some, this explains the chaotic dumping of waste on the streets and elsewhere in the city.

The near-universal littering of cities is very often caused by isolated acts of a few individuals who take advantage of inconsiderate behaviour to dump their waste in inappropriate places; by imitation, others then dump theirs there. This phenomenon is exacerbated by the poor spatial distribution of garbage bins, but also by the distances separating homes from existing bins or designated collection points.

The figure below shows the distances travelled to the waste dumping points in the cities of

Kribi and Bertoua.

Distance between homes and waste dumping sites in Bertoua and Kribi
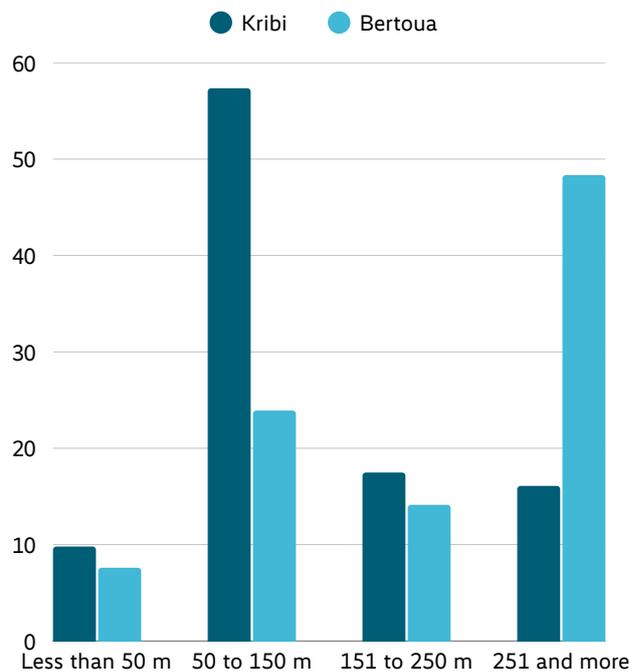
The distances travelled to empty garbage bins vary between less than 50 and 600 metres. The longest distances are traveled in the city of Bertoua, where 48.34% of households go more than 250 meters to dispose of their waste. When collection points are far from homes, illegal dumpsites easily develop. These are generally located near some houses. This uncontrolled dumping of waste can generate nuisances that can have detrimental consequences on the quality of life of residents and the environment. The presence of illegal dumpsites near homes can cause several types of nuisances, including:

⟶ Odour nuisances: bad smells emanating from waste are particularly unpleasant and can make daily life unbearable.

⟶ Health risks: the proximity of waste can promote the proliferation of insects and rodents, vectors of disease.

⟶ Aesthetics: the unsightly appearance of

garbage cans can degrade the image of the neighbourhood and harm the quality of life of residents.

Although largely aware of the health and legal risks of poor waste management, the population continues to dump its waste in the streets or waterways. This waste is only superficially sorted, despite the value of certain fractions. In Bertoua, 16.85% of households claim to sort their waste, compared to 9.79% in Kribi. The sorted fractions, in order of importance, are plastic (PET) bottles, scrap metal, and aluminium.

At a minimum, glass bottles (of glycerine) are among the products easily purchased by recycling companies and intermediaries. The poor waste sorting rate stems from a lack of training, but also from the absence of recycling channels.

Aside from a few awareness campaigns, the population has almost never received training in household waste management but is willing to participate in sessions if they are organised. Furthermore, they express concern about the state of waste management in the city and suggest solutions to address the unsanitary conditions. The figure below summarises the proposals for both cities.
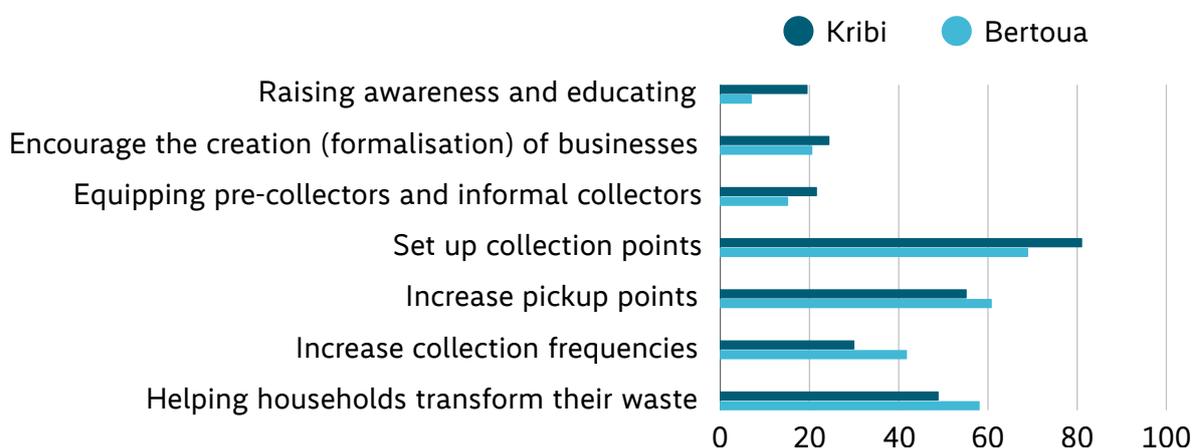
The main concern for residents of Bertoua and Kribi regarding waste management is the insufficient or even nonexistent collection points in certain neighbourhoods. While well-developed neighbourhoods or those with usable roads have access to collection points and garbage bins, impoverished or remote areas outside the city centre, lacking roads, do not have bins because HYSACAM's vehicles cannot reach them. As a result, waste is dumped indiscriminately and burned without any precautionary measures.

Unfortunately, a lack of technology and expertise hinders significant value creation. Furthermore, the limited existence and informal nature of recycling structures, coupled with the precarious working conditions of the employees, discourage young people from pursuing careers in waste management.

Just City, far from being an empty concept, is a vision that could well materialise in waste management, a sector facing multiple injustices.

Initiatives, challenges and perspectives of waste management stakeholders

Bertoua, the capital of the Eastern Region, is a crossroads city located on the Douala-Ndjamena-Bangui corridor. Established as an urban community in 2008, it is divided into two boroughs: Bertoua 1st and Bertoua 2nd. Its population in 2012 was estimated at 158,018 inhabitants, with an area of 25,310 hectares (Bertoua Urban Community, 2012).

Kribi, located on the Atlantic coast on the Gulf of Guinea, is the capital of the South Region and the Ocean Department. It is divided into the districts of Kribi 1st and Kribi 2nd, which together form an urban community. With a population of 119,066 (Bucrep, 2024), Kribi's main economic activities include fishing, livestock farming, agriculture, trade, services (transport, banking, communication, education, etc.), and tourism. These activities have been booming since the opening of the deep-water port of Kribi. Like other cities experiencing rapid growth due to a recession, Kribi is overwhelmed by household waste, posing a major hygiene and sanitation problem.

In terms of sanitation, a comparative look reveals that the cities of Bertoua and Kribi share the same realities, whether in terms of challenges or initiatives.

Numerous challenges:

- Insufficient collection infrastructure means that waste takes a long time to be removed, whether in markets or in neighbourhoods;
- The absence of a structured organisation to manage pre-collection effectively, which creates an environment conducive to the accumulation of rubbish that undermines public cleanliness.
- Uneven spatial distribution of collection points which are often poorly located, par-ticularly in secondary areas, leading to uncon-trolled deposits;
- Irregular payment of invoices from the company responsible for waste collection and disposal, which compromises the continuity of services;
- The lack of civic responsibility among the population, who continue to dump garbage on public roads and burn it inappropriately by the roadside;
- Insufficient initiatives and structures for waste recovery;
- Insufficient funding and inadequate monitoring for initiatives such as the collection of plastic waste by municipalities;
- Roads are poorly maintained or not maintained at all in secondary districts, and the urban community is powerless to address the deterioration of the national road that crosses the city, resulting in inaccessibility to collection facilities;
- Sorting and recovery only concerns specific waste such as plastic, scrap metal, aluminium...;
- Lack of a waste management plan despite regulatory requirements;
- Lack of coordination between the different local authorities, which is slowing down the establishment of a municipal police force specialising in waste management;
- Informal collaboration between the borough halls and the central town hall, based on ad hoc projects rather than an overall strategy;
- Limited power of traditional chiefs to repress people who evade health regulations;
- Conflicts arise between waste pickers who often fight over certain fractions of waste specific to collection points;
- Insufficient and inoperative waste collection logistics limit the coverage and efficiency of the service.

What has been done:
- Design and layout of some receptacles to turn

them into waste collection points;

- Establishment of a digital platform (WhatsApp group) for collaboration with the population in the context of waste management, where the latter can report illegal dumping in the neighbourrhoods with supporting images;
- Organisation of the repression through the introduction of *Clean Thursday.* Anyone who fails to comply with this measure will be subject to a fine of up to 25,000 CFA francs (FCFA);
- Organisation of the cleanest neighbourhood or village competition to encourage neighbourhoods to maintain cleanliness, including the distribution of equipment to ensure sanitation;
- Organisation of the "Most Beautiful Home" competition to encourage households to maintain their living spaces;
- Creation of partnerships with private operators such as HYSACAM (main provider in waste management), STRICAM (collection and recovery of plastic material, the only company authorised to collect at the municipal landfill managed by HYSACAM), GRADEL (study and collection of plastic waste), APEC (education and awareness), Smart World Company (collection and treatment of household waste) ...;
- Partnership with public institutions such as the National Employment Fund;
- The availability and commitment of administrative authorities to maintaining "ecological public order," even though most of the responsibilities for waste management are transferred to municipalities.
- The existence of some sanctions in the form of fines, particularly for non-compliance with the instructions for Clean Thursday.

What remains to be done:

- To raise awareness and educate the population on sustainable practices and

encourage their active participation in the development of the city;
- Strengthen coordination between the various actors involved in waste management
- Encourage the implementation of structuring initiatives and projects, such as the construction of the waste treatment plant;
- Strengthen the repression of non-compliant behaviour beyond the failure to observe Clean Thursday;
- Institutionalise environmental policing in municipalities;
- Emphasise training and capacity building for stakeholders and the creation of structures that can partner with municipalities for more effective waste management;
- Strengthening the technical, organisational and logistical capacities of the municipality for more effective waste management;
- Create more collection points and improve road infrastructure to reduce illegal dumping;
- Implement rigorous monitoring of pre-collection programmes to ensure proper recovery and treatment of waste;
- Strengthening the capacities and means of action of pre-collectors and collectors of waste as well as neighbourhood associations, which play an active role in the management process;
- To guide and support the formalisation of informal actors involved in waste management;
- Facilitating access to land for waste treatment companies;
- Granting customs and tax facilities to waste management companies;
- Training young people for waste management jobs through partnerships with the Centre for the Integration of Young People in Difficulty to train young people for jobs related to management

waste.

The realities of urban waste management are virtually identical in Bertoua and Kribi, despite the behaviour of some administrators. Furthermore, some authorities in Kribi are inaccessible, uncommitted, and almost disconnected from the realities of municipal waste management. This behaviour is attributed by some to high political stakes and persistent conflicts of interest among the elite; all of which hinders innovation and urban justice. In contrast, Bertoua demonstrates its goodwill through the welcoming and open-minded approach of both public and municipal authorities. There, one encounters a multitude of formal and informal actors involved in waste management activities, some more organised than others.

A comparative analysis of waste management in the cities of Bertoua and Kribi has highlighted the numerous challenges that communities must overcome. The greatest challenge in waste management is dismantling ingrained attitudes resistant to hygiene, manifested in the uncivil behaviour of a significant portion of the population. To this are added demographic, sociocultural and economic constraints, which represent both challenges and opportunities.

The cities of Bertoua and Kribi share similar realities, partly due to the existence of urban communities and HYSACAM, the latter company's operational strategy being national. Other national initiatives, such as hygiene and sanitation competitions and Clean Thursday, contribute to improving sanitation and living conditions for the population. These populations are the primary victims of unsanitary conditions, as they are exposed to the first consequence of an offence against hygiene—illness—and the second—fines.

Addressing this situation will require raising awareness of civic responsibility and contributing to a better-structured waste management system. Effective waste management, in addition to being a significant driver of economic development, can contribute to social justice, promote greater urban equity, facilitate equal and equitable access to decent jobs, and ensure that all individuals in all neighbourhoods benefit from a clean and healthy environment. Local stakeholders, mindful of these issues, are available and willing to work towards urban justice through waste management.

Image 1: Young children sorting waste without personal protective equipment at the Bertoua municipal landfill

Pilot city of the Just City project in Cameroon

During the workshop to validate the field report and select the pilot city for the Just City project in Cameroon, after a presentation of the situation, participants voted for the project's pilot city. The mayors of the two municipalities of Bertoua, the representative of the Mayor of Bertoua, the representative of the Mayor of Kribi 2, academics, sector stakeholders, development partners (United Cities and Municipalities of Cameroon, UNDP, UN-Habitat, etc.), and officials from the Ministries of Environmental Protection and Sustainable Development and of Housing and Urban Development were present. Based on the field analyses and empirical data provided by the participants, the city of Bertoua was designated as the pilot city for the *Just City* Project in Cameroon.

Bertoua: site and location

The city of Bertoua was founded in 1927 by Gbaya warriors (commonly called Mbaya or Baya) who came from the Central African Republic. Bertoua was initially a Gbaya kingdom ruled by King Mbartoua, who was killed in 1903 following clashes with the German colonial army. From a simple traditional entity, Bertoua became an administrative subdivision in 1928, then an arrondissement of the Lom and Kadey department in 1960, before becoming the capital of the Eastern Federal Inspectorate and the Lom and Djerem department in 1965, following the division of the Lom and Kadey department. In 1972, it was established as the capital of the Eastern Province, which became the Eastern Region following the 2008 administrative reforms that also designated it an Urban Community. (Bertoua 1st District Municipality and others, 2020).

Located south of the forest zone of East Cameroon, 350 km from Yaoundé, Bertoua is divided in two (2) district municipalities namely the Municipality of Bertoua 1st and Bertoua 2nd.

Figure 5.

Site and location of the city of Bertoua
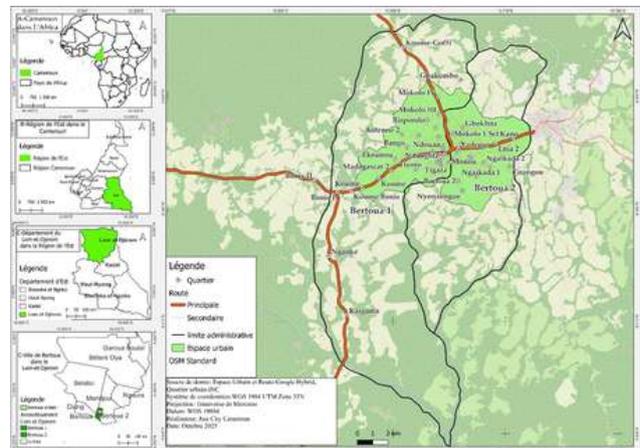
Representing only 23.6% of the area of the Bertoua 1 and 2 districts, the urbanised space is centered around National Route No. 1. The main thoroughfare serving the city for decades, housing, markets, and public services have clustered along it in disregard of urban planning regulations and without consideration for the remaining existing space. In the name of infrastructure development, urban sprawl has increased 4.2 times in 34 years, with a marked concentration of development along urban axes, particularly the various exits to the East, North, and West.

Figure 6.

Evolution of the urban space of Bertoua between 1990 and 2024.
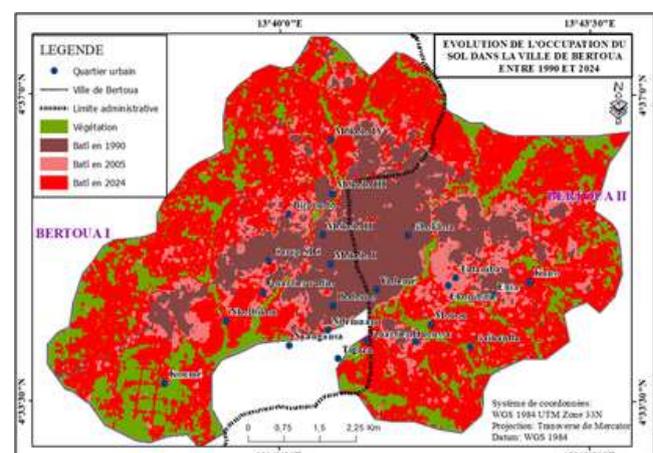
From a simple village, now a rapidly expanding and, according to the mayor, futuristic city, Bertoua has grown up around National Route 1 and the Bertoua 2 market. Despite its natural resources, which authorities acknowledge as lacking significant development initiatives, the city only began to undergo a transformation between 2007 and 2012. This transformation was further accelerated in 2022 with the construction of 18.4 km of roller-compacted concrete roads as part of the C2D Regional Capital program and the establishment of the University of Bertoua. As a result, Bertoua's City council has largely developed into slums. Infrastructure development has attracted even more people to a city already experiencing migration and a high rate of natural population growth.

Alongside population growth, urban space has expanded at the expense of vegetation. Indeed, in 1990, vegetation covered 70.58% of the city, compared to 17.20% in 2024. During the same period, built-up areas increased from 29.42% to 82.80%. These variations correspond to a deflection in the population growth curve observed during the 2005 census. According to the Bertoua Urban Community (2022), the population has diverse socio-economic and cultural characteristics. Furthermore, in terms of religion, 52% are Catholic, 22% are Protestant, 13% are Muslim, and approximately 2% of household heads adhere to traditional beliefs. With relatively low levels of education, the 10% unemployment rate is misleading, as the activities of motorcycle taxi drivers and other informal jobs that occupy young people are considered precarious.

Demographic and land-use dynamics in Bertoua from 1990 to 2024

Figure 7.
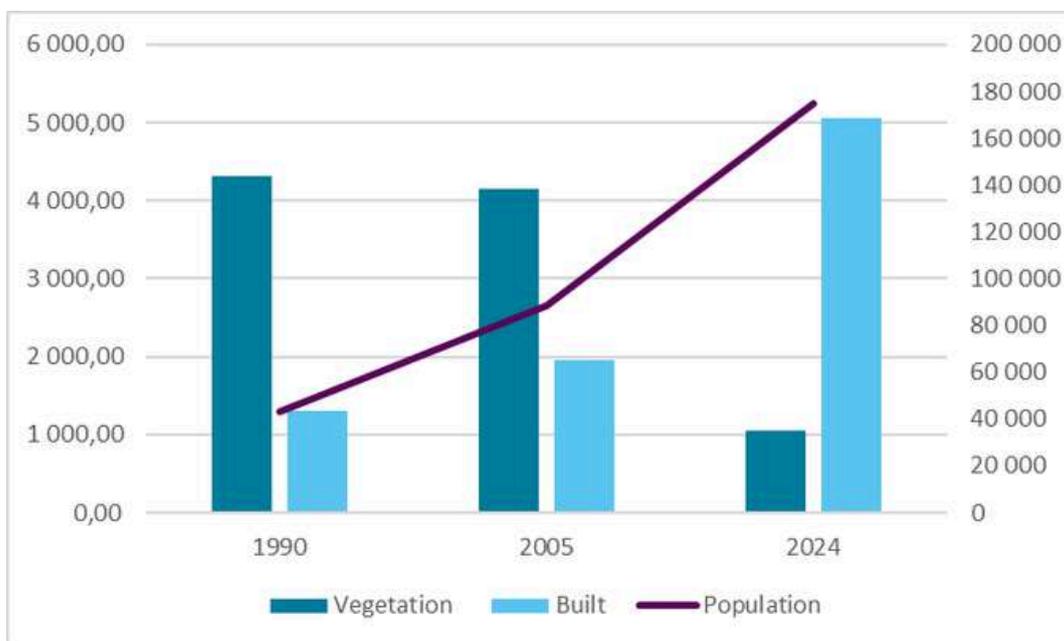
Bertoua has always been a destination for voluntary migrants from all corners of Cameroon, drawn by various reasons including agriculture and trade (Boume, 2021). The population growth of Bertoua in recent years is not only due to the natural increase rate but also to the influx of Central African migrants and internally displaced persons following socio-security crises in the Northern, Far-North

North-West, and South-West regions. This phenomenon has accelerated its transformation from a village into a city with complex dynamics. In the absence of major investments, Bertoua's main development challenges include roads, poverty, and waste management.

The city suffers from an inadequate and unsuitable road network, which hinders economic

and social development. Thus, despite the region's rich mineral resources, local populations still practice traditional and rudimentary agriculture, primarily to meet their basic needs. This situation limits their ability to actively participate in economic development. Furthermore, with rapid and uncontrolled urbanisation, waste management has become a critical problem. Moreover, population growth inevitably leads to an exponential increase in waste production, not only due to the number of individuals producing it, but also to changes in lifestyles and consumption patterns.

Image 2: Illegal dump obstructing the public road

The actors involved in waste management in Bertoua

Household waste management in Bertoua involves a diverse ecosystem of actors with varied intervention strategies. These include public administrations, formal and informal private companies, and civil society, all operating primarily under the coordination of the Bertoua Urban Community (CUB). The system is based on pre-collection, collection, transport, recovery, processing, and landfilling, supported by training, awareness-raising, enforcement, monitoring, and funding initiatives. However, it remains poorly structured, facing challenges such as incivility, limited resources, and temporary sites. The table below presents the key actors, their importance and influence, the major constraints, and the reasons behind their actions in the field of waste management.

Importance refers to the role in the waste management chain (production, pre-collection, collection/transport, treatment/recovery and control)
Influence is assessed based on decision-making power (policy, funding), operational control (collection/processing), and scope (community engagement, scale of funding). The rankings (from 1 to 10, with 10 being the highest influence) are based on the roles of stakeholders in strategic and sectoral regional studies, national reports, and local documentation from the Bertoua Urban Community (CUB). Public/national actors dominate due to their regulatory authority, while private/international partners are gaining influence over projects.

Roles and importance of actors involved in waste management in Bertoua

Table 1.

Actors	Main roles	Importances	Rank (1-10)	Influences	Rank (1-10)	Major constraints	Root causes
Bertoua Urban Community (CUB) (Public political-administrative actor, central pivot)	Project owner: selection of treatment sites, concession contracts, partial financing, monitoring of operations, emptying of septic tanks, development of the Municipal Waste Management Plan.	**Very high:** Coordinates the entire system, finances and oversees the collection/treatment of ~180 tonnes/day of waste.	10	**Very strong:** Contractual and supervisory power over all stakeholders; decides on partnerships	10	Funding of collection activities is 85% provided by the State of Cameroon; collection is unequally distributed; pre-collection is virtually non-existent;	Lack of coordination between the various stakeholders; public incivility; insufficient road infrastructure; inadequate budget allocated to waste management
HYSACAM (Hygiene and Sanitation of Cameroon) (Private concessionary operator, regional agency in Bertoua)	Door-to-door and fixed point collection (9-16 m³ bins), transport and burial, street/market sweeping, disinfection.	**Very high:** Manages 50% of daily collection; historical operator since 2010 (5-year contract, ~4.3 billion FCFA).	9	**Strong:** Operational monopoly under CUB control; direct impact on urban cleanliness, reinforced by recent partnerships.	6	Inadequate infrastructure; difficulties accessing the territory; partial waste collection and treatment; lack of cooperation with the population; high equipment maintenance costs; delays in payment for services; contractual requirements.	Insufficient roads; relatively insufficient budget; lack of civic responsibility among the population; insufficient infrastructure; land unavailability.
ECOGREEN/STRICAM/ Smart World Company (SWC) (Innovative private company, new partner since June 2025)	Local collection, processing/recycling (plastics and organics), neighbourhood collection points, public cleaning, youth employment	**High and growing:** Complements HYSACAM in inaccessible areas; valorises waste	8	**Medium to high:** Influence through innovation and proximity; direct partnership with CUB for sustainable development.	5	Difficulty of access in households; High costs of waste collection, transport and treatment services	Distance of collection facilities from households; lack of a waste treatment unit; insufficient road infrastructure

Stakeholder	Activities	Capacity		Influence		Constraints	Challenges
District Municipalities (Bertoua 1 and 2) (Local Public Actors)	Awareness campaigns, hygiene committees by neighbourhood, monthly sanitation days (1st Thursday of the month: fines, closures).	**Average:** Local prevention and elimination of illegal dumping.	5	**Strong but declining:** Limited by conflicts of competence with CUB and non-operational committees.	9	Limited resources for monitoring collection activity; lack of pre-collection of waste; the collection, transport, and treatment of waste are the responsibility of the CUB.	Public incivility; insufficient infrastructure related to waste management; insufficient equipment and qualified personnel.
Planning and control institutions (MINEPDED, MINEE, MINADER, MINHDU, (MINSANTE, MINDDEVEL, MINMIDT)	Environmental/health control (inspections, standards), site approval, quarterly meetings, IEC awareness.	**Average:** Regulatory monitoring and public health.	5	**Strong:** Influence via tutelage and evaluations (e.g., DREPDED on impacts).	9	Insufficient technical, material, human and financial resources	Dependence on the guidelines of the central administration
Financing institutions (MINFI, FEICOM, PNDP, ADB, BM, UNDP, AIMF, Etc.)	Funding for the collection, treatment and transport of waste; funding for the development of planning documents for waste management (PCD, PDEL, PCGD, PSU, PDU, SDGD, SNGD, PDUE)	**High:** finances more than 80% of waste management the city; finances studies for the preparation of planning documents.	8	**Strong:** state agencies provide oversight and define intervention mechanisms; donors contribute through the state's quota system.	9	Dependence on the State Budget (funding is not linear over the years); requirement of a share from the State or the DTC to finance projects; use of resources such as the proceeds of excise duties for other purposes.	Limited budgets of local and regional authorities and NGOs/CSOs/private companies operating in the field
SYNAPRAC/FES (through the Just City project)	Organisation of the sector; creation of a synergy of actors; training; awareness-raising; advocacy.	**Average but increasing:** the project is in its early stages	8	**Medium and increasing:** capacity building in the informal sector, influence of	8	Financial dependence of the FES	Formalizing partnerships between stakeholders; involving funding partners; working on the long term; encouraging

				laws through dialogue but financially limited.			greater stakeholder involvement.
Civil society organisations (NGOs, GICs, cooperatives, associations)	Pre-collection (wheelbarrows in inaccessible areas), Awareness-raising.	**Low to medium coverage:** Supplement in areas not covered.	6	**Low:** Tolerated but marginalised	4	Insufficient material, financial and human resources; lack of coordination with stakeholders in the supply chain; non-payment for services by households; dependence on external funding	Insufficient public awareness and education; unqualified personnel; lack of sufficient resources to acquire adequate equipment
Households and informal actors (pre-collectors and recyclers)	Production (~0.94 kg/person/day), initial storage, sorting/recovery (plastics/metals), illegal dumping.	**High:** Source of 100% of waste; informal circular economy.	8	**Low:** Behavioural influence (incivility hinders the system).	4	Lack of access to the collection service; relatively high cost of pre-collection; lack of equipment and options for systematic sorting.	Insufficient access roads; insufficient collection infrastructure; lack of financial resources.
University and research centers	Teaching; research and contribution to development	**Elevated: source of** knowledge and data	8	**Weak:** neglected	3	The data and knowledge produced are not used to guide decision-making processes; research funding for students and researchers is low.	Fraction between the University and society

Source: inspired by reports from the CUB and MINHDU (2021-2025)

Under the responsibility of the CUB (Bertoua Urban Community), as defined by Law 2019/024 of December 24, 2019, concerning the General Code of Decentralised Territorial Collectivities, waste management in the city of Bertoua is entrusted by concession to Hygiène et Salubrité du Cameroun (HYSACAM), a private operator for collection and treatment. The CUB contributes 20% of the contract costs, supplemented by the Ministry of Finance and the Special Fund for Intercommunal Equipment and Intervention (FEICOM). FEICOM also finances certain studies and projects. The borough municipalities are limited to organising pre-collection and cleaning of streets, roads, and communal public spaces. The Ministry of Finance, through customs, collects excise duties which it redistributes in accordance with Decree No. 2023/04186/PM of July 24, 2023, which sets out the procedures for the collection, centralisation, distribution and remittance of the proceeds of the special excise duty intended to finance the collection and treatment of waste for the benefit of decentralised territorial communities.

HYSACAM collects 183.5 tons of waste out of the 350 tons produced by the city per day, re-representing a collection rate of 52.4%. This waste is transported without further treatment to the Koumè landfill. This temporary 6-hectare site has been made available by the CUB since 2012. With a 70% occupancy rate, the site faces numerous challenges, including encroachment by buildings and residential areas. Budgetary constraints prevent the company from optimising its operations, and contractual clauses defining the types of equipment required for unpaved roads, the poor quality of the workforce, and a lack of strategic vision further complicate matters.

Thanks to a partnership agreement with the CUB, waste pickers from the company STRICAM are authorised to enter the landfill to collect plastic waste, which the company then recycles for packaging the soft drinks and mineral water it produces. This collection process has slowed down since Ecogreen entered the market. Ecogreen offers significantly more attractive prices to waste pickers. A subsidiary of the Lebanese group Source du Pays, which specialises in mineral water and soft drinks, has an exclusive contract with the State of Cameroon for the collection and treatment of plastic waste, but no contract with the CUB. Eco-

Image 5: Informal workers recycling aluminum waste into kitchen utensils, working without protective equipment

green collects one tonne of plastic waste per day, consisting mainly of High Density Polyethylene (HDPE) and Polyethylene Terephthalate (PET). The purchase price of the plastic waste varies depending on whether the collector brings it to the depot themselves or the company comes to them. If the collector transports their waste to the Ecogreen warehouse themselves, the price per kilogram ranges from 80 to 125 FCFA. However, if the company comes to them, the price per kilogram ranges from 50 to 100 FCFA for PET and HDPE, respectively. This waste is collected by young people and associations throughout the city and its surrounding areas. At the Koumè warehouse, about thirty young people, mostly young women and girls, sort and delabel the waste before it is compacted, stored, and then transported to Douala. While the joy of finding work motivates these young people, the working conditions (no employment contract, no social security...) remain a cause for concern. This explains the resignations and the turnover.

This explains the resignations and constant turnover of employees. This situation is experienced in most private companies and ci-

vil society organisations involved in recovery and recycling.

A third company, Smart World Company (SWC), signed a partnership agreement with the (CUB) in 2025 concerning the collection and recycling of household waste. While awaiting its operational launch, its actions, which complement those of HYSACAM, will help to address the proliferation of waste in areas considered inaccessible.

Alongside these formal businesses, there are a multitude of initiatives led by young people, whether in school or not, for pre-collection, valorisation or awareness-raising.

The weakness of the pre-collection and collection system represents a niche opportunity that many unemployed young people have seized. Some are thus involved in door-to-door collection, picking up household waste and transporting it to approved collection points, sorting it into possible fractions.

Image 4: Illegal dumping site near residential areas

Box 3.

Some young waste entrepreneurs in Bertoua

Djuki Djatsa Parfait Brice, known as Bouba, aged 38, has been the main waste collector in the city of Bertoua since 2023. After years working on construction sites as a bricklayer's assistant, he took his first steps in waste collection with a company based in the TKC neighbourhood of Yaoundé. Quickly realising the relevance and opportunity of the profession, he returned to Bertoua to start his own business on undeveloped land.

Armed with courage and determination, despite using only rudimentary equipment (a rickshaw), he serves five neighbourhoods or localities in the city, where he has 115 subscribers. In high demand, he is constantly forced to reduce the number of subscribers to limit his transport capacity. The monthly subscription price depends on household size. Large households pay 2,000 FCFA, while medium and small households pay between 1,000 and 1,500 FCFA per month.

Despite his determination, Bouba faces some difficulties, including a lack of financial resources to acquire motorised equipment, the absence of space for storing and sorting waste, and the reluctance of young people to engage in this activity, finding the task degrading as well as arduous. Nevertheless, he does not lose hope and dreams of establishing a sorting and composting unit like the one he sees in Dschang.

Twenty-eight-year-old Inara Ndanga Donald is a young aluminium craftsman (making kitchen utensils from aluminum scrap) in Bertoua. He started his business in 2019 after failing his baccalaureate exam. With 10 employees and 4 collaborators, his production depends on the raw materials he buys from scrap dealers or has collected by scavengers throughout the city and surrounding villages, sometimes even as far away as Congo or the Central African Republic. His products are sold at the Bertoua central market, as well as in Doua, Yaoundé, Guiwa, and Mandjou.

His difficulties include a lack of funding to modernise his workshop or acquire raw materials, which are becoming increasingly scarce. This scarcity is driving some suppliers into dishonesty; they receive payment but fail to deliver the goods, some even arrive with stolen materials, and the legal consequences are severe.

Despite everything, he would like to build a large factory with a training centre for the many young people who constantly come to him seeking employment. Besides his waste management work, his main dream as a young man is to create a leisure centre in the city of Bertoua for the development of its youth.

The scrap metal trade, very active in the Hausa quarter, is primarily the work of Malian expatriates and a few Cameroonians. Far from any real processing, they simply buy iron of all kinds and origins, dismantle it, and then resell it. Mr. Samaké, a Malian scrap metal dealer, owns more than 500 vehicle registration documents from all makes of unusable vehicles that he has reportedly bought, dismantled, and sold for parts. Like others, he supplies the steel companies based in Douala. The aluminium fragments they recover are sold to artisans for making kitchen utensils. Among the scrap metal dealers, some excel solely in repairs.

All operating informally, each manages to carve out market share in their own way. While some express a desire for or support formalisation, many see it as an opportunity for the state to interfere in their affairs through taxation. They oppose any idea of a corporation and any openness to outsiders. The slightest contact or invitation to a union arouses suspicions of espionage. The idea of trade unions is equally intriguing to the heads of certain formal companies who fear a rise in employee awareness and demands.

Young people, both male and female, who are in school and university, are becoming more involved in associations to support local communities in raising public awareness and collecting plastic waste. These are volunteers who receive little to no support of any kind.

Households, contrary to popular belief, are the main players in waste management, in addition to being the main producers. They store, pre-sort, and reuse certain fractions and sell others (bones, iron, aluminium, plastic, etc.). If systematic sorting is not effective, it is due to a lack of awareness and recycling facilities for certain types of waste (perishable items and soft plastics, etc.), which end up in illegal or controlled dumps.

An analysis of the relative importance and influence of the various actors involved, as well as their contributions on the ground, expressed in terms of significance and influence and evaluated on a scale of 1 to 10, reveals that some actors are both significant and influential, unlike others who, despite their importance, lack influence. The figure below illustrates this correlation.

The role of stakeholders in waste management in Bertoua

Figure 8.
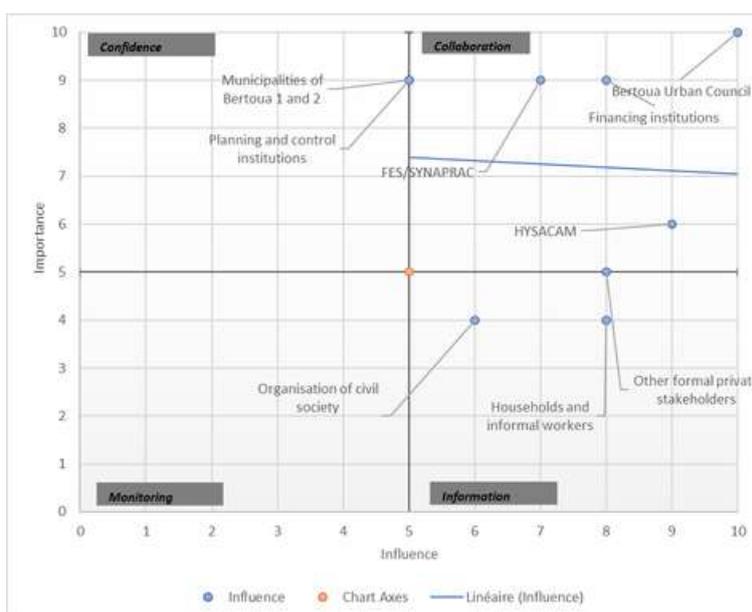
The figure above illustrates the influence and importance relationships of waste management stakeholders in the city of Bertoua. These relationships, rated on a scale of 1 to 10, focus on four key areas: trust, collaboration, information, and monitoring. Most stakeholders (80%) operate collaboratively, 30% actively seek and share information, and 20% prioritise maintaining trust, a role that is far more important than their influence. Despite the significant role some stakeholders could play, their influence remains negative because they are excluded from the decision-making process or do not take their responsibilities seriously. A lack of knowledge or self-confidence may explain this situation. The only area of focus, considered but not addressed by any stakeholder, is monitoring or tracking the actions of municipalities and field operators.

Households and civil society actors are thus largely passive. Moreover, households are the primary funders of waste collection and treatment through the various taxes they pay directly or indirectly (excise duties, municipal taxes, local development taxes, etc.). In addition, some pay private contractors for pre-collection. However, the streets are overflowing with waste, and no one is demanding accountability. Relationships between stakeholders, based mainly on the exchange of services and information, are steadily deteriorating, as illustrated by the linear waste situation. This could be explained by the lack of results and reporting from senior officials, which exacerbates injustices. Furthermore, universities and research institutions, although not sufficiently highlighted, also play an important role through research activities, but their findings are undervalued, likely because they are not widely disseminated.

Strengthening capacities and raising awareness to correct injustices in waste management in Bertoua

FES and its partner SYNAPRAC, along with the Bertoua Urban Community, engaged in a workshop (the launch of the Just City project in Bertoua) to strengthen the capacities of stakeholders in the sector regarding labour law and safety, as well as the development of green economy projects, and to raise public awareness about the risks and regulations governing urban waste management. These activities form part of the project's action plan for the first year, which will culminate in the publication of a scholarly work highlighting the site, the situation, the stakeholders, and the activities related to waste management.

Workshop themes		
Capacity building for sanitation professionals on labour law and safety at work.	Capacity building for sanitation professionals on green entrepreneurship and the management of circular economy projects.	Raising awareness about waste management in the context of *Just City* in Cameroon.
Dates		
24-25 mars 2025	April 22-24, 2025	August 25, 26 and 27, 2025
Goals		
Equipping participants with knowledge of labor law and workplace safety management	Equip participants with the techniques and tools for setting up and managing circular economy projects	To present the risks and threats of mismanagement, as well as the opportunities and good practices of waste management for a just city.
Target principles		
Dignity	Sustainability	Diversity-Equity-Inclusion, Dignity and Sustainability
Topics covered		
Trade union action and decent work	Issues, challenges and principles of green entrepreneurship and the circular economy	General presentation of the principles of *Just City* and the activities of *Just City* in Bertoua
Sources of labour law	Green Entrepreneur Business Models	Waste management: everyone's business, without exclusion
The competent courts in labour law	Communication and resource mobilisation for a sanitation project	The waste management agent: a particularly noble profession
The rules applicable to the company	Forms of financing for social projects	Offers and opportunities in waste management
The role of employee representatives and labour inspectors	Setting up circular economy projects	Hanging the banners
The place and role of women in the sanitation sector	Management and monitoring and evaluation of circular economy projects	Display of messages in areas of interest and advertising panels
The fundamentals of workplace safety, occupational risk assessment, and emergency management		Direct exchanges with the people in markets, schools, neighbourhoods and chiefdoms
Visit to companies and waste recycling sites		Awareness caravan with loudspeakers in the main intersections and thoroughfares of the city.

Training needs were clearly identified during the Just City project launch workshop in Bertoua in early December 2024. Through a digital platform (WhatsApp group) involving most of the stakeholders in the field, these needs were further defined. Workplace law and safety, as well as the development and implementation of circular economy projects (green entrepreneurship), were the priority areas in which participants expressed a strong interest in receiving training. These training sessions were scheduled for the first quarter of the following year. Thus, in March and April, approximately sixty professionals from the sector, including aluminium artisans, independent pre-collectors, collection and processing companies, plastic recovery and transformation companies, civil society representatives, academics, as well as households and female traders, received training. Women, representing 38.8% of the participants, were particularly active during these sessions. However, while the first session was met with a certain fervour due to the enthusiasm of participants from some formal private companies, the second was of remarkable interest to young entrepreneurs operating in the informal sector.

All participants found these training courses highly satisfactory in terms of organisation, choice of speakers, content of the thematic areas, and field trips. They acknowledged having learned a great deal about business plan development techniques, composting, awareness-raising, and especially about mastering labour laws and regulations, as well as techniques for identifying and managing risks in the workplace.

Opinions from some beneficiaries of the capacity-building workshops.

These training courses were a real eye-opener for me, because I realised that what I was doing wasn't entrepreneurship, but rather just trying to make ends meet. It helped me grow and gave me a different perspective.
Although I am a trainer myself, I learned a lot from my colleagues and the participants.

They have allowed me to manage my household waste properly by now putting it in approved locations.

The knowledge gained from these training courses benefits me on a daily basis and in my work; it has boosted my ability to make proposals to the company's top management regarding waste recovery.

Looking ahead, participants would like the training to be more practical than theoretical, enabling them to be more effective in the field. For future deadlines, they would like to see additional training on topics such as personal development, setting up community-based climate finance projects, fundraising, and social project management.

The city of Bertoua, and undoubtedly other Cameroonian cities, have experienced rapid and uncontrolled urbanisation, and waste production and management have become a major concern.The waste comes from markets, households, hospitals, and private and public institutions.

This waste is both solid and liquid, including food, household utensils, metal and plastic bottles, and commercial items. Many stakeholders are involved in managing this waste as effectively as possible. However, some of these stakeholders are responsible for injustices that affect the entire system, including the environment. Capacity-building and awareness-raising initiatives like those already underway, coupled with future incentives and advocacy efforts, will help internalise these externalities for a more just city.

Image 3: Young women and girls involved in sorting plastic waste at the Ecogreen company warehouse in Bertoua

Cameroonian social understanding of the just city in solid waste management

Cities in developing countries face the growing problem of waste pollution (Wilson et al., 2015). Cameroon is no exception, with over 6 million tons of waste produced annually, most of which is poorly managed. The consequences are dramatic: 18,300 deaths per year, representing 13.4% of national morbidity, are attributable to poor waste management (Ministry of the Environment, Nature Protection and Sustainable Development, 2022). Furthermore, social segregation and the specialisation of neighbourhoods, incivility, insufficient financial resources and collection equipment, and many other factors exacerbate urban inequalities in waste management.

Levels of injustice in waste management in the city of Bertoua

A brainstorming session with stakeholders identified two levels of injustice related to waste: injustices suffered and injustices caused. Injustices caused refer to the origins and perpetrators of the injustices, while injustices suffered refer to the targets and consequences.

While all systems suffer injustices, including nature, these are generally caused by human actions as shown in the table below.

Levels of injustice in waste management in Bertoua

Table 3.

	Workers	Populations and DTC	Natural Environment
Injustices suffered	Lack of health coverage	Insufficient amount of rubbish bins	Greenhouse Gas Production
	Lack of PPE	Irregular waste collection	Air pollution
	Low pay, difficulties in debt collection (debtors)	Lack of garbage collectors	Soil pollution
	Work overload	Exposure to diseases due to unsanitary conditions	Water pollution
	Staff shortage	Pollution	Disruption of the biological balance
	Social non-acceptance (stigmatisation)	Unsanitary conditions	Destruction of biodiversity
	Exposure to diseases	Climate change	Climate change
	Lack of a career plan (case of formal companies)	Inadequate garbage bins	
	Unfair competition from certain companies with exclusive rights	Lack of support from local authorities	
	Lack of organisation in the sector	Very low pre-collection rate	
	Lack of price regulation for waste pickers		
	Lack of expertise (technical and administrative)		

Injustices suffered	Lack of financial and technical support for informal workers		
	Low recycling rates		
	Lack of adequate logistical equipment		
	Illegal dumping of garbage		
	Poor urban planning		
	Workers	**Populations and DTC**	**Natural Environment**
Injustices caused	Unsanitary conditions	Uncontrolled dumping of garbage	
	Delay in removals	Incivility	
	Lack of rigour in the work	Lack of participation in actions undertaken	
	No data	Laxity of local authorities	
	Lack of willingness to formalise	Improper use of public roads	
		The bins are emptied by the children.	

The population, perpetrators of injustices in urban waste management, is unfortunately highly vulnerable to the consequences of its own actions. It dumps waste haphazardly, disregarding hygiene regulations and designated collection points. Indeed, these waste collection points, which fall under the jurisdiction of local authorities, are conspicuously absent from the urban landscape.

This encourages people to dump their waste everywhere. Everyone pays the price, including nature, which is left defiled and polluted. Despite irregular payments for some and uncertain sales conditions for others, those who make the effort are still met with contempt and a complete lack of consideration from the general public. In any case, it is workers, the environment and natural resources, as well as poor populations living in precarious neighbourhoods, far from urban centres and without roads suitable for waste collection vehicles, who suffer injustices in terms of urban waste. However, local autho-

authorities also pay the price in one way or another for their inaction or their incomplete or inappropriate actions.

Just City, a comprehensive concept for sustainable solid waste management in Bertoua.

A cosmopolitan city, Bertoua is a melting pot where Muslims from northern Cameroon, Anglophones fleeing security crises, Central African refugees seeking peace, Bamileke entrepreneurs, Bulu and Beti peoples heirs to age-old traditions, and Baka, indigenous peoples whose presence dates back to time immemorial, all mingle. This diversity, which makes Bertoua rich, also constitutes a major challenge when it comes to managing the city's daily life, and particularly its waste (Tchindjang et al., 2018). 2018). The city is facing a deterioration in the living conditions of its residents due to the proliferation of waste. This has prompted many actors (both formal and informal) to engage in cleaning up

their environment. They are succeeding in contributing to the city's development while earning a living. However, these people, including vulnerable groups, work in appalling conditions and are subject to social stigma.

According to Fainstein (2010), a just city is an urban space where justice prevails, characterised by fairness, equality, and the well-being of all its inhabitants. It is socially, economically, and environmentally sustainable, offering opportunities for economic progress without compromising the needs of future generations. Harvey (2008) emphasizes that the right to the city is much more than an individual right of access to urban resources: it is a collective right to change the city by changing ourselves. According to the Friedrich Ebert Foundation (2024), a just city is distinguished by low disparities and marked social stability, where environmental values are respected. This vision is based on fairness, democracy, and diversity, guaranteeing all inhabitants equitable access to essential opportunities and services: a clean environment free from waste pollution, decent housing, healthcare, and employment.

Concepts such as "smart city," "sustainable city," "equitable city," and "ecological city" have also been used in the context of the just city. A smart city, also called a connected city, is an urban agglomeration or municipality that makes extensive use of digital technologies and data to manage resources, improve public safety, promote sustainability, and make urban life more efficient and enjoyable. Unlike a smart city, which emphasises efficiency, innovation and automation, a fair city emphasises equity, inclusion and justice, which differentiates it from a sustainable city.

A sustainable city emphasises the fight against pollution and addresses social and economic aspects. Some researchers distinguish between a just city, an equitable city, and an eco-city. An equitable city is an urban area that prioritises fairness and equal opportunities for all, while an eco-city is an ur-

ban area designed with environmental sustainability in mind. The goal of an eco-city is to minimise its ecological impact while improving the quality of life for its residents. It integrates green building practices, renewable energy sources, sustainable transportation options, and efficient waste management systems to create a viable environment that promotes the health of the population and its surroundings. Reducing waste through the principles of reduction, reuse, and recycling are a priority for an eco-city, also known as a green city. According to the Friedrich Ebert Foundation (2024), a just city is based on several principles. These principles are diversity, equity and inclusion (DEI), dignity, democracy, public safety, accessibility and affordability, and sustainability.

The principles of the just city.

Diversity – equity – inclusion: the strength of plurality, or when some are more equal than others [1]

Diversity, equity, and inclusion stipulate that all residents, regardless of race, gender, ethnicity, or socio-economic status, must have equal access to opportunities and services, including decent work, quality education, healthcare, a clean and low-pollution environment, transportation, and housing (Angotti, 2013; Marcuse et al., 2009). Diversity implies recognising and valuing the plurality of a city's residents as a strength, fostering an environment where different perspectives are included in urban planning and development (Sandercock, 2003). Equity, on the other hand, is not limited to ensuring that everyone has access to the same services. It also means recognising that some start from a lower position and need more support to achieve the same level of dignity and opportunity. In this case, justice is not formal equality, but equality of opportunity. Inclusion, for its part, means that every voice must count in decisions that affect the community. This means leaving no one behind, as advocated by Principle 2 of the Universal Values of the United Nations Agenda 30. Numerous challenges hinder the implementation of this principle in the waste management sector in the city of Bertoua. These include:

- Unequal distribution of resources: Urban sanitation activities are characterized by a profoundly unequal distribution of resources. Collection facilities are concentrated in planned neighbourhoods in the city centre, while peripheral neighbourhoods, where the majority of residents live, have to make do with the resources available.

- Exclusion from decision-making processes: informal actors, who nevertheless carry out a substantial part of the work of pre-collection, collection and sorting, recycling, are systematically excluded from decision-making spaces;

- Inadequate uniform approach: the current system tends to impose a single model of waste management that does not take into account the specific cultural practices of each community;

- Language barriers: awareness campaigns are often conducted solely in French, excluding a significant portion of the population who speak other languages;

- Failure to value traditional knowledge: local knowledge regarding organic waste management, composting or reuse is neither recognised nor integrated into formal systems;

- Fragmentation of actors: although there is a wide diversity of actors in the waste value chain (pre-collectors, recyclers, cooperatives, artisans, etc.), these actors work in isolation without coordination or mutual recognition.

- Insufficient knowledge: far from having a legal basis, respect for principles is based on the common sense of the populations or actors which it is important to enrich.

Waste management is a complex issue involving a wide range of stakeholders. Far from weakening the sector, this diversity of stakeholders should be seen as an opportunity whereby each stakeholder, regardless of their specific characteristics or position in the chain, has value, is respected and is listened to.

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[1] Reference to George Orwell, Animal Farm, 1945

Dignity: when work degrades instead of elevating

Dignity means treating everyone with respect, ensuring that residents have the right to be valued and treated well regardless of their socio-economic status (Nussbaum, 2011). In the context of waste management, the principle of dignity requires that every person involved in this sector—pre-collectors, collectors, sorters, informal recyclers, cooperatives, and local associations—be treated with respect, recognition, and consideration. The challenges related to this principle are numerous in the area of waste management in Bertoua. These include, among others:

- Dehumanisation of workers: the population equates those who manage waste with waste itself. This deeply ingrained equation creates social marginalisation that goes far beyond material aspects;

- Degrading and undignified working conditions: workers operate in extremely poor conditions, without physical equipment or social protections. With the exception of a few companies, even formal operators do not respect their employees' labour rights, forcing them to work without equipment, contracts, or insurance, under the astonishingly silent gaze of administrative and municipal authorities. Most of those employed work only to earn the bare minimum for survival while they wait to find something better.

- Spatial stigmatisation: the poorest neighbourhoods are themselves treated as waste. Inaccessible to collection services and abandoned by the authorities, they bear names that speak volumes: 'Caca quarters', 'rubbish bins', 'slums'. These names reflect and reinforce a stigmatisation that affects the inhabitants in their very humanity;

- Social stigmatisation: in the collective imagination of Bertoua, the one who manages waste becomes waste himself. This perverse equation creates a social marginalisation that goes far beyond material aspects. A young woman whose profession is sorting plastic materials in a local company testifies: *"When I tell people what I do, they look at me with disgust. Even my own cousins are ashamed of me";*

- Lack of social recognition: the essential work carried out by sanitation actors is neither recognised nor publicly valued (Medina, 2007);

- Impacts on families: A pre-collector living in a stigmatised neighbourhood testifies: *"My children are bullied at school. The other children don't want to play with them because they come from the 'dumping ground'. How can I teach them to have confidence in themselves, to have ambition, when the whole of society sends them the message that they are worthless?"*

Pre-collection, collection, waste pickup, street sweeping, and waste processing are all demanding activities. The long working hours (day and night), the harsh working conditions without proper equipment, and the low pay are just some of the challenges faced by these workers, who also suffer from the stigma and contempt of some members of the public. Yet, it is a noble profession, its honour justified by the cleanliness of our living environment. The sanitation worker should be treated with respect, given the vital role they play.

Democracy: when decisions are made beyond the control of those they affect.

- Democracy implies the promotion of inclusive urban planning where diverse voices are integrated into the decision-making processes that shape the city (Ar-

nstein, 1969; Participatory Budgeting Project, 2023). The democratic principle is not limited to the organisation of municipal elections; it implies continuous, effective, and meaningful participation of all stakeholders in the decisions that affect them. A just city is therefore governed by and for its citizens. The challenges hindering the application of this principle to waste management in Bertoua are:

- Systematic exclusion of informal actors: Decisions are made "for" the population, but rarely "with" them. Informal actors, who nevertheless perform a substantial part of the work, are systematically excluded from decision-making spaces;

- Lack of participation mechanisms: There are no formal structures allowing ordinary citizens and workers in the sector to participate in decisions that concern them;

- Centralisation of power: Municipal authorities and decentralised state services make decisions vertically, without real consultation of the affected populations;

- Lack of transparency: Decision criteria, resource use and operator performance are not made publicly available in a systematic and accessible manner;

- Lack of accountability: There are no mechanisms enabling citizens to hold authorities and operators accountable for the quality of services provided.

Households, informal workers, and many other stakeholders who live with or are confronted daily with the realities on the ground are still not involved in decision-making bodies. Unfortunately, they are the most affected by the decisions made. This is especially true since some decisions are sometimes made without scientific basis, despite the budgets that could have been allocated to research to inform those decisions. Furthermore, it is clear that academics and their work are rarely con-

sulted, even though laboratories and libraries are brimming with relevant findingEffective and efficient waste management requires the involvement and participation of all stakeholders.

Accessibility and affordability: the privilege of planned neighbourhoods or the curse of poor neighbourhoods.

This principle stipulates that all residents, regardless of their income level or place of residence, should have access to basic waste management services (Bateman, 2011). It recognises that a healthy environment is not a privilege, but a fundamental human right, and access to essential services such as waste removal should not be a luxury. This remains wishful thinking due to numerous obstacles, including:

- Geography of inequality: Access to services follows a discriminatory spatial logic. Planned central districts benefit from regular collection, organised peripheral districts receive irregular service, and informal districts receive no service;

- Physical inaccessibility: Overcrowded informal settlements (slums or ghettos), with poor road infrastructure and a lack of collection facilities, are simply abandoned by the formal system.

- Financial barrier: Even when services theoretically exist, many poor households cannot afford to pay collection fees. Faced with the choice between feeding their children and paying for garbage removal, the choice is quickly made;

- Health consequences: The accumulation of waste creates conditions conducive to the proliferation of disease vectors: malaria-carrying mosquitoes, flies, rats and cockroaches. Children are particularly vulnerable to infections;

- Recurring floods: Waste dumped in gutters and waterways clogs drainage systems,causing floods that destroy property and spread waterborne diseases;

- Information deficit: Many residents of working-class neighbourhoods do not know how to sort their waste, are unaware of good practices, and are not aware of the health risks (Gutberlet, 2015).

In the city, the location and distribution of waste collection services are insufficient and spatially disproportionate, as illustrated in the figure below.

Location of designated and undesignated dumpsites in the city of Bertoua
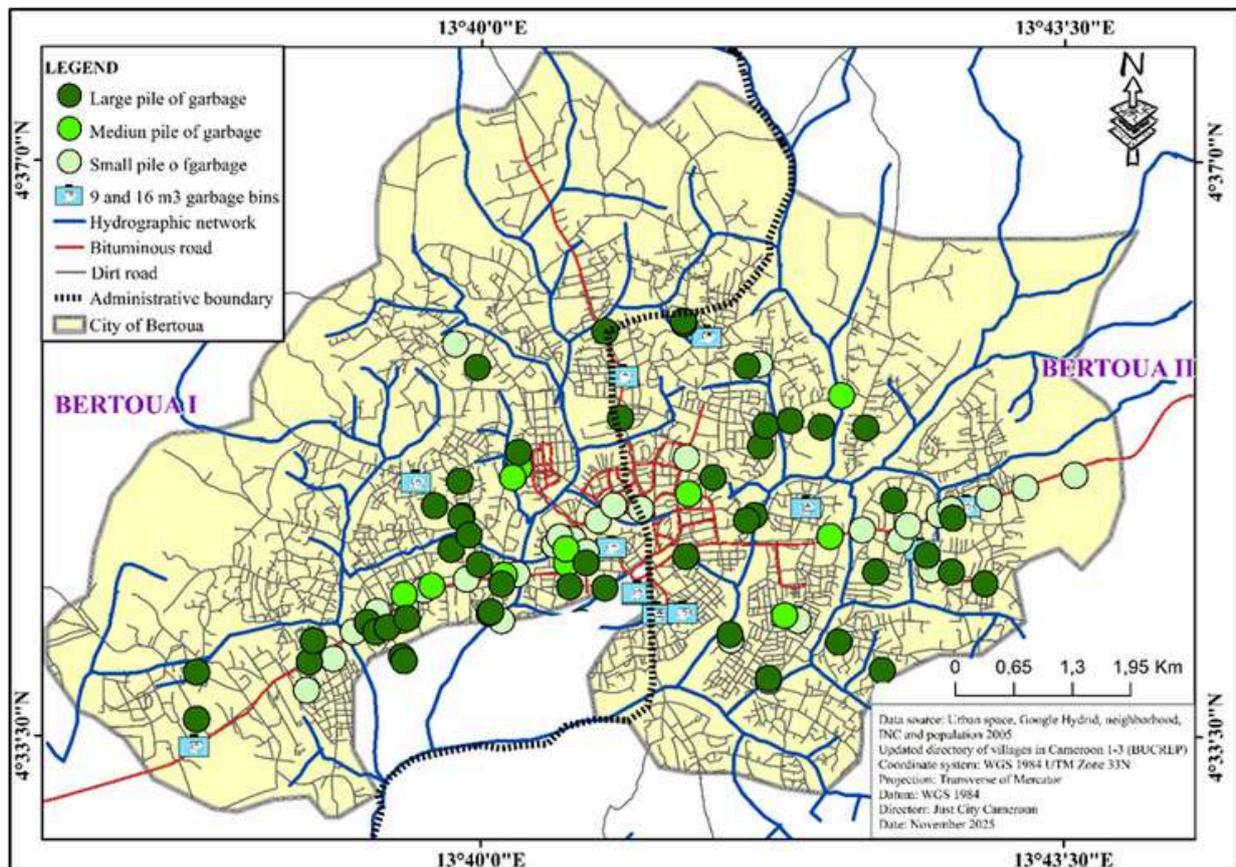
While developed neighbourhoods benefit from waste collection infrastructure and regular garbage pickups, informal settlements languish under the weight of garbage. The current economic situation exacerbates this problem. Neighbourhoods, roads, and waterways are often littered with waste that forms dams, hindering traffic and clogging waterways and gutters, leading to unwanted pollution and unexpected flooding. Respect and recognition of residents of informal settlements as full citizens in waste management remains an illusion. These impoverished populations and neighbourhoods lack waste collection facilities and are inaccessible, making collection difficult. Waste accumulates, sometimes even inside homes, for months. Without viable solutions, residents resort to burning it in the open air, further increasing the risks of pollution and respiratory infections.

Public safety or health: when waste kills.

The principle of public safety prioritises physical security and social safety nets, particularly for vulnerable groups (Cutter et al., 2008). It calls for adequate protection mechanisms for all residents, with a special focus on women, the elderly, children, and people living with disabilities. Implementing this principle faces numerous challenges, including:

- Health threats: diseases such as malaria, diarrhoeal diseases, respiratory infections, skin diseases, cholera, etc. are linked to poor waste management. In addition, rodents that swarm around illegal dumps in neighbourhoods harbour many parasites, which can be transmitted to humans through direct contact, vectors or environmental contamination.

- Vulnerability of children: children who play near garbage are particularly exposed to infections and chronic diseases that will reduce their life expectancy;

- Physical risks: abandoned waste creates dangerous obstacles for traffic, becomes nests for snakes and scorpions, can cause landslides, and causes deadly floods;

- Worker safety: without protective equipment, workers handle sharp objects, toxic materials, and infectious waste. Accidents are frequent but rarely reported or compensated;

- Food insecurity: waste polluting waterways contaminates fish. Vegetables grown in urban areas can be contaminated. Livestock roaming landfills ingest plastics and toxic materials;

- Climate vulnerability: poor waste management reduces the city's capacity to cope with climate shocks (heavy rains, floods).

In the waste sector, this principle highlights the health, environmental, and social risks associated with poor management. Uncollected or improperly treated waste can become a real threat: a breeding ground for infection, a source of insecurity, a haven for drug users, a source of fires, or a cause of flooding. Strengthening urban resilience to these dangers is a necessity, not an option.

Sustainability: a mortgage on future generations

Sustainability refers to balancing human needs with the preservation of the environment and natural resources to ensure a healthy and liveable city for future generations (Brundtland Commission, 1987 and UN-Habitat, 2020). The challenges of sustainability in the waste management sector are numerous in Bertoua. These include:

- Linear management model: the dominant model remains that of "collect-transport-bury". This model poses several sustainabi-

lity problems: direct environmental pollution, waste of resources, excessive energy consumption and significant greenhouse gas emissions;

- Water pollution: due to a lack of adequate collection services, waste is dumped into waterways, polluting the water and killing aquatic life. Groundwater is also threatened by leachate from landfills;

- Air pollution: open fires of waste release toxic fumes that cause respiratory illnesses and contribute to climate change;

- Soil contamination: illegal dumps and uncontrolled deposits contaminate the soil, making it unsuitable for agriculture and dangerous for future construction;

- Land pressure: open-air landfills occupy considerable areas that become permanently unusable. In a context of rapid urbanisation where land is becoming increasingly scarce and expensive, this extensive occupation of space represents an enormous opportunity cost;

- Greenhouse gas emissions: the current system contributes significantly to CO_2 emissions (transport) and methane (anaerobic decomposition in landfills).
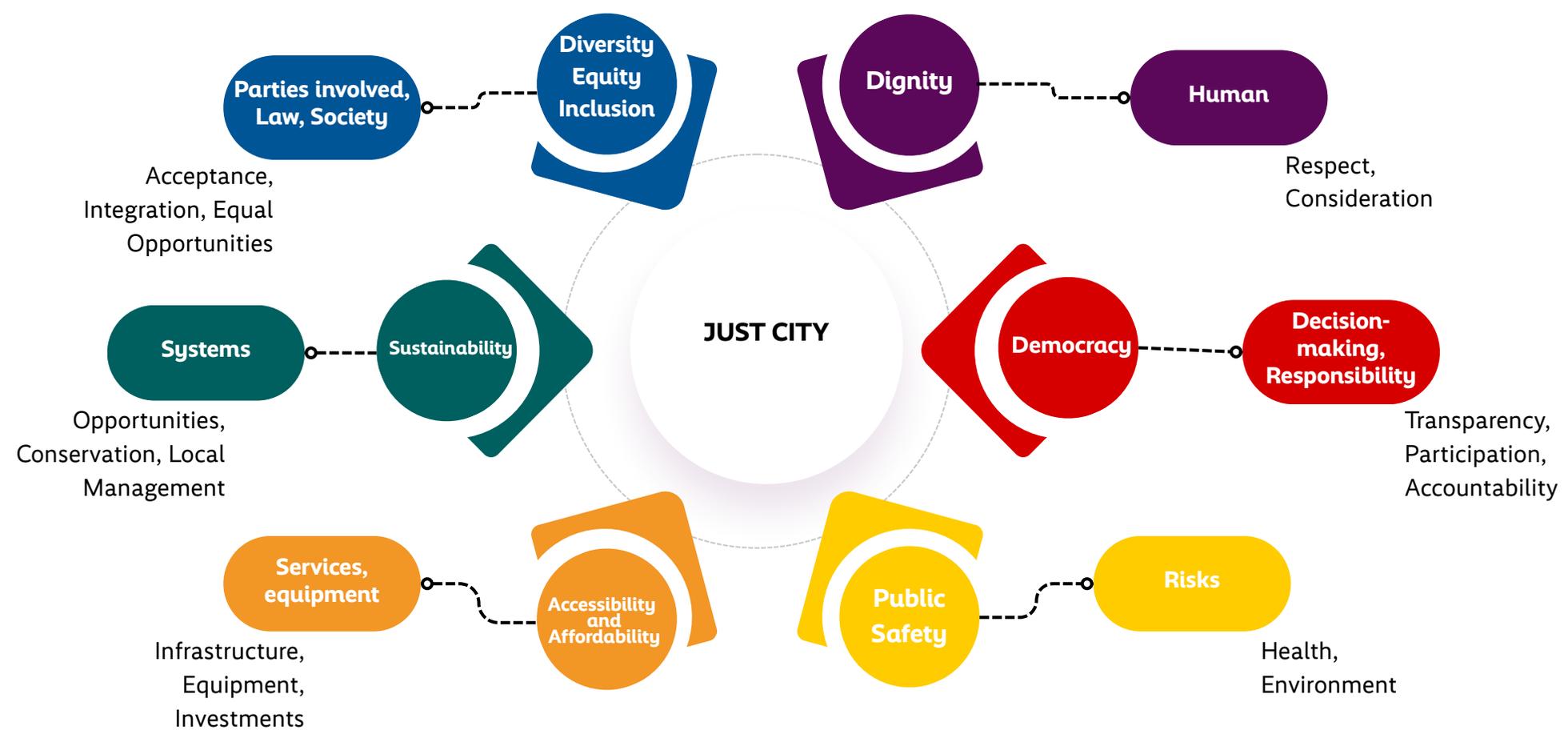
Waste management is the process of handling waste from its generation to its disposal. This includes pre-collection, collection, transport, disposal, and other forms of treatment, including recycling and reuse. In addition to the pollution and risks associated with the proliferation of waste in nature, transport and treatment are significant sources of nuisance. Sustainable waste management involves preserving the environment, conserving natural resources, and thinking long-term rather than focusing on immediate and superficial solutions. It means viewing waste

not as a source of nuisance but as an opportunity to create industries, jobs, and boost the economy. Particular emphasis should be placed on young people and households, who play a key role in this chain. The colossal sums allocated to collection and landfilling would be better used to fund local groups for community-based management, limiting long-distance transport and promoting optimal recovery of the different fractions.

The social conception of "just cities" in waste management involves addressing social inequalities and promoting environmental justice. The figure below illustrates this understanding of justice.

Figure 9.

Conceptualising the just city in urban waste management.

Parties involved, Law, Society
Acceptance, Integration, Equal Opportunities

Diversity Equity Inclusion

Dignity

Human
Respect, Consideration

Systems
Opportunities, Conservation, Local Management

Sustainability

JUST CITY

Democracy

Decision-making, Responsibility
Transparency, Participation, Accountability

Services, equipment
Infrastructure, Equipment, Investments

Accessibility and Affordability

Public Safety

Risks
Health, Environment

Waste management is highly complex and requires a multidimensional, even systemic, approach. For greater fairness, this implies community participation in policy decisions, and accountability for all stakeholders, including households. Municipal authorities must provide regular reports to ensure transparency and foster greater public support for their proposals and future actions. Waste management must recognise the diversity of actors and social practices, including the informal recycling sector, which is essential but often marginalised. Particular attention must be paid to the impact of waste and its management on public health and the urban environment, including residents of impoverished neighbourhoods lacking adequate collection and treatment infrastructure. Waste should not simply disappear from view but should be a source of opportunity for young people and others seeking employment. Financial, customs, and tax incentives must be made available to encourage investment in the sector. Sustainability, expressed not only as a principle, is both a method and an end in itself for a just city. It presupposes a systemic approach involving stakeholders, procedures, infrastructure, and accountability. Like the 17th Sustainable Development Goal, it serves as the unifying principle among the others.

Perspectives for a just city in urban waste management based on the experience of Bertoua

Waste management is a major challenge for the sustainable development of Cameroon and Africa in general. Cameroon's National Development Strategy (NDS) 30 identifies waste management as a key element in achieving the Sustainable Development Goals (SDGs), particularly in the areas of environmental protection and public health. The 2015 Sustainable Development Goals (SDGs) and the African Union's Agenda 2063 also emphasise the importance of waste management in promoting sustainable cities and communities, responsible consumption and production patterns, and effective and transparent institutions.

Household waste management is a major challenge for Cameroonian cities, with significant impacts on the environment, public health, and citizens' quality of life. Faced with these challenges, it is essential to rethink household waste management in Cameroon by integrating the principles of diversity, equity, inclusion, democracy, public safety, accessibility, and sustainability. These principles provide a framework for reflection and action toward fairer and more sustainable waste management. By integrating informal actors, promoting diverse solutions, and ensuring equitable access to resources, communities can create more efficient and sustainable waste management systems. The prospects offered by these principles are promising. Indeed, fairer and more sustainable waste management can contribute to improving public health, protecting the environment, and promoting economic and social development. Local communities can benefit from these initiatives in terms of jobs, income, and quality of life.

Implementing these principles requires a participatory and inclusive approach, involving local stakeholders, public authorities, and technical and financial partners. Strengthening institutional and technical capacities to support their implementation is also essential.

Table 4.

Principles	Perspectives	Time scale	Alignment with sustainable development initiatives
Diversity, Equity, Inclusion (D.E.I)	Equitable redistribution of equipment and infrastructure to all neighbourhoods, including the most disadvantaged	Short term	• **SDG 11:** Sustainable Cities and Communities (11.1 and 11.3) • **SDG 10:** Reduced inequalities (10.2 and 10.3) • **Agenda 2063:** Aspiration 1 (Shared Prosperity and Social Well-being) • **SND30:** Strategic Axis 3 (Infrastructure Development)
	Formal recognition and social protection for all workers in the sector	Medium Term	• **SDG 8:** Decent work and economic growth (8.3, 8.5 and 8.8) • **SDG 1.3:** No poverty • **Agenda 2063:** Aspiration 1 (Social well-being and health) • **SND30:** Strategic Axis 2 (Human Capital Development and Social Well-being)
	Guaranteeing decent wages that allow workers to live with dignity from their work.	Medium Term	• **SDG 8:** Decent Work (8.5) • **SDG 1:** No poverty (1.1, 1.2) • **Agenda 2063:** Aspiration 6 (People-centred development) • **SND30:** Strategic Axis 1 (Structural transformation of the economy and creation of decent jobs)
	Development of accessible vocational training programs	Short Term	• **SDG 4:** Quality Education (4.3, 4.4, 4.5) • **SDG 8:** Jobs and Growth (8.6) • **Agenda 2063:** Aspiration 2 (Well-educated citizens and a skills revolution) • **SND30:** Strategic Axis 2 (Human Capital Development - Education and Training)
	Implementation of awareness campaigns that highlight the essential work carried out by sanitation stakeholders	Short Term	• **SDG 8:** Decent Work (8.8) • **SDG 5:** Gender equality (5.1, 5.4, 5.5) • **Agenda 2063:** Aspiration 6 (People-centered development) • **SND30:** Strategic Axis 4 (Governance, decentralisation and strategic management)

	Inclusion of women, who make up a significant portion of informal workers but remain largely invisible and underpaid	Short term	• **SDG 5:** Gender equality (5.1, 5.4, 5.5, 5.a) • **SDG 8:** Decent Work (8.5) • **Agenda 2063:** Aspiration 6 (Total equality between men and women) • **SND30:** Strategic Axis 2 (Equity and Gender)
	Development of multilingual and culturally appropriate awareness campaigns	Short term	• **SDG 10:** Reduced inequalities (10.2) • **SDG 16:** Peace, justice and strong institutions (16.10) • **Agenda 2063:** Aspiration 5 (African Cultural Identity and Renaissance) • **SND30:** Strategic Axis 4 (Promotion of cultural diversity)
	Recognising effective traditional practices and integrating them into formal systems	Short term	• **SDG 11:** Sustainable Cities (11.4) • **Agenda 2063:** Aspiration 5 (African Cultural Renaissance) • **SND30:** Strategic Axis 4 (Enhancement of cultural heritage)
	Promoting diverse solutions according to waste types and local contexts	Medium Term	• **SDG 11:** Sustainable Cities (11.6) • **SDG 12:** Responsible Consumption and Production (12.5) • **Agenda 2063:** Aspiration 7 (Endogenous and sustainable development) • **SND30:** Strategic Axis 3 (Regional Planning and Local Development)
	Organising inter-community events around sanitation, building bridges between different populations	Short term	• **SDG 16:** Peace and Justice (16.7, 16.10) • **SDG 17:** Partnerships for the Goals (17.17) • **Agenda 2063:** Aspiration 4 (Peace and Security) • **SND30:** Strategic Axis 4 (Social Cohesion and National Solidarity)
Dignity	Public recognition of the social value of sanitation workers through communication campaigns, recognition ceremonies, and awards for excellence	Medium Term	• **SDG 8:** Decent Work (8.5, 8.8) • **SDG 10:** Reduce stigma (10.3) • **Agenda 2063:** Aspiration 6 (Human Dignity) • **SND30:** Strategic Axis 2 (Promotion of dignity and social cohesion)
	Providing personal protective equipment to all workers, ensuring reasona-		• **SDG 8:** Decent working conditions (8.8) • **SDG 3:** Occupational health (3.8) • **Agenda 2063:** Aspiration 1 (Decent Jobs) • **SND30:** Strategic Axis 2 (Improvement of working conditions)

ble working hours, and guaranteeing access to drinking water and sanitary facilities.		
Extension of health insurance, workers' compensation, paid leave and retirement benefits to all workers in the sector, including those operating in the informal sector.	Medium Term	• **ODD 1 :** Social Protection (1.3) • **SDG 8:** Social Rights (8.8) • **Agenda 2063:** Aspiration 1 (Social protection for all) • **SND30:** Strategic Axis 2 (Extension of social coverage)
Sanctions for employers who do not respect labour rights and the requirement to establish formal contracts.	Medium Term	• **SDG 8:** Labour rights (8.7, 8.8) • **SDG 16:** Rule of Law (16.3) • **Agenda 2063:** Aspiration 3 (Respect for rights) • **SND30:** Strategic Axis 4 (Application of labour law)
Development of destigmatisation campaigns in schools, the media, and places of worship by presenting this sector as a respectable career opportunity.	Short term	• **SDG 8:** Decent Work (8.8) • **SDG 10:** Equality (10.2, 10.3) • **SDG 4:** Inclusive Education (4.7) • **Agenda 2063:** Aspiration 6 (Changing Mindsets) • **SND30:** Strategic Axis 4 (Civic Education and Behaviour Change)
Extending collection services to all neighbourhoods without exception, investing in infrastructure in working-class neighbourhoods, eliminating stigmatising terms	Long Term	• **SDG 11:** Urban Inclusion (11.1, 11.7) • **SDG 10:** Reduced inequalities (10.2) • **Agenda 2063 :** Aspiration 1 (Urbanisation inclusive) • **SND30:** Strategic Axis 3 (Inclusive Urban Development)

Democracy	The creation of neighbourhood committees composed of residents and local stakeholders in waste management, which identify the specific problems of their area and propose appropriate solutions	Short term	• **SDG 16:** Effective Institutions (16.6, 16.7) • **SDG 11:** Citizen participation (11.3) • **Agenda 2063:** Aspiration 3 (Democratic Governance and Citizen Participation) • **SND30:** Strategic Axis 4 (Decentralisation and Local Governance)
	Organising regular forums bringing together all stakeholders in the sector to discuss policies, share experiences and co-develop strategies	Short term	• **ODD 16 :** Inclusive participation (16.7) • **SDG 17:** Partnerships (17.17) • **Agenda 2063:** Aspiration 3 (Participation of all segments of society) • **SND30:** Strategic Axis 4 (Participatory Governance)
	Implementation of participatory budgets where residents decide how to allocate a portion of municipal resources dedicated to sanitation	Short term	• **ODD 16 :** Transparent institution**s** (16.6, 16.7) • **SDG 11:** Participatory urban planning (11.3) • **Agenda 2063:** Aspiration 3 (Responsible and transparent institutions) • **SND30:** Strategic Axis 4 (Participatory Management of Public Finances)
	Establishment of accountability mechanisms whereby collection companies and authorities must regularly report on their performance to the public	Long Term	• **SDG 16:** Institutional responsibility (16.6, 16.10) • **SDG 17:** Data and monitoring (17.18, 17.19) • **Agenda 2063:** Aspiration 3 (Rule of Law and Justice) • **SND30:** Strategic Axis 4 (Good Governance and the Fight Against Corruption)
	Development of digital platforms enabling citizens to report problems, propose ideas and track the progress of actions	Medium Term	• **ODD 9 :** Innovation et infrastructure (9.c) • **SDG 11:** Participatory urban governance (11.3) • **SDG 16:** Access to information (16.10) • **Agenda 2063:** Aspiration 1 (Digital Transformation) • **SND30:** Strategic Axis 1 (Digital Economy and E-Governance)

	Reservation of seats for representatives of informal workers in decision-making bodies relating to waste management	Long Term	• **SDG 8:** Rights to work (8.8) • **ODD 16 :** Participation inclusive (16.7) • **Agenda 2063:** Aspiration 3 (Political and Social Inclusion) • **SND30:** Strategic Axis 2 (Social Protection and Inclusion)
Public Safety	Regular and universal collection in all neighbourhoods without exception	Short term	• **SDG 11:** Urban waste management (11.6) • **SDG 3:** Good health (3.9) • **Agenda 2063:** Aspiration 1 (Universal Basic Services) • **SND30:** Strategic Axis 3 (Basic Urban Services)
	Ensuring regular maintenance of drainage systems and the installation of grates to prevent blockages	Medium Term	• **SDG 11:** Urban Resilience (11.5, 11.b) • **SDG 6:** Water management (6.3, 6.4) • **Agenda 2063:** Aspiration 1 (Resilient Infrastructures) • **SND30:** Strategic Axis 3 (Hydraulic and Sanitation Infrastructure)
	Mandatory provision of personal protective equipment to all workers, with risk training and regular medical monitoring	Short term	• **SDG 8:** Safety at work (8.8) • **SDG 3:** Health and well-being (3.8, 3.9) • **Agenda 2063:** Aspiration 1 (Universal Social Protection) • **SND30:** Strategic Axis 2 (Occupational Health and Safety)
	Implementation of specific channels for the separate management of hazardous waste (hospital waste, batteries, chemicals, etc.)	Medium Term	• **SDG 12:** Hazardous waste management (12.4) • **SDG 3:** Public Health (3.9) • **Agenda 2063:** Aspiration 1 (Healthy and safe environment) • **SND30:** Strategic Axis 5 (Management of special and hazardous waste)
	Establishment of a health surveillance system with monitoring of water, air and soil quality, and early warning systems for epidemics	Medium Term	• **SDG 3:** Public Health (3.3, 3.9, 3.d) • **SDG 6:** Water quality (6.3) • **Agenda 2063:** Aspiration 1 (Health Surveillance System) • **SND30:** Strategic Axis 2 (Epidemiological Surveillance)

	Construction of resilient infrastructure designed to withstand torrential rains	Short term	• **SDG 11:** Resilience (11.5, 11.b) • **SDG 13:** Climate Adaptation (13.1, 13.2) • **Agenda 2063:** Aspiration 1 (Climate-resilient infrastructure) • **SND30:** Strategic Axis 5 (Adaptation to climate change)
	Development of emergency plans with clear protocols for managing crisis situations	Short term	• **SDG 11:** Risk Management (11.b) • **SDG 13:** Adaptive capacities (13.3) • **Agenda 2063:** Aspiration 4 (Disaster Management) • **SND30:** Strategic Axis 4 (Civil Protection and Disaster Management)
Accessibility and Affordability	Investment in the development of working-class neighbourhoods (access roads, collection points, drainage systems, waste disposal sites) to make them accessible to services	Medium Term	• **SDG 11:** Access to basic services (11.1, 11.2) • **SDG 1:** Access to essential services (1.4) • **Agenda 2063:** Aspiration 1 (Slum Reduction) • **SND30:** Strategic Axis 3 (Urban Restructuring and Social Housing)
	Development of progressive pricing systems where the wealthiest pay more to subsidise basic services for the poorest	Short term	• **SDG 10:** Reduced inequalities (10.4) • **SDG 1:** Access to basic services (1.4) • **Agenda 2063:** Aspiration 1 (Affordable services for all) • **SND30:** Strategic Axis 2 (Social Equity and Solidarity)
	Development of pre-collection systems with adapted means capable of accessing areas inaccessible to large trucks	Short term	• **SDG 11:** Urban services (11.6) • **SDG 8:** Local employment (8.3) • **Agenda 2063:** Aspiration 1 (Contextualised Solutions) • **SND30:** Strategic Axis 3 (Innovations in urban services)
	Implementation of information campaigns in all spoken languages, using appropriate means (community radio, forum theatre, door-to-door canvassing)	Short term	• **SDG 16:** Access to information (16.10) • **ODD 10 :** Inclusion (10.2) • **Agenda 2063:** Aspiration 5 (Culturally Adapted Communication) • **SND30:** Strategic Axis 4 (Inclusive Public Communication)

Sustainability	Developing technological innovations to allow citizens to report problems, track collection schedules, and sell their recyclable waste	Short term	• **ODD 9 :** Innovation (9.c) • **SDG 11:** Smart urban services (11.3) • **Agenda 2063:** Aspiration 1 (Smart Cities and Institutions) • **SND30:** Strategic Axis 1 (Digital Innovation and Digital Inclusion)
	Encouragement and support for local waste recovery initiatives so that waste becomes a resource rather than a burden	Short term	• **ODD 8 :** Entrepreneuriat local (8.3) • **SDG 12:** Circular Economy (12.5) • **Agenda 2063:** Aspiration 1 (Entrepreneurship and job creation) • **SND30:** Strategic Axis 1 (Promotion of local entrepreneurship)
	Adoption of the circular economy model and abandonment of the linear model	Medium Term	• **SDG 12:** Responsible Consumption and Production (12.2, 12.5) • **SDG 8:** Sustainable economic growth (8.4) • **Agenda 2063:** Aspiration 1 (Sustainable and inclusive economies) • **SND30:** Strategic Axis 1 (Structural transformation towards a green economy)
	Development of neighbourhood composting for organic waste	Short term	• **SDG 12:** Responsible Consumption (12.3, 12.5) • **SDG 11:** Sustainable Cities (11.6) • **Agenda 2063:** Aspiration 1 (Sustainable Environment) • **SND30:** Strategic Axis 5 (Sustainable Environmental Management)
	Creation of decentralised sorting centers in each neighbourhood	Short term	• **SDG 11:** Sustainable Cities (11.6) • **SDG 12:** Waste management (12.4, 12.5) • **Agenda 2063:** Aspiration 7 (Endogenous Development) • **SND30:** Strategic Axis 3 (Basic Infrastructure) + Axis 5 (Environment)
	Establishment of artisanal processing units that valorise different types of waste	Medium Term	• **ODD 12 :** Production responsable (12.5) • **SDG 8:** Jobs and Growth (8.3) • **ODD 9:** Industry, innovation (9.3) • **Agenda 2063:** Aspiration 1 (Industrialisation and creation of added value) • **SND30:** Strategic Axis 1 (Promotion of SMEs and crafts)
	Promoting local biogas production from organic waste	Medium Term	• **SDG 7:** Affordable and clean energy (7.2, 7.a) • **SDG 13:** Climate Change Action (13.2) • **Agenda 2063:** Aspiration 1 (Renewable Energies) • **SND30:** Strategic Axis 5 (Renewable Energies and Energy Transition)

Launch of "zero waste" campaigns at the household, business and institutional levels	Short term	• **SDG 12:** Responsible Consumption (12.5, 12.8) • **SDG 11:** Sustainable Cities (11.6) • **Agenda 2063:** Aspiration 1 (Sustainable Environment) • **SND30:** Strategic Axis 5 (Waste Management and Sanitation)
Implementation of an extended producer responsibility system for packaging	Medium Term	• **ODD 12 :** Production responsable (12.4, 12.5, 12.6) • **SDG 17:** Partnerships (17.17) • **Agenda 2063:** Aspiration 1 (Environmental Responsibility) • **SND30:** Strategic Axis 4 (Corporate Social Responsibility)
Investment in appropriate technologies and initiatives for waste recovery (local approach)	Medium Term	• **ODD 9:** Industry and innovation (9.4, 9.5) • **SDG 12:** Waste management (12.4) • **Agenda 2063 :** Aspiration 1 (STI - Science, Technologie, Innovation) • **SND30:** Strategic Axis 1 (Innovation and Technological Development)

Medium Term (2-3 years); Long Term (4-5 years); Short Term (1-2 years)

Implementing these principles of urban justice will create more efficient, sustainable, and equitable household waste management systems, meeting citizens' needs while protecting the environment. This will require close collaboration and effective coordination between public authorities, local communities, non-governmental organisations, and the private sector. The proposed actions aim to ensure environmental protection and public health, while promoting citizen participation and inclusive decision-making. This includes establishing waste management systems that are accessible, affordable, and equitable for all, especially the most vulnerable populations. Household waste management in Cameroon should be seen as an opportunity to promote sustainable development, environmental protection, and public health, while strengthening citizen participation and local governance. Seizing this opportunity is essential to creating a brighter future for generations to come. Implementing these principles will ensure a cleaner and healthier future for generations to come, protecting the environment, promoting public health and strengthening local governance. Achieving these ideals requires training (awareness-raising), advocacy efforts, efficient mobilisation and management of funding, technical and material support, and the establishment of rules and sanctions to punish corrupt citizens and those who contribute to incivility.

Conclusion

Household waste management in Cameroon today represents a major challenge but also an opportunity for urban transformation. Analysing the case of Bertoua through the lens of the just city reveals that the challenges are numerous: rapid urbanisation, increasing waste production, inadequate infrastructure, an informal sector, social exclusion of workers, unequal access to services, and considerable environmental impacts. However, these challenges are not insurmountable.

Analysing the six principles of the Just City as applied to waste management—diversity, equity and inclusion, sustainability, dignity, democracy, public safety, accessibility, and affordability—reveals considerable transformative potential. Each principle offers a concrete framework for addressing the multiple dimensions of urban injustice related to waste: diversity, equity, and inclusion recognize and integrate the plurality of actors, practices, and local contexts, notably by valuing the crucial role of informal pre-collectors and recyclers; ensure a fair distribution of the costs and benefits of waste management; and ensure that no social group is excluded from the sector's economic and decision-making opportunities. Dignity guarantees respect and social recognition for sanitation workers, who have been stigmatised and marginalised for far too long. Democracy ensures the active participation of citizens and communities in decisions that affect their living environment. Public safety protects populations and workers from health risks and environmental considerations related to waste; accessibility and affordability ensure that all citizens and neighbourhoods, including the most disadvantaged, benefit from quality col-

lection services; sustainability guides towards a circular economy that transforms waste into resources, thus preserving the environment for future generations.

The experience of Bertoua, the first pilot city for the Just City project in Cameroon, demonstrates that these principles can be operationalised. Training provided to sanitation professionals on labour law, safety, and green entrepreneurship, awareness campaigns conducted among the population, and the creation of multi-stakeholder dialogue spaces are all concrete steps toward a fairer city in terms of waste management. However, the effective implementation of these principles requires a systemic and multi-stakeholder approach. It demands the coordinated commitment of public authorities, private operators, civil society actors, financial institutions, and above all, the citizens themselves. Urban justice in waste management is not an imposed technocratic project, but a participatory and inclusive process that mobilises the collective intelligence of all stakeholders in the area.

The outlook is promising. Fairer and more sustainable waste management can significantly contribute to improving public health, protecting the environment, creating decent jobs, reducing poverty, and building a circular economy that generates local added value. It is fully in line with the ambitions of the National Development Strategy (SND 30), the Sustainable Development Goals (SDGs) 2030 and the African Union's Agenda 2063.

Nevertheless, there is still a long way to go. It requires massive investments in infrastructure, the strengthening of institutional and technical capacities, the gradual formalisation of the infor-

mal sector, the adoption of appropriate regulatory frameworks, and above all, a profound change in mindsets and behaviours. The greatest challenge remains dismantling attitudes resistant to hygiene and combating incivility, which can only be won through education, ongoing awareness campaigns, and exemplary leadership.

Urban waste management in Cameroon is not just about garbage collection. It is a matter of social justice, a driver of economic development, a public health imperative, and a major environmental challenge. By integrating the principles of a just city into our waste management policies and practices, we can transform what is currently perceived as a burden into a genuine opportunity to build cleaner, healthier, more equitable, and more sustainable Cameroonian cities for all. The future of our cities depends on how we manage our waste. Let's choose justice by investing in local waste management, which allows us to address the challenges of pollution, the economy, and climate change.

Ultimately, poor waste management is characterised by urban sprawl, the premature filling of controlled landfills, resource waste, and a resurgence of health and environmental risks. This mismanagement stems from the informalisation of the sector, poor working conditions, the lack of systematic source separation, public incivility, the weak involvement of some stakeholders, and the excessive responsibility placed on others (children), the lack of control and monitoring of municipal executives' actions is a significant factor. As illustrated by the theory of planned behavior (Ajzen, 1991), poor waste management is not a matter of chance. It is driven by our lax and irresponsible attitudes, weak social norms, and a perceived lack of control. To break free from this lethargy and envision just cities, stakeholders, regardless of their roles, must increase their influence through innovation. As taught by the theory of social change (Lewin, 1947), this involves introducing social and technological innova-

vation. As taught by the theory of social change (Lewin, 1947), this involves introducing social and technological innovations into the current waste management system without creating disruptions. These innovations must be integrated gradually (short, medium, and long term), structurally, continuously, and using a systemic approach. The principles of the just city provide a solid foundation upon which and through which innovations can be developed in waste management for sustainable territories.

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