

## From Plastic Waste to Employment Opportunities for Youth and Urban Sanitation in Bukavu

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**ABSTRACT:** This study examines the sustainability of local initiatives for the valorization of plastic waste in Bukavu and their impact on youth employment creation as well as urban sanitation. For several decades, the city has faced major challenges related to poor plastic waste management, undermining urban quality of life and threatening aquatic ecosystems. In a context where plastic waste is increasingly perceived as a resource, the study draws on 34 semi-structured interviews and observations conducted with stakeholders involved in the plastic recycling value chain. The findings reveal that many youth-led organizations and enterprises are engaged in the collection, disposal, and transformation of plastic waste. Their initiatives range from manufacturing utilitarian products from recycled materials to offering training on waste management and sanitation. These efforts have led to the creation of several green jobs, thereby contributing to the improvement of the city's cleanliness. However, these initiatives remain fragile due to multiple challenges hindering their long-term sustainability. Grounded in the theory of the circular economy, the study recommends the establishment of an innovative ecosystem that fosters collaboration among all stakeholders in the sector. Such a framework would help optimize the benefits of plastic waste valorization, create more green jobs for young people, and sustainably improve urban sanitation in Bukavu.

**KEYWORDS:** valorization, plastic waste, green jobs, youth, urban sanitation, circular economy, Bukavu.

### 1 INTRODUCTION

Over the past ten decades, many countries have recorded remarkable progress in socio-cultural and economic development on the African continent [1, 2]. Nevertheless, the issue of waste management and sanitation in urban areas remains a pressing challenge. Very often linked to the inefficiency of urban sanitation public policies, the existing institutional framework, as well as limited access to financing [3], this issue constitutes one of the major obstacles to sanitation and the development of African cities. Furthermore, rapid urbanization, population growth, increasing economic activity, and the lack of waste management strategies at national and local levels [4] highlight the urgency of adopting sustainable solutions to improve quality of life.

However, over the past twenty years, numerous waste valorization initiatives have been developed and implemented across the African continent. The objective has been to promote entrepreneurship, combat youth unemployment, improve urban sanitation, and strengthen resilience to environmental concerns. Although African youth entrepreneurship is perceived as a driver for job creation, several challenges remain to be addressed to achieve this, notably access to financing, adequate training, and regulatory obstacles [5]. Analyses conducted by numerous regional and international organizations on employment and youth trends in African countries present entrepreneurship as a viable alternative for their socio-professional integration [6, 7, 8]. However, this requires a favorable environment, including improved public policies, capacity building for youth, and facilitation of their access to markets [5].

In many African cities, numerous young entrepreneurs, through their startups, are engaged in the plastic waste value chain. Since then, plastic waste has become a concern that interests almost everyone. Previously perceived as a threat to human health and aquatic ecosystems [9], their valorization now constitutes a real lever for youth employment opportunities and sustainable sanitation in African urban areas. In Cameroon, Côte d'Ivoire, and other African countries, young people and their startups play a decisive role in creating green jobs. In addition to implementing different waste management methods [10], they revalue it, notably through recycling and transforming it into useful products [11]. Therefore, proper training for young people enabling them to access new opportunities [12] as well as support for their initiatives through economic incentives and favorable public policies [10], prove necessary to develop a competitive market.

In the Democratic Republic of Congo, various initiatives led by youth startups and supported by public and private institutions have been implemented in several cities in response to urban unsanitary conditions and the challenges young people face in accessing employment. Thus, in 2018, three innovative plastic waste recycling projects, including Congo Clean, I-Bopeto, and Wastcycl, were awarded by the United Nations Development Programme [13]. Furthermore, many other ongoing initiatives led by young people in cities across the Democratic Republic of Congo illustrate the potential of youth entrepreneurship in sustainable waste management and the creation of green jobs. In the city of Bukavu, nearly 900 tons of waste are produced daily, half of which consists of plastic waste [14, 15]. Due to the lack of adequate recycling infrastructure and effective urban sanitation public policies, this plastic waste has exacerbated urban unsanitary conditions. Therefore, to address institutional gaps in urban sanitation and youth professional integration, the involvement of local associations as well as youth startups in plastic waste recycling appears timely [16]. In the context of the city of Bukavu, this approach has enabled young entrepreneurs, through their startups, to create green job opportunities while improving urban cleanliness.

Yet, the initiatives of young people in Bukavu regarding waste valorization and urban sanitation, although significant, are not sustainable given the financial, institutional, and training-related challenges. This study aims to evaluate how the transformation of plastic waste can be optimized to create more sustainable employment opportunities for young people and improve urban sanitation in the city of Bukavu. Drawing on the theoretical framework of the circular economy, the study provides an overview of the waste management issue in Bukavu. It describes innovative initiatives that transform plastic waste into green job opportunities for young people while contributing to the sanitation of the city. It also highlights the challenges faced by the actors of plastic waste valorization initiatives and proposes strategic levers to ensure the sustainability of these initiatives.

## **2 STUDY AREA AND METHOD**

### **2.1 STUDY AREA**

The study was conducted in the city of Bukavu, located in the eastern part of the Democratic Republic of Congo, between 2°28' and 2°32' South latitude and 28°48' and 28°52' East longitude. Officially recognized as a city by ordinance-law No. 12/357 of September 6, 1958, Bukavu covers an area of 60 km<sup>2</sup> [17] and shares its boundaries with Lake Kivu to the north, the Kabare territory to the south and west, as well as with Rwanda through the Ruzizi River in its eastern part [18].

Bukavu benefits from a temperate tropical climate thanks to its mountainous relief, with an average temperature of 20°C. The city of Bukavu is administratively divided into three communes: Kadutu, Ibanda, and Bagira (figure 1). Over the past few decades, its population, mainly composed of the Bashi tribe, has increased dramatically. Between 2015 and 2022, it is estimated to have grown from 1 million to 1.5 million inhabitants [19]. Over the years, this rapid and uncontrolled population growth has generated numerous social, economic, and environmental challenges for the city.

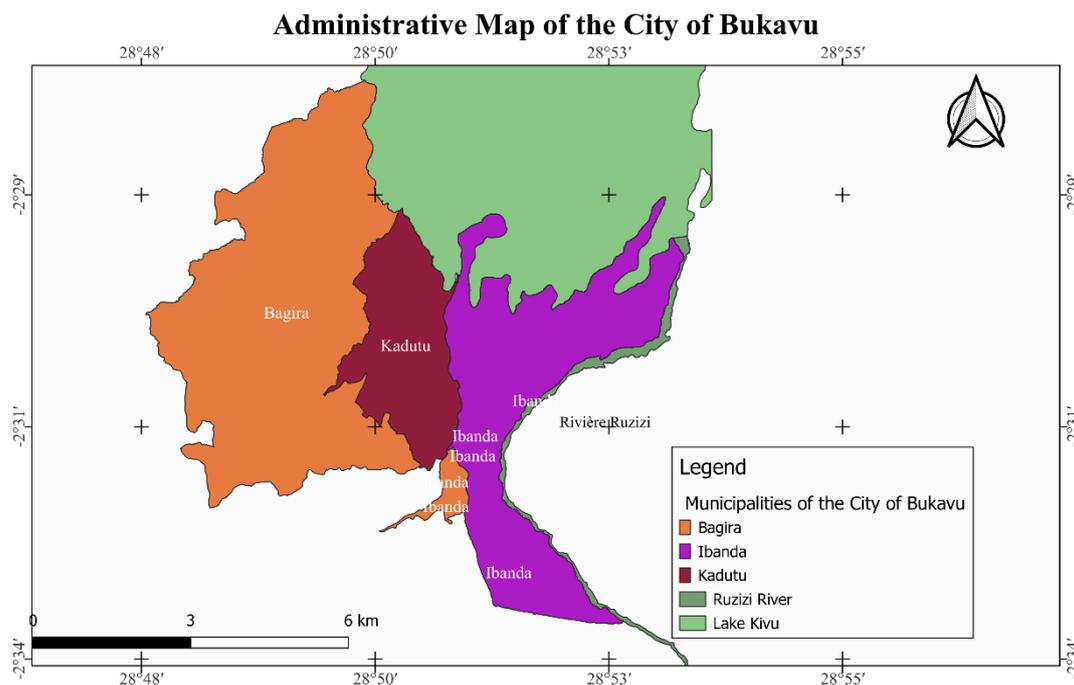


Fig. 1. Map of the City of Bukavu and Its Administrative Boundaries

Source: Authors, 2025

## 2.2 DATA COLLECTION AND ANALYSIS

To achieve its objectives, the study used a qualitative approach. This approach, through the experiences and perspectives of the participants, allowed for a better understanding and explanation of the studied topic [20]. In addition, it facilitated the development of concepts to grasp the sustainable opportunities for plastic waste valorization in the context of the city of Bukavu.

Indeed, using an interview guide, semi-structured interview sessions were conducted with various actors involved in the plastic waste value chain in Bukavu, notably the managers and members of companies and associations specialized in the collection and valorization of plastic waste, young plastic waste collectors, as well as municipal authorities and civil society actors. The selection of participants for the interview sessions was based on three main criteria: (i) residing in Bukavu for more than 5 years, (ii) being involved in one of the links of the plastic waste value chain in Bukavu, (iii) being a public or civil society actor participating in urban sanitation efforts in Bukavu. Each interview lasted an average of 30 minutes, conducted at the participants' workplaces, and primarily focused on themes related to local initiatives implemented by young entrepreneurs and their startups to transform plastic waste into green job opportunities, the challenges faced in implementing these initiatives, as well as strategic levers to optimize the benefits of these initiatives for sustainable urban sanitation in Bukavu.

A total of 36 semi-structured interviews were conducted in the three communes of the city of Bukavu: 4 representatives of municipal authorities (one per commune: Kadutu, Ibanda, and Bagira) as well as one at the Bukavu City Hall, 23 representatives of companies and associations involved in the collection and valorization of plastic waste in Bukavu, 5 young plastic waste collectors, and 4 civil society actors from the city of Bukavu.

In addition to the semi-structured interviews, observations were carried out at several sites in the three communes of Bukavu. Accompanied by photographs, the observations primarily focused on habits and urban policies regarding plastic waste management in Bukavu.

After recording and transcribing the interviews using Microsoft Word 2019, the data were systematically cross-checked. Based on these elements, information regarding the current issues of waste management in Bukavu, local initiatives transforming waste into green job opportunities for young people in Bukavu, as well as the challenges faced by young entrepreneurs in implementing these initiatives, were evaluated. Finally, the strategic levers to optimize the benefits of these

initiatives for green jobs and urban sanitation in Bukavu were interpreted based on the responses of the actors in the plastic waste value chain interviewed in Bukavu. Their opinions were summarized in the form of verbatim quotes

### **3 RESULTS AND DISCUSSION**

#### **3.1 THE ISSUE OF WASTE MANAGEMENT IN BUKAVU**

To address urban unsanitation and the challenges related to the provision of basic services, several initiatives have been undertaken in the city of Bukavu.

Interviews conducted with representatives of urban authorities at the City Hall and in the different communes of Bukavu (Kadutu, Ibanda, and Bagira) revealed that the challenges in urban sanitation faced by the city of Bukavu have existed for several decades. These challenges are fueled by the population's irresponsible habits regarding waste management and the low involvement of urban authorities. In this regard, a municipal authority representative stated: "...it is easy to say today that we have already become accustomed to living with waste, in an environment that exposes us to health risks and threatens the environment due to our non-ecological habits in managing the waste we produce..."

In the same vein, he added: "...certainly, some decisions have been made at the Bukavu City Hall, and actions have been carried out on the ground by the Urban Authority to sanitize the city, notably through the installation of trash bins on urban streets, facilitating household waste collection by associations operating in this sector and assigning them according to the respective communes, neighborhoods, and avenues, establishing partnerships with private companies for the evacuation of waste produced in Bukavu, as well as imposing community work known as "Salongo" every Saturday. Nevertheless, all these actions have not effectively solved the issue of unsanitation, as they have either been resisted by the population or not followed up over the long term by public authorities,..."

Furthermore, at the commune level in the city of Bukavu, several other actions aimed at city sanitation have been undertaken. According to the representatives of the commune authorities interviewed: "...at the commune level, we follow the guidance of the City Hall and work directly with local authorities, notably the neighborhood and avenue chiefs as well as other leaders. Regarding sanitation, we engage in daily discussions with them, and their views have always been taken into account. Nevertheless, actions such as the imposition of community work still lack accompanying measures to encourage households to comply,..."

Indeed, the issue of solid waste management arises in several cities of the Democratic Republic of Congo. In 2015, the daily production of solid waste was estimated at 10,000 tons in the city of Kinshasa. This high production of waste was exacerbated by the lack of adequate infrastructure, rapid urban growth, and a very weak organization of the system for collecting and recycling the solid waste produced in the city [21].

According to the environmental civil society actors interviewed: "...the issue of unsanitary conditions in Bukavu, which has persisted for several decades, particularly that caused by plastic waste, is mainly linked to the lack of will on the part of urban authorities, who fail both to establish favorable conditions for the creation of waste management infrastructure and to organize the actors, notably associations and companies, involved in the collection, disposal, and valorization of waste in the city. It should be noted that, currently, in many African cities, waste constitutes a source of job creation. However, in Bukavu, this sector is not yet seriously exploited, and its opportunities are not seized because, to a large extent, urban authorities themselves constitute an obstacle to initiatives in this direction,..." Furthermore, they added: "...several associations and companies involved in the collection, disposal, and even transformation of waste in Bukavu still escape the control of the City Hall and the communes. As a result, many of these companies, through their practices, such as the absence of proper landfills to sustainably dispose of collected waste, further reinforce the unsanitary conditions in the city,..."

All these combined factors have led to a vicious cycle with no solution regarding waste management and urban sanitation in Bukavu. Despite the efforts undertaken by the City Hall and the communes, the city of Bukavu currently produces approximately 900 tons of waste each day [14]. Caritas Development Bukavu estimates that half of this waste consists of plastic waste [15]. In response to this issue, and in addition to the efforts of the City Hall and the communes, several associations and companies in Bukavu are involved either in the collection and disposal or in the valorization of waste. The table below presents a non-exhaustive list of these associations:

*Table 1. Associations and companies involved in waste collection and disposal in Bukavu*

No.	Acronyms	Names
1	AJAPE	Association des Jeunes pour l'Assainissement et la Protection de l'Environnement
2	AJAPDC	Association des Jeunes Engagés au Projet de Collecte des Déchets
3	AEPCO Asbl	Association pour l'Encadrement des Paysans au Congo
4	AFRISEL	Afrique Solidarité
5	AGDD Services Sarl	Action Global pour le Développement Durable
6	CAPG	Centre Africain de Paix et Gouvernance
7	CUDA Asbl	Communauté Unie pour le Développement et l'Assainissement
8	GCO	Groupe Ciel Ouvert
9	Elikya Group Sarl	Elikya Group Sarl
10	FAWEL Sarl	First African Company for Well Being
11	FSDD	Femme et Environnement Sain pour le Développement Durable
12	HYANI	HYANI
13	Les Bons Samaritains	Les Bons Samaritains
14	PGDM - PEMEPHEA	Programme de Gestion des Déchets Ménagers / Ville de Bukavu
15	Plastycor	Plastycor
16	SAV	Sauvons Notre Avenir
17	TGS	Groupe Ciel Ouvert
18	SMAM	Service Médical pour l'Accompagnement des Malades
19	GAT	Groupe Avenir pour Tous

Source: Synergy of Sanitation Organizations / Synergie des Organisations d'Assainissement en RDC (SOA-DRC), 2025

In addition to these associations and companies grouped within the Synergy of Sanitation Organizations in the Democratic Republic of Congo (SOA-DRC), several others such as Briquette du Kivu, Agruni, Kivu Tech, Charity, Groupe Ebene, FESDO, GASD, PAFEV, SATCD, REDC, VPGC, Kasongo Service, Wa Kongo, SOS Déchet, FDA Group, SJD, Bukavu Safi, Kivu Innova, Dynamique Femmes de Bagira, Service poubelles, etc. also operate in the collection, removal, and valorization of waste in Bukavu, thereby contributing to job creation for youth and improving urban sanitation.

### 3.2 INITIATIVES TRANSFORMING PLASTIC WASTE INTO EMPLOYMENT OPPORTUNITIES AND SANITATION IN BUKAVU

Many organizations are involved in urban sanitation in Bukavu, notably through the collection, removal, and valorization of waste. Some of these organizations are primarily responsible for collecting waste from households in neighborhoods and avenues, as well as transporting it to landfills. Other associations and companies focus on the collection and valorization of this waste. The table below presents a non-exhaustive list of companies involved in the valorization of plastic waste in Bukavu.

*Table 2. Associations and Companies Involved in Plastic Waste Valorization in Bukavu*

No.	Acronyms	Names
1	Plastycor	Plastycor
2	FAD Group	Full Developpement Agency
3	Kivu Tech	Kivu Tech
4	SAV	Sauvons Notre Avenir
5	Briquette du Kivu	Briquette du Kivu
6	BYL	Bright Young Leaders
7	CDJP	Commission Diocésaine Justice et Paix
8	SOS Déchet	SOS Déchet
9	OFAC	Once For All Company
10	Bukavu Safi	Bukavu Safi

Source: List prepared by the authors based on the impact of companies in the city of Bukavu

Many initiatives transforming plastic waste into employment opportunities and urban sanitation, led by youth startups, are visible in Bukavu. These initiatives have led to the implementation of local technologies that valorize previously neglected plastic waste by transforming it into useful products for the population.

Indeed, according to interviews conducted with young entrepreneurs, managers, and members of these startups, it was observed that for many young people, plastic waste represents raw material, gold in the trash, which currently attracts great interest. According to a company manager: "...based on the experience gained in West African countries, my colleagues and I quickly realized that Bukavu offers numerous opportunities for creating green jobs that can help support large numbers of unemployed youth. The residents of Bukavu produce hundreds of tons of plastic waste every day. Effective management of this waste would improve urban sanitation and youth support..." Continuing his reflection, he added: "...due to the lack of public policies for urban waste management in Bukavu, about two-thirds of this daily-produced waste ends up in Lake Kivu. The rest is easily visible on the streets and in drainage channels. Yet all this waste should be properly managed and valorized. It was based on this observation that the idea of establishing our company was born, in order to transform part of this waste into construction materials, and it works..."

Another entrepreneur stated: "...plastic waste recycling in Bukavu is an opportunity (Kop) that only those who have tried it are exploiting and benefiting from. Personally, after my studies, I ventured into plastic waste recycling, and after a few years, I became a supplier of clean plastic bottles for several entrepreneurs producing local beverages in Bukavu and its surroundings. Initially, I did not invest much money: it was a small, even negligible investment to get started. But currently, my company employs nine young people. It has the capacity and ability not only to provide these services but also to transform plastic waste into decorative items such as pots and flower bouquets, bracelets, and various types of seats made from plastic bottles..."

Other actors noted: "...currently, many young people in the city of Bukavu have become aware of the gold contained in our trash and the employment and urban sanitation opportunities it offers. That is why many no longer wait for funding from NGOs or public institutions to launch their startups in the plastic waste valorization sector..."

According to interview participants, the initiatives enabling the transformation of plastic waste into employment opportunities and urban sanitation in Bukavu can be grouped into two categories: those related to valorizing plastic waste into useful products and those concerning support for Bukavu's population in terms of education and capacity building. Indeed, thanks to the valorization of plastic waste into useful products, young entrepreneurs in Bukavu and their startups have succeeded in bringing to the local market a wide range of products derived from the transformation of plastic waste.

Just like in many African cities, plastic waste valorization offers opportunities across various sectors. In construction, valorizing plastic waste mixed with by-products from the wood industry improves the performance of produced materials, opening the way for new applications in building [22]. In addition, low-density plastic waste, through a simple recycling method, can be transformed into a binder for the manufacture of road and flooring materials [23].

In Bukavu, some youth-led startups specialize in transforming plastic waste into construction materials, such as eco-friendly paving stones and prefabricated walls. Other entrepreneurs convert them into utility and decorative products, offering on the local market plastic trash bins, flower pots and bouquets, seating, particularly stools, as well as various other decorative items. The images below (Figures 2, 3, 4, 5, 6, and 7) illustrate the main types of products resulting from the transformation of plastic waste into useful products, currently available on the local market in Bukavu



**Fig. 2. Flower pots and bouquets for decoration**



**Fig. 3. A model of eco-friendly paving block made from plastic waste**



**Fig. 4. Eco-friendly paving blocks**



**Fig. 5. Trash bins made from plastic bottles**



**Fig. 6. Plastic pots repurposed for urban agriculture**



**Fig. 7. Prefabricated walls made from plastic waste**

*Photos collected from SOA-DRC, Plastycor, Briquette du Kivu*

In addition to plastic waste valorization, the young entrepreneurs participating in this study indicated that they also provide capacity-building training to other youth organizations and the population of Bukavu on waste management. One company representative explained: "...with the support of our partners, we have already organized three training sessions for the youth of Bukavu on plastic waste valorization. During these sessions, we train them on the waste valorization process and raise awareness about adopting responsible behavior in managing their waste. We have also participated in training workshops for young entrepreneurs on waste valorization in Bukavu and other cities in the sub-region..." These initiatives also provide both environmental and socio-economic solutions for the city of Bukavu, as the recycling sector offers sustainable employment opportunities linked to the green economy [12].

The various initiatives implemented by young entrepreneurs in Bukavu's plastic waste value chain have significantly contributed to job creation and urban sanitation. According to civil society actors: "...to date, several organizations are involved in plastic waste valorization in Bukavu. These organizations bring together many young people who work collaboratively, and their activities are increasingly visible because their finished products, notably eco-friendly paving blocks and trash bins made from plastic waste, are accessible..." Furthermore, a young entrepreneur stated: "...waste valorization is an opportunity that offers many others to the youth of Bukavu. Our company consists of 13 full-time employees, including 9 young people (5 boys and 4 girls) and 4 women. We all depend on this company. But, in the coming years, I believe the plastic waste valorization sector in Bukavu will reveal further opportunities that will benefit not only the youth but the entire population..."

In the same vein, young plastic waste collectors interviewed noted: "...we are based on Lake Kivu, as almost all the plastic waste produced in Bukavu ends up in the lake. Regularly, we collect several bags of waste that we sell to companies that valorize them. Other plastic waste, after cleaning (rinsing and drying), we sell to entrepreneurs producing local beverages who use them as packaging. Our plastic waste collection capacity depends on rainfall and motivation. That is why we do not earn much, but what we earn is enough..." Another young collector explained: "...I have contacts with managers of event halls and hotels in Bukavu. I only collect clean plastic and glass bottles, which I then resell. Often, I buy these empty bottles at a low price compared to the resale price. This system works well because it allows me to earn a living..."

Alongside waste valorization associations and companies, numerous local structures composed of university students, church members, youth council members, and non-governmental organizations engaged in environmental concerns are active, such as Ekoy Maji, Sollicité Villages RDC, SEED, Vijaana Shujaa, Conseil Communal de la Jeunesse d'Ibanda, ATD, Club des Amis de la Nature, ISDR-Bukavu, UCB, Ekagri Innovation, CYNESA, YALI Sud-Kivu, BYL DRC, among others. During their activities, particularly those related to protecting aquatic ecosystems from plastic pollution, raising public awareness, and organizing community work projects (Salongo), these youth structures collaborate with startups involved in plastic waste valorization. At the end of their activities, these young people share the collected plastic waste with the startups for its transformation into useful products.

### **3.3 CHALLENGES FACED BY YOUNG ENTREPRENEURS IN PLASTIC WASTE VALORIZATION IN BUKAVU**

The various initiatives led by young entrepreneurs and their startups in plastic waste valorization demonstrate that plastic waste is no longer seen as a problem, but as a resource that, when properly managed, can generate economic and employment opportunities for youth while improving urban sanitation in Bukavu. However, many young entrepreneurs and their startups face diverse challenges in valorizing plastic waste and providing community support and capacity-building services.

Interviews with civil society actors and municipal authority representatives in the communes of Kadutu, Ibanda, and Bagira revealed that young entrepreneurs and their startups already offer products derived from plastic waste transformation on the local market. Nevertheless, they encounter several challenges, as one civil society actor noted: "...there are many youth associations producing paving blocks, trash bins, and other utility items from plastic waste. These are efforts that need to be encouraged at the city level to help them contribute to urban sanitation and youth employment. However, many businesses involved in either the collection and disposal or the valorization of plastic waste into other products have ceased to exist in Bukavu due to lack of coordination with other businesses operating in the city or the absence of financial support from public and private partners..."

A municipal authority representative from Ibanda stated: "...of course, many young people are currently involved in plastic waste valorization in Bukavu. These young people and their companies do an exceptional job by giving a second life and new importance to waste that would otherwise pose health risks to the population. But in reality, many of these companies face numerous difficulties, as they do not yet receive sustained support from public authorities. Sometimes these young entrepreneurs are demotivated due to fiscal requirements they face, particularly when marketing their finished products..."

Not only in Bukavu but also in many African cities, young entrepreneurs face challenges related to access to adequate training, modern equipment, and financial support to sustain their plastic waste valorization initiatives, making these initiatives increasingly fragile and less sustainable. In Algeria, significant progress has been achieved through local plastic waste valorization initiatives because of their impact on job creation and reducing landfill waste. However, these initiatives remain socially and environmentally fragile [24].

Additionally, some leaders of companies valorizing plastic waste explained: "...the process of transforming waste into useful products is not easy. We must say that the techniques we currently use expose us to several life-threatening risks. Those who transform plastic waste into plastic bins, for example, perform many maneuvers and use sharp tools that, if misplaced or slipped, can cause injuries. For us producing ecological paving blocks, the process is even more laborious because we lack modern protective tools and devices. We proceed using traditional methods, sometimes very risky. We are exposed to toxic fumes and intense heat..."

In the same vein, another young entrepreneur noted: "...listen ! My team and I do our best. We have the capacity to produce many ecological paving blocks, but we sometimes face difficulties in selling them on the market due to competition from other paving blocks made from mortar and water, Breton, or directly carved from stone, which are often sold at lower prices locally. Other entrepreneurs face similar challenges, as most of the population does not support youth-led initiatives. Moreover, state services often burden us on the market with taxes..."

To date, as one interviewed young entrepreneur pointed out, some companies operate clandestinely to avoid certain fiscal requirements, which largely constitute a major destabilizing challenge for local plastic waste valorization initiatives in Bukavu: "...we do not yet have all the legal authorizations to operate as a recognized company to avoid certain bureaucratic hurdles. Our transformation site is on the outskirts of Bukavu, where we specialize in converting plastic waste into ecological paving blocks and items that allow households using charcoal to light fires easily. This latter product is effective because it burns slowly without producing much smoke when used. However, it is still little known on the market..."

The images below (Figures 8, 9, 10, 11, 12, and 13) illustrate the working conditions of young entrepreneurs transforming plastic waste into utility products



**Fig. 8. Plastic waste transformation site: preparation**



**Fig. 9. Melted plastic waste mixed with sand**



**Fig. 10. Exposure to fumes during the preparation of the melted plastic mixture**



**Fig. 11. Exposure to fumes during the molding of melted plastic**



**Fig. 12. Risk of burns during the molding of melted plastic for paving block production**



**Fig. 13. Manufacturing a trash bin from plastic bottles.**

Source: CYNESA – DRC, BYL DRC and Authors, 2025

Given the multiple challenges faced by young entrepreneurs in Bukavu in transforming plastic waste into useful products, it is imperative to provide support across various aspects to enhance the sustainability of their initiatives, particularly regarding green jobs generated from plastic waste valorization and urban sanitation. Nevertheless, the transition towards a circular economy in plastic waste management, according to some researchers, requires the establishment of a specific regulatory framework, an adequate institutional system, and an innovative structure involving various stakeholders [25].

#### 4 CONCLUSION

This study explored the opportunities and challenges related to transforming plastic waste into jobs for young people and urban sanitation solutions in Bukavu. Waste management remains a persistent problem for several decades due to the lack of adequate infrastructure, coordination, and institutional support for stakeholders in the sector. Nevertheless, the city now hosts several associations and companies engaged in the collection, disposal, and valorization of plastic waste, thereby contributing to the creation of green jobs and the improvement of urban sanitation.

However, these young entrepreneurs face numerous obstacles that hinder the sustainability of their initiatives. To address this, the study proposes the establishment of an innovative and collaborative ecosystem bringing together all involved actors: young entrepreneurs, public authorities, private institutions (microfinance, NGOs), and the local population. Such a framework would facilitate access to financing, implement incentive-based fiscal measures, and strengthen entrepreneurs' capacities through tailored training. The adoption of this approach would thus promote the sustainability of plastic waste valorization initiatives and enhance their impact on both the local economy and Bukavu's urban environment.

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