

**Characteristics of Scrap Metal Activities in the Municipality of Abobo (Côte D'ivoire):
Ambivalent Dynamism of a Booming Activity**

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Abstract. Abobo, a popular commune located in the north of the city of Abidjan, is the seat of scrap metal activities. The objective of this study is to highlight the characteristics of these activities in the commune of Abobo. The methodological apparatus used to achieve this objective consists of documentary research, interviews and a field survey. The results obtained indicate that scrap metal activities in the municipality of Abobo are mainly run by foreign actors, who represent 58% of those interviewed. More than 98% of the actors interviewed are at least 20 years old, and only 4% are women. This activity provides an average income of 150,000 francs per month and thus supports a large number of people who are unemployed. Furthermore, although the majority (86%) of the actors live in the commune of Abobo, there is a dispersion in terms of the neighbourhood where they live compared to the place of sale. It can be seen that, for the most part (65% of respondents), the use of a third party for access to capital is the dominant model. To carry out their activity, scrap metal dealers set up on undeveloped spaces or land reserved for future development at the disposal of the commune, the edges of the main road, neighbourhood streets and high-voltage corridors.

Key words: Characteristic, Activity, Scrap metal, Commune, Abobo

Introduction

The urbanisation of African countries is lagging behind in terms of economic growth, modernisation of production, modernisation of road infrastructure and socio-community facilities. Thus, the industries of Third World countries have not been able to create enough jobs to cope with a good urbanisation policy. The failure of Western-style industrialisation in African countries has led to a lack of economic development for their populations. In order to meet the economic challenges and to escape the pangs of unemployment, the populations of developing countries have been creative in setting up an informal economy to compensate for the Western-style industrial economy.

Côte d'Ivoire, the second largest economy in West Africa after Nigeria, is a perfect example. As soon as it gained independence, it turned cities into centres of economic and social development by creating industrial zones and building markets and administrative services. These development actions have improved the living conditions of the urban population. The city thus became the most attractive environment for the rural population, which also wanted to take advantage of its economic and social assets. This consideration of the city as a provider of employment has made it the ideal environment to be conquered by the population in search of work. To this end, the country lives to the rhythm of significant population flows from the hinterland to the urban centres. The urban population is therefore constantly growing and reached 50.3% in 2014 according to the INS. However, the successive political, social and economic crises that the country has experienced since the 1980s have slowed down the industrialisation process necessary for the socio-professional integration of a large part of the urban population. The reconversion of activities practised by the rural population remains a challenge to be taken up for their integration into the urban socio-professional fabric. The inability of industrial units to revive the urban economy on their own and to absorb an abundant labour force is at the origin of the emergence of the informal economy. The latter, characterised

by the exercise of mainly artisanal and commercial activities, is particularly marked in Ivorian cities (N'Zakilizou, 2016, p. 397).

Thus, the city of Abidjan, being the showcase of the socio-economic development of Côte d'Ivoire, is the most sought-after place for the entire Ivorian population in search of employment and for immigrants from the countries of the African sub-region in order to obtain or carry out a more remunerated economic activity. However, this population is confronted with the rigorous selection of the urban environment based on intellectual and professional qualifications necessary for a better socio-professional integration. This is accompanied by the policy of structuring the urban space governed by regulations regarding its spatial occupation. Each space has a specific function and each social category has its own habitat, with the aim of creating a promising environment.

The commune of Abobo is one of the most popular communes of Abidjan with a human potential of 1,030,658 inhabitants (INS, 2014, p. 3). In order to find financial resources, a social category of this population engages in activities in the informal and precarious artisanal sector, representing 83% of activities (Diby, 2018, p. 31). Among these activities, scrap metal is becoming increasingly important in the commune. In fact, parallel activities in the informal sector, particularly those related to scrap metal and wrecked vehicles, are strongly practised. This has led to the creation of the famous Abobo Anador "scrapyard" and the new one established in N'Dotré since 2016. Secondly, on a social level, the scrap metal business is an important source of income for several families living in the commune of Abobo. This field provides employment as Soro et al. (2018, p. 141) attest, claiming that this sector employs around 9,500 actors in the Abobo Anador 'scrapyard'. The objective of this study is to highlight the characteristics of scrap metal activities in the commune of Abobo. In order to be able to respond effectively to this concern, it is important to adopt the following methodology.

Materials and Methods

Synthetic Overview of the Study Area

Abobo is a commune, located between 5° 26' 00" north, 4° 01' 00" west in the northern sector of the city of Abidjan (Figure 1). It is bounded by the town of Anyama to the north, by Williamsville, Adjamé and the Deux-Plateaux district of Cocody to the south. To the east, it is bordered by Angré-Cocody and to the west by the Banco forest. Situated at an altitude of 125 metres, the commune is the highest area of the Abidjan agglomeration. It is a vast plateau bordered by talwegs covering nearly 31% of its surface. The climate of the commune of Abobo is tropical and humid, with 2,200 mm of rain per year over seven months (PNAE, 1994).

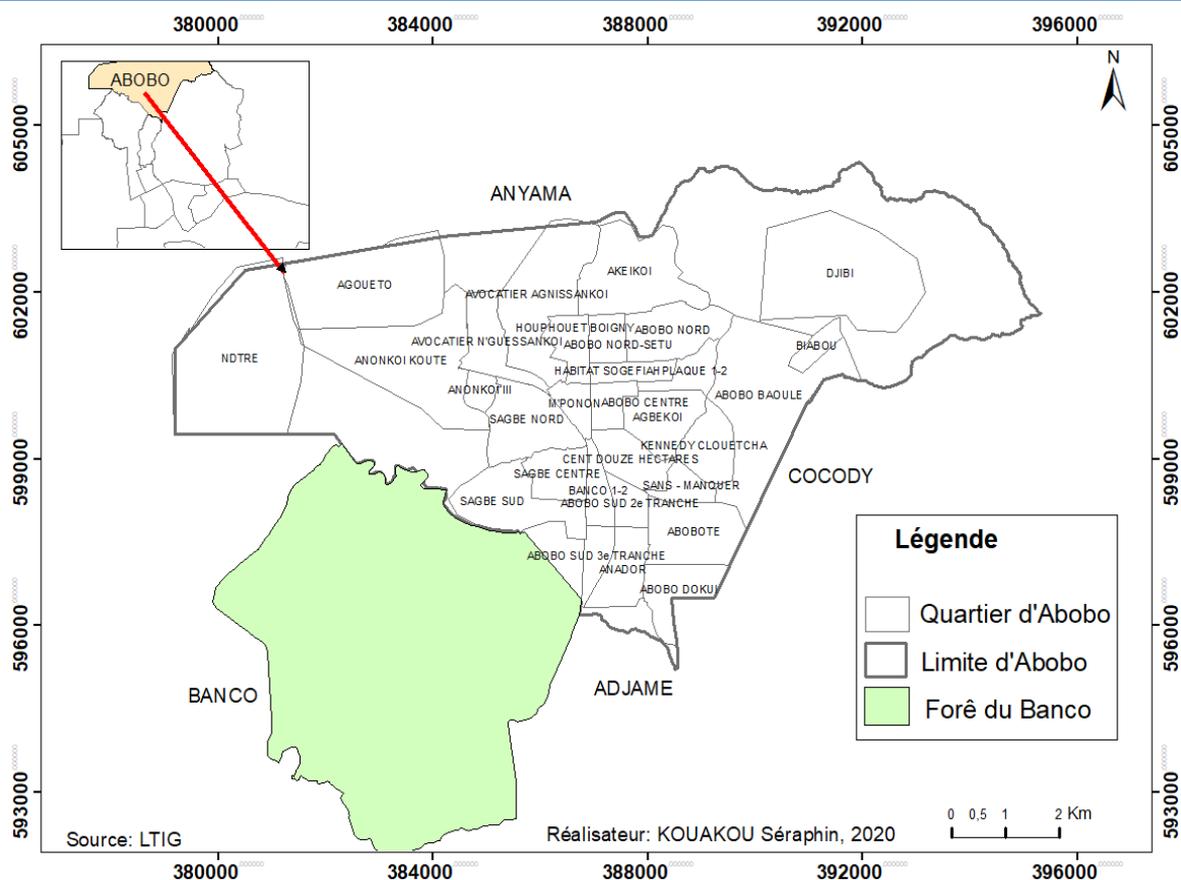


Figure 1. Location of the commune of Abobo

With an area of 90 km² and a population of 1,031,000 inhabitants, the commune of Abobo is divided into 28 sectors and 72 neighbourhoods and villages that interact with other communes but also with the Banco forest with which it shares the same boundaries. With a density of 115 inhabitants per square kilometre (INS, 2014, p. 31), the commune has a composite population with a dominance of Malinke ethnicity and nationals of the West African sub-region.

Method of Data Collection

The backbone of the methodological approach to achieving the objective combines documentary research and fieldwork. The documentary research, which was carried out in libraries, documentation centres and on websites, offers a global and theoretical view of the subject. It allowed us to learn about scrap metal activities here and elsewhere in the world. As for the field survey, it was carried out over three months, from May to July 2020. Thus, with the help of a questionnaire, the entire area was covered, interviewing scrap metal dealers and garage owners in the commune. Given the size of the study area and the large number of scrap metal dealers, it was necessary to draw up a sample. In order to cover the entire commune, three scrap metal dealers per sector were selected at random, i.e. $03 \times 28 = 84$ people surveyed. This approach led to the following results.

Results and Analysis

Demographic Profile of Scrap Metal Dealers in Abobo

Discussions with scrap metal dealers and various people during the field survey in the commune of Abobo show that scrap metal activities are part of the informal sector. Many actors

engage in this type of activity to make some money and to meet their daily needs. Analysis of the socio-demographic characteristics of scrap metal dealers reveals six facts: gender, nationality, age, marital status, level of education and place of residence (Table 1).

Table 1. Socio-demographic characteristics of sellers

Socio-demographic characteristics		Percentage (%)	
GENDER			
Male		96	
Female		4	
NATIONALITY			
Nationals		42	
Not nationals	Nigérien	5	58
	Guinéen	25	
	Malien	20	
	Burkinabé	8	
AGE			
Less than 20 years old		0	
20 à 40		72	
40 à 60		26	
61 à 70		2	
MATRIMONIAL STATUS			
Married		95	
Single		5	
LEVEL OF EDUCATION			
Illiterate		85	
Primary		11	
Secondary		3	
Higher education		1	
PLACE OF RESIDENCE			
In a neighbourhood of the study commune (Abobo)		50	
Other than in the workplace		14	
In the workplace		36	

Source: Field surveys (2020)

The development of scrap metal activities in the commune of Abobo is driven by both national and non-national actors. The foreign population constitutes more than half (58%) of the actors surveyed. The holistic analysis in Table 1 above shows that non-national actors are essentially nationals of countries in the Economic Community of West African States (ECOWAS). In detail, they are Guineans, Malians, Nigeriens and Burkinabes, who represent 25%, 20%, 5% and 8% respectively. The national actors, whose proportion is 42% of those surveyed, are mostly from the north of Côte d'Ivoire. This is an area of activity that attracts the majority of young people from this region of the country and can be considered as socially and territorially situated.

The social importance of scrap metal activities is reflected in the fact that the trades that emerge from them give young people the opportunity to enter professional life. In fact, scrap metal dealers participate in the training of young people who have no economic activity to carry out or in the training of young people who have dropped out of school to specialise in one of these activities. Thus, this sector of activity offers a response to the expectations of the low-income population for learning trades. Moreover, unemployed people are involved in self-

employment by practising these activities, in order to take care of themselves. This is the view of N'Zakilizou (2016 p. 397) who says that the emergence of informal sector trades is due to 'the inability of industrial units alone to revive the urban economy and absorb an abundant labour force'.

More than 98% of the actors interviewed are at least 20 years old, and only 4% are women. Contrary to the work of Kouamé (2013, p. 93) and Akindès (1990, p. 1) on informal trade activities where women are more numerous and represent respectively 56.05% and 80.42%, the population surveyed for this study is dominated by men (96%) who are mostly married. This representation by men shows that this sector as a whole requires more physical effort, which disadvantages women and older people. In order to get help in their activity, these actors work in association, either with their children, their wives or a person recruited from the family circle. The scrap metal activity is a safety valve and provides an average income of 150,000 francs per month, thus supporting a relatively large number of unemployed people.

Furthermore, although the majority (86%) of the actors live in the commune of Abobo, there is a dispersion in terms of the neighbourhood in which they live compared to the place of sale. Nearly 50% of the actors interviewed live in a district of the commune, 36% at the place of sale and 14% come from other communes in the city of Abidjan. The majority (85%) of actors are illiterate. In this regard, the studies by Hayami and Ruttan (1985) have shown that lack of education is the basis for conservatism, limited capacity to absorb risk, fear of investing in production resources and a general lack of information. The level of literacy also affects the functioning of a family, the type of employment and occupation. Literate actors may be in a better position to read market signals and are likely to have a greater likelihood of accessing the credit needed to expand their businesses. What Olahan (2010, p. 7) argues that as education is involved in changing human behaviour, it is likely to show its impact on the behaviour and performance of economic actors in the urban agricultural sector. These findings are similar to those of Allou (2020, p. 24), in the study he conducted in the artisanal mining sector in northern Côte d'Ivoire. He indicates that artisanal mining is a very lucrative activity in which many actors, operating at different levels and with specific roles, find financial gain. He argues that at the social level, more than 64% of the mining sector actors interviewed are at least 35 years old, with a similar result regarding the level of education. He therefore concludes that artisanal mining in the North is a complete social fact despite its illegal and archaic nature.

Typology of Scrap Metal Activities

There are many different activities involving scrap metal and/or the use of metals in the commune of Abobo. However, these activities can be grouped into two categories detailed in Figure 3: those related to commercial scrap metal activities, i.e. the sale of reused parts (8%), and trade activities such as mechanics, sheet metal work and blacksmithing, which represent 57.4%, 27.7% and 6.9% respectively.

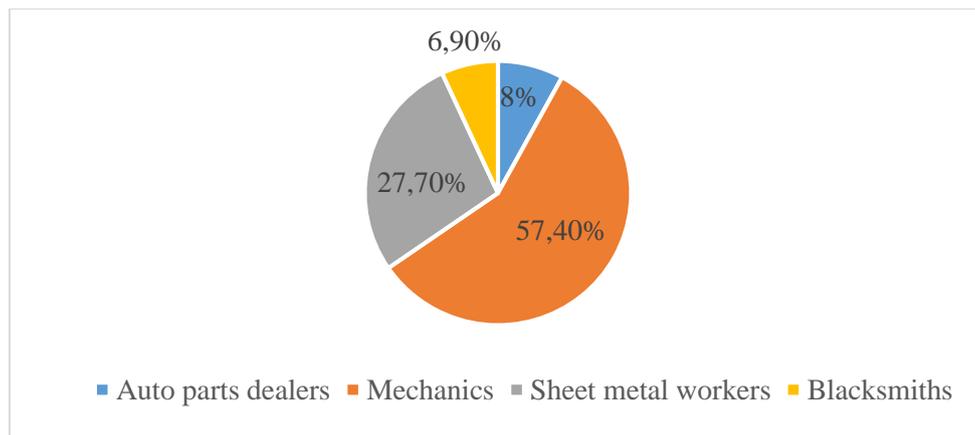


Figure 2. Distribution of scrap metal actors by trade

Source: Our field survey (2020)

Scrap Metal: An Activity that Provides Jobs and Income

Despite its informal nature, the scrap metal sector plays an essential role in economic development. It provides jobs and has several associations. Two of these, which we met during the survey, each claimed to have 1,500 and 3,000 scrap metal workers as members of their structure. At the National Chamber of Trades in Abobo, more than 6,000 artisans were counted in 2012. The work of Tchaou (2014, p. 6) comes to the same conclusion, arguing that this is a field that offers several employment opportunities. Indeed, during field surveys conducted in Cotonou, about one thousand (1000) casual, temporary and permanent jobs were counted with the dozen scrap metal purchasing companies. These people derive income directly from the scrap metal to meet the needs of their families.

It is difficult to estimate the income of the actors because the sector comprises several distinct activities and operating methods that differ from one scrap metal dealer to another. The most essential explanatory elements of this state of affairs are: the variation in services, the spatio-temporal variation of the clientele, the fluctuation of earnings according to the clients, the days and even the month. These reasons are all factors that rightly limit the appreciation of the real earnings and economic value of the activities encountered. This is why the "bosses" with the expenditure approach were chosen during the survey for an estimate of income. This choice is explained by the fact that these bosses are in a better position to give the most authentic information on their expenses than to give their income. Thus, through their monthly expenses, the income of the actors was estimated in an approximate way. This is because it is income that is translated into expenditure. Figure 4 shows the income of the actors according to the different activities. The analysis of this figure shows that 94% of the respondents, i.e. 79 out of 84 scrap metal dealers, have an income of between 179,12 USD and 268,68 USD per month, 4% of the respondents have an estimated income of more than 268,68 USD and 2% have less than 179,12 USD. This shows that scrap metal workers have an average standard of living if we take into account the Guaranteed Minimum Interprofessional Wage of 107,47 USD.

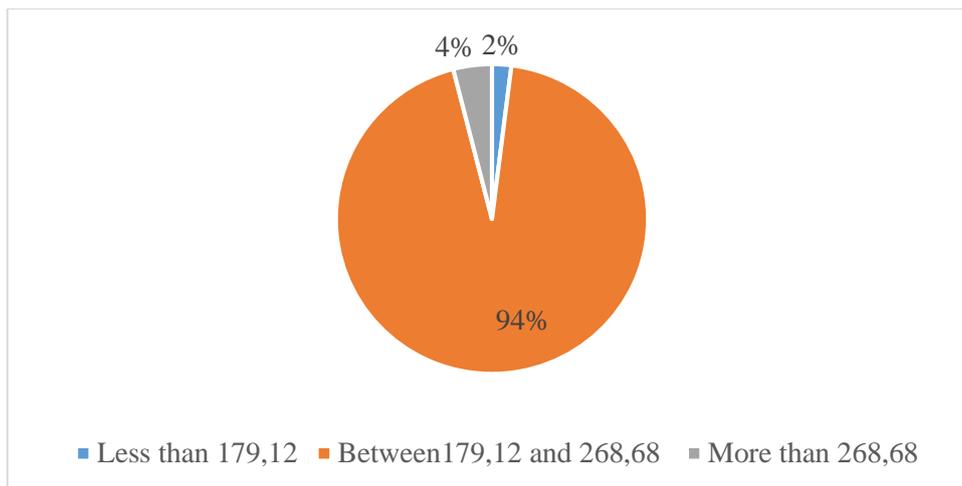


Figure 3. Monthly income in USD of Abobo scrap metal dealers

Source: Our field surveys (2020)

In Benin, blacksmiths earn an average of 96,72 USD per month according to Tchaou's study (2014, p. 3) and commercial scrap metal transactions in Dakar according to Abbey (2003, p. 1) are valued at 20 billions. The activities carried out by scrap metal dealers allow them to take care of themselves with different levels of satisfaction. Three levels of satisfaction (very satisfied, satisfied and less satisfied) were used to determine their perceived satisfaction. The analysis in Figure 5 shows that 94.60% of the scrap metal workers are at least satisfied with their income.

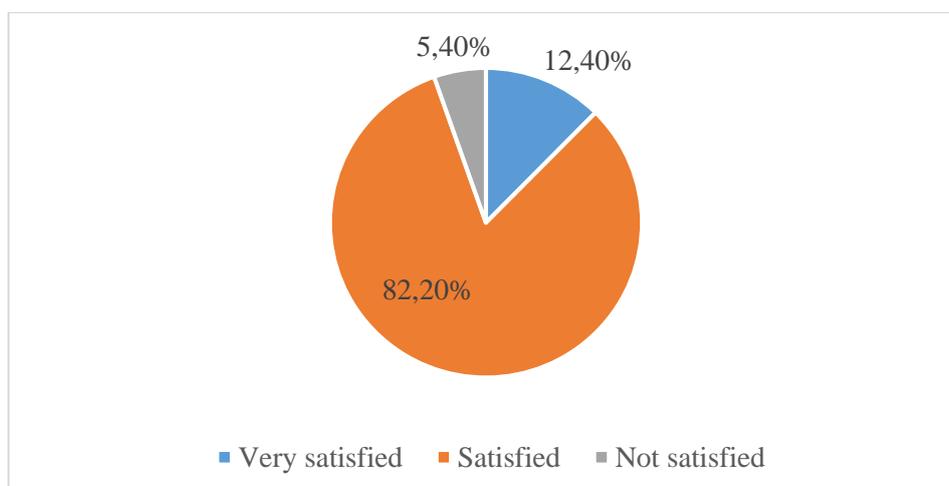


Figure 4. Distribution of scrap actors by level of satisfaction

Source: Our field surveys (2020)

The Contribution of the Artisans to the Economic Development of the Commune

Although the various activities carried out by most scrap metal dealers constitute a safe haven for them, they represent an important sector of activity for the economic development of the commune, in terms of financial resources and social balance.

In addition to a minimum annual fee of 8,96 USD, each scrap metal dealer pays a daily fee of 0,36 USD, except for Sunday, which is their day off. This amounts to 9,31 USD per month for each of the scrap dealers interviewed, all of whom claimed to pay this tax. It is with these taxes that the municipal authorities manage to carry out development projects, such as the rehabilitation of deteriorating infrastructure.

Anarchic Occupation of Public and Private Spaces

In order to carry out their activities, scrap metal dealers set up shop in various spaces, including undeveloped areas or land reserved for future development, the edges of the main road, neighbourhood streets and high-voltage corridors. The set of elements that announce their presence is the presence of used car wrecks, oil change and the sound of hammering. The most solicited space is, as shown in Figure 6, the reserves of street curbs (51%) that drain the neighbourhoods.

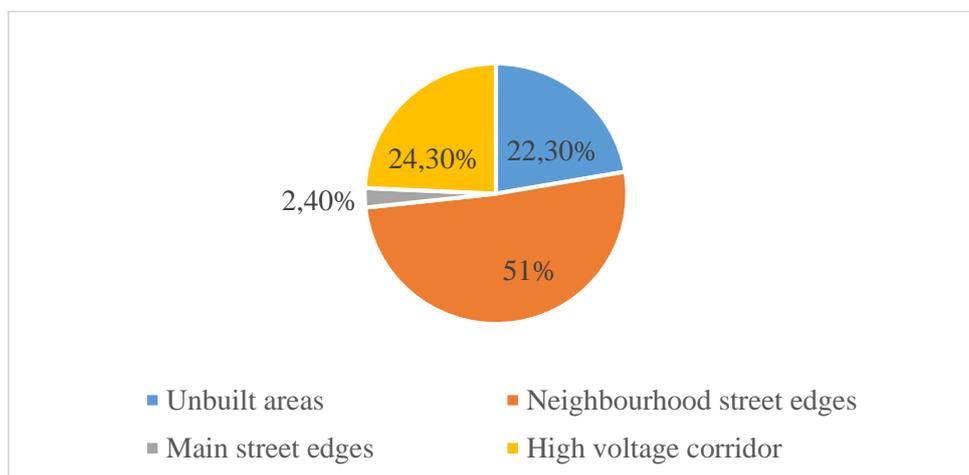


Figure 5. Distribution of space occupied by scrap metal actors

Source: Our field surveys (2020)

However, apart from the objective that justifies the creation of the streets, i.e. traffic, they cannot be occupied for other purposes without this constituting a contravention, unless the activity that is set up there has been expressly authorised. This is generally not the case for scrap metal dealers. There are several reasons why scrap metal dealers are interested in these areas. Indeed, the location of an activity influences the characteristics of the production units and the customer portfolio. It helps to understand the reasons why some scrap metal dealers choose to locate in particular places. In response to this concern about the reasons for occupying particular spaces, two of them emerge: the search for customers and the lack of space dedicated to them.

Mode of Access to the Occupied Space

Given that no space was provided for scrap metal activities when the town plan was drawn up, scrap metal dealers use their imagination and daring to set up shop. In addition, the fact that the occupation permit for construction on pavements and public spaces is conditional on the payment of a tax of 8,96 USD per square metre per year for the first year and 5,37 USD per square metre per year for the other years of the contract's renewal, forces many scrap metal dealers to set up shop by bypassing the town hall. They therefore prefer the edges of the main streets and lanes, the corridors under the high-voltage wires and undeveloped land where no rent or even tax is required, and where they can easily carry out their activities and offer customers a permanent presence. These are the factors that underlie and encourage the anarchic occupation of space by scrap metal dealers in Abobo.

An analysis of the information on the steps taken by scrap metal dealers to set up shop reveals that more than half of the respondents, i.e. 56.66%, have not taken any legal steps and only 3.33% have contacted the town hall (Figure 6). This means that the town hall is rarely asked to give an opinion on an installation. Scrap metal dealers occupy the space without any prior administrative formalities, either spontaneously or by contacting the nearest merchant or

the manager of the most prominent establishment in the area, or even the residents. In detail, only 20% of the scrap dealers surveyed are concerned about the ownership of the land.

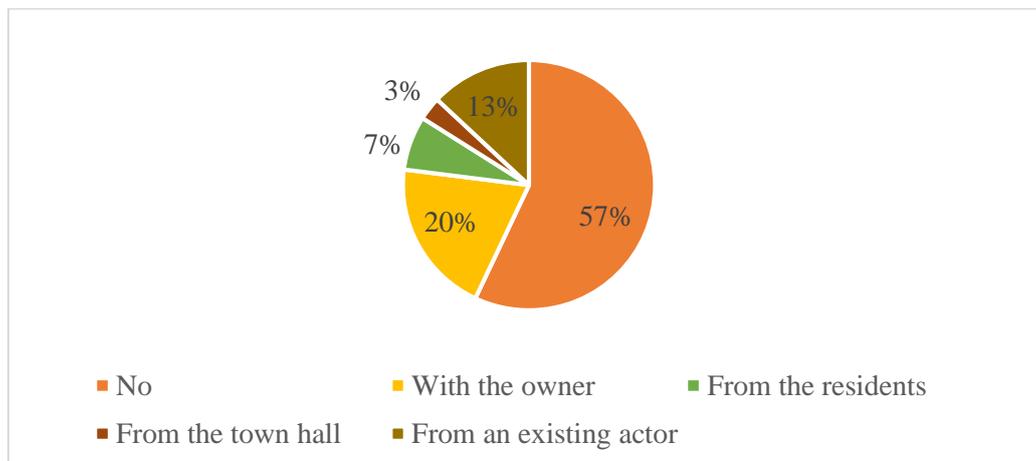


Figure 6. Steps towards settlement

Source: Our field surveys (2020)

Sources of Financing for the Establishment of Players

The ways in which scrap metal dealers access their capital vary. In the main, recourse to a third party is the dominant model (60% of respondents). In several cases, it appears that mediators are called upon to supplement financial resources, act as guarantors for access to credit, transfer assets, etc.

The solidarity of the groups to which they belong is required in many ways. Kinship is one of the main social registers mobilised. But it can be considered as the most visible solidarity link. Thus, in order to mobilise the resources necessary for small informal businesses, neighbourhood associations are a possible recourse (Dakouri, 2012, p. 147). In such situations, recourse to a tontine remains important even if it constitutes a rather precarious means of financing, because here everything is played out in the short term. Although tontines allow people to develop survival activities to improve their daily lives, they do not allow them to finance activities that are suitably profitable, and therefore to rise above the poverty line. These mutual aid funds (tontines) function as a kind of popular bank where loans are made by mutual agreement and without interest. They only provide the means to start up investment activities in the absence of a banking system interested in supporting the initiatives of people with no other guarantee than moral. They are built on the solidarity of small groups.

The mobilisation of small family or friendly savings takes various forms. The change in marital status can sometimes facilitate access to investment resources or encourage the creation of a production unit. Generally, this type of activity is precarious. Everything depends on the sense of resourcefulness and opportunities. Clearly, scrap metal dealers in their early days are, as a rule, financially deprived economic operators. The banking system and the system of public subsidies are not accessible to them.

Moreover, even the simple recognition of their existence is in itself a problem. In spite of these precarious conditions for their activities, experience shows that the amount of money required to start up their business is generally very small, depending on the good sense of each candidate. If some of the scrap metal dealers who work as craftsmen only need a minimum of 89,56 USD to start their business, it is the parts dealers who require a capital of at least 1791,18 USD to start. It is also clear that sometimes the applicant for a start-up fund has only the will and the idea of the project to be carried out, but hardly any personal financial contribution. Everything has to be provided, which requires a lot of support. The means of financing scrap

metal dealers are identical to those of garba sellers in the work of Dakouri et al. (2019, p. 138). According to Figure 7, these means are essentially summed up as previous personal savings (self-financing or tontine 40%) or external savings (loans or donations from relatives and friends 52%). This resource mobilisation takes place outside the institutional banking system.

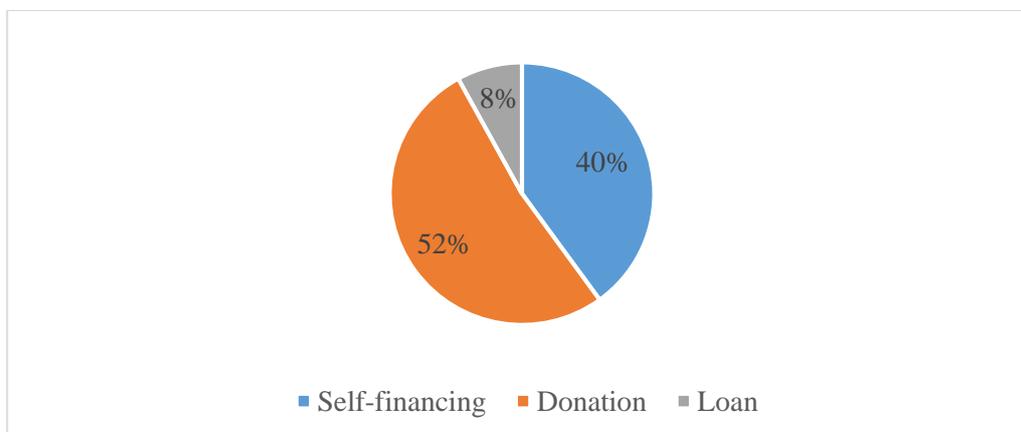


Figure 7. Sources of funding for scrap metal actors

Source: Our field surveys (2020)

Environmental Effects of Scrap Metal Activities

The field survey clearly shows that most scrap metal dealers, i.e. 82.2%, dispose of wrecks and other used parts at their workplaces or in the slums of the neighbourhoods, thus creating a spatial mess. This is what Bourgau (1979, p. 523) refers to spatially as bulky waste. In addition, as there is no adequate equipment for extracting waste oil, the barrels and other containers used allow it to leak out and be dumped on the ground. Touré (1994), quoted by (N'zakilizou, 2016, p. 410) points out that 'the poor management of carcasses generates several accumulation points containing oxidisable metals, used oils, etc. [...] their direct contact with the soil is a major problem. [...] and their prolonged storage lead to a risk of soil and groundwater pollution. Run-off water can also be contaminated by metals. Its direct effect is the blackening of the soil as shown in photo 1 and the noise of hammer blows, sawing of ferrous materials, etc. thus contribute to the degradation of the living environment.



Photo 1. A barrel for collecting waste oil

Source: Kouakou (2020)

Conclusion

At the end of this study, it emerged that the development of scrap metal activities in the commune of Abobo is mainly driven by foreign actors, who represent 58% of those surveyed. More than 98% of the actors interviewed are at least 20 years old, and only 4% are women. It is an activity that provides an average income of 268,68 USD per month and thus supports a large number of people who are unemployed. Furthermore, although the majority (86%) of the actors live in the commune of Abobo, there is a dispersion in terms of the neighbourhood where they live compared to the place of sale. The methods of access to the capital that makes up the scrap metal actors vary. In essence, recourse to a third party is the dominant model (60% of respondents). In order to carry out their activity, the scrap metal players set up in various spaces. Undeveloped areas or land reserved for future development at the disposal of the municipality, the edges of the main road, neighbourhood streets and high-voltage corridors are occupied in all directions by those involved in scrap metal activities.

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