

Waste recycling business in Algeria –opportunities and challenges for SME-

رسكلة النفايات في الجزائر –فرص وتحديات المؤسسات الصغيرة والمتوسطة.

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ملخص

تسعى هذه الورقة البحثية إلى البحث والتحقيق في مختلف الفرص المتاحة والتحديات التي تواجه المؤسسات الصغيرة والمتوسطة في الجزائر في مجال رسكلة أو إعادة تدوير النفايات، حيث أثبتت نتائج هذه الدراسة أنه بالرغم من الفرص والإمكانيات المسخرة والمتمثلة أساسا في الاتفاقيات والبرامج المحلية والدولية، مؤسسات وأجهزة الدعم والمرافقة، الفرص السوقية، التي تشجع الاستثمار في إعادة التدوير. إلا أن العديد من العقبات لا تزال تحول دون تحقيق نتائج مرضية، مثل عدم وجود معلومات رسمية وقانون رسمي لتنظيم هذا المجال، الافتقار إلى تدخل حكومي، عدم وجود ثقافة إعادة التدوير، حيث لا يزال الكثيرون لا يدركون أن النفايات يمكن أن تكون مصدرا للاستثمار والثروة، فضلا عن السوق الموازية التي تهدد البيئة وتحول دون تحقيق التنمية المستدامة في الجزائر. الكلمات المفتاحية: رسكلة النفايات، المؤسسات الصغيرة والمتوسطة، فرص الأعمال، تحديات الأعمال.

تصنيف JEL: Q53، M20، M20، M210.

Abstract

This paper focused in particular on searching and investigation the opportunities available and overcoming challenges for Algerian SME in the field of waste recycling business. The study proved that despite the possibilities and the opportunities available mainly represented in local and international conventions and programs, support and accompaniment institutions and market opportunities. Many obstacles remain preventing the achievement of satisfactory results, such as the absence of official information and formal law to regulate this field, lacking of governmental intervention, as well as the absence of recycling culture, were many do not recognize that waste can be a source of investment and wealth. As well as a parallel market, that threatens the environment and prevents the achievement of sustainable development in Algeria.

Key words: waste recycling, SME, business opportunities, business challenges.

Jel Classification Codes : Q53, M210, M20, M20.

Introduction:

In recent year, the waste no longer regard as leftover, but it has considered as raw materials for many industry: It has reduce the imoprt of raw material as it reduce the depletion of ntural ressources, presents a chance to streamline business operations and create cost savings. Thus, it contributes in sustainable economic development.

Algeria is now passing from the stage of administrative management to the economic management of waste, by encouraging investment in this field. Future waste management offers many business opportunities especially for SME sector such as waste-collection/disposal services, operation of recycling plant; e-waste recycling, Consultancy, equipment supply, organic fertilizer manufacturing, transportation, trade in recycled materials. Acording to the director genaral of Algerian chambre of commerce and industry, Ms Ouahiba Behloul, the value of the waste recycling market was estimated at about 530 millioin dollar, and it can create a total of 7600 jobs, according to him this sector generates nearly 350000 tones/year include tires, uesd oils, batteries, ... etc. Where only 150000 tones are recovered and exploited and there are about 16 companies active in collecting and esporting waste oils, as there are 73 of the 91 filling stationns are new saturated due to the lack of waste sorting culture (Kamel, 2017).

Algeria is one of the most productive countries of waste, especially household waste because of gouvornment prices subsidies, and fragile consumption vigilance which negatively affected the city's standard and environmental safety. Each Algerian citizen produces an average of 322 kg of waste per year, which means 13.5 million tons anually at the national level (Mustapa, 2018). If we added the industrial waste to the household waste, the number rises to 23 million tones. Which means real market sophisticated technology called industrial recyclin.

There are just 10 private companies' active in recycling; specifically in the field of used tires, road paving materials and aggregate (MREE, 2016). In the other hand, several American, French and South African companies have expressed their great interest in setting up recycling factories, making it clear that the waste recycling sector remains underdeveloped in Algeria. However, the basic problem remains in the equipment needed for such sector, making opening the market to private investment is the best way to exploit waste without incurring costs on the public treasury.

It is also known that Algerian's SME are suffering from market saturation in many sector, it may be time for these institutions to look for alternative and new sectors such as waste recycling.

Thus, the focus of this paper is to answer the following main question: **“what are the opportunities available and challenges faced by SME in waste recycling business in Algeria?”**

Thus, this paper aim to provide a brief introduction of the opportunities available in Algeria market including country profile, government and law, programs and institution, financing and agreement, which push recycling business and investment especially for SME. Likewise, we seek to investigate the most important challenges can be faced by these institution in recycling sector. Thus, the finding of this paper are expected to encourage investors, entrepreneur, policy makers and decisions makers to considered the recycling sector and seize the opportunities in it. In the hope that this will eventually promote the sustainability. The study is guided by the following specific objectives:

- Introduce small business recycling business in Algeria.
- provide initial background on the opportunities available in recycling market (political, economic, social and environmental).

- A better insight on the most important challenges for start-ups especially small investors' involvement in recycling.
- Provide a set of recommendations in recycling business in Algeria especially for SME.
 - **literature reviews:**
 - ✓ **waste sorting and recycling:**

Waste Recycling has been known for more than 4000 years, when Chinese people used the silkworm waste in fish farming in lakes. As well, Van Wye is considered as one of the first who wrote on waste recycling and it's used in fish production in 460 BC in China (Saidi, 2012). Recycling was also used during the first and second world war, where countries were suffer from a serve shortage of some basic materials, such as rubber and iron, promoting them to collect those materials for reuse. Later waste recycling has become one of the most important method of disposal due to its environmental and economic benefits (Bakush, 2009).

According to (Damien, 2002) the recycling "is represented in the use of the product or raw materials contained in the packaging for a new packaging industry or product". As (Saad, 2005) defined the recycling as "the return of all or part of the solid waste resulting from economic processes, whether productive or consumable, to be used again in producing processes". According to (Tetraoui, 2017) the recycling includes "transferring different materials or devices that are not usable or re-used as planned. These materials often no real value and may be non-existent; the materials out of the recycling process can be used for production purposes or even for human or animal uses and consumption".

Thus, we can define the recycling as the process of transforming or conversion unwanted materials into other final product or into raw materials used in other industries.

The recycling process requires a series of successful and technically coordinated steps to reach the final step of recycling, according to (Tetraoui, 2017) these steps are as follows:

- ✓ **Collection:** this step is about access to waste production sources that may be homes, restaurants, hotels, factories, establishments, shops, ovens, resorts, schools,... etc. these parties can contribute to simplifying waste recycling processes and raising their efficiency by contributing to the pre-screening process.
- ✓ **Transport:** this requirement is a sensitive element in the process of recycling, in modern cities this process are done by transport means dedicated to this so-called garbage bins.
- ✓ **Sorting:** this step is considered the most important and the most difficult, where the success or failure of the subsequent steps depends. This step can be done by two methods, manual sorting or mechanic sorting.
- ✓ **Disassembly:** is often used in electrical appliances and mechanical equipment, despite its high cost due to the difficulty of work, many overcome this difficulty by grinding materials.
- ✓ **Recycling:** is considered as the last step, and it is concerned with the collection of materials or part of components for reuse or for subsequent production, or sell them as raw materials.

Thus, many industrialized countries treat their waste by the so-called "waste management sequence" adopted by the United Nations. According to (Bjerkli, 2005)) the recycling contribute in:

- ✓ Conservation of materials and energy resources.
- ✓ Provides a cheaper source of raw materials for manufacturing industries, as reducing the pressures resulting from the scarcity of resources.
- ✓ Reduce consumption by prolonging the life of the product, and recycling.

- ✓ Protection of land and environment from harmful and toxic substances resulting from the extractive and transformational industry.
- ✓ Reduce time, efforts and money on institutions.
- ✓ **Review of recycling theoretical literature:**

The recycling theoretical literature is based on three theories namely ecological Modernization theory, waste management theory, ecological theory (Bjerkli, 2005). As the recycling in SME literature is based on SMEs development theory (Revell, 2003).

2.1 Ecological Modernization (EM) theory:

This theory arose in 1980, where its pioneers (Joseph Huber, Martin Janicke and Udo Simonis) assumed that through human creativity, the economy could continue to grow while also ensuring environmental protection (Revell, 2003). The technical progress would allow increased productivity without the need of further use of materials and energy, thereby separating economic growth from environmental degradation. Since then, EM theory has evolved dramatically; it is now a dominant theory in disciplines that focus on social and environmental relations. Other argued that this theory support environmental policies and practices prevailing in Western industrialized countries (Berger G A, Flynn F and Hines S D, 2001). According to (Arthur p j and Gert S, 2007), EM theory focuses on separation of environmental degradation from economic growth, as well as transforming the role of social institutions. This is due to the constant change in technology, the involvement of economic factors in ecological restructuring and the transformation in the role of state

Thus, EM theory is an important theory because it provides a broad theoretical framework that discusses the responses of small businesses to recycling, and discusses environmental policy.

2.2 waste management theory:

Waste management theory is considered together with industrial ecology, it is based on the expectation that the good waste management lead to prevent waste from harming human health and the environment (Pongrácz E, Philips P S and Keiski R L, 2004).

According to (Ondieki, 2014) there are three concepts for this theory; the first concept of solid waste management is based on lifecycle assessment of a product from its production and consumption view. Where the reduction in consumption and utilization of discarded products within the production system, can lead to reduced waste generation at the end-of-cycle. Thus, less effort and resources would be required for the final disposal of the waste. The second concept of solid waste management is based on the fact that it is generated from various sources including domestic, commercial, industrial and agricultural, as it can be hazardous and non-hazardous. Thus, it must be sorted and treated based on their source for disposal according to strict regulation. The third concept (reduce, reuse and recycle) is based on its management which includes regulations and laws, institutions, financial mechanisms, technology and infrastructure, and role of various stakeholders in the solid waste management chain.

2.3. Ecological system theory:

The theory is also commonly referred to as the ecological systems framework. This theory explain how the influence of different types of environmental systems on human development and behavior, more specifically the physical, psychological and social environs (Jeronimus B, Riese H, Sanderman R and Ormel J, 2014). Organizational and environmental changes affected the organizations as ecological systems. (Guemmouri, 2019) argued that the organization convert the inputs to outputs, this require adaptation to the external environment changes. Thus sustainability enables organization not only to survive, but also promote their

performance over time. According to (Ondieki, 2014) the organization consist of several functional, purposeful, interrelated systems, these systems include a set of internal and external processes that linking organization with its environment and make it continue interest with its changes, Such interaction has a positive or negative impact on the activities of the Organization and its performance. Thus, managing these changes in environment requires the organization to have a great ability to adopt innovation and improve their operating technological and competitive capabilities. Competitive performance is thus dependent on the ability of the organization to handle and process these environmental changes.

2.4. SME development theory:

SME are an essential source of jobs, promote entrepreneurial spirit and innovation in countries economy and thus have a crucial role in fostering competitiveness and employment. From the quick theoretical overview of (Mol, 1997) there is different management theories that can be applied to management of SME, at the same time not all management functions can be applied to every SME. Functions, methods, management style etc varies depending on company size, field of business, aims of company and other important factors. SME managers are often looking for ready-made tools in business development and are not prepared to ask for special business practices tailored to individual business needs (Bjerkli, 2005). Small and micro companies' success depends on many factors, according to (Damien, 2002) it is depends on personal characteristics of a company owner and how can he ensure more effective use of company's resources and development in a long-term, this happen by the use of e-environment, however entrepreneurs do not know or do not know how to or do not wish to use it. According to (Sceulovs, D and Gaile, E , 2015) there are Two aspects define prospects for SMEs in the waste management sector. Firstly, the speed of orbanization across the developing economies and secondly, The huge potential of recovered raw materials and the development of its international trade. Thus, it can emerge as a core sector of green economy.

I. waste recycling business for Algerian SME

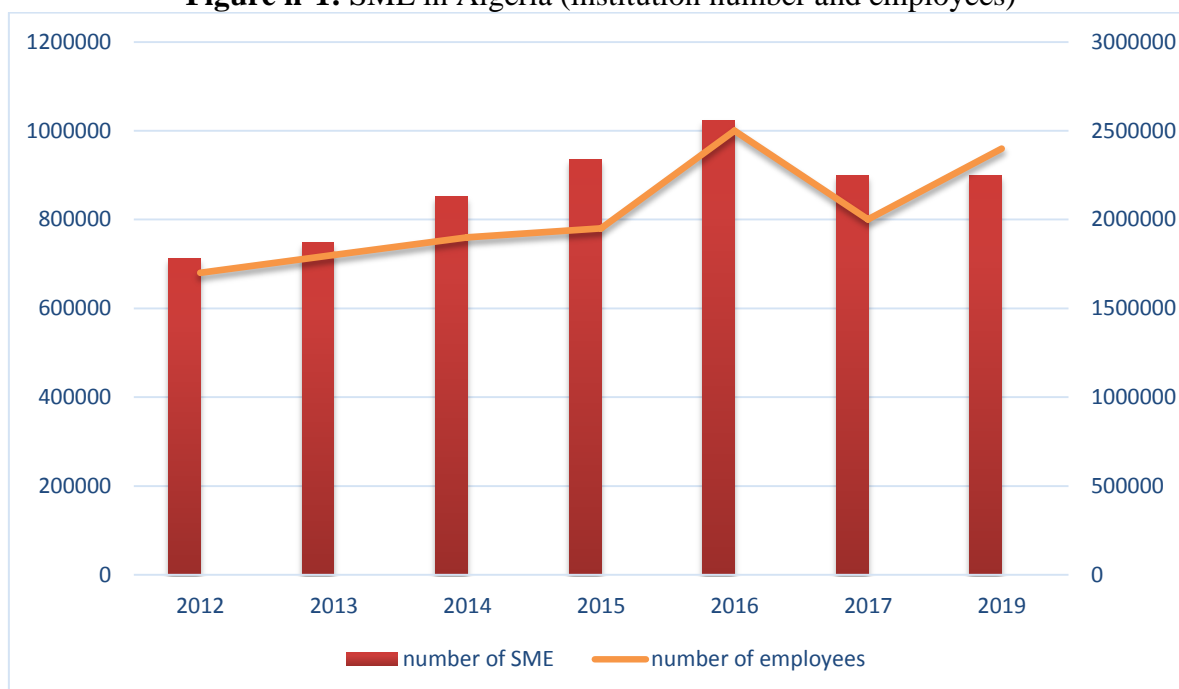
I.1. Algerian SME profile:

Small and Medium sector have been recognized in both developed and developing countries as an effective instrument for creating employment opportunities, equitable distribution of national income, balanced regional growth and development of rural and semi urban areas, so on. In Algeria the formal definition of SME is under the legislative Decree number 02/17 Article 9.10 and 11 dated in 10/01/2017 (Official journal, 2017)) " the definition of Small and medium-sized enterprise, whatever its legal nature is:

- a production of goods and / or services Foundation,
- operates from 01 to 250 people,
- its annual capital Does not exceed four billion (4) dinars or total annual proceeds do not exceed five hundred 1 milliard,
- Met the Independence standards.

The following figure illustrates the status of SME in Algeria:

Figure n°1: SME in Algeria (institution number and employees)



Source: (Ghennam, 2018) and (APS, 2019)

We note the apparent fluctuation in the number of SMEs in Algeria, It reached its maximum number in 2016, Because of the economic difficulties experienced by Algeria recently after the collapse of oil prices; thus lack of funding and support. In addition, many institutions have left the market due to their bankruptcy.

Country profile on waste management:

Because of population growth, changing production and consumption modes coupled with an evolution in living standards. Algeria is facing a constant increase in waste production. According to (Hans S and Breuklman B, 2018) the characteristic of Municipal Solid Waste (MSW) in Algeria is as following:

Table n°1: Municipal Solid Waste (MSW) in Algeria

Total of MSW	MSW / day	Nature of MSW			annual growth	Source	
		bio accumulative	recyclable envelopes	other		urban areas	rural areas
14 million tons	300 kg	95 kg	160 kg	25 kg	3%	85 - 90%	65 -70%

Source: (Hans S and Breuklman B, 2018)

Due to urbanization and growth of population and economy, this figure grows towards 20 million in 10 years with urbanization reaching 88% in 2028 (Hans S and Breuklman B, 2018).

Table n°2: development of waste production in Algeria 2016- 2035

Years	2016	2017	2018	2019	2025	2035
Waste	11	22	34	39	45	70

(tones)						
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Source: (APS, producing of 34 tones of waste in year, and small amount are recycled, 2018)

It is expected that the amount of household waste in 2035 arise to 70 million tons, and the country also ranks sixth in terms of consumption of plastic bags (Tetraoui, 2017), about 50 percent of the waste generated is recyclable (APS, 2018).

This growth will challenge Algerian authorities to invest in collection, transport and treatment facilities and to move away from landfill only scenario.

Table n°3 : Algerian waste composition

waste composition	Glass	Plastic	Metal	Paper/card board	textile	Organic	Other
%	1.6	12	1.4	9.4	10	62.1	3.5

Source: (Guemmouri, 2019)

Through the components, we note that organic waste represents the largest proportion, which means large open possibilities for recycling. Followed by plastic, textile, paper and cardboard, which are also regarded as materials that can be recycled.

Table n°4 : plastic consumption in Algeria

Years	2007	2017	2020
Kg/capita	10	23.1	25.8

Source: (APS, Algeria consume 7 milliard plastic bags in one year with almost completely absence of recycling activity, 2019)

Algeria is 23 kg per capita. Ironically, Algeria is the largest importer of this substance in Africa. Considering that Algeria is among the most five countries that consume plastic bags in the world with about 7 billion bags annually, where the disposal of 60 to 80 percent of the plastic waste in the marine area due to the absence of recycling activity. The import of plastic technology is rising strongly, where Algeria is considered as the first importer of this technology in Africa and the second in the Middle East since 2017 at 185 million euros annually.

Table n°5: waste management possibilities

Population	Vehicle	employees	Population/vehicle	Population/employee
39000000	4100	200000	9512	1950

Source: (Hans S and Breuklman B, 2018)

The table above showed that Overall quality of collection services does not seem to be very high; where trucks in many cities can do only one trip per day which is extremely inefficient

Table n°6: waste management in Algeria

Waste management	Composted	Recycled	Landfill	Dumping
%	1%	7%	30% -40%	60 - 70%

Source: (APS, Algeria consume 7 milliard plastic bags in one year with almost completely absence of recycling activity, 2019)

According to the table above we Note that the proportion of recycled waste does not exceed 7%, which is very weak percentage compared with landfills and dumping process. It is known that these operations are expensive without any return, compared to recycling.

The National Agency for waste counted 25000 institutions active in the field of sorting and recycling of waste in 2018, while the number of institutions that are active in the field of green economy 273000 institutions. These figures remain by the specialists is weak compared to the national economic potential and the value of industrial waste. Waste recycling is proceeding at a slow pace, many actors in the market have attributed it to obstacles related to the regulation of activity and the high cost of recycling due to the import of technology. Thus, Algeria has resorted to foreign companies specialized in recycling because of the weakness of local companies.

Table n°7: technical landfills (TCCs) in Algeria

Landfills	Planned	Completed	controlled	Limited
3000	144	92	160	1304

Source: (REVADE, 2017)

The Ministry of Water Resources and Environment has led, for fifteen years, a campaign against wild dumping. In this context, there are 1,304 landfills eliminated and rehabilitated out of the 3,000 existing at the national level (REVADE, 2017).

Algerian SME in recycling business:

While SMEs are gaining increasing importance in Algerian national economy, it is hard to measure the accurate size of green SMEs and their economic and environmental effects because only a small number of SMEs have been certified or adopted a standardized environmental management system.

However, in the recycling context, it is difficult to draw clear boundaries between formal and informal sector, because many of formal organizations operate in informal way, while some members of the informal sector (waste pickers) are operating in the so-called “grey area”. The formal sector is organized into small, micro and large scale recycling industry. Small-scale recycling industries are mainly recyclers of waste material who purchase items like glass, metal cans and plastics and using these wastes as raw materials, manufacture saleable products. Their suppliers may be waste-pickers; itinerant and stationary waste buyers, or even micro-enterprises. All of them may have informal linkage with the public sector as buyers of waste.

Although the 2001 Act provides for the opening of municipal waste management service for private investment. It should be noted that the private sector remains very limited. Only few collection and transportation companies active in some cities like Setif, Oran and some neighborhoods of Algiers (Djemaci, 2013)). As for recyclable materials, the number of collectors is insufficient compared to the existing deposit. Of the 873 micro-enterprises recorded in 2008 to the AND, only 247 are operating on the ground, and only 7% of recyclable materials are recovered from the existing deposit (Kamel, 2017). In 2017 The National Waste Agency has counted more than 2,000 economic SM enterprises active in the field of recycling.

I. Opportunities in waste recycling business for SME:

In recent years, the government has provided a legal background for public policies to deal with adverse environmental effects related to economic growth. As well as it establish special purpose technical agencies.

II.1. Legislation:

In term of regulation, the government defined the basic principles that lead to an integrated waste management, from their production to their disposal. Law n° 03-10 of 19/07/2003 (Official journal, 2003) sets out the general principles of a rational environmental management. Law n° 04-20 of 25 December 2004 (Official journal , 2004) clearly defines the responsibilities of each actor involved in the field of prevention in industrial areas and centers. At the beginning of the year 2006, the government promulgates the law n° 06-06 of February 20th, 2006 on the orientations of the city. Its purpose is to lay down specific provisions aimed at defining the elements of city policy in the context of sustainable development, as well as the classification of cities by size. In January 2009, an executive decree n° 09-19 regulating the activity of collection of special waste was adopted. It determines the provisions relating to the approval of the persons who wish to exercise this activity, as well as their rights, obligations and the competence of control (Djemaci, 2013) Introducing the “ECOCOLLECTING” system, to encourage micro- enterprises to enter the field of plastic recycling.

II.2. Institution and Financing :

The Ministry of Regional Planning and Environment (MATE) through its various instruments in particular: the National Waste Agency (NDA), the National Conservatory in Environmental Training (CNFE) and the Environment Directorates of the 48 Wilayas; Ministry of the Interior and Local Authorities (MICL) with financial support towards municipalities (Hans S and Breuklman B, 2018). According to (Ghennam, 2018) Government provide support with the following public funds that widely apply to all SMEs in Algeria such as:

- The National Agency for Youth Employment Support (ONSAG): has signed an agreement with the National Agency for Waste and the National Institute of Environmental Technologies to support micro-enterprises in collecting, sorting and disposing of all kinds of waste and benefiting from a special training program. It also aims to provide a qualitative training for young people active in the field of environmental protection and waste recycling, which will gradually contribute to the transformation of more than 13 million tons of waste of all kinds annually into economic wealth generating thousands of jobs.
- Society of Venture Capital: here are six venture capital companies affiliated with public banks: BADR, BNA, BEA, ADB, CPA and BDL. They provide private equity funding for business creation and development, they can provide a maximum of 49% of a company’s total capital for a period of five to seven years.
- Guarantee Fund of Investment Loans (CGCI): a public institution established to support SME creation and development by facilitating access to credit. It covers credit risks incurred by banks providing loans to SMEs. Credit guarantees are given following the review of projects by the fund and at the time in which a lending bank finally agrees to fund the business. The maximum guarantee amount is 250 million DA (approx. 2.2 million USD).
- Guarantee Fund of SME Loans (FGAR): is similar to CGCI in that they both provide credit guarantees to facilitate SMEs’ access to financing by providing needed collaterals or credits in the case of business creation and development. The minimum guarantee amount per project is 5 million and the maximum is 50 million DA (approx. 450,000 USD).

- The establishment of an information bank and the waste bureaus that make the project managers conduct continuous contact with the waste producers, especially the industrialists, for their production and operation.

In addition to the Infrastructure funded primarily by the State. Management fees partially funded by the junk removal tax, fixed between 500 and 1000 AD / household. As well as the Cost recovery: Supported by the common background of local authorities (FCCL), and Average cost of treatment and disposal: between 1500 and 2000 AD (excluding depreciation). Without forgetting grants, taxes, loans and guarantees.

II.3. Education and programs:

Some program generated from the patnership between government and foreigner institutions and universities such as”

- ✓ The training of senior "waste" technicians is introduced in 11 schools with 439 trainees, the minister of environment in Algeria specifies that no less than 7,600 direct and indirect jobs can be generated in the sole PET recycling sector (Guemmouri, 2019).
- ✓ A partnership agreement was signed between the National Agency for Waste and the Higher Schools of Harrach and the Tonic Foundation in September 2016 (Tetraoui, 2017).
- ✓ Agreement signed between Germany program GIZ, to contribute in the transfer of necessary expertise and technology and Blida University in order to develop a professional master for the management of household waste.
- ✓ The University of Rostock’s Department of Waste, Raw Materials, and Resources is working together with the universities in Blida and Constantine (Algeria) to provide Master’s program studies for the industries of sustainable waste and raw materials and resources.

Thus, the green economy is expected to create about 1.4 million jobs in 2025 (Kamel, 2017). As we note that about 1,257 municipal waste management plans have been developed under this program.

- ✓ the government established the Integrated National Program for the Solid Waste Household Management (PROGDEM) since 2002. This program is a reflection of a national environmental policy towards local communities. Several projects have already been developed (municipal master plans, technical landfill sites, sorting, ...). as the National Plan for Management of Special Wastes from health care activities (PNAGDES) since 2006 (Kamel, 2017).
- ✓ As government introduced the "Ecogame" system to motivate small enterprises to recycle, while Some polluting activities pay a fee in order to encourage the non-storage of hazardous industrial waste, especially because these wastes generates at least 217.4 million DA.
- ✓ In addition Algeria organized the First International Salon for Waste Recovery (REVADE, 2017), under the slogan of "economic bets for recycling industrial waste”, from 05 to 08 October 2016. This salon was organized in Algiers, with participation of Ministry of Water Resources and Environment, the Ministry of Industry and Mines and the Ministry of Commerce, in partnership with the National Agency for Waste, and in cooperation with the German Cooperation Representative GIZ. Where more than 30 exhibitors, including reclaimed, industrialists, technical centers and others, and about 300000 visitors (REVADE, 2017), Algeria organized the second exhibition in 2019.

II.4. international partnership:

the government Signed a partnership agreements with foreign investors and laboratories such as: France Nertam Company, which managed 630 tons of illiterate, and won a turnover of 1.4 million euros. Agreement with Canada in program of Devandos in 2016. Agreement with

Germany: program GIZ, to contribute in the transfer of necessary expertise and technology, GEROZD Company.

Agreement has been signed between the Ministry of Water Resources and Environment (MREE) and the Embassy of the Kingdom of Belgium on the realization of the project «Integrated Waste Management Support (AGID)». As Experimenting selective segregation of household waste: in cooperation with Extranet Company (MREE, 2016).

As well as Algeria recently signed a partnership agreement with the World Environment Fund (GEF) to allocate \$ 8.2 million for the new city of Bogazol, south of the capital, which deals with waste recycling.

II. Waste recycling business challenge for SME:

In spite of all the efforts and attempts made by the Algerian government to encourage investment in recycling, especially for SME. The results remain weak and do not keep up to the government's aspirations, where SME still face many obstacles in the field of recycling, such as:

- The limited policies, financial schemes and funds accessible.
- Parallel market is an obstacle to licensed investors such SME.
- Lack of technology, necessary techniques and equipment of recycling.
- The shortage of information, awareness and training about investment in waste.
- Lack of labor in the field, where waste collector covers 1500 inhabitants.
- A many producers in this industry working outside the legal framework.
- Some municipalities have failed to pay the fees required for the management and collection of waste in their geographical area.
- Using of traditional tools for collection and sorting, which proved it's limited.
- Waste collection operations are carried out on a random basis
- Lack of support from the supply and demand network
- Lack of Environment culture especially citizens who they are considered as the weakest link.

III. CONCLUSION

This paper purpose was to investigating opportunities and challenges for small and medium enterprises in creating and exploiting the waste recycling business. Our findings point that the perceptual change is required, both government and industrialists must realize that a clean environment requires some costs to be paid. Surely, the decision makers' efforts must be geared to encourage firms to reconsider their environmental obligations. SMEs in recycling business have little incentive to be create. Our research give some recommendations as following:

- Government should promote policies and abundant labor forces enhanced by education, training, Awareness sessions and partnerships. In addition, clearly and promptly disseminate updated information on environmental compliances and policies. Online tools can be good options for information provision.
- Development of a national system for the recovery and valuation of packaging waste In accordance with the decree on the management of packaging waste,
- Updating the laws governing recycling activity and applying them in practice to allow the expansion of waste recycling areas at the level of collection units themselves,
- Put an end to the parallel market that threatens the environment and hinders the establishment of a real green economy in our country,

- Organizing specialized collection networks for each type of waste, based on the establishment of small enterprises with financial and tax measures, promotion of the development of recovery and valuation activities by providing techniques and financial resources, granting tax benefits for the establishment of waste assessment activities.
- It is also important to encourage larger firms to develop and expand partnerships with such type of SMEs, as they rarely have chances to engage in large-size business cases.
- The recycling SME development are recommended to enhance their own capacities, Collective learning and sharing technology.
- Integrate waste management plans as part of municipal plans.
- Continuously improve the conditions of collection and transportation, and conduct awareness campaigns encouraging users to comply with the waste storage conditions and collection schedules, without omitting the improvement and professionalization of the management capacity.
- Raising awareness about engaging citizens in home sorting process. Through the development of a local information and the media.
- Introduce economic incentives to factories and institutions that purchase recycled raw materials.
- Promote regional exchange of information and experiences relating to the sector of waste;
- Establish the conditions needed to invest in the sector of solid urban waste with help of regional and international financial institutions.

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