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## **FORMALIZING THE ROMANIAN INFORMAL WASTE SECTOR: HOW INTERESTED ARE INFORMAL RECYCLERS?**

### **Abstract:**

The problem of informal sector formalization is a real challenge for any national economy, mostly if it is from a South-East European country like Romania. The formalization of waste management informal activities involves a pragmatic assessment of wide social, cultural and behavioral issues, especially since the majority of waste pickers, scavengers or informal recyclers belong to various categories of vulnerable groups. But how satisfied are these people in their activity? Does informal recyclers intent to formalize their work? How are these people concerned to formalize their activities? How receptive are informal recyclers if they would provide the opportunity to work with an official employment contract? How willing are informal waste recyclers to quit social benefits? Do informal recyclers want to be part of officially waste management system? The author tries to find answers to all these questions by assessing the informal recyclers interest about the existing possibilities of formalization, mostly for vulnerable persons involved in informal collection and recycling of waste recoverable materials. Studying the behavior and expectations of informal recyclers is made through formal and informal research tools like questionnaire-based survey, semi-structured interviews, informal discussions with waste pickers and analysis of relevant documents in the field. The final purpose of the study is to identify the real perception of informal waste recyclers related to opportunity of their informal work integration in the officially waste management system and evaluate their believes regarding formalizing process advantages and limits.

### **Keywords:**

informal waste sector, waste management, informal recyclers, vulnerable groups

**JEL Classification:** I39, J46, L38

## Introduction

At global level, there are millions of people who earn their living from collecting, sorting and recycling of waste, objects, products or recoverable materials that someone else threw away. There is an increased recognition that informal waste recyclers contribute to the development of local economy (Babu, 2009), ensuring public health, as well as to the conservation of natural resources and sustainable development of the communities of which they are a part (Gerold, 2009). However, informal recyclers have a social status inferior to the other members of the community, they live and work in deplorable conditions and they are very poorly supported by local authorities (Gutberlet, 2008).

Informal recyclers are mainly interested in fractions of recyclable materials within household waste or equivalent, but also in other categories of commercial and industrial waste. These may be collected from waste bins or dumpsters both from street sanitation system and from household sanitation facilities or directly on waste landfills sites which serve large urban communities. A part of informal recyclers carry out their activity quarrying into rubbish for different used products and recoverable materials; other collect and sell recyclable material waste to intermediaries (Matter et al., 2013) or authorized operators for waste recycling; some of them work without a legal employment contract within waste sorting or recycling centres held by different cooperatives or associations. The working conditions and the way of organizing collection, sorting and/or recycling informal activities (Rockson et al., 2013) differ significantly from a region to another or from a state to another (Asim, Batool and Chaudhry, 2012). Regardless these particularities, it is certain that there are some basic categories of waste informal recyclers who have in common the fact that they carry out such activities with the essential purpose to earn their living and to contribute to the financial support of their families and households (Meagher, 2011).

Informal recyclers have the merit of providing a large range of services for municipalities (such as waste materials collection and recycling, especially on community periphery areas which, under normal conditions, would not have access to such services). According to Gerold (2009) the informal recyclers ensure cost savings in local budgets, for example, by extension of waste landfills life and reduction of costs with waste collection and transport, but they are rarely rewarded for these benefits. Generally, informal recyclers constitute the base of an entire waste collection and recycling system (Gunsilius, 2011). The beneficiaries from informal recyclers' activities are the authorized recyclers, thus contributing in reaching the targets regarding waste recycling and implicitly in the development of local economy.

Local authorities hesitate to work with informal recyclers, the general perception over them being that they are insignificant concerning the role and the contribution they bring to official recycling of waste (Nzeadibe, 2009). But this happens rather as effect of the lack of initiative and implication from authorities regarding the dimensioning of informal waste sector. The problem of making official informal activities is closely related to the necessity to get to know informal recyclers, their number, the volume of activity, the quantity of waste they manage, the concrete needs of development, the possibility/availability they manifest regarding the formalization of their own activity.

## Literature review

It is estimated at global level millions of people worldwide earning their living from waste collection, sorting and recycling outside the official waste management systems, but in fact the statistical data reflecting this phenomenon is very few and limited (Gunsilius, 2011). The reliability of statistical data is the main problem of researches carried out in this field, the estimation of the number of informal recyclers being difficult because of the seasonality of involved activities and the reticence on recognising these informal activities. The projects carried out in Romania until now implied the analysis of the situation of informal recyclers and the evaluation of the role, the size and the concrete contribution of informal sector within the official system of waste recycling and management; failure of these projects was largely determined by the unavailability of informal recyclers and the clear avoidance of researchers and officials, manifested by the fear to be recorded, to participate in discussions in focus-groups, to provide basic information regarding the way of carrying out their own activity and to deliver details about their real problems and benefits.

Brazil is the only country worldwide which systematically surprises and reports official statistical data regarding the activity of informal waste recyclers. Data collected and centralized within the Brazilian statistical system showed that in 2008 there were about 229.000 people who were involved in informal activities of waste material collection and recovery (Dias, 2011) and which ensured the highest waste recycling rates in the countries in South America, almost 92% for aluminium waste and 80% for paper and cardboard waste. According to published statistics regarding distribution by main categories of workers in informal economy (International Labour Organization, 2013), women represent less than 1% of the labour force involved in urban informal waste recycling: between 0.1% and 0.4% in seven cities from West Africa, 0.7% in the Republic of South Africa and 0,1% in India. Nevertheless, beyond the apparently small percentages, there are a large number of informal recyclers, but is almost impossible to precisely identify it.

The majority of informal recyclers have in general low levels of education (Afon, 2012). In many cases, informal activities are carried out by different categories of vulnerable groups, for example Roma people, disabled persons, persons benefiting from the guaranteed minimum income, street people and immigrants. Waste informal recycling is often a family business, where unfortunately children also participate; such activities provide flexible working hours and an increased level of adaptability, they are easily learnt and do not need education and specialized professional training. For many of the poorest people in the entire world, waste informal collection and recovery are one of the few options to ensure everyday living. Nevertheless, informal recyclers are socially stigmatized, face with substandard working conditions and often face harassment (Chaturvedi, 2009)

Access to waste and privatisation of waste management systems, especially of collection and disposal waste facilities are the key problems with direct impact on informal recyclers' activity. Within the First Global Strategic Workshop of Waste Pickers, which was held in Pune, India, in 2012, representatives of informal recyclers from 22 countries identified the privatisation of waste management system and the shift from waste

disposal to waste incineration and energy recovery as being the two big threats for informal recyclers, which, on long term, lead to the limitation of access to waste and implicitly to the restriction of informal recyclers options to ensure everyday living. The problem of limiting the access to waste was also reiterated by the informal recyclers comprised in Informal Economy Monitoring Study, coordinated by WIEGO (2014), 73% of them indicating the access to waste as being a moderate or a major problem for their own activity.

Despite the fact that there exist less public investments in urban waste management system generally, or especially in the waste materials collection and recycling facilities, within the communities with an active informal system the waste recycling rate may exceed twice the recycling rate from communities with waste management systems completely formalized. Examples are found in literature that argue this fact; in Cairo the waste recycling rate is 60%, while in Rotterdam and other municipalities in Europe the recycling rate barely reaches 30%, even with higher levels of investment costs directed to waste management systems (UN Habitat, 2010).

Designing of infrastructure and urban waste management systems must take into consideration not only the needs of effective management of waste generated into the system and recycling of recoverable materials, but also the social aspects. Rockson et al. (2013) believe that in order to be effective, urban waste management systems must focus on modernizing waste services concomitantly with the efforts to formalize and integrate the activity of informal recyclers and their real contribution to the officially waste recycling system. An example of good practice is the case of informal recyclers in Bogota, Columbia, who, after 27 years of activity and significant contributions to formal recycling of waste, succeeded in changing the government's perspective regarding their activity and existence, but also the general perceptions of community regarding the role, the position and their status in local community. Informal recyclers from Bogota are now included in the officially waste recycling system, being paid per tonne of collected waste materials, the same as any other employee from waste management private company; they became official suppliers of sanitation public services and their contributions to urban environment protection and assurance of public health were recognised.

The kinds of workers in informal waste sector differs across countries and in literature are various perspective regarding the main informal recyclers categories, for example dump scavengers, street waste pickers, doorstep informal recyclers, on route waste pickers, itinerant buyers or even sorters witch select and sort recyclables by type from conveyor belts or other devices. In some countries from Latin America exists a special category of informal recyclers, processors of organic wastes, which work in compost plants and have become part of zero waste models. Wilson et al. (2009) identifies four different forms of informal recycling, depending on where and how is made the waste materials separation: itinerant waste buyers, street waste picking, municipal waste collection crew and waste picking from dumps. Scheinberg (2011) considers six kinds of informal waste recyclers, depending on different points of recycling process: itinerant waste buyers, street pickers, dump pickers, truck pickers, junk shops (small, medium or large traders of recyclables) and informal service providers. Ezeah, Fazakerley and Roberts (2013) state that despite socio-economic, political and cultural variations, scavenging patterns do exist around the world; they have a really closely approach to the Scheinberg one and establish six informal recyclers categories: household waste collector, street pickers, itinerant waste

buyers, municipal waste collection crew, dumpsite pickers and middlemen (intermediate dealers).

Informal recyclers may be grouped by categories depending on the mode and the extent to which they collaborate with local public authorities and different private organizations. Dias (2011) states that in Brazil exist three types of informal waste recyclers. The unorganized or autonomous informal recyclers make a living collecting and/or buying recyclable materials from different sources. They sell waste for the purpose of capitalization and ensure everyday living and they are not connected to cooperatives, associations or authorized recycling operators, although they sell the collected waste to them. The second type of informal recyclers is the organized ones, who work through cooperatives and associations who have as object of activity the collection, sorting and recovery of waste. Finally, the informal recyclers with employment contract working mainly in difficult or unwanted domains of activity or in the metallurgic industrial sector, but also within the associations and cooperatives; it is not generally recognized the fact that informal recyclers, as a professional category, may also include persons working with employment contract.

The literature explores the informal waste recyclers' role and contribution, from multiple points of view: economic, social and environmental. Informal Economy Monitoring Study, coordinated by WIEGO (2014), involved the quantitative and qualitative research of the complex issues of informal waste sector from the perspective of 763 informal recyclers from 5 cities in Africa, Asia and South America. There were identified the main categories of economic benefits of waste informal recyclers; one of the benefits referred to the fact that the informal activity they carry out lead to crucial income for informal recyclers and for their households and families (Rockson et al., 2013). For 65% of respondents, income from informal collection and recovery of waste materials are the main income source and more than a third of questioned informal recyclers have no other income source.

An important economic benefit of the existence of informal sector in waste management is that through their activity, informal recyclers deliver recyclable materials to interested entities; more than three quarters of informal recyclers from WIEGO (2014) study declared that they exploited the collected waste through commercialization to formal enterprises. In Pune, India, informal recyclers collect waste of organic materials for composting and biogas manufacturing. According to Gunsilius, Chaturvedi and Scheinberg (2011), there are also other categories of persons who take advantage of the informal recyclers, because many of them do not trade the collected waste directly to authorized recyclers, but they capitalize them through intermediaries (who take advantage of the difference between the price they offer to informal recyclers for collected waste and the tariff they charge formal recyclers for commercialized waste).

By collection of recyclable materials waste (packages waste, in most of the cases) thrown away in public spaces, informal recyclers contribute to ensuring public cleaning and environmental health (Afon, 2012; Asim, Batool and Chaudhry, 2012). Gunsilius, Chaturvedi and Scheinberg (2011) state that informal recyclers succeed in diverting an important quantity of waste from final disposal on waste landfills, this being the most significant environmental benefit of informal waste recycling activity; the study specifies the fact that informal recyclers succeed in recovering about 20% of the quantity of generated waste in 3 of the 6 cities comprised in the study; it was found that more than

80.000 informal recyclers were responsible for recycling about 3 millions of tonnes of waste per year in all 6 cities.

Recycling is indisputably one of the cheapest and quickest methods to reduce greenhouse gas emissions; recycling reduces emissions 25 times as much than the incineration, according to Tellus Institute (2008). Reuse, recovery and recycling of waste materials contribute to the decrease of the quantity of virgin materials and resources necessary to produce and supply goods and services and for the conservation of natural resources and energy (Gunsilius et al., 2011).

The activity of waste informal recyclers brings benefits also to the local authorities responsible for waste management in the community. In many countries, waste recyclers ensure the only form of urban waste collection, at the lowest cost and sometimes at no cost for the municipality. Also, waste collection and recycling informal activities contribute to ensure public health and to improve household and street sanitation, especially when informal recyclers act in areas which are not covered by sanitation community services (Gerold, 2009). The advantages for the municipality are translated into disadvantages for the health condition of informal recyclers, given their poor and unhealthy working and living conditions.

Municipal expenses are considerably reduced in the light of informal recyclers' intervention in the waste collection and recycling official management systems. According to UN Habitat (2010), informal recyclers may ensure the collection of 50-100% of the generated waste in the cities within the developing countries. By shifting significant quantities of waste from the landfill disposal, informal recyclers contribute to life extension of waste landfills, which is translated into significantly cost savings for the municipality.

## **Research methodology**

The general objectives of the research were to identify the problems which informal recyclers meet in the carrying out of their activity. From here derived a series of research questions regarding the way and the extent to which informal recyclers are disposed to accept an official status and to be part of the informal waste sector formalization process; the purpose of such a process is to integrate the informal waste activities into formally waste management systems. Therefore, there were used varied research instruments, predominantly qualitative, adapted to the particularities of researched field and sufficiently articulated in order to provide concrete answers to formulated research questions, despite the general reticence showed before by informal recyclers in relation with the other researchers and officials.

The research methodology consists in a combination of traditionally methods used to collect information, which were adapted to allow effective interaction between the researcher and the informal recyclers. Three research methods were used: the participative direct observation, the semi-structured interviews combined with questionnaires and the focus-groups.

Direct observation of the informal recyclers activities was made in a participative way and was focused on two components: the observation of the waste pickers activity on waste landfills sites (which was a planned research activity) and the observation of informal recyclers on the streets and in the proximity of shopping centres, households or formal or informal waste materials collection points (which was carried out occasionally).

Participative direct observation of landfill waste pickers was taken place during a period of 9 hours in the 17<sup>th</sup> and 18<sup>th</sup> October 2014, on Vidra landfill site (Ilfov County), one of the three waste dumps serving Bucharest Municipality. Occasionally, the activity of informal recyclers was analyzed during the period September 2014 - March 2015 and allowed the direct observation of the activity for a number of over 140 informal recyclers from other two types (almost 130 street/door-to-door informal recyclers and over 10 itinerant informal recyclers). Access on the Vidra waste landfill site was possible with the courtesy of the Mayor of Vidra and the approval of the landfill administrator; the opportunity allowed the direct observation of the activities of 53 informal recyclers and the conducting of 6 semi-structured interviews based on questionnaire.

Semi-structured interviews were performed during the period October 2014 – March 2015 and facilitated to be filled in 21 questionnaires by 6 landfill waste pickers, 13 street or door-to-door informal recyclers and 2 itinerant informal recyclers. The questions focused on the general aspects regarding the level of education, the age, the gender, the residence, but also specific aspects regarding, for example, the quantity of estimated waste that will be collected in one working day, the incomes, the working conditions, the possibilities to recover collected waste, the means/methods used for waste transport to collection points, the health conditions, the number of the family members, the category of vulnerable group and the interest to formalize their own activities.

The focus group was conducted with the participation of 7 informal recyclers (5 landfill waste pickers and 2 street/door-to-door informal recyclers) and an NGO representative, who supported and encouraged informal recyclers to participate in the focus group; the focus group took place on 2<sup>nd</sup> April 2015 and the discussions were strongly informal and were not recorded. The purpose of the focus group was to identify in detail the main informal recyclers reasons for conducting informal activities and analyze the real problems faced in daily activities and if informal waste recyclers intend to formalize their work. Particular emphasis was on identifying the waste pickers' points of view related to informal waste sector integration process into the official waste management systems and the real motivation or basic factors that would determine them to be part of the labor and social integration.

## **Conclusions and discussions**

The research instruments conducted to some interesting results regarding the informal activities in the waste management sector. Participative direct observation of waste pickers revealed that they carry out activities under precarious hygiene conditions and are subject to risks, from a health perspective but also from a conflicts perspective, with other formal or informal recyclers. Persons involved in informal waste activities are predominantly male, but it may easily be noticed that the waste picking on the landfill site is a family business, where children too are involved, unfortunately. Usually, informal recyclers belong to vulnerable groups, being preponderantly included in the categories of Roma citizens, street people, disabled persons or people benefiting from the legally minimum income. Most part of waste pickers whose activity was observed on Vidra landfill site live in the rural communities near the landfill and are socially marginalized. From the observation it resulted that they are interested in collecting and recovering mainly recyclable waste materials, such as metals (iron, copper, aluminium cans) and plastics (preponderantly bottles made from PET), but they also collect used furniture (for

wood and other combustible materials) or components of waste electric and electronic equipments. It was noticed the reticence of informal recyclers regarding the possibility to discuss their problems with the researcher or to fill in a questionnaire, the essential cause being the fear that this information would become official.

The participative observation of informal waste activities during the period September 2014 - March 2015 allowed identifying three major types of Romanian informal recyclers: landfill waste pickers, street/door-to-door informal recyclers and itinerant informal recyclers. Landfill waste pickers claim different categories of recovery material waste on formal and informal waste dumps. Usually, they work in teams formed of the members of one family of different ages and are organized based on the work division principle. The informal activity on the waste landfills site has as purpose to collect and sort especially plastic or ferrous material waste, pieces of used furniture, products and/or components of electric and electronic equipments, which are used whether in the own household or are capitalized through non-fiscalised commercialization to intermediaries or directly to authorized waste recyclers. Many landfill waste pickers live in unsanitary conditions in communities (or in some cases in informal houses) nearby the waste landfills.

Street/door-to-door informal recyclers claim recyclable materials waste which they extract from the waste collected in a mixed manner in garbage bags, bins or containers, both at household and street level; they are interested in certain categories of waste (for example, paper and cardboard waste, aluminium cans and plastic waste) and are usually specialized in collecting and recovering one single category of recyclable materials. Some street informal recyclers have arrangements with the commercial centres, office buildings administrators, private companies, households, flat owners or even with public institutions, and thus they have access to recyclable materials separated at the waste generation source. Street informal recyclers ensure the transport of informally collected waste to the collection points or other recovery facilities with strollers, barrows, push-carts or other improvised vehicles with human or animal traction.

Itinerant informal recyclers collect recyclable waste materials from households, house tenants and flat owners or shopping centres in return of a payment. Usually, they act as intermediaries, paying and taking the waste from the generation source (natural or legal person), then they will capitalize them at a higher price to authorized recycling centres or collecting points. Informal waste collection activities of itinerant recyclers are usually carried out on fixed routes with the help of motorised vehicles, with a frequency determined by the rhythm of waste generation on entities with which are concluded agreements.

The analysis of the results of the questionnaire emphasized the fact that most of informal recyclers have primary and middle school education; they are Roma citizens, aged between 25-45 years old, male, and originate from families with more than 4 members. The income they obtain varies in the interval Euro 50-120/month (depending on the category of waste they collect, the collected quantity of waste and how they have access to waste), with an obvious trend of decrease in the last 3 years. From the point of view of working conditions, the most important problems are related to health and safety at work and the lack of protection equipment, both in the phase of digging for waste materials in landfill site, as well as in the phase of sorting and transport to recycling facilities or collection points. Transport of waste is performed by informal recyclers on own costs,



usually on short distances up to 5 km, with improvised barrows, push-carts or other small strollers vehicles, with 2 or 4 wheels; on long distances they use horse carts, especially for the transport of big quantities of waste or carts adapted for bicycles. The most preferred forms of recovery for waste materials are commercialization to waste collection points or to intermediaries; only 14.28% of questioned informal recyclers specified that they have verbal agreements with waste authorized recyclers. Formalization of own activities is not a priority for informal recyclers, out of the analysis of questionnaires answers resulting that 85.71% of respondents do not have the intention to make arrangements in this respect and they are not willing to participate in programmes/projects supposing their integration into the officially waste management systems.

The informal sector of waste management and the concrete activity of informal recyclers are often seen as an unknown situation, despite the obvious evidence of the existence of the phenomenon and its increasing dynamics. Working with informal groups and the development of relations with informal recyclers may generate enthusiasm among them, generating confidence and professionalism within the context of measures of formalization of their activity. Still, the major challenge the integration of informal sector in waste management official system supposes is the wish of some local governments to modernize, automate and mechanize activities specific to waste management, collection and recycling being two of the activities which have direct impact on the status of informal recyclers, limiting their possibility to carry out the activity and contributing to reduce their standard of living.

The key challenge for Romanian local authorities responsible for assurance of waste management services under optimum conditions is to be more creative and to understand that in order to improve working conditions of waste informal recyclers and to increase the waste recycling rates are not necessary sophisticate technologies to collect, transport and recover waste materials, but rather a better regulation, active protection and really encouragement and support of informal recyclers activities and to bring them into the formal waste management by integrating them, their work and their results into officially waste management urban system.

Romanian waste management systems require a systemic approach of waste management, by taking into consideration all principles of sustainable development of these systems, and not only those related to economic and ecologic values. The social component of waste management is crucially important and significant in relation to the success of implementation, organization and functioning of these systems. A change of mentality and approach is needed for Romanian society and authorities to avoid social stigmatization of informal recyclers, of those persons who through their activity provide services for community. To raise public awareness on the informal recyclers' role and contribution in their communities must be one of the social objectives of the future waste management public policies. The understanding of the nature and factors of informal activities and the acceptance that the main reason for witch informal recyclers risk the health of themselves for their children and families, must be parts of the current situation analysis of Romanian informal waste recyclers.

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