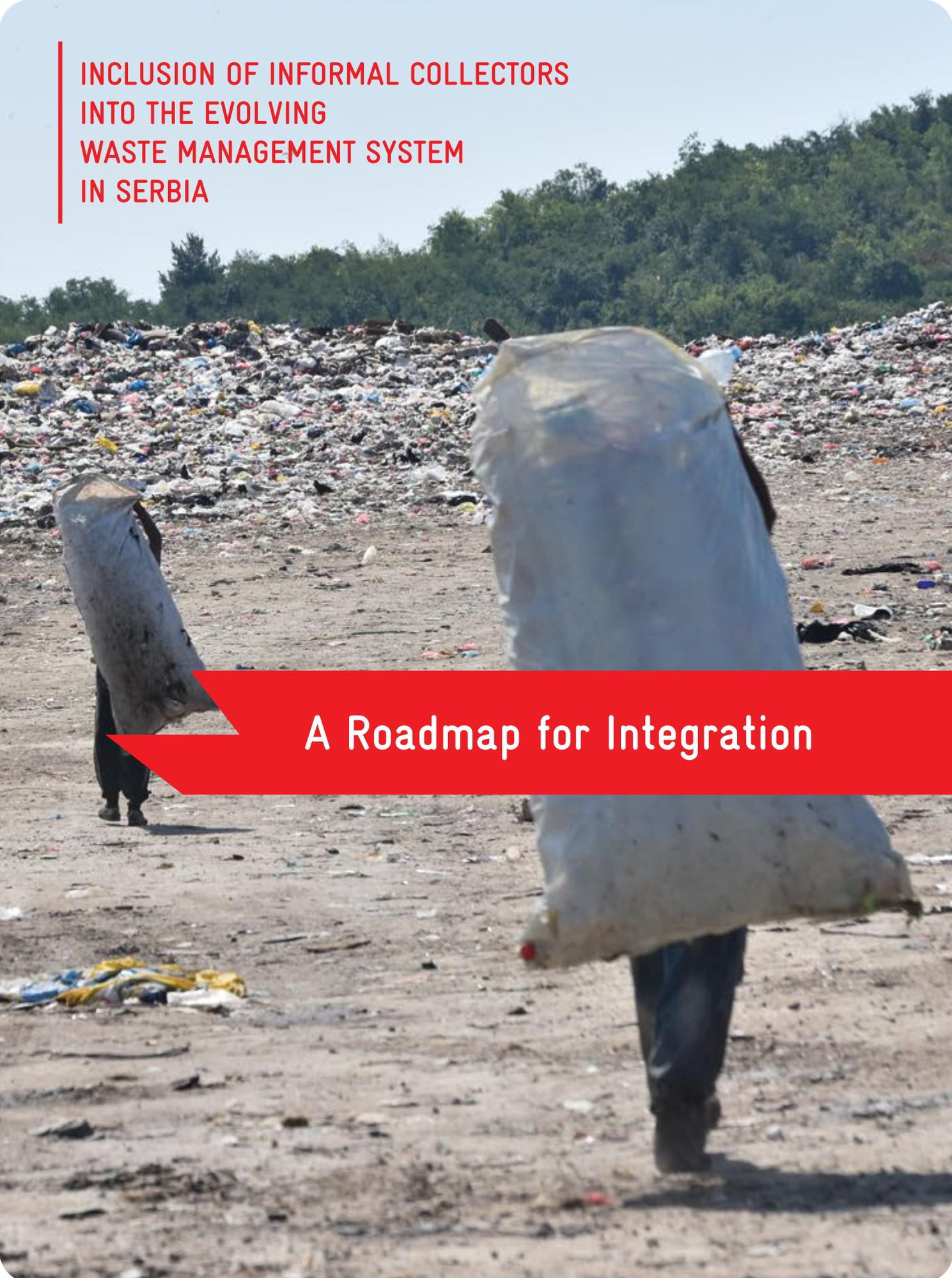


INCLUSION OF INFORMAL COLLECTORS INTO THE EVOLVING WASTE MANAGEMENT SYSTEM IN SERBIA



A Roadmap for Integration

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Abbreviations

FOB	Free on board, meaning, the place where the materials have to be in order to qualify for a specific price. FOB is usually either the loading dock of the seller or the intake weighbridge of the buyer.
GIZ	German International Co-operation (Deutsche Internationale Zusammenarbeit)
EPR	Extended Producer Responsibility
HDPE	high density polyethylene, a cloudy rigid plastic often used to package milk and dairy products
IADB	The Inter-American Development Bank, a World Bank organisation
IFC	The International Finance Corporation, a private sector development agency in the World Bank family of organisations
ILO	The International Labour Organisation, A UN Agency based in Geneva
IRC	Informal Recycling Collector, "collector"
JKP	Javno komunalno preduzeće (= PUC)
LDPE	low density polyethylene, flexible plastic in all colours, sometimes called "nylon"
LSG	Local Self Government (municipality, local authority)
OCC	old corrugated containers, cardboard
ONP	old news papers
pdf	process flow diagram
PET	Polyester Terephthalate, a clear or coloured rigid plastic used in drink bottles
PUC	Public Utility Company
recycling	a contested word, which at its core, means the return to economic use of "secondary resources" meaning items, materials or substances (like sand or water) which have been discarded by their most recent economic owners or users. In the European Union, "recycling" usually means only the last step in the value chain, where secondary resources are re-processed in an industrial facility to make new products or materials. Outside the European Union, the term is used more generally to refer to all the steps in the value chain, starting with extraction from waste or collection at the source. This report generally uses the non-EU interpretation.
RIR	Roma Informal Recycler
tpd	(metric) tonnes per day
tpy	(metric) tonnes per year
WIEGO	Women in the Informal Economy, Globalising, Organising. A British chartered charity working with the global informal sector

We would like to invite you into the world of informal recycling collectors, hard-working, usually misunderstood men and women who are making recycling happen. If Serbia is on the way to a circular economy, it is because of their work, however messy it appears to outsiders. They have been generous with information and time, and have shown a previously unappreciated willingness to do what they have to, including changing their modes of work, in order to continue their profession and modernise their enterprises.

This is not an easy path, neither for them nor for the public utility companies charged with complying with the European Union's definitions of recycling and waste management. It will require adaptation from all parties and all points of view. We at GIZ IMPACT have supported this research because we are convinced that win-win approaches are possible, and that the informal recycling sector is an important actor in those approaches. A number of new insights have emerged, which are exciting and stimulating, and which illuminate some new paths in the road-map towards integration of informal collectors.

We have called them "collectors" because that is what they call themselves. Because of their role in recycling, we appeal to readers to shift to calling them IRC, Informal recycling collectors.

And because there is a move on all sides to integrate them into modernising waste systems, this IRC will soon come to mean, "Independent Recycling Collectors", recognising their role in bridging the gaps between the public waste management system with the private value chains.

Our intention was also to explore new options to give collectors a stable place in the waste management system in Serbia. By talking with collectors and other waste and recycling system actors, we have arrived at twelve recommendations for modes of co-operation, ranging from legalisation of the activity of collecting to cross-sectoral policies of inclusion. We hope and believe that this report will contribute to improvements at all levels.

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Chapter 1.

Introduction



The modernisation and upgrading of waste management systems in emerging economies brings about many changes. In emerging economies like Serbia, modernisation often means that local authorities come under pressure to include “recycling” in their package of responsibilities. The European Union vision of recycling is that it is primarily a public sector activity, with the private sector in a distinctly subsidiary role. Consistent with this vision, private actors are seen as a nuisance or as competition for modern municipal recycling.

The EU vision of recycling as an essential feature of “integrated waste management” works well in “old EU” countries like Germany or the Netherlands, but in former Yugoslavia and the New EU countries in the Balkans, it collides with local realities. In Serbia, most recycling is in the hands of the private sector, which consists primarily of Informal Recycling Collectors (IRCs, collectors), many of whom are of Roma ethnicity. Roma suffer various types of exclusion, and the legal space to pursue recycling as a livelihood activity is one of the few that has been consistently available. The new EU-conform solid waste laws and institutions re-define “waste” as belonging to municipalities or their collection contractors, and put local authorities in charge of “recycling”. Ownership is what the local authorities need, so that they are able to construct and operate waste management facilities, and organise recycling. But giving Local Self Governments (LSGs) ownership of and responsibility for waste removes waste from the commons, and the space for collectors to harvest and commercialise it gets smaller. Even in places where the local authority is not actively interested in recycling, IRCs’ access to waste is restricted and made more difficult and dangerous – for example through the increasing deployment of underground containers.

Additionally, the modernisation of the waste management service sector opens markets for private sector waste service providers based in the EU. The activity of the informal recycling sector falls outside of the purview of these standards, and by definition becomes excluded, disapproved, and in a “grey zone” of unauthorised activities which are assumed to disappear over the medium term. The collection systems gradually taking over waste management in Serbia are highly standardised, and conform to both EU and global norms for sound solid waste practice. International solid waste operators may claim or be given rights to the recyclables, and, through the installation of underground waste containers, they seek to prevent collectors from “stealing” their materials.

The collision between modernisation of Serbian waste management systems and the estimated 35,000 to 50,000 informal collectors economically active in Serbia has not gone unmarked. While the body of research is small and relatively recent, it is clear that the activities of primarily Roma men and women in the informal sector are contributing most of 80% of the country’s total recycling activity, estimated at between 10% and 30% of waste generated. For this reason alone, in a period of EU pre-accession, actions to secure these gains and integrate collectors into the formal solid waste systems have a priority.

The introduction of the EU conform EPR system for packaging in Serbia creates another set of collisions between Producer Responsibility Organisations (PROs) and informal collectors and small traders, who are capturing most of the covered packaging materials. These create conflict, but also some initiatives for the inclusion of collectors by local recycling companies such as Greentech or UMKA (a subsidiary of Kappa Star). (Schwab 2014, Mrkajić et al. 2016, Bogunović et al 2016, Mrkajić and Stanisavljević 2015).

Co-operation and integration of collectors into municipal waste and EPR packaging systems can create economic opportunity, associated with new environmental services such as separate collection of recyclables, safe and environmentally appropriate management of construction and demolition wastes, and initiatives for down- and up-cycling that are associated with the phenomenal economic potential of 3-D printing.

Such initiatives are especially interesting in Serbia at the present time when Roma economic migrants to Western Europe are being “readmitted” to Serbia and other EU pre-accession countries. Many of these “readmittees” have worked in the recycling or re-use sector in France or Italy or Germany or Denmark, and often bring a higher level of knowledge and skills than RIRs who have remained in Serbia. For these people, the opportunities created by a national commitment to structural integration can be very interesting.

The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH GIZ organised the research as part of its “Municipal Waste and Wastewater Management – Impact” Project (GIZ IMPACT) support to local authorities modernising public services in Serbia, implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).

The research was conducted in the GIZ IMPACT partner municipalities and other cities that were included in the research in order to have a representative sample. The general objective was to study and analyse the technical, social, economic and organisational integration of collectors more in detail to get a more profound understanding of the challenges to finding solutions. The focus of the research is on relationships between informal collectors and national and local authorities, public service companies, and the formal value chain. It provides new insights on the operational activities, physical systems, institutional relationships and economics of (Roma) informal collectors. The self-organising potential of the sector appears to have increased in the last five to ten years, alongside the readiness of public service companies to contemplate a working relationship with informal collectors as part of their modernisation strategy.

The research brings ideas and proposals for legalisation and formalisation of recycling activities, circular economy, and the path for structural integration into the official and formally recognised recycling and solid waste sectors.

During the research, the GIZ IMPACT project supported the establishment of a multi-stakeholder cooperation platform led by the Chamber of Commerce of Serbia (Platform), in order to develop a sustainable institutional support mechanism for a number of issues related to collectors, as well as considering what has already been done in the area of informal integration.

International Organisations like the International Labour Organisation (ILO), WIEGO, IADB, IFC and others have done substantial work in preparing recommendations for the empowerment of informal sector workers. These documents emphasise, first and foremost, the importance of the “contributions that informal workers make to the value of a product” (WIEGO 2006:16f.). They further emphasize that informal workers’ “rights as workers are often overlooked” (ibid.). Instead, “informal workers and their enterprises are seen as an urban or social planning issue, or a health issue” (ibid.). They emphasize that this attitude can change, and changes rest on understanding and communication. In our study we are looking at the value that RIRs add in the process of recovery of secondary raw materials from various smaller waste producing sources.

“[We are working towards a situation where informal collecting] is understood in terms of one long value chain where formal enterprises often depend on informal enterprises for the functioning of a value chain. In this way, informal work is situated in the economy of a country and of the world. Looking at informal enterprises and workers in this way raises their status and negotiating power with business as well as with local, provincial and national governments.”¹

Consistent with the GIZ IMPACT focus on supporting local authorities and sustainably modernising public services, the research has prioritised the relationship between informal recyclers and the first three of these sectors: National and local authorities, JKPs, and buyers in the formal value chain. It also includes information on the Syndicate. The detailed field work delivers new information and insights in relation to the operational activities of RIRs, the physical systems and economics of informal recycling, and the self-organising potential of the sector, which appears to have increased in the last five to ten years, and this has been used to formulate a range of ideas and proposals for legalisation and formalisation of recycling activities currently occurring in the informal sector, and structural integration of informal recyclers into the official and formally recognised recycling and solid waste sectors, as well as into Extended Producer Responsibility systems covering packaging, e-waste, and other streams.

¹ WIEGO (2006): Tools for Advocacy: Social Protection for Informal Workers. Women in Informal Employment Globalising and Organising (WIEGO) and Homenet Thailand. See also ILO (2002): Decent Work and the Informal Economy. International Labour Conference 90th Session. Geneva. Lund, Francie/ Alfors, Laura/ Santana, Vilma (2016): “Towards an Inclusive Occupational Health and Safety for Informal Workers.” In: NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy 0(0):1-18.

1.1 Informal Recyclers in Europe?

This document on the informal recycling sector in Serbia reports on the most intensive research to date on the Roma informal recycling sector in a European country during the EU accession period. The Republic of Serbia, one of six former Yugoslav Republics and several splinter polities, has a relatively rich history of research, projects and investigations of “waste pickers”, that is, persons harvesting recyclables from the urban commons and earning their livelihoods from private sector value chain activities, which are neither sponsored, organised, recognised, financed, or acknowledged by formal waste management institutions (Scheinberg, Simpson and Gupta 2010).

The idea that there are informal recyclers operating in Europe was subject to intense denial until relatively recently and is still extremely controversial. In contrast, in other “less developed” parts of the world, there is a body of research, action and discourse on informal recycling that dates back to the 1990s in the literature, and to the 1980s in terms of policies prohibiting scavenging in the USA and Canada.

The first publication specifically including a focus on European informal recyclers (not including the re-use sector) was probably the ILO Desk Study on the Elimination of Child Labour in Scavenging in 2004, which included work by researchers in North-Eastern Romania. As far as is known, the first publication specifically focusing on informal recycling in the Balkans was “A Paper Life” (Simpson-Hébert et al 2005), a sociological study of Serbian paper recyclers published in 2005.

Most mainstream solid waste literature states that the “phenomenon” of informal recycling is a “problem” only for developing countries, despite considerable (indirect and direct) evidence to the contrary. While there is a global discourse on legalisation, integration, and formalisation of informal recycling and waste management in developing countries, the tone is harsher within the European Union – and its neighbours. Whereas middle-income countries like Colombia and Indonesia seek to modify their recycling policies to be more inclusive, the European policy response is to demand legalisation, formalisation, and/or elimination of informal recycling. While this might work in high-income North-policy response is to demand legalisation, formalisation, and/or elimination of informal recycling. While this might work in high-income North-Western European cities, it is highly questionable whether this approach could be either productive or feasible in the New EU and Southern and Eastern European (or Eurasian) pre-accession countries.

Indeed, Serbian stakeholders are confronted with the fact that their realities look rather different than the EU projects in its harmonisation agenda. Governmental stakeholders in Serbia – including Roma political organisations – have put the issues of informal recycling clearly onto the political agenda, so that denial is not possible or even a goal. These stakeholders have shown considerable courage in opening spaces for dialogue and exchange between the informal recycling sector, overwhelmingly consisting of persons of Roma ethnicity, and several sets of formal institutions:

(1) local authorities; (2) public service chain operators, “JKPs”, also referred to as Public Utility Companies (PUC) s or communal enterprises; (3) formal recycling industries, both inherited from the Yugoslav time and newly established; (4) technical and social researchers and activists based in (or at the intersection of) civil society and/or academia; (5) operators and compliance organisations of European Union-conform EPR systems for packaging and electronic waste; and (6) (micro)-financial institutions.

Serbia is also home to the only trade union advocating on behalf of informal recyclers in Europe, the “Syndicate for Collectors of Secondary Resources”, based in Niš, Serbia². “Moreover, in Belgrade the civil society organisation Bajsologija for sustainable urban mobility has since 2014 in cooperation with the German Heinrich Böll foundation engaged in advocacy for waste pickers in Belgrade, held cargo-bike repair workshops and issued a report on the situation of waste pickers in Serbia (Bogunović et al 2016).

1.2 Informal Recycling in Serbia

Informal collectors of secondary raw materials have been the base of the recycling pyramid in Serbia for decades. The informal collectors, “sakupljači”, are responsible for collection of most secondary raw materials collected and processed in Serbia. Data processed by the Association of Packaging Waste Recyclers indicates that out of the total amount of packaging waste collected for recycling, as much as 87% originates from the informal sector, while only 13% is collected by JKPs, the public utility companies, or the packaging schemes directly. This is comparable to other Balkan countries, where, on average, 90% of materials covered by EPR packaging schemes are collected by the informal sector, but not adequately reported (see section on EXPRA, below).

In Belgrade alone, some 2,350 families, or more than 12,000 persons are engaged in collection of secondary raw materials as the only source of income. In all of Serbia, according to most estimates, between 6,000 and 10,000 families, or 35,000 – 55,000 persons are working as full-time collectors who earn (close to) 100% of family income from collecting. Some sources claim that an additional 100,000 persons participate in waste picking on a part-time basis or alternate it with other economic activities (Data from the Eco service cooperative).



Photo image 1. Informal Recyclers in Belgrade

Every day in larger cities in Serbia, a significant number of informal collectors – mostly Roma men between the ages of 16 and 45 years of age – travel many kilometres to the start of their routes. They walk up to 20 km per day in their work to extract valuable materials from JKP containers, go through illegal dumps, basements, yards, public areas, etc. collecting paper, metals, glass and plastic bottles, food waste, stale bread, discarded housewares, clothing, shoes, tools, and anything that they believe that they themselves can use or sell in a second-hand market or to recycling businesses in the value chain.

An informal collector is a natural person who is not officially employed as a worker, nor part of a registered waste or recycling enterprise³. A collector working as a self-employed person or as an individual or family enterprise extracts valuable materials found in waste and sells them to a junk shop (recycling shop, buyer) at the lowest (semi-)formal level of the value chain. The transactions are not always recorded, nor receipts given, and although the buyer will have records of the amounts handled, and their value in the marketplace (also called the value chain), these records will not usually be identified with a specific informal recycler. At the point that a receipt is given and VAT paid on the transaction, we can speak of the formalisation of the materials, but not yet of the person.

The majority of Serbian collectors of secondary resources are Roma, and work full-time to support their families by collecting. Roma informal collectors (RIRs) are generally poorly educated: according to data of the cooperative ECO Service, as many as 76% in Belgrade have no schooling or left elementary school before completing it. Many are without any personal documents, living and working on or next to the landfill or in semi-legal but segregated settlements “the mahala”⁴; while a number live in integrated areas in the city in reasonable houses. Some neighbourhoods have basic utilities like electricity and water, but the least favourable settlements are slums that lack basic sanitation (Simpson-Hébert et al 2005).

² The Syndicate has done extensive advocacy work for Serbian waste pickers not only in Niš, but also at the national level. Contact with the syndicate (Republički sindikat sakupljača sekundarnih sirovina), via Šaban Salijević (current president), Knjaževačka street 8, NIŠ. For English language information: <http://globalrec.org/organisation/republicki-sindikata-sakupljaca-sekundarnih-sirovina-syndicate-of-waste-picker-of-the-republic-of-serbia>.

³ It is important to note that an “informal recycler” may be formally employed or part of a registered enterprise in some other sector, typically transport or construction. This means that the “informality” may apply specifically to their recycling activities, or it may indicate a broader informality such as driving without a license or working without identity papers

⁴ The South Slavic word for a Roma or other slum, it comes from the Turkish word for “outsider.”

A minority of collectors, estimated at around 20% of all those collecting, come from other ethnic groups including Serbs. These non-Roma collectors are generally older, and are generally collecting aluminium cans or cardboard in order to supplement salaries or pensions.

In terms of physical challenges, the job of secondary collectors is extremely demanding. According to the research conducted by YUROM Centre Niš, a collector, whose average life expectancy is 46 years, walks 19.7 kilometres in the course of a working day which may last up to 11 hours. In the 20–30 years that such a collector is active, he or she has no paid holidays, vacation, leaves for illness, pregnancy or injury, and no pension at the end of the working time.

While collectors are able to earn a living, what they earn is not usually enough to send children to school, pay for medical care, or accumulate savings.



Photo image 2. Informal Recyclers in Kruševac, Other Cities

Collectors travel the streets and dip into containers in their search for marketable materials. Nothing identifies them as a recycler: no uniform, badge, or equipment. They are seldom observed to wear protective clothing or shoes that would be appropriate to the physical aspects of the work of collecting. For those who are Roma, and have neither documents nor personal legal identity, there is limited access to healthcare, and no pension, nor any other form of business or employee insurance. In most cases they create spaces for storage and processing of their materials at home, in the informal settlements where they live “the mahala”, because of lack of infrastructure in the city centre, where most of the materials are generated.

Recent relocations of informal recyclers to places “outside” the city have made their work more difficult, because they have to walk or arrange transport to the centre to collect, and to the community at the end of the day. Even housing projects with an “inclusivity” component may exclude or disadvantage collectors, since their home-based recycling activities are not allowed.



Photo image 3. Informal Recyclers in Serbia

1.3 Questions for the Researchers

The main questions addressed by the research for this report are:

1. What is the situation with informal recyclers, and especially, Roma Informal Recyclers and Roma communities
2. What is their view of collecting, what are the advantages and disadvantages?
3. What do they see as their problems and what are their ideas for solutions?
4. What kind of relations do they have with other stakeholders in the public and private sectors and the value chain?
5. What kinds of partnerships and interventions could advance some form of integration of informal collectors into service and value chains?
6. What kinds of modifications in the legal and governance system, and in the highly politicised area of Roma Inclusion, would facilitate integration?
7. What is needed from the Platform and other Serbian and regional institutions to facilitate a shift towards improved waste and recycling governance and inclusion of RiRs in waste management modernisation in Serbia, especially in terms of recycling?

1.4 Research Teams

The project was set up to study informality from a number of complementary aspects: the Technical Research Team was observing the physical system of containers, practices of extraction, and materials. The Social Research Team focused on the (Roma) collectors in their combined identity as Roma, community members, and recyclers. The Governance and Institutional research team had partly social, partly institutional and legal approach, and with a focus on relation with other stakeholders and potential for integration into formal systems, looking at the communities, the public utility companies, municipalities, and governance structures.

Three teams went into the field to talk to informal recyclers and stakeholders.



1.5 The GIZ IMPACT Project and Informal Recycling

Globally, GIZ, German Development Co-operation, has been commissioning research on the global informal sector since 2006. GIZ Project in Serbia believe that the informal sector, representing the Bottom of the Pyramid (BoP) levels of the value chain, is an essential partner and participant in the goal of moving towards an European circular economy. Informal recyclers are circular economy agents because they prevent materials from becoming waste, and prepare them to sell as secondary resources to the value chains.

For this reason, the ambition of the report goes beyond reporting on the original research. It occurs at a moment in time when the Western Balkan states are joining the European Union, and modernising their urban and political infrastructures. The function and role of local authorities is central to this modernisation, as is the way that they relate to other stakeholders in the service and value chains. The stand that national authorities take on inclusive modernisation will also determine whether the systems that emerge from the European accession process are healthy, robust, and sustainable, pushing the societies forward towards a circular economy future.

For this reason, the report uses the field work on the informal sector in the Western Balkans and Former Yugoslavia, as a lens through which to understand the entire solid waste system. On the one hand, the report is designed to serve as a jumping-off point for policy development and support, interventions, projects, programmes, and other change-oriented activities to directly improve the condition and position of informal recyclers in Serbia and beyond. On the other hand, the report is part of a larger discourse about modernisation of urban services, inclusive cities, resource efficiency, the circular economy, and the re-definition of sustainability in the new European Union.

This is important because the informal sector is a mirror of the resource use of the societies. If the formal economies in Europe were fully resource efficient, if there were no waste and no landfills, if all production were fully circular, there would be no need for the informal sector and no economic niche for collectors to operate in. We need the informal sector in the Balkans because the formal service sector is still young, wobbly, uncertain, and confused. And the value chains, although clearer about their relation to resources and circular production, are still adapting to the sometimes unreasonable demands of globalisation and competition. So the project of informal sector integration is about all of the resource and waste circles, now and in the future. While the immediate purpose is to inform the decisions and directions for Serbian governmental institutions, policymakers, NGOs, and external donors, the report is also designed to push the knowledge base on informal recyclers in Europe further, as well as to suggest next steps for action and research.

1.6 Structure of this report

The report presents a significant body of original research, which has been done in 2016 and 2017. It is important to note that while the research included all forms of informal

collection and valorisation, the field work has had a strong focus on Roma Informal Recyclers, and their modes of working. This is in part because Roma dominate the activity, and even more importantly, because Roma form the core of the professionalised recycling sector; systematic research encounters Roma collectors much more often than non-Roma.

The report is structured as follows.

Chapter 1, this Introduction, has presented the context and a short introduction to informal recycling. Chapters 2, 3, and 4 present the original research on Serbian informal collectors, in the words and the analytic frames of the researchers. These chapters deliberately remain as close as possible to the research itself, for two important reasons.

First, these chapters provide important new information and insights, and it is important to present them to scholars and policy-makers in as unalloyed form as possible. Secondly, because each of the research teams had its own focus, the results highlight different aspects of informality in the value chains in Serbia, ranging from technical information on how informal collectors specialise, to insights about power relations between communities and value chain buyers.

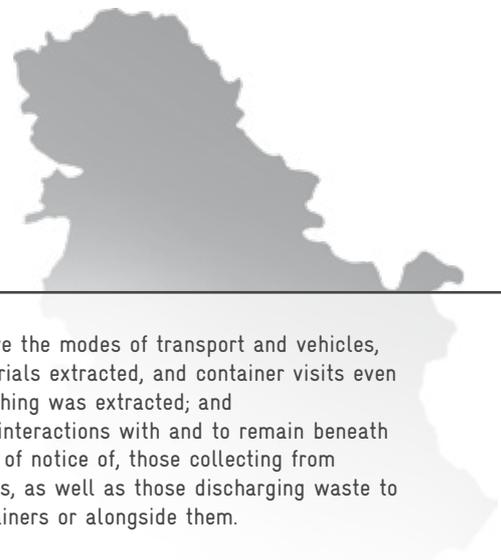
Chapter 5 places this research in the context of previous work on the informal sector in Europe, by presenting previous projects and work on integration of informal collectors in Serbia and its neighbours. It includes as well some relevant information on informal recycling globally. The second part of Chapter 5 draws on a number of previous or concurrent reports, books, research, findings, and results of meetings in Serbia, the Balkans, and elsewhere, and uses them to contextualise the original research, to sketch a more general picture of the role of informal recycling in the Balkans.

Chapter 6 begins the process of synthesizing the research results, and summarises the new information, insights and ideas flowing from the research. These insights and ideas are a mix of those of the researchers themselves, Platform members, GIZ staff, other key stakeholders, and the editor of the report. Chapter 7 takes this synthesis one step further, introducing some principles and approaches to informal integration, and then drawing conclusions in relation to the possibilities for informal integration in Serbia and the Balkans. This chapter also returns to information from other parts of the world, where there is a body of knowledge and experimentation with informal integration that can inform the process in South-Eastern Europe. Chapter 8 offers specific and practical recommendations about informal integration in the context of modernisation of waste and urban systems in Serbia and its neighbours. This chapter expands its focus beyond the informal sector, to the service and value chains, to show at how informal integration is part of a bundle of policies and practices that move towards resource efficiency and the circular economy, and away from disposal as the anchor of waste management systems.

02

Chapter 2.

Field Work and Findings
of the Team 1:
The Technical Research Team



The Technical research team was charged with a technical and quantitative focus, and made a detailed inventory of container events around informal recovery. The team had the responsibility to establish some empirical and quantitative characteristics of the collecting activities of container pickers, that is, collectors whose source of materials is containers in open space, placed by the Communal Enterprise under the authorisation of the Local Self Government, and designed for the collection of mixed residual waste. In one or two instances separate collection containers designed to capture PET were also the focus of the team's observation.

2.1 Key Research Questions

The main research parameters to be investigated by the Technical research team were:

- total number of informal collectors,
- collected waste quantities and structure of collected waste,
- identification of waste buyers,
- identification of container-based interactions between main actors in the secondary materials business (informal collector, PUC, material buyers),
- determination of proposals/models of incorporating informal collectors into formal system.

The more general goal was to provide an overview of the nature and intensity of container picking, one of the modalities for informal collectors to harvest recyclables from the urban waste stream. The research had a special focus on developing factual information on the socio-demographic characteristics of persons doing container picking, their age, sex, ethnicity, the daily cycle of extraction from containers, the materials captured, the equipment used, and the like. The research in 11 Serbian cities was also designed to explore differences in collecting and the response of the communal waste companies to it, between smaller municipalities and larger cities.

2.2 Methodological Approaches, Assumptions

In order to answer some of the research questions, the Technical research team elaborated methodological approach to observation of informal collecting activity at container clusters in 11 cities. The principle was to observe while avoiding the possibility of influencing or "interfering" with the activities of the visitors to the containers who were collecting or extracting materials from the containers. The site of observation was the public waste containers in the selected cities, selected to be sure that they were near lighting, so that they could be observed also at night, and that there was a place to sit or park that would accommodate the researchers.

The Technical research team's main innovation was structuring the observation, to observe and count the informal activities at each container over concentrated and extended periods of time. The observation instructions included:

- to observe the activity at the containers from a small distance, without interfering with the activities;
- to make the best possible estimate of age and ethnicity, based on clear criteria, explained in the pre-research training and pre-tested during a pilot observation in Novi Sad;

- to observe the modes of transport and vehicles, the materials extracted, and container visits even when nothing was extracted; and
- to avoid interactions with and to remain beneath the level of notice of, those collecting from containers, as well as those discharging waste to the containers or alongside them.

The container clusters were selected through preliminary observation in June-July of 2016: the researchers visited the cities and selected the container clusters to be observed. Some criteria for selection included:

- container clusters need to be placed in different parts of city (depending on the number of locations in certain city, locations have been spread across, aiming to cover the whole city),
- container clusters with higher number of containers were prioritised (on the assumption that a higher number of containers were more attractive for collectors),
- there was a streetlight so that observations at night were possible,
- there was a safe place to sit (such as a bench, café-bar) or a safe place to park a vehicle within 10 meters of the container.

The Technical research team observed a total of 40 container clusters, or sites, in 11 cities. Observations lasted for three consecutive days, or 72 hours.

2.2.1 Assumptions and inferences

The overarching assumption made by the Technical research team is that it is possible to gather information without talking to people: observation at a distance of 10 metres is a sufficient basis for quantitative research. A second overarching assumption is that container picking is a dominant mode of collecting. In the course of the research this second assumption was challenged, and it may be that container picking represents only about 20% of all informal collection activities.

Specific assumptions stated by the team, or inferred based on the text and tables, include:

1. There are no repeat visitors, and thus each visit to a container can be assumed to be made by distinct natural persons so that the total number of visitors recorded in a period represents the total number of natural persons that have visited that container in that period⁵. The assumption is considered to be validated by the experience of the researchers.
2. The age of a visitor can be adequately observed from a distance of 10 meters, and estimated accurately to within an age class. Estimations are assumed to be generally accurate and the consequences of a mistake in age are not significant for this analysis.
3. Dark-skinned persons are of Roma ethnicity, light-skinned persons are of some other ethnicity. When adjusted for ethnicity, this also gives an approximation of the percentage of collectors visiting

⁵ The observers stated that the number of repeat visits during one day was negligible – based on their ability to recognize visitors by a combination of their faces, clothing, physical characteristics, and the type of vehicles that they had (or didn't have).

containers, per municipality, who appeared to be of Roma ethnicity. This assumption could be only partially validated: while in Serbia there are few non-Roma with dark skin, the converse is not true, as there are also quite many Roma who are light-skinned. The bias in this assumption will produce an estimate of the percentage of Roma that is too low, rather than too high, since it will exclude light-skinned Roma.

4. A visitor to the container is seeking one specific class of material, and this material choice can be recorded based on observation. The researchers reported that, in most cases, visitors to the container are already carrying one specific material or item in their vehicle or in the receptacle, such as a big bag, that they use to accumulate materials. This means that in case the observers could not see the materials taken directly, they reported them as being the same as the materials seen in the container or on the tricycle or other vehicle. This assumption is considered as partially validated and partially tautological.
5. Consistency across observers is assumed, based on the training at Greentech and through the supervision of faculty who could answer questions.
6. All numbers and percentages – including percentages of materials – are based on and refer to the number of persons visiting the container and collecting that specific material, or the percentage of total persons collecting that material. There is no calculation of the percentage of materials by the number of tonnes or cubic metres or visits. So if in 24 hours, four persons visit the container, and two collect PET bottles (that can be seen in their vehicle), and one collects metal scrap, and the fourth collects cardboard, the percentages would be 50% PET and 25% for both metal and cardboard.

2.2.2 Training of researchers

The main observations were done by students from the Department of Environmental Engineering and Occupational Safety and Health, Faculty of Technical Sciences, Novi Sad. In preparation, the students did a field test of the process of observation in Novi Sad to identify all potential issues and challenges, such as how to identify materials, or estimate age. Based on feedback from the field, additional training was organised for observers, to solve the issues that came up in the field test.

In addition, the staff organised a training at one of the buyers, Greentech, in Novi Sad. There the students interviewed informal collectors coming to sell PET, and asked some pre-test questions. This training was also used for co-ordination, so that the students could “learn” what is meant by the age groups, or what is meant by specific materials, or whether some-one was of Roma ethnicity or not.



Photo image 4. Typical container sites and visitors

2.2.3 Parameters to be registered

The goals of this observation were registration of the following parameters:

- average total daily collectors making visits to a group of municipal waste bins. The observers stated that the number of daily repeat visits was negligible – based on their ability to recognize visitors by a combination of their faces, clothing, physical characteristics, and the type of vehicles that they had (or didn't have). It is therefore assumed that the total number of visits is the same as the total number of informal collectors active in collecting in that city.
- types of material collected, or no material collected;
- sex and age of collectors as observed from a distance, and without benefit of direct questioning;
- the balance between dark-skinned persons visiting containers, assumed to be Roma, and light-skinned persons visiting containers, assumed to be other than Roma, observed to be extracting materials or items from the bins;
- the times of arrival and departure of visitors to containers, vis-à-vis the emptying time and frequency of the containers; and
- the means of transportation to reach the containers, insofar as this could be directly observed.



2.3 Pre-tests and Placing of Containers

2.3.1 Determining the total number of sites (containers)

The first phase of the Project involved obtaining information about the exact number of set containers for mixed MSW (as well as containers for primary separated recyclable materials), and their spatial distribution in the observed municipalities. This phase of project was conducted during the following time periods, with cities grouped when they were close enough together for observing in one day.

Table 1.
Pre-investigation for selection of observation sites in 11 cities

City	Dates
Aleksandrovac	29.06.2016. – 30.06.2016.
Bela Crkva	27.06.2016. – 30.06.2016.
Krupanj	12.06.2016. – 13.06.2016.
Kuršumlija – Brus	27.06.2016. – 30.06.2016.
Novi Sad	15.06.2016. – 25.06.2016.
Rekovac – Kruševac	04.07.2016. – 07.07.2016.
Svilajnac	28.06.2016. – 01.07.2016.
Varvarin – Čičevac	27.06.2016. – 30.06.2016.

Identification and mapping of existing locations of containers was made and the total number of containers was determined.

Table 2.
Total number of containers on the territory of every city included in observation

City/Municipality	No. of container clusters	Number of Actual Containers
Aleksandrovac	42	71
Bela Crkva	14	33
Brus	34	86
Čičevac	20	43
Krupanj	46	81
Kruševac	242	620
Kuršumlija	79	173
Novi Sad	980	1850
Rekovac	27	44
Svilajnac	142	268
Varvarin	27	41

Usage of GPS enabled display of all locations on Google maps while the following pictures show the whole map, and some of the cities included in the project.⁶

A map with all locations of waste containers can be seen here: https://www.google.com/maps/d/viewer?mid=1KUJB13l10372bbTcKo_eltaI8jU7.

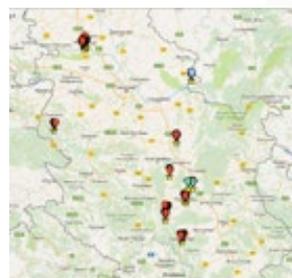


Figure A
Geo-referencing /
Locations for observation.
Map of Serbia with 11 pilot
municipalities

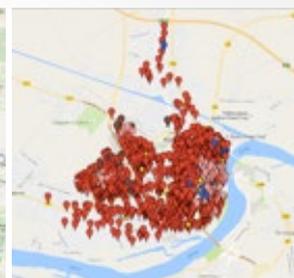


Figure 1
Identified locations in Novi Sad



Figure 2
Identified locations in
Kruševac

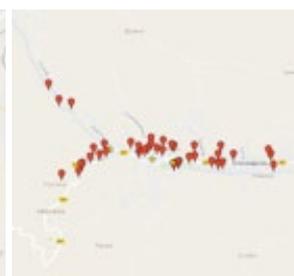


Figure 3
Identified locations in
Aleksandrovac

2.3.2 Defining representative locations for monitoring

Containers were considered as one main source location for informal collectors to extract and collect secondary recyclable materials, food, clothes, etc.; even though more extraction may take place at landfills or dumps, these sites are not always accessible to researchers.

So, in order to determine informal collector characteristics, all container locations in 11 municipalities were noted using GPS geo-referencing. This approach enabled display of all locations of waste containers on Google Maps, and can therefore be seen here:

https://www.google.com/maps/d/viewer?mid=1KUJB13l10372bbTcKo_eltaI8jU.8

The second step was to determine the representative number of containers/locations for observation of informal collectors, that is, the number necessary for monitoring the activities of individual collectors. Selected locations were selected to represent the spatial distribution of containers at the level of the municipality.

Table 2 shows the number of locations chosen for observations of informal collectors for each city. As each indicated map is accessed, the locations which were chosen for observation can be seen because they are marked with a yellow star.

⁶ It should be noted that the red dots do not represent every container in the city, but the container sites, each of which may contain multiple containers, if they are placed on the same location in the city.

⁷ Information about number of containers at every location, as well as type of containers can be obtained by clicking any location on the map.

⁸ Information about number of containers on every location, as well as about type of containers can be obtained by clicking every location on the map



2.3.3 Geo-referencing

Figures 1./2./3. show the information for three of the municipalities included in the project.⁹ When all container locations were noted, representative locations were chosen, based on the municipal population determined number of observed locations per municipality, and in combination with the availability of lighting and a good place for the observers to sit. Figures 1./2./3.) show the number of locations in each of the three municipalities.

After determination of representative locations, observation of those locations could begin, in order to obtain information about waste picking and waste pickers.

2.3.4 Observation of movements of informal collectors and others at the containers

Observation of informal collectors at each of the specific containers was performed by trained technical university students, observing the containers continuously for 24 hours a day, during 3 consecutive days of the selected week. Observations were supplemented by general information on the location, weather conditions (temperature, precipitation ...), and the like.

In order to display times of collectors' arrivals, data from one location from Novi Sad, and one location from Svilajnac are shown. Each of the graphs represents a single day of observations, from the same location, within one season. The graphs display times of arrivals separated by days, mainly because of better display of data. In addition to that, arrivals of PUC trucks are shown on same graphs.

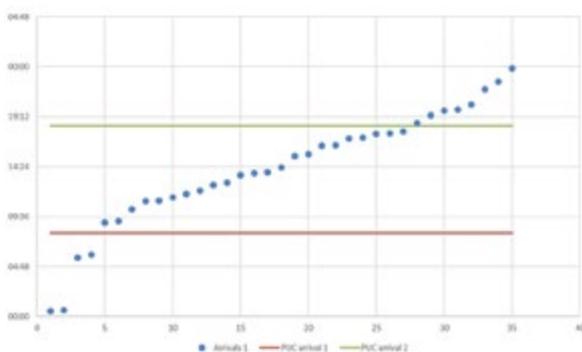


Figure 4
Time of arrivals of collectors and PUC trucks in Novi Sad, day 1

⁹ It should be noted that each of the red dots represents a container site, which contains at least one but often more than one container.

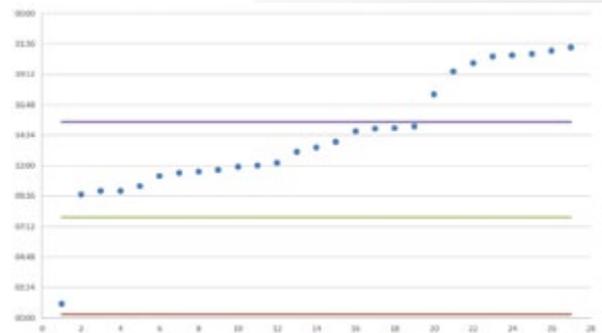


Figure 5
Time of arrivals of collectors and PUC trucks in Novi Sad, day 2.

Observations took place for an unbroken period of three consecutive days, or 72 consecutive hours, with registration of the following parameters per informal collector visiting the container:

- Time of arrival/time of departure
- Sex
- Age estimated by appearance
- Ethnicity: dark-skinned recorded as "Roma", light-skinned as "other"
- Type of material extracted by each visitor – either as seen or as inferred based on the type of material in the vehicle/receptacle
- Means of transportation – insofar as that could be seen

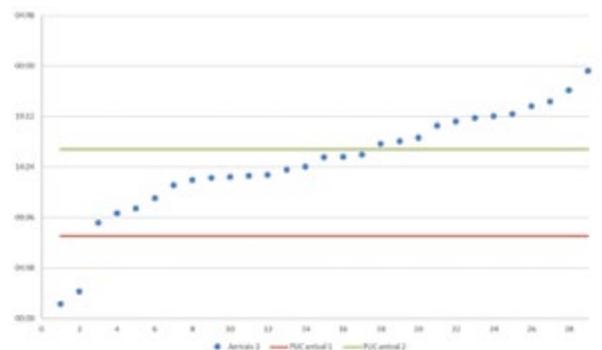


Figure 6
Time of arrivals of collectors and PUC trucks in Novi Sad, day 3.

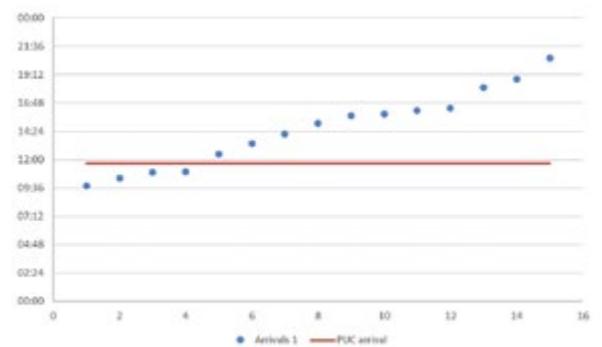


Figure 7
Time of arrivals of collectors and PUC trucks in Svilajnac, day 1.



Figure 4 to Figure 9 display the dynamics of arrivals of collectors in Novi Sad, the largest city in this study, and Svilajnac, one of the smaller cities observed. In addition to a higher number of collectors arrivals, collectors in Novi Sad have wider time span of arrivals. Collectors in Novi Sad were mainly coming to observed locations between 09:00 and 22:00, although they were seen during the other parts of the day (with lesser frequency). On the other hand, collectors on specific location in Svilajnac have not been seen before 09:00 and after 21:30.

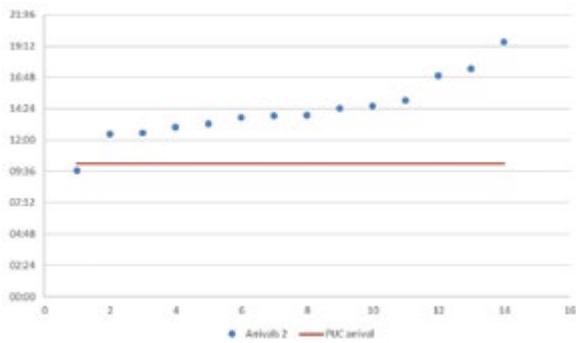


Figure 8
Time of arrivals of collectors and PUC trucks in Svilajnac, day 2.

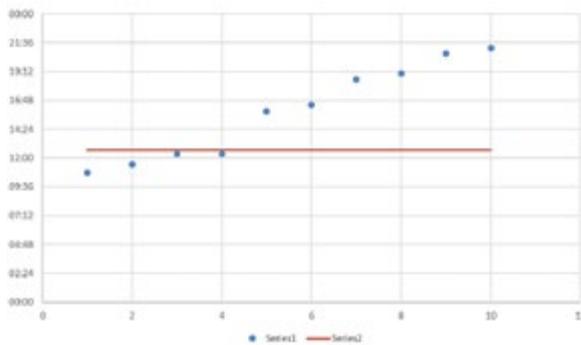


Figure 9
Time of arrivals of collectors and PUC trucks in Svilajnac, day 3

Additional insights from the observations suggested that in the summer, the visits of collectors are of longer duration than comparable visits in the winter.

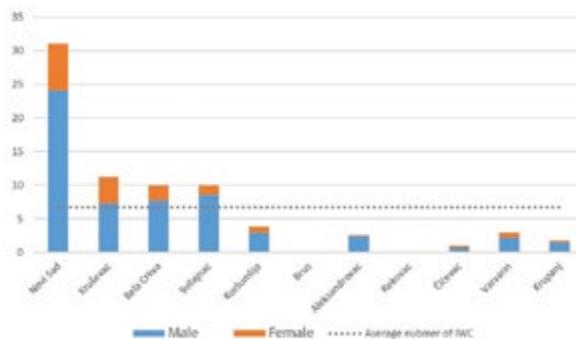


Figure 10
Number of male and female visitors by city.

2.4 Quantitative Results

The basic quantitative results provide numerical data about characteristics of informal collectors, in absolute numbers as well as the percentage based on the total observed at that location.

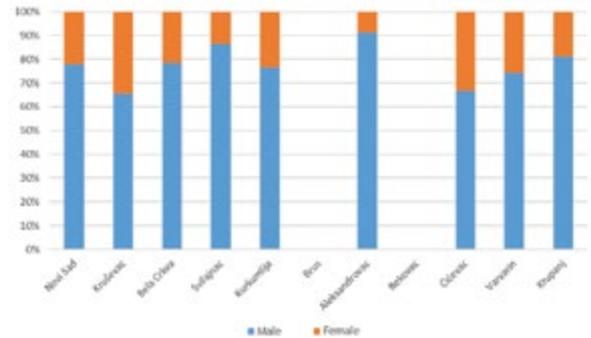


Figure 11
Percentage of male and female visitors by city.

As can be seen from Figure 10 and Figure 11, more than 60% of visits to the observed containers were by males. The highest percentage of male informal visitors was observed in Aleksandrovac, with the lowest in Kruševac and Čiksevac.

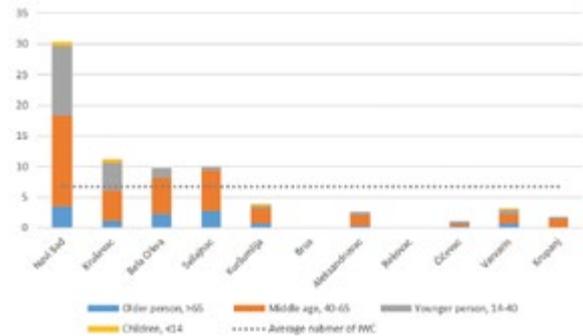


Figure 12.
Stratification of number container visitors by age and city.

Figure 12 and Figure 13 present the distributions of the ages of informal collectors harvesting materials from the containers. In all observed municipalities, middle-aged collectors were dominant, followed by “older person” group, while in the two larger cities, Novi Sad and Kruševac, a considerable number of younger persons were also observed. Although, in general, the number of visitors who appeared to be of school-going age wasn’t significant, they were still recorded in four out of eleven observed municipalities. Svilajnac showed the highest number of visitors who appeared that they were young enough to be of school-going age, while the percentage of potentially school-age young persons was the lowest in Čiksevac.

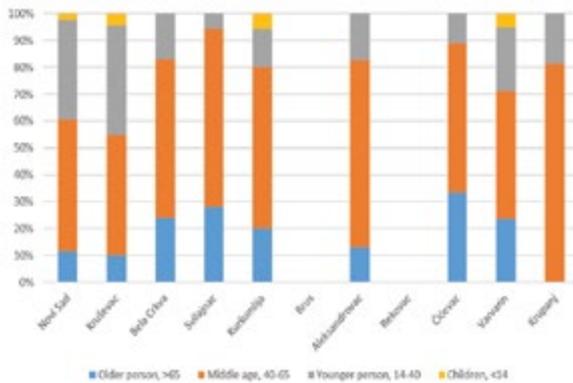


Figure 13
Percentage distribution of informal recyclers by age and city.

The relative numbers of informal collectors appearing to be of Roma ethnicity differs from municipality to municipality. Containers in Novi Sad and Kruševac had higher shares of Roma informal collectors than smaller cities and towns. The field workers in the smaller municipalities of Kuršumlija, Čičevac, Aleksandrovac observed a higher percentage of non-Roma informal collectors.

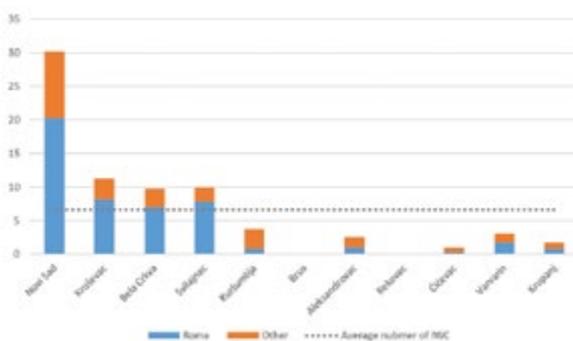


Figure 14
Absolute Numbers observed collectors of inferred Roma and non-Roma ethnicity by city

The identification of ethnicity was based on combination of two factors, with skin colour being primary, and use of Romanès, the Romany language, as supplemental. The leaders of the Technical research team estimate is that their classification is accurate with errors in the worst case to be no higher than 10%, and would result in underestimating the number of Roma rather than overestimating it (since some light-skinned Roma would have been classified as non-Roma).

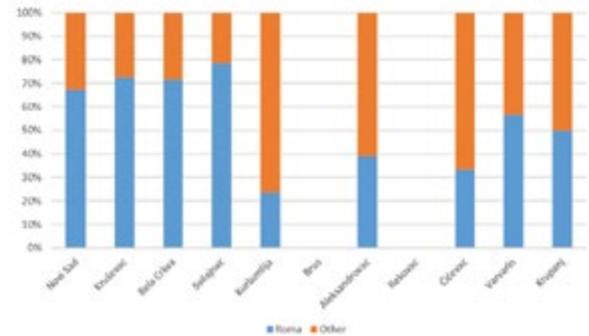


Figure 15
Percentage of observed collectors of inferred Roma and non-Roma ethnicity by city

The researchers noted the materials that the collectors were seeking in each container.

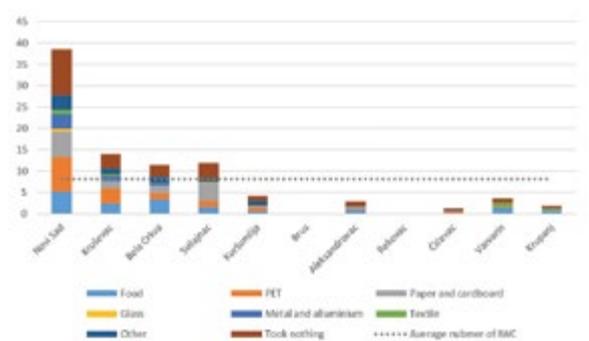


Figure 16
Numbers of Informal collectors visiting the containers by type of material collected (or sought). (based on direct observation and triangulated and confirmed by the type of material in their cart or vehicle.)

In most cases they could either see this directly, or they could see what materials were on the vehicle or in the bag brought by each collector, which gave them the necessary information to infer what was being collected. Figure 16 and Figure 17 illustrate the relationship of collectors to containers and materials.

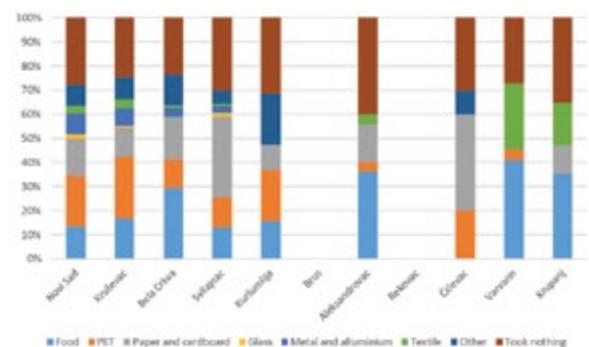


Figure 17
Percentage of Informal collectors visiting the containers by type of material collected (or sought). (based on direct observation and triangulated and confirmed by the type of material in their cart or vehicle.)



The numbers of visitors extracting food was highest in the small cities of Varvarin and Aleksandrovac. Novi Sad and Kruševac showed the highest incidence of PET collection, and second highest of paper and cardboard. In the smaller municipalities of Svilajnac and Čičevac, the observers saw that paper and cardboard were the most sought-after materials.

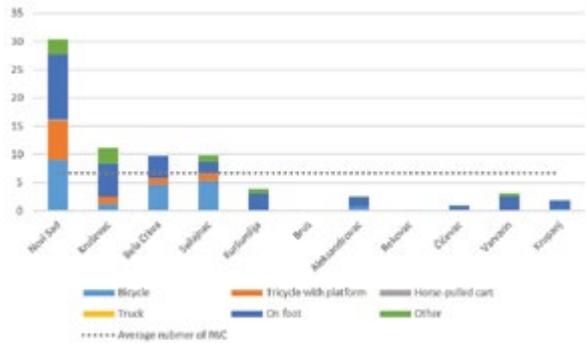


Figure 18
Numbers of collectors visiting the containers by observed or inferred form of transport by city.

Across all municipalities, the observers made the surprising observation that between 24% and 40% of visits of informal collectors to a container did not result in the extraction of any materials at all.

The type of vehicle or form of transportation was another parameter observed by the researchers. The larger urban areas show a higher diversity of forms of transportation used in collecting.

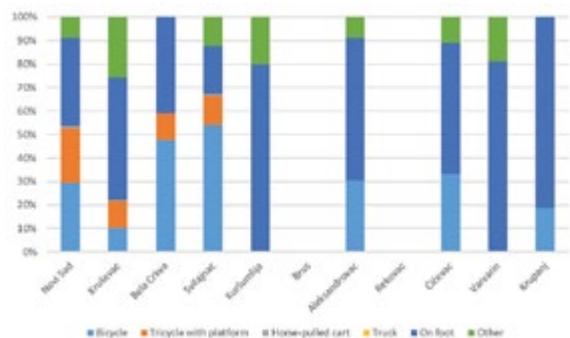


Figure 19
Percentage of collectors visiting the containers by observed or inferred form of transport by city.

Bicycles and tricycles with a cargo platform were observed to be the most prevalent form of transportation among informal collectors in Novi Sad. In Kruševac most informal collectors were observed to be working on foot (or with public transportation, but this could not be directly observed). A rather high percentage of "other" vehicles were observed in Kruševac, including hand carts, which are not common in other Serbian cities (and may be the product of some previous project). Novi Sad and Kruševac were the only cities in the sample that have public transport. The percentage of informal collectors coming by public transport in Novi Sad

and Kruševac is estimated at 2% and 1%, respectively; the average distance from observed locations to the location of the nearest bus stop in case of Novi Sad was roughly 100 metres. Distances from observed container locations to the nearest bus station in Novi Sad varied from 10 to 350 metres. The informal collectors in smaller municipalities were mainly observed to collect on foot, or by bicycle.

2.4.1 Number of collectors

The following table gives a quantitative overview of the coverage and reach of the research in comparison to existing statistics. However, this table has to be read with caution, since many relevant pieces of official statistics are non-existing or inaccurate. Against this background, the following table with demographic data relevant to our target groups¹⁰ has to be read as indicative:

¹⁰ Official data of the Statistical Office of the Republic of Serbia. It should be noted that still a huge number of Roma are "invisible" and the ones participating in population census sometimes declare as Serbian or other.



Table 3.
Informal recycler and Roma informal recycler census
calculations based on the technical field work¹¹

City/municipality	Total Population (Official Sources)	Registered Roma Population	Collectors Visiting Containers Observed During Research**	Estimated / Reported Number of Informal Collectors (including dump pickers)	Informal Collectors As % Total Population	Informal Collectors As % Registered Roma	Research Representativity = % Sampled As % Of Total Estimated Collectors
Aleksandrovac	22,522	84	10	20	0.1%	23.8%	50.0%
Belgrade	1,659,440	27,325	61	12,000	0.7%	43.9%	0.5%
Bela Crkva	19,367	791	4	30	0.2%	3.8%	13.3%
Brus	16,317	91			0.0%	0.0%	no info
Čičevac	9,476	174			0.0%	0.0%	no info
Krupanj	17,295	133	4	20	0.1%	15.0%	20.0%
Kruševac	128,752	2,461	21	150	0.1%	6.1%	14.0%
Kuršumlija	19,213	339	7	5	0.0%	1.5%	140.0%
Novi Sad	30,776	3,567	36	1,400	4.5%	39.2%	2.6%
Rekovac	11,055	41			0.0%	0.0%	no info
Šabac	115,884	1,902		250	0.2%	13.1%	0.0%
Svilajnac	23,551	324	16	20	0.1%	6.2%	80.0%
Varvarin	17,966	113			0.0%	0.0%	no info
Total in Sampled Cities	2,091,614	37,345	159	13,895	0.7%	37.2%	1.1%
Total Serbia (extrapolated)	7,057,000	147,604	159	46,881	0.7%	31.8%	n/a

* Extrapolated from the research data. Based on total population in 2016 of 7,057 million persons from Google (https://www.google.nl/search?q=Population+Republic+of+Serbia&ie=utf-8&oe=utf-8&client=firefox-b-ab&gfe_rd=cr&ei=3VJ4WeKYBorSXo7pulgP) and total Roma population of Serbia of 147,604 (2011 figure) from Wikipedia (https://en.wikipedia.org/wiki/Romani_people_in_Serbia)

** Not adjusted for the percentage of Roma and Non-Roma observed by containers in each municipality.

Extrapolating from the results from container observation in 11 cities (of which some showed hardly any informal activity) provides the first opportunity to develop an estimate of the total number of informal recyclers in Serbia, which appears to be around 47,000. The combined population of the observed cities is about 30% of the total population of Serbia, so despite the fact that there are many estimates "behind" these numbers, they represent substantial progress in arriving at some form of census.

The research generally confirms the global experience that informal recyclers represent about 1% of the population: the calculated 0.7% in Serbia is slightly less than the global average and not surprising considering that Serbia is in Europe, where the high level of development of solid waste laws reduces spaces for informal activity. The results are also consistent with anecdotal data on Serbia (from conversations with the Niš Syndicate, informal recyclers, the Chamber of Commerce and Roma activists) which suggests that about a third of Roma are working at least some of the time as informal recyclers.

¹¹ The last three columns and the final row have been calculated and added by the Editor.

The container observation also reinforces the idea that larger cities, in this case Belgrade and Novi Sad, have a much larger percentage of container collectors, as there is much more waste "available". This is in contrast to smaller municipalities, where the percentage of container pickers compared to the total population is much smaller, due to lack of waste materials, but also due to the availability of other types of economic activity – such as agriculture, household maintenance, and the like¹². The fact that the highest percentage of population involved in waste picking is shown for Novi Sad may be a doppler effect of the extra observations done in Novi Sad as the host municipality of the researcher, and as having been the focus of other research initiatives as well.

¹² It should perhaps be emphasized at this point, that the study focused on containers, not on dumpsites (or sanitary landfills). The reason for a lower level of container activity in smaller municipalities may be related to whether or not there is a dumpsite which is operating, because in those places the containers may be less attractive than the dumpsite as a source for materials.

Chapter 2

Field Work and Findings of the Team 1: The Technical Research Team

2.4.2 Observations showing few or no container visits by collectors

No informal collectors or container visitors were observed in Rekovac, although anecdotally, or according to the impression of non-Roma residents, there is a strong presumption that informal collectors are active there. In multiple locations in Rekovac there are wire mesh containers which are used for separate collection of PET. During the three-day observations, these containers were half-full (see Photo image 5), but there were no informal collectors visiting the containers during the period of observation. In order to explain this, we asked local inhabitants about the ownership of the containers, and whether there are informal collectors who collect those materials, and the answers helped to explain the situation. In the town of Rekovac there is a local firm called "Eko Radoičić", which deals with PET. The representatives of this firm place wire mesh containers for PET, residents separate their PET at source, and put this waste material into the recycling containers, and the employees of Eko Radoičić periodically remove the PET from the containers to be processed at their place of business. PET is later sold to value chain buyers.

It should be noted that Rekovac is a rather small municipality with a reported population of 12,170 in 2011, so the researchers were able to confirm their estimates, that the amount of PET observed in the "cages" was a plausible accumulation over a certain period of time, which suggests that the observation there was no activity from informal collectors on any of these three sites was likely to be correct.

Conversations with the municipality and residents suggest to the researchers that the observed lack of evidence of container picking in Rekovac is an accurate reflection of the absence of informal collecting, which in turn is attributable to the fact that there is no place for collectors to sell material close to the municipality



Photo image 5
Half-full PET containers in the Rekovac municipality

In the municipality of Kuršumljija, the observations of containers located inside the borders of the town of Kuršumljija recorded an unexpectedly low number of informal collector visitors, even though local inhabitants reported to the researchers that there are actually a significant number of informal collectors living in Kuršumljija, and bringing materials back to their houses there. The fact that the Kuršumljija collectors are sourcing their materials from containers located in surrounding villages would seem to adequately explain the low incidence of container visitors to containers inside Kuršumljija during the research.

2.4.3 Reflections

The researchers note that the specialisation by material appears to be very strong in container pickers, and could be the basis for certain aspects of integration, such as licensing informal collectors, providing ID cards, and improving the marketing agreements.

03

Chapter 3.

**Field Work and Research
Results of the Team 2:
The Social Research Team**



3.1 Key Research Questions

The Social Research Team focused their research on Roma collectors, their families, and their communities. The research questions explored social characteristics, economic aspects of collecting and the value chains; the researchers paid special attention to socio-political disadvantage and power relationships of RIRs in Serbia. This team made a strong assumption that persons encountered in a Roma settlement are of Roma ethnicity.

The key research questions for the social team were:

- What is the demographic and social profile of informal collectors and their communities?
- What do their work processes look like, what is the intensity of their waste picking activity?
- What are their relationships with buyers in the value chains?
- What other interactions do they have with other formal and informal participants in the system?

3.2 Methodology. Representativity and Key Assumptions

The Social Research Team visited and conducted in-depth semi-structured interviews at sites of activity in the recycling chain, such as settlements where Roma collectors live, recycling shops, and specifically Roma communities or ghettos (the mahala). The interviews were also conducted in the landfills in Aleksandrovac, Kuršumljija, Svilajnac and Bela Crkva. For political and operational reasons, the researchers were not given permission to enter the landfill in Novi Sad.

The first visit was to make acquaintance and get an orientation. The interviewers went to the settlements and asked friendly-looking men if they were collectors/ or are doing the work of collecting. When someone was ready to answer, they continued with the preliminary in-depth field interviews, making acquaintance, and maintaining a friendly and relaxed attitude to set the interviewees at ease and reduce their suspicions of strangers. At no point was there a request for the name of the person(s) being interviewed, and no identifiable photos were taken.

After the first visit, either the Social Team or the Governance research team made a second visit to each settlement, to talk to the residents in more depth. Because the identities were not recorded, there was no way to intentionally talk to the same persons, so these second interviews of necessity covered some of the same information as the first. But the fact that it was a second visit seemed to result in a higher level of trust, and the interviewers had the impression that information was more freely given and the answers were in general more in depth.

Both first and second interviews proceeded along a semi-structured series of questions which included some of the questions that follow, depending on circumstances and moving in response to the answers given. All interviews were conducted in the Serbian language. The interviews were recorded as text, and later analysed for systematic demographic and practical information, shown in Table 4 and Table 6.



3.3 Results

3.3.1 Factual demographic information

Table 4.

Factual demographic information extracted from semi-structured interviews, N=24

interviewee identifier or place, time of interview	age of person	sex	number of children, grandchildren	coming from, where, when	number of years there (rounded up to nearest year; forever: years = age)
Novi Sad – Greentech	23	M	Wife and 3 kids (parents died and they also collected OCC)	From village in Vojvodina	1
Novi Sad – Greentech	25	M	Wife, parents and son	From village in Vojvodina	5
Svilajnac – near high school	45	M	4 children	Internally displaced from Kosovo	15
Novi Sad – Novo Naselje by the road	34	M	Wife and 3 kids	From village in Vojvodina	3
Novi Sad – Veliki Rit – middle man	60	M	Wife, sons and grandchildren	IDP from Kosovo	17
Bela Crkva	55	M	He lives with wife; 2 adult daughters who don't live with them	Since ever they are born here	55
Aleksandrovac	NR	M	(4 brothers with families and they all live in landfill, 8 children – 14 adults)	Kruševac was farmer, moved to landfill after their house was destroyed	4
Novi Sad informal settlement	48	F	2 children with her and two adults who rent flat; she lives here with brother in informal settlement	Born in the village in Vojvodina	5
Bela Crkva, landfill	55	F	With son, no husband, no parents	Born in the village near by	NR
Kuršumljija – landfill	30	M	Two children; and 5 kids from previous marriage of his wife	He was born in village near by: Grabovica	3
Novi Sad – Novo Naselje	50	M	No family	From the village near Novi Sad	5
Novi Sad Novo Naselje – informal settlement	NR	M	NR	Born in the village in Vojvodina	5
Novi Sad – Veliki Rit	26	M	With parents and brother – he work together with brother and parents collected before	IDP from Kosovo	17
Novi Sad – Veliki Rit	45	M	Wife and 4 kids, the son works with him	IDP from Kosovo	17
Svilajnac – women in the landfill	60	F	2 adult kids, 3 grandchildren	NR	NR
Novi Sad – Veliki Rit	45	M	With one adult and 3 small children; widow	IDP from Kosovo	17
Kuršumljija – collector/buyer	30	M	2 children, living with parents and wife	He is born in Kuršumljija	30
Bangladeš – owns a container	35	M	Wife and 3 kids	He was born here	35
Novi Sad – Greentech	40	M	Wife and 3 kids	Born in Novi Sad	40
Novi Sad – Veliki Rit	35	F	Husband – who collects with the oldest son and 7 children	She is born here, her husband in Sremska Mitrovica	35
Novi Sad – Veliki Rit	46	F	3 son, 2 nd husband, grandchildren (26 family members in total)	Bosnia	20
Novi Sad – Veliki Rit	20	M	With wife and parents who also collect PET and OCC (OCC)	Kosovo	17
Novi Sad – Veliki Rit	40	F	Son	Born here	40
Svilajnac – men in the Roma settlement	34	M	4 children	He is born there	34

Chapter 3

Field Work and Research Results of the Team 2: The Social Research Team

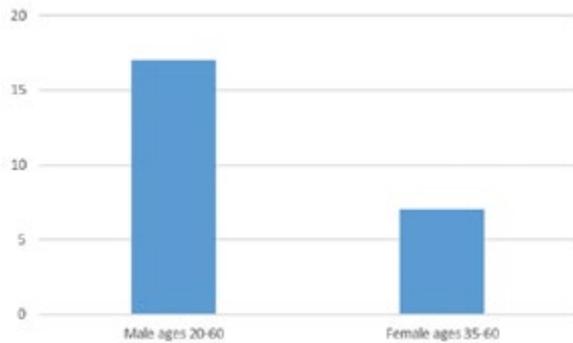


Figure 20.
Age and sex of those interviewed

The researchers observed about the same percentage of females and males, with the males having a larger age range, starting at around 20 years of age. The interviews

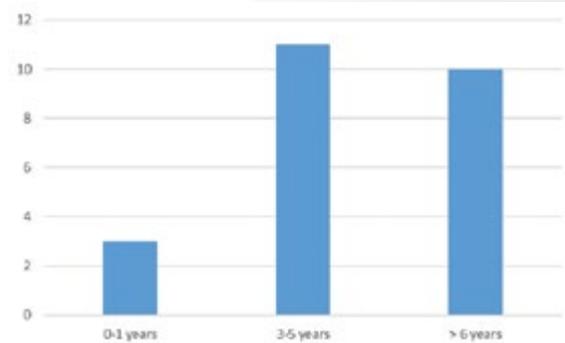


Figure 21.
Years in collecting by number of persons

show that there is a high incidence of those who have worked more than one year as collectors, but that the rest of the collectors interviewed split almost evenly between those working 3-5 years and those working more than six years.

Table 5.
Factual occupational information from semi-structured interviews, N=24

interviewee identifier or place, time of interview	level of schooling	years as collectors; (rounded up to nearest year; forever: years=age)	material	other income	form of transport/ place of storage	costs where mentioned (NR=not reported)	info on income, hours/day, kg/day when reported
Novi Sad – Greentech	Elementary school	1	PET	None	Bicycle with basket	To by bicycle	Selling to the Greentech
Novi Sad – Greentech	Elementary school	1	PET	None	Bicycle with basket	He mentioned costs that he had as employee of PUC	6 hours per day
Svilajnac – near high school	High school	1	PET, OCC	Social help, physical work	Stroller	NR	He collect 6 – 7 bug bags per month; in one is around 26 kg; he sells for 18 RSD per KG
Novi Sad – Novo Naselje by the road	Elementary school	3	PET, OCC	None	Bicycle with basket	NR	4-5 hours; 3-4 big bags per week
Novi Sad – Veliki Rit – middle man	High school	3	BUYER	None	NA	Nothing	He is buying from 23 per KG and sells on Ton from 30 RSD per KG
Bela Crkva	Elementary school	3	PET, OCC	Social help (waiting for the pension)	Bicycle with basket	Nothing	NR
Aleksandrovac	No school	4	PET, OCC	None	They collect from the truck in the landfill	Nothing	Per month 3 tonnes they collect; 15 RSD /kg;
Novi Sad informal settlement	No school	5	PET, LDPE, OCC	None	Bicycle with basket(shared with her brother)	Nothing	8 RSD per kg for cardboard; 5 for paper; 18 kg for PET; 7 – 9 000 RSD per week
Bela Crkva, landfill	Elementary school	5	PET, OCC, UBC	None	She collect at the landfill	Nothing	60 kg per week

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Field Work and Research Results of the Team 2: The Social Research Team



interviewee identifier or place, time of interview	level of schooling	years as collectors; (rounded up to nearest year; forever: years=age)	material	other income	form of transport/ place of storage	costs where mentioned (NR=not reported)	info on income, hours/day, kg/day when reported
Kuršumlja – landfill	No school	5	formerly PET, now he collects rigid plastics	Nothing (previously he work in wood etc.)	Car but it is not registered	NR	He is able to collect 500 kg maximum per month and now he pays 20 RSD per kg for plastic and bottles also;
Novi Sad – Novo Naselje	NR	5	LDPE, metal, PET	None	Bicycle with basket	NR	30 000 RSD in average
Novi Sad Novo Naselje – informal settlement	6 years of elementary school and he was stealing when he was young	5	PET, LDPE OCC	None	Bicycle with basket (shared with sister)	Nothing	They collect 10 big bags per month
Novi Sad – Veliki Rit	Unfinished elementary school	5	PET, OCC	waiting for social help	Bicycle with basket	Nothing	NR
Novi Sad – Veliki Rit	No school	5	PET, OCC	None	Bicycle with basket	50 euro for bicycle with basket;	NR
Svilajnac – women in the landfill	NR	6	PET	She is regularly employed in PUC	No transport and no storage – she collects for others since she doesn't have a storage place	NR	She earns 600 RSD per day, but she works only 2-3 hours she sells for 18 RSD per KG; she sells once a week
Novi Sad – Veliki Rit	High school	6	PET, OCC	None	Truck	3500 invested in the truck	22-23 RSD per kg; 3 bug bags per week – around 400 EUR per month
Kuršumlja – collector/buyer	High school	6	PET, OCC	None	Car	NR	5 hours per day – he collects from grocery shops and he also buying from people who are collecting in the landfill
Bangladeš – owns a container	No school	6	OCC	Seasonal work in agriculture	Bicycle with basket and he has container from Papir Servis in front of the house	NR	800-900 kg in container, NR on time
Novi Sad – Greentech	High school	8	PET	Social help for his wife	Bicycle with basket	NR	NR
Novi Sad – Veliki Rit	Elementary school	10	PET, OCC	Social help	Bicycle with basket and they have container in front of the house	Nothing	NR (in the landfill could ear 1200 RSD per day for 6 hours)
Novi Sad – Veliki Rit	Elementary school	10	PET, clothes	None – son work privately – physical job	Bicycle with basket	NR	4 – 5 hours per day; it depends; 23 RSD per kg of unsorted PET, 23 RSD per kg ; he work 5 hours per day on average
Novi Sad – Veliki Rit	No school	10	PET and OCC	He works for salary	Bicycle with basket	NR	15 000 RSD per month



interviewee identifier or place, time of interview	level of schooling	years as collectors; (rounded up to nearest year; forever: years=age)	material	other income	form of transport/ place of storage	costs where mentioned (NR=not reported)	info on income, hours/day, kg/day when reported
Novi Sad – Veliki Rit	Elementary school	15	OCC, clothes	None	Nothing	To invest in bicycle	NR
Svilajnac – men in the Roma settlement	Elementary school	34	Metal	Social help; he was in Germany 2012	Van	NR	Around 40,000 RSD for electricity, books for kids, food etc.

3.3.2 Results: insights and case stories

This team used a case story method to analyse the interviews and assist in creating a profile of the Serbian informal collecting and trading sector. Case stories allow the researcher to understand the system through the lens of statements of individual collectors and their families, and capture individualised, detailed and personalised information. The method involves generalising information and identifying patterns, by filtering the information through the intuition and experience of the researchers. The process of interviewing, and then writing the cases, allows the system features to emerge clearly and with some individual and location-specific variation.

The formulation of a relatively large number of case stories by this team has produced important insights. The following sections group the case stories loosely by topic.

3.3.3 Relations with stakeholders in the service and value chains

Generally speaking, the collectors reported several different institutional contexts for their collecting activities:

1. In Svilajnac, Kuršumlja, Bela Crkva, the collectors go to the landfill to collect but do not have any kind of relation with or permission from the JKP.
2. In some cities, specifically Aleksandrovac, collectors work on the landfill in direct personal cooperation with PUC – but are not selling to them. In parts of Novi Sad, there are authorised pickers working on the landfill under a deal between the city and a junk shop (Ružica). In this case the pickers receive a daily fee of RSD 1,200- RSD 1,300 per day), in return for which, they have to give up the materials to the junk shop.
3. Some of those co-operating with the PUC report that they used to be container pickers, but that since many of the containers have been replaced by underground containers, their access has been restricted, so they have to do something else.
4. Pickers who have access to a place for storage of materials are selling once a week or twice per month; the majority of them do not separate PET (from other plastics), since the price difference is small.
5. Some pickers collect from the containers and also directly from small commercial sources such as shops, offices and cafés; owners and workers agree to save the materials for them. The researchers believe that this is more likely to be the case for non-Roma collectors, since the Roma collectors are

accustomed to experiencing discrimination and are therefore afraid to approach the institutions, organisations or firms directly to ask for materials.

3.3.4 Reasons to begin collecting, choices to continue collecting

Few alternatives or other alternatives have disappeared:

1. Internally displaced persons (IDPs). IDPs, many from Kosovo – are in an economically difficult position, as they often lack documents or a fixed place of residence, and without these basics there is no possibility to get a job or social aid or any other form of assistance. They report that the buyers have in many cases approached them and invited them to start to collect specific materials; the main investment is a bicycle for personal transport and to move the materials.
2. Readmittees: This will also become – or is already emerging as – the situation with some number of the Readmittees to Serbia, with the additional complication that they or their children or grandchildren may not speak Serbian, because they have grown up and been to school in France, Germany, Austria, Italy, or other countries.
3. Decrease in agricultural work: Some collectors are local residents located mostly in the Vojvodina, who previously worked in seasonal jobs in agriculture. Collecting is better work: more available, attractive, better known, safer, more dignity or more comfortable, or pays more than other forms of work.
4. Some people prefer to work nearer their homes and settlements, so they don't have to travel and so they are in the community, with people they know.
5. Some have perceived or real problems with employers who are not fair with payments – they have to wait for the money, whereas with collecting they get money every day that they are able to sell.
6. Some choose collecting because it pays better than other work: some collectors reported that they could work for the JKP in Kruševac, but it would pay less than they are earning from collecting.
7. Some are children or grandchildren of collectors and have been involved in selling metal and OCC; later they started to collect PET and moved into the city.
8. Some collectors began to collect after they learned about the value of materials during their work for a PUC. Sometimes these formerly PUC-employed collectors are non-Roma.



9. For the women collectors, especially those without men at home, they choose collecting as being preferable to the most easily available alternative, which is prostitution. In general, the balance and decision factors are somewhat different for women than for men. Roma women who are married or have men at home are not normally working – they are staying at home to take care of children, manage the house, and manage decision-making in the family. Those who are working as collectors are usually single mothers or widows or those without men at home.

3.3.5 Problems in collecting

Collectors stated that their key problems with collecting include the following:

1. Underground containers dominate the modernisation models for large cities: In larger cities, above-ground containers are being replaced by underground containers so that there is no access to most of the materials;
2. Underground containers to prevent waste picking: Some JKPs are placing underground containers specifically in such a way as to prevent informal collectors from having access to the materials;
3. Health and safety problems at dumpsites and landfills: For dump pickers¹³ who work on the landfill, they experience it as unhealthy and unsafe to work collecting materials on the landfill or dumpsite;
4. PUCs are inexperienced traders of recyclables: When selling materials to the PUC, collectors are irritated by what they themselves call “amateuristic” procedures at the PUC. They are referring to a requirement of some PUCs to check each bottle¹⁴;
5. Winter: there are problems collecting when it is cold and bicycles and other forms of transport have problems when there is snow and ice.

Most of these problems appear to be related to the physical system but a closer look reveals that they may have an institutional / EU accession root cause.

- Underground containers are entering Serbia as part of large-scale modernisation of waste systems, and probably also because the Western European-based private collection companies prefer them. In the

perception of the informals, these containers are also deliberately placed to discourage container picking.

- The inexperience and lack of trading expertise of the PUCs is also an institutional issue: they are public waste and cleaning companies, and generally act as if the whole

¹³ The term ‘collector’ is used in Serbia to cover a range of sub-occupations including those globally referred to as: street picker, dump or landfill picker, container picker, itinerant waste collector, truck picker, or swill collector. See Scheinberg et al 2016 for more about European informal occupations.

¹⁴ This is a reasonable complaint, and suggests that the collectors know the value chain procedures well – and the PUCs do not. Most medium-level junk shops and other value chain buyers start a relationship by demanding a sample from a supplier, and if they are satisfied, they create pricing and purchasing agreements based on trust and their experience with that specific supplier. Quality control via spot-checking is normal; prices may be adjusted after a bad load or continued violation of standards, but individual bottle inspection is indeed unusual and amateurish, and a professional would do this only in the case of notoriously unreliable suppliers. The comment of these waste pickers suggests that not only do they understand this, but they consider this practice of the PUC to be an insult to their professional integrity (which it is).

activity of “recycling” is only related to putting out special containers. Moreover, according to the collectors (see below), the recycling chain stops with collection, and the materials never reach the value chain. They report that in some cities the PUC simply brings the PET bottles it has bought from the collectors to the landfill along with the other waste.

3.3.6 Collectors’ ideas about improvement (proto-integration)

Ideas for improvement suggested by collectors in the interviews generally fall into two categories of interventions. These are extremely interesting and can be considered, in the framework of this study, to be authentic collector ideas about the functions and goals of integration. The first is based on improvement of their physical resources and infrastructure, the second is about improved institutional relationships.

1. Physical Operations Improvements: Scale up the operations to improve their reach, operations, logistics, or to add value to the materials, for example:
 - a. buy a (better) vehicle;
 - b. gain access to a baling machine to be able to bale and pack PET (and OCC);
 - c. organise storage places, buildings, etc., especially close to the city centre where most materials are generated.

The specific suggestions listed above can all be seen as part of scaling, add point to the interest of collectors to harvest more materials, add more value to them, aggregate larger quantities, prepare them to meet value chain specifications, and have better logistics infrastructure to transport them¹⁵. The overall thrust is to be able to negotiate better prices and produce higher-value materials that are worth those prices. This is not only a reasonable ambition, it speaks for the experience and knowledge that the collectors have, that they have these goals.

2. Institutional Improvements: Organise and/or intensify co-operation with the public utility companies, national EPR operators, and other solid waste stakeholders, who have an obligation to recycle and are engaging in collection activities, but are not doing anything with collected materials. This would in general entail some dimension of formalisation, such as moving informal understandings into the domain of formal and legal arrangements or agreements. But it would be win-win because real recycling would happen, and the collectors and the value chain would benefit. In the interviews, collectors reported (repeatedly) that they have witnessed that separately collected materials are ending up in the landfill. Some examples are:
 - a. Organise agreements with collectors to market materials on behalf of the PUC. Some (unconfirmed) reports from collectors in Novi Sad state that they have semi-formal

¹⁵ The value of recyclables in the market is never absolute. The highest prices are set in Asia for high quality materials delivered to (FOB) Asian mills, generally in Korea, Taiwan, China, and to a lesser extent India and Malaysia. These are published once a month or once per week in industry-owned market publications and on-line. Prices in other parts of the world for high-volume high-quality materials (within the official contamination tolerances) are “stepped-down” from the Asian prices. In general, the more that is offered in one shipment the higher the per tonne or per kilo price, with the lower boundary often around 10-20 tonnes per week. Below this the prices are severely discounted because of the very high transaction costs.



or informal agreements with “people who probably work at the PUC” to take PUC-collected materials, and sell them to private value chain buyers, in a kind of tolerated but unrecognised partnership, where the PUC does the collection and the collectors, as value chain agents, do the marketing. Those reporting this also suggest that the PUC management is informed and tolerates the arrangement, because it is serving a need of the PUC to move collected materials to the value chain.

- b. Note: Local Roma collectors state that they prefer to sell to a private operator (and professional) because of the sense of confidence and transparency for a business to business transaction. Moreover, they prefer to sell to the private company which allows them to sell the jumbo bag and leave. They have friendly and professional relations with the women who work there. Legalise, control, permit and upgrade landfill picking: collectors are tolerated working on public landfills, but without recognition and control. This means that they are working without any protection. There is a model for legalisation based on permits, perhaps in combination with recycling companies who provide protective equipment, bigbags, storage infrastructure, and also agree to purchase transport
- c. the materials (a model seen in the 1990s at Hungarian landfills and in 2012 in Botswana).
- d. Subcontract post-collection separation. In Kruševac, the JKP started a post-collection separation and they are employing some people in a form of public service work, but the local collectors do not find this attractive, because they are doing only part of the work and are not being paid properly. If the separation were subcontracted to the collectors (potentially in combination with the collection), the collectors could control it themselves and sell to their preferred buyers.
- e. Subcontract door to door collection of recyclables to collectors or families of collectors.

Table 6 presents some key problems that emerged from the 24 interviews, and the ideas and solutions offered by the collectors interviewed. The case stories give these answers some more structure and detail.

3.4 Case Stories from the Interviews

3.4.1 Papir Servis Novi Sad – waste picker co-operation vs the tax authorities

Most of the recycling shops interviewed are looking for ways to improve their cooperation with collectors in order to secure a stable influx of recyclable materials. Papir Servis,¹⁶ founded in 1921, and now a member of Kappa Star Group, is located a small distance outside of the city of Novi Sad. Papir Servis has stimulated “their” collector-suppliers to cooperate and jointly organise transport and sale of their materials. The collectors reported that there was enough trust among the collectors to organise this so that the driver was paid for the materials on delivery, and later redistributed the money to his colleagues in the settlement.

¹⁶ <https://www.papirservis.rs/>

Unfortunately, this created a problem for the driver with the tax authorities: because he signed the receipt on behalf of all the others, he had too high an income on his giro account, so that the tax authorities asked him to open a formal business. The driver found this too risky and too expensive because of the taxes, which should also have been divided between all the sub-suppliers, and the co-operation fell apart.

Insight: problems with the enabling environment may be discouraging collectors to organise among themselves.

3.4.2 Bangladeš Settlement – waste pickers alternating waste and (agricultural) day-labour

In the “Bangladeš” settlement the collectors alternate collecting with other income-producing work picking fruit, or doing other seasonal labour in agriculture, or odd jobs such as cleaning of basements and yards. For the collectors this is a risk-spreading approach to income security. But they report that it also has a disadvantage: it lowers their status with the recycling shop buyers who perceive the part-time collectors as ‘unreliable’: when the prices of materials are low, or better paid work is available in agriculture, the shops cannot count on those collectors to deliver materials.

Insight: there may be some room to negotiate with buyers to provide some form of the risk-reduction for collectors, in order to ensure a regular flow of materials; or to introduce some kind of value chain testimonial or qualification for collectors so that they don’t have to re-establish their competence and integrity each time.

3.4.3 Veliki Rit Settlement – recycling shops competing for waste pickers push cooperation with them to new level

Veliki Rit is one of the largest Roma settlements in Novi Sad and is one where the residents are the most active in waste picking. Two recycling shops on its periphery are competing for packaging waste from residents, and this competition between recycling shops leads to their seeking to secure the allegiance of collectors. For this reason, one buyer is helping a collector to open his own recycling shop in the settlement. This collector had previously been successful in mobilising municipal support for building a drinking water fountain in the settlement, now he attempts to get support for having a spot in the settlement cleaned up to open his recycling yard.

The other recycling shop started a loyalty development strategy to get some of the extended families in the settlement to consistently sell him their recyclables. He is choosing to employ some of the younger collectors in his recycling yards to create an incentive for their families to sell to him rather than to the competition. For him strategic employment is a form of marketing, having the effect of generally improving his ‘popularity’ and standing in the settlement.

Insight: recycling shops in Serbia appear to have more demand for materials than they can meet.

3.4.4 Novo Naselje Settlement – cooperation of organised waste pickers with recycling company

Waste pickers have good experience with the multi-material recycling company Greentech, specifically in terms of selling PET. The settlement consists of one extended family whose members provide such significant amounts of material that one family member was invited to become a member of the syndicate of Greentech. This gives them some bargaining



power in relation to the prices of PET. But without some price guarantees, there is still the risk that when prices drop some or all of the family members will withdraw from collection and go back to agricultural work.

Insight: recycling shops have unfilled demand.

3.4.5 Extension of supplier network through neighbourhood recycling shops

Building the collection network is the task of national operators of EPR programs, such as Ekostar Pak and Sekopak. In general recycling shops and neighbourhood organisations invest most in strengthening their supplier network. We see this in Zelena kuća, with the Gole buyer in Aleksandrovac, and with Živimo zajedno in Belgrade, all of which are supported by one of the national operators. Recycling shops and neighbourhood organisations are better positioned than public institutions (such as JKPs) to expand their supplier network to extract recyclables from communal waste. They are nearer to the citizens than communal enterprises; the JKPs have a primary focus on the public containers, and for them the physical system is a more natural area of attention than actually talking with households or small generators of recyclables.

Insights: a) Some form of intermediary may be necessary to facilitate integration with communal companies or the public sector. b) JKPs may not be the right institutions to institute source separation via door to door or container collection; recycling shops and neighbourhood organisations have a better chance of understanding and co-operating with the value chains.

3.4.6 Aleksandrovac landfill – place of work and residence

Usually in places where there are no recycling shops, there are also no collectors. Aleksandrovac is an exception. These collectors were traders in other sectors before moving into the recycling sector. They have used their organising capacity to establish relations with Papir Servis in Kruševac, where they lived before, and have succeeded to organise purchase of recyclables from the landfill at Aleksandrovac. Communal enterprises acknowledge their presence on the landfill on the basis that they informally work as 'security', informing communal enterprises about problems at the landfill such as burning or illegal or out of working time dumping.

Insight: here is a form of co-operation which is tolerated but not institutionalised. It is vulnerable to political changes and would be more secure if institutionalised in law and/or contracts, so that it could be a modality for structural integration, formalisation and integration.

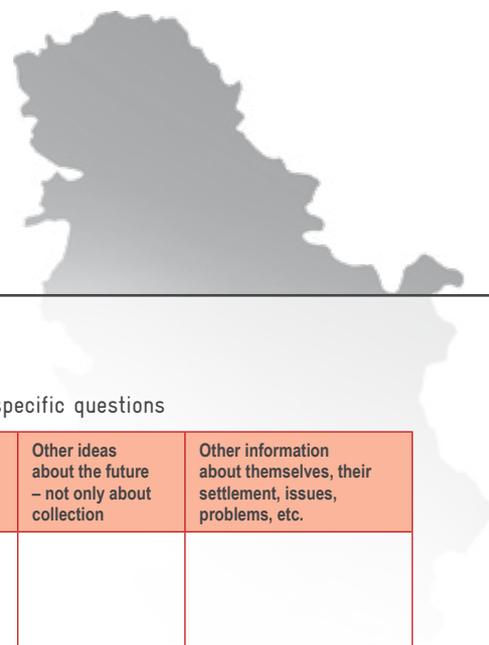


Table 6.

Problems, plans, ideas about the future from semi-structured interview.

NB: N=24, but interviews are omitted when they produced no recorded answers to these specific questions

Interviewee identifier or place, time of interview	Problems with collecting/ trading	Ideas about solutions	Ideas about the future of collecting	Other information about collecting	Other ideas about the future – not only about collection	Other information about themselves, their settlement, issues, problems, etc.
Kuršumlja – collector/ buyer		Needs business license	Registration of Business including, subsidiaries; preparing business plan; get a business licence			
Kuršumlja – landfill	Not able to collect the one tonne per month needed for a better price; payment delays		-		To get more livestock and try to get social help	They are not able to get social help since they have livestock and the house
Svilajnac – women in the landfill	No vehicle	-	-	She collects in the landfill; selling once per week	-	She is employed in the PUC
Svilajnac – men in the Roma settlement	Low price	Better price	No	-	He tried to go in Germany but would prefer a good job	The living costs are high and the main problem is the lack of working places for Roma population
Svilajnac – near high school			Registration of business and to get a machine	He started a few month ago and this is enough to get some small, additional amount of money		They live in rented house – they don't pay, but they are helping the owner
Aleksandrovac	Not able to get social help and documents; landfill conditions bad, especially for children		To get a machine	They are collecting from the PUC truck when it arrives in the landfill		They live in the landfill; they don't want to move, since here they live 'on' the source of material;
Bela Crkva	-	-	-		To get pension	
Bela Crkva, landfill		Better price	-	She collects from the landfill	-	She and her son live in an abandoned building in the city centre;
Novi Sad informal settlement	Underground container problems		-		-	
Novi Sad – Veliki Rit	Underground container problems		-		-	
Novi Sad – Veliki Rit	Underground container problems		-		-	
Novi Sad – Veliki Rit	Winter when they have to walk	To get vehicle	-			
Novi Sad – Veliki Rit	Underground container problems	-	-			
Novi Sad – Veliki Rit	Underground container problems	-	-			
Novi Sad – Veliki Rit	Underground container problems	-	-			
Novi Sad – Greentech	-	-	-	Collecting is better than a job; he organises his time / can earn the same money		He was working for the PUC but was injured and had to stop.

NR = No response or no specific answer to the question

- no information in this category in the recording of the interview.



3.4.7 Recycling shop Gole

When communal enterprises first started to engage in recycling, they cooperated with one local buyer, who moved beyond collecting and trading recyclables, to offering education in schools about recycling. He also started to clean up illegal dumps in and around the city's rivers and woods. Despite the good co-operation, he did not receive any support from the national EPR operators. He went bankrupt because of the transportation costs, which he had to pay. He was also at a disadvantage compared to the collectors on the landfill, because the communal enterprises provide the transport for recyclables picked by dump pickers from their public sector budgets.

Insight: in this example the communal enterprise was gaining considerable positive externalities from the activity of this buyer, and it would have been quite reasonable for them to pay him a "diversion credit" per tonne or per trip, that would cover his transport costs and keep him operating. Instead they used their public subsidies to compete with him.

3.4.8 Kuršumlja – waste picker/buyer organising collection from cafes and small shops

One collector (the interviewers believe he was a non-Roma) became a formal entrepreneur. His main advantages in comparison to other collectors were that he already had his own means of transport (that allowed him to adapt to the needs of waste generators), and he succeeded in getting support by the municipal inspection to get cafes to put their recyclables in front of their doors for him to pick up.

Insight: It may be more difficult for Roma than Non-Roma to make this type of arrangement. If there were more recognition and less discrimination, this activity is a win-win formalisation approach, diverting more recyclables from disposal and providing more livelihoods

3.4.9 Svilajnac – conflicts over recyclables on the landfill

Some communal enterprises like the one in Svilajnac have installed containers around the city for the collection of PET. These are emptied on the landfill in a special location to be sold on a regular basis. Collectors on the landfill work individually to pick up and sort the PET and make it ready to sell to a local recycling shop, whose owner comes by every day to collect the full jumbo bags of PET. It's an effective but very inefficient system which is more common in countries like Haiti and Malawi than at the borders of the European Union.

An additional third party is a guard on the landfill; he has also been collecting materials for some time and has a conflict-laden relationship with the collectors. This also contributes to inefficiency and insecurity for all concerned.

If the JKPs had more stake in achieving recycling targets, they might choose to pay more attention to these issues, especially where there is room for a positive (win-win) intervention to improve collection and trading of recyclables, increase the recovery results, stabilise the position of collectors and the guard, and take steps to minimise or avoid conflict.

Insight: Solving problems at the landfill could improve the recycling there, but recycling at a landfill is never ideal. In fact, it would be a better idea for the communal enterprises – in

co-operation with national EPR operators and collectors – to support collectors to find and organise storage in the centre of the city, so that the PET containers are directly brought there – under the responsibility of collectors – and the PET is cleaner and the landfill is purely for disposal.

3.4.10 Kruševac – attempts to organise cooperation between the JKP and waste pickers

The NGO Treehouse tested an inclusion model for collectors in cooperation with the communal enterprise in Kruševac. They encountered the problem that the communal enterprise does not understand or acknowledge the nature of the work of collectors, nor its value for their operation. The JKP asserts their pre-existing ownership of the materials, and refuses to pay collectors since it would be to "buy our own material back from them". This attitude represents a clear indicator of a need for municipal and JKP capacity building, to provide information on the operational and economic value that the collectors are doing for the local authority and the JKP. It clearly suggests that the JKP does not use (or understand) activity-based budgeting, and they probably do not have any clear understanding of what the different operations – including collection – are costing them, and therefore they cannot understand that the collectors are adding value to their operation, and they are unlikely to be able to calculate that there is a savings in their overall waste collection costs when the recyclables are removed.

Insight: integration is a system-wide intervention, and there is a need for capacity strengthening of formal actors so that they can understand and attribute value to the real savings and positive externalities that informal collectors are creating for their cities. In this case the appropriate intervention would be to require activity-based budgeting and give capacity assistance to the JKP in Kruševac.

3.4.11 Workfare programmes do not produce high-quality recycling

In the recycling yard of communal enterprises, half of the workers are employed via 'activation programs for unemployed' (generic English name: "workfare"). This means that they have a limit on the time they have to work and individuals are replaced every few months, when the financial support by the Employment Agency for that individual expires. This is a common practice, which does not actually produce employment. Moreover, it stifles learning on all sides: those on workfare have no incentive to improve or understand what they are doing, and the JKP has no reason to be interested in learning about recycling.

3.4.12 Niš – Syndicate of Collectors of Secondary Materials – Local Boards and Potential Role

According to its registration declaration, the Syndicate is a democratic, voluntary, autonomous organisation, aiming to protect collective interests of collectors of secondary resources (recyclable materials and re-usable products) as well as offering support to unemployed individuals. The meeting to found the Syndicate occurred on January 28, 2011 in presence of 44 delegates from 30 cities and municipalities. According to Syndicate data, the number of members at its founding was 514, while today it has reached 2,000. It is the only trade union organisation in Europe that



specifically organises informal collectors of recyclable materials. Its goals include:

- Securing legal and permanent occupational recognition for “collectors of secondary resources” in Serbia;
- Strengthening solidarity and mutual assistance;
- Improving the social position and status of workers in the informal recycling sector;
- Improving the employment status of workers in the informal recycling sector;
- Facilitating the inclusion of collectors of secondary resources in the social dialogue at local and national level
- To date, 10 local boards of the Syndicate have been formed to support implementation of the goals, in the following cities/municipalities: Bela Palanka, Beočin, Bujanovac, Knjaževac, Leskovac, Niš, Novi Sad, Pirot, Prokuplje, and Vranje.

There is an intention and some on-going activities to establish more local boards in the network. Although its vision of implementation based on local boards seems a good strategy for working towards the organising goals, in practice, the work of Syndicate on supporting the informal collectors has not been constant over the years. Sometimes it becomes mired in discussions over “Roma Issues” (since most of its members are Roma). Moreover, it has been hampered by the lack of structural sources of funding which hampers the creation of stable leadership and management structure.

During the research, significant progress through the years was noted in the situation of collectors, due primarily the work of the Syndicate, which has worked on strengthening local initiatives of boards in Pirot and Niš. Niš, being the city from which the Syndicate initially started, was a good place for collector-members and leadership of the Syndicate to develop strong relationships with formal stakeholders, including the communal enterprise, the city, the value chain, EPR PRO organisations and donors.

The formation of Recycling Associations has linked to the Syndicate boards to local authorities and communal waste enterprises in these two cities, providing an appropriate space for licensing of the Syndicate’s recycling centres. Strong support from the public combined with the support of a German NGO resulted in direct provision of equipment to the two recycling centres, including tricycles and equipment for personal protection for the collectors; and some indirect assistance to informal collectors gathered around the two Associations.

These two cases are indicative of how a political organisation, which in its essence and nature the Syndicate is, can become instrumental in operationalising ideas of inclusion and integration, bringing informal recyclers into more stable relations with service and value chains. The real achievement of the Syndicate is its effectiveness in liaising with local government and the PUCs to create a consensus for inclusion of collectors in the waste management system. Thus suggests that supporting the existing local Syndicate boards and encouraging forming of the new ones can be an important ingredient in successful inclusion, formalisation, and integration of collectors in Serbia.

Insight: the Syndicate has succeeded to attract members because it works on solving their problems and improving their earning models. The discourse of the Syndicate leaders is not generally focused on doing anything about social support, but rather on negotiating better opportunities to co-operate with PUCs, as well as about infrastructure for collection, transport (specifically a truck,) needing better prices, seeking storage infrastructure. The Syndicate operates two junk shops, one in Pirot and one in Niš. It profiles itself as a labour union but in fact it is a business association and operator.

3.5 Research Results

3.5.1 Demographics

The research methodology, a case story method, produced a number of the in-depth cases and interviews. Those presented here have been selected on the basis of maximal contrast in order to ensure that as much variation as possible is covered by the research. The goal was not, in principle, to produce quantitative data and information on a census of or a socio-economic analysis of the condition or position of collectors. In contrast, such a case-based method is suitable for in-depth investigation social, economic and political relations in the service and value-chains. But there was enough information extracted from interviews to be able to assemble Table 7, which gives some indications of population and number of collectors per city.¹⁷

¹⁷ Official data of the Statistical Office of the Republic of Serbia. It should be noted that many Roma are “invisible” and the ones participating in a population census sometimes declare their nationality to be Serbian or something other than Roma.



Table 7.
Indicative estimates of population of collectors

City/municipality	Total population	Registered Roma population	Interviewees participating in research	Estimation of number of informal collectors per city ¹⁸ (PET, paper scrap metal)
Aleksandrovac	22,522	84	10	20
Bela Crkva	19,367	791	4	30
Beograd	1,659,440	27,325	61	12,000
Krupanj	17,295	133	4	20
Kruševac	128,752	2,461	21	150
Kuršumlija	19,213	339	7	5
Novi Sad	307,760	3,567	36	1,400
Šabac	115,884	1,902	0	250
Svilajnac	23,551	324	16	20
All Cities in the Study	2,313,784	36,926	159	13,895

Source: Elaborated by the authors based on analysis of Team 2

The study definitively established that municipalities do not maintain any kind of demographic data on Roma informal recyclers, while they do have data on the number of persons resident in the LSG who have registered themselves as Roma. The social research combined with the technical research has allowed the researchers to create Table 7, which should be understood as indicative rather than based on documentable facts.

3.5.2 Sexual harassment

We heard from female collectors about cases of sexual harassment on the street, which leads them to prefer to go collecting in company of their sons or husbands. Generally it seems that women are more frequently the ones that have regular contact with the Centre for Social Work, they are the ones involved with child care and applying for social benefits and thus are more recruited in activation programs of the Centre for Social Work. These programmes include finding temporary jobs for the women in Urban Greenery, parking service, cleaning crew in public and corporate buildings, or going back to school to complete the obligatory minimum education. We did not meet any cases of women (or men) who got stable, permanent, or well-paying employment via these programs.

3.5.3 Migration to Germany

Over 90% of those active in waste picking who participated in interviews, reported personal experience of or close relationship with migration to Germany. Either they had migrated at least once themselves, or they had a close family member who migrated there to seek asylum and/or find work. In many cases these persons were working in the informal economy in Germany, in low-skilled jobs such as construction, and without any insurance or protection in case of workplace accidents. In the interviews it was reported with considerable regularity, that the interview partners had good command of the German language or at least knew some basics. We also met a number of ex-migrants, who upon their return invested money they had earned in Germany in collection equipment such as handcarts, or a motorcycle.

Many also used this money to improve their dwelling: built a bathroom, replaced cardboard or plastic with bricks, or made other basic repairs.

Insight: paths to integration that offer an alternative approach to accumulation of capital could be developed to provide a strong alternative to migration. This could also be a useful approach for Readmittees.

3.5.4 Sex and age

The Technical research team was tracking visits to locations by the informal collectors; the information coming from this team serves to compare and check the data from the field interviews. From the Technical research team we additionally know that the group of container collectors in all municipalities shows a predominance of middle aged men, while in large cities (such as Novi Sad and Kruševac), a considerable number of younger persons were documented to be picking from public containers.

Svilajnac appears to be a place where young people, some of them of school age, are collecting, although in general the incidence of container visitors or interviewees who have the appearance of being 18 years of age or less, was low, and that of "children", defined by the International Labour Organisation as 14 years of age or less, was "negligible"¹⁸.

About 35% of the collectors that the Social and gender research team talked to were adult females. This ratio is aligned with data from the technical team, who observed that most collectors visiting the containers were adult men, with the highest percentage noted in Aleksandrovac, and lowest in Kruševac.

¹⁸ The researchers did not talk to the persons observed, so all age estimates were based on their judgements at a distance. The researchers also originally used the age boundary of 18, for school-age persons, rather than 14, for children. But when the question was raised, the researchers indicated that there were few "young persons and almost no children.



3.5.5 Roma and non-Roma

All teams used their own understanding of how Roma look – alongside whether they were encountered and interviewed in Roma Settlements – to distinguish Roma from non-Roma persons. Persons encountered in Roma settlements, regardless of their appearance, were assumed to be Roma. Outside of settlements the Technical research team members assumed that dark-skinned persons involved in collecting were Roma and light-skinned were non-Roma; the training for container observers also introduced skin colour as a primary marker of ethnic identity. If persons were recognised as speaking Romanës or if they themselves said they were Roma this also resulted in identification as Roma. It is likely that classifications were also influenced by other aspects of appearance or context – how people were dressed, where they were encountered, whether or not they are accompanied by someone else whose ethnicity is clearer.

Personal interpretation of the criteria may also be the reason that the percentage of collectors of Roma ethnicity differs from municipality to municipality, with Novi Sad and Kruševac with around 70% of Roma informal collectors. The smaller municipalities were found to have more non-Roma collectors, which could be explained by the fact that other economic opportunities are more limited in smaller municipalities.

3.5.6 Short Detour: Marketing Recyclables

The nature of the value chain is that of a food chain: individuals sell to families who sell to enterprises who sell to small scrap or recycling shops, and these sell to larger traders and processors. At each transfer there is a transaction of material. The price paid for the material is determined by a number of factors, starting with the global price set for that commodity in Asia. In general mixtures are worth less than “pure” grades, wet materials are discounted for the weight of the water; and materials from trusted suppliers will get a better price than those unknown to the buyer. Preparation – pre-sorting and baling or shredding – add to the price for experienced collectors but may lower it for new entrants, as if a poorly prepared batch is then chipped or shredded, its value goes down. Even more important is the degree of aggregation and accumulation. For example, a scrap shop selling one tonne per week of perfectly sorted and baled OCC (about 2–3 bales) will get a lower price per tonne than his neighbour selling 15 tonnes per week (about 40 bales, or a whole truckload). This is because of transaction costs and costs of verification of quality.

The best sellers have a good economy of scale, a long history with their buyers, and a degree of transparency and trust with their suppliers – everyone knows what they are getting and accepts the prices offered. But even then, global price fluctuations or a national decision of a country like China to restrict imports of recyclables can dramatically affect both the marketability and the price that collectors face.

3.5.7 Location and Type of Buyers

In general, the teams encountered several types of buyers: 21. those who developed “the shop” from their experience and success in informal waste picking – this is the case of two non-Roma men in Kuršumlja and Novi Sad and one Roma man in Veliki Rit.

22. small processors, sometimes referred to as “junk shops”, who are located in or near the landfill, or the Roma settlement, or who are itinerant and come to the Roma settlement to buy materials, and

23. formal single or multi-material recycling companies:

- Greentech, with a “core material” being PET but trading other materials as well;
- Paper Servis, focusing on OCC and paper (and trading some other materials through their Kappa Star sister company Ekostar Pak)

24. Communal waste companies (JKP/PUC), whose service chain operations lead them to be interested in recycling, and who may be doing some buying from collectors and/or some selling to processors, that is, numbers 2 and 3 above. Neither the commercial nor the policy success of these quasi-public quasi-private activities is yet clear: their interest in recycling appears to be opportunistic, and subsidiary to their public cleaning function, as illustrated by the reports of informal recyclers that JKPs collect the materials separately, only to take them afterwards to the landfill.

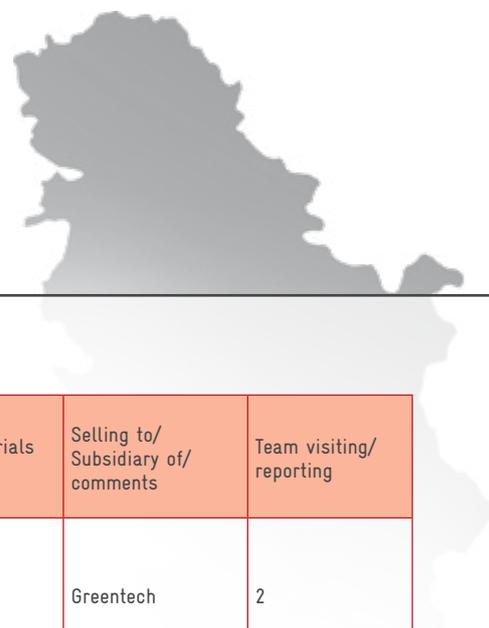


Table 8.
List of buyers recycling shops mentioned by collectors and/or interviewed by researchers

Name of Firm, description	Street / city/ town /GPS location	Name of proprietor telephone	Main equipment observed for (processing/ storage)	Main material bought	Other materials bought	Selling to/ Subsidiary of/ comments	Team visiting/ reporting
Recycling Shop Sale	Novi Sad	Sale	A few lorries, press, closed storage space for material and press	PET		Greentech	2
Recycling Shop Branislav	Novi Sad	Branislav	A few lorries, closed storage space for material and press	PET, paper		Papir Servis	2
Recycling Shop Dejan, small shop (but according to Greentech the biggest Novi Sad buyer of PET after Greentech)	Novi Sad, near Najlon Pijaca, in the North of Veliki Rit settlement	Dejan	A variety of machines, several closed storage/work spaces, a press, a mobile press integrated into a lorry, several lorries	PET	paper	3 companies, but not Greentech. PET to a Turkish company via intermediary in Montenegro. Seeks direct export to Turkey to get rid of the middleman in Montenegro, but export license difficult	2
Recycling Shop Velja and Sons	Novi Sad, near Najlon Pijaca, South of Veliki Rit Settlement	Velja	A press for PET, a lorry, a yard with a protective fence, a roof over the press	PET, paper		(see chapter on Veliki Rit for more information)	2
Recycling Shop Fatima and Selman, (start-up) They would like to officially register their business as recycling shop.	Novi Sad, Veliki Rit Settlement	Fatima and Selman	"measuring machine" from Dejan.	PET		"captive" to Dejan with equipment supplied by him. Small yard with provisional fence, they want to clean up one more yard next to their own, where there is a 'wild dump' at the moment. They need financial support to clean up the yard. (see chapter 'Veliki Rit for more information.	2
Recycling Shop Papir Servis Novi Sad	Novi Sad (near Veternik, by the stadium Vujadin Boskov)		Two or three closed storage and work spaces with several machines, several lorries	Paper	PET		Visit Team 2

Chapter 3

Field Work and Research Results of the Team 2: The Social Research Team



Name of Firm, description	Street / city/ town /GPS location	Name of proprietor telephone	Main equipment observed for (processing/ storage)	Main material bought	Other materials bought	Selling to/ Subsidiary of/ comments	Team visiting/ reporting
Neighbourhood Recycling Shop Zelena Kuca	Novi Sad, Petrovaradin		Equipped workshop to build containers and engage in re-use of old materials for new purposes, offers workshops for school children in re-use of waste materials	Glass, electric and electronic waste	Paper, PET		2
Neighbourhood Recycling Shop Zivimo Zajedno	Belgrade, Dorćol		One lorry, a house in Dorćol where two rooms serve as workshop for the separation of PET bottles from their lids	PET	paper		information Team 2
Recycling Shop Svilajnac	Svilajnac		Several presses and closed work and storage spaces	PET, paper, metal			2 & 3
Gole Aleksandrovac (closed his business, still has a press for PET)			A press for PET, a car he used to collect PET in the city (see chapter on Svilajnac)				2 & 3
Recycling Shop Milan Kuršumlja			See chapter on Kuršumlja				2 & 3
Recycling Shop Papir Servis Kruševac							3
Recycling Yard of Public Utility Services Kruševac							2 & 3

Team 1: Technical research team

Team 2: Social research team

Team 3: Governance and institutional research team

Chapter 3

Field Work and Research
Results of the Team 2:
The Social Research Team



Photo image 6
Recycling Shop Kuršumlija



Photo image 7
Recycling shop Novi Sad

04

Chapter 4.

Field Work and Findings of Team 3: The Governance and Institutional Research Team



The Governance and Institutional research team field work and corresponding recommendations took the form of a “consultation”, that is, they were actively asking those interviewed for their opinions and ideas. So the results of this team are not so much “about collectors” but “with collectors”.

The topics discussed explored multiple aspects of the “project” of integrating the informal sector into municipal systems and communal enterprises (JKPs). The team’s research questions are broadly focused on the potential benefits and costs of the integration project itself, from the point of view of as many stakeholders as possible. This contrasts and complements the Technical team research questions – designed to describe current interactions between informal collection and the service chain – and also the Social Research team’s research questions which focus specifically on collectors’ socio-economic conditions and their relations with the value chain. An important goal of the Team 3 was to understand not only the current and traditional activities and living and working conditions of informal recyclers, but to generate a broader understanding of how they are positioned in the socio-political landscape of waste management and recycling in Serbia.

4.1 Key Research Questions

The key research questions were:

- What is the work of informal collectors?
- What are the various types and levels of occupations?
- What are the monthly earnings of small, medium, and large collectors?
- How are the relationships between collectors and other stakeholders?
- What kinds of changes are occurring in municipal waste management and what are their effects on informal collectors?
- How do various stakeholders imagine the process of integration will work, and what are their opinions about it?
- Is the idea of informal integration supported by local authorities, JKPs, and other stakeholders?

These interviews took place in: Aleksandrovac, Bela Crkva, Belgrade, Krupanj, Kruševac, Kuršumljija, Šabac, Svilajnac.

4.2 Key Assumptions

In general the Governance and Institutional research team made fewer assumptions than the other two teams, as is consistent with a consultation-based methodology. Among the implicit assumptions were, that collectors have a business model that they identify earlier as self-employed persons than as employees of others, that persons in a Roma settlement are of Roma ethnicity, and that places of work are good places for contact¹⁹. Other assumptions included the identification of a preliminary list of stakeholders that were included in the interviews.

¹⁹ This “assumption” is actually a conclusion from earlier fieldwork, and is in part based on Fair Waste Practices and the 2012–2013 WIEGO consultation.

4.3 Methodology: Stakeholder Identification and Consultation

The interview process began with a stakeholder mobilisation, based among other things on the methodology used by the Governance and Institutional research team and partners in the Consultation with Informal Recyclers in 2011–2013. This method involves a preliminary visit to a municipality (sometimes done by the Social Team, sometimes by the Governance and Institutional team), followed by interviews and meetings with municipal officials and Roma coordinators. The orientation serves to identify and map the relevant stakeholders present in the municipality, and select the types of persons (or actual persons) to be consulted. For example, in smaller municipalities there were only one to two recycling shops that deal with paper and plastic, so it was easy to know whom to visit, while in larger cities, some form of selection was necessary.

The local Roma coordinators were asked about the largest Roma settlement and whether it included waste pickers. In smaller municipalities, such as Svilajnac and Aleksandrovac, the Roma population is not prominently involved in waste picking, as most of those working are active as agricultural day labourers and in other sectors.

4.3.1 Roma settlements and the value chain

Based on this, the team visited the priority settlements, buyers, sites and actors, and also made visits to part-time waste pickers working in agriculture. Researchers kept the first questions general, using open questions and the ‘snowball research’ approach to build their picture of the situation and identify contacts and potential interviewees in the local recycling network. That is, while visiting the first recycling shops, interviews with workers or the owner helped to get information about where ‘their’ waste pickers live and work.

In larger cities there is often an informal Roma settlement where most of the waste pickers live and work, located within a reasonable distance of the recycling shop. In Novi Sad and Belgrade there are recycling shops in the Roma settlement itself. In smaller cities, the recycling shops are usually more than 3 km distant, and have (apparently) not been sited with the idea of being close to the settlements, since there the Roma population is more likely to be involved more in agriculture than in waste collection.

The consultation methodology included multiple layers of triangulation. For example, when the interviewers talked to the recyclers, they asked the collectors where they get their materials from and to whom they sell, and in this way the team had a good chance to cover the most prominent actors in the value chains.

When the preliminary contacts and some triangulation and validation had established which settlement was the home of most of the collectors selling to a particular recycling shop, the next step was visiting the settlement. The team members introduced themselves and asked for interviews with people met in the settlement, limiting the request to those who had some spare time and were willing to talk to the researchers



about their work. The interviewees were identified by first names and their age, but the interviews were anonymous – no names were requested. The team did take pictures, but not full frontal, rather pictures of collectors working or pictures of facilities (landfill, recycling shops, small informal storages). If necessary, this team could identify their interviewees again but only by visiting the settlement.

Methodologically, the interviewers deliberately spread their interviewees across demographic and socio-political categories, making sure to interview:

- younger and older people,
- men and women
- full-time and part-time collectors

The intention was originally to speak mostly to full-time collectors, but in the process the team learned that collectors themselves are frequently open to other sources of income. Collecting is for most of them not their passion, but something they can quite easily enter and learn to manage, and from which the first income arrives relatively quickly after beginning. The learning curve on where to go, what to do, how to collect and store, where to sell, how to create a work process, is something they can manage and also if necessary learn from family members.

As soon as an easier or more profitable opportunity presents itself, many collectors are likely to take it. The most 'serious' collectors that we interviewed belonged to the group living on the Aleksandrovac landfill – living in miserable conditions, with no social benefits nor access to health care, but refusing to move in order to maintain their access to the robust income associated with landfill picking.

Once the interviewees were selected, additional questions filled in demographic and social status, distinguishing between: rural-urban migrants and internal migrants from other cities; readmittees (returning from a period of residence in Western Europe); IDPs (internally displaced persons, mostly from Kosovo); or the local 'autochthone' population.

The Governance and Institutional research team used an iterative interview methodology, since in the early interviews, the experience was that most of the responses of collectors were rather vague. To improve the quality of the information, the interviewers would pose the same question twice or more, changing the emphasis or rephrasing the question, and return to it at later moments during the conversation. Interviewers in the Governance and Institutional research team also worked in pairs, and were able to pass the role of questioner back and forth between them, so as to deepen their understanding of what was a valid response to each question. The level of trust in the second interview was usually higher, and the answers more specific.

4.3.2 Other stakeholders

The Governance and Institutional team organised their research around broad stakeholder contact and interviews across many institutional and occupational identities. In total, the team interviewed approximately 100 collectors, 14 representatives of local level institutions and organisations

including LSGs, staff and officials persons from a variety of operative departments at the municipality: 12 persons from JKPs, two persons from the municipal social services, nine (9) Roma focal points and coordinators and others, seven interviewees representing civil society organisations, 15 persons representing buyers of recycling materials and recycling companies, and leadership and members of the Syndicate of Collectors of Secondary Resources in Niš ("the Syndicate").

In addition, in all of the five smaller municipalities, where possible and allowed, the team visited public landfills in order to talk to JKPs (communal enterprises) and dump pickers. In Novi Sad and Belgrade, access to the landfill was requested but denied: communal enterprises in these cities were not enthusiastic about allowing access to landfill for the purposes of research, but gave no clear reasons for this refusal. The result is that there are no interviews with dump pickers working there.

Once the most relevant actors in the field of recycling within one municipality were mapped out in this way, especially interesting cases that would add something to our understanding of the inclusion of waste pickers or major barriers to their inclusion were chosen and the researchers went back to interview in these locations a third time. With some 'key informants' several interviews were conducted that helped to advance the understanding of particular situations and to build a relation of trust between the researchers and the recycling actors to gain deeper insights.

4.3.3 Locus and Occupations

Informal collectors dump and street pickers. Other than Belgrade, where the Institutional research team was not permitted by the JKP to talk to collectors working on the landfill, the majority of other collectors were interviewed at disposal sites. So from the 100 collector interviews, approximately 60% were interviewed during their work at disposal sites.

The sample in Belgrade was different in this respect. The interviews with Belgrade collectors took place in their settlements, which fall into several categories, as described well in (Simpson-Hébert et al 2005): (1) old established settlements, (2) temporary settlements, and (3) integrated residential areas (where also non-Roma are living). Additionally to these three categories, there are since that book was written, also a new category: (4) also recently developed areas for Roma re-located and re-settled from the Gazela Bridge and other dismantled settlements.

4.3.4 Occupational information

The collectors interviewed indicated that they have specific and consistent occupations and collecting approaches. Of the collectors interviewed outside of Belgrade, at least 80% are dump pickers – they report that their main work is extracting materials from landfills. The remaining 20% are collecting from shops and containers in the municipal urban areas and are classified as street pickers. Street picking in Serbia includes extracting materials from the street, containers, and the area surrounding containers, as well as "back entrances" to shops, and parking lots. Using this vocabulary, all of the



visitors to containers observed by the Technical research team are “street pickers”. Street pickers collecting in urban areas of their cities were observed to move along a regular route, passing specific streets, and having predictable timing and frequency of visiting containers, and they confirmed this in discussions with the researchers.

There was no clear information on the length of routes, but for smaller municipalities, the most remote location is usually between five and eight kilometres (one-way) from their starting point. Some collectors live close by the landfill but have to travel to sell materials. This is somewhat less than the Yurom Centar figure of 20 km per day, and may be an indicator that there is now more value in the waste than when that observation was made.

Dump pickers working primarily at disposal sites are dependent on the collection crews and drivers, and are communicating with the drivers and waiting for “their” trucks to arrive. The researchers observed this communication quite clearly: truck drivers and recyclers are communicating by phone as to the time of truck arrival at disposal sites. The researchers received a clear impression that each group of recyclers have “their” trucks, and this also helps internal organisation between various groups – each claims a number of trucks and a quantity of recycling materials from the landfill – a sort of a gentlemen’s agreement between the recyclers themselves – and another indication that the self-organising capacities of RiRs is higher than previous analyses had assumed.

Based on observation at various disposal sites, the researchers also formed a working hypothesis that some truck drivers may be compensated for – or indirectly benefit from – the co-operation they provide to dump pickers. This communication and organisation of dump picking is interesting in that it indicates that there is a basis for integration to be found in the existing levels of acquaintance, communication, co-operation, tolerance, and implicit recognition between dump pickers and formal stakeholders such as the JKP drivers and staff. The mutual recognition that was signalled in A Paper Life appears thus to continue in a modernised form, and this may be good news for integration.

In these interviews, it became quite clear that there are a number of different earning models for collectors, and what they earn at collecting represents gross income, rather than net income. Many of the questions asked (and answered) contribute to understanding the financial picture of collecting, as shown in Table 9, but the picture is far from complete, and will need to be further investigated in future work.



Table 9.
Pro-forma estimate of Roma informal recyclers' costs of doing business

Number of km travelled per collector daily, weekly, monthly and by form of transport? a) from home to route or landfill b) from route to buyer c) from buyer to home	For smaller municipalities, the most remote distance is usually around 5-8 kilometres in one direction, on average. Some of them live close by. More information might be available in the transcripts
Did you calculate prices per km or per day for different forms of transport? If not, could you make some estimates?	This can be modelled – based on the distances and form of transport.
Storage for those renting their homes -	If they rent their house with small yards for 100 euros, we could say that there are some business related expenses there, specifically storage space
Value Chain expenses	For their norms with paper / filling of the paper containers provided by buyers – if they get sick and are not able to collect and therefore fill the container within a given schedule, the container is removed from their yard and they have to wait again for a long time until they get it back.
Phone Expenses	Phone expenses, but we could not learn how much could these be. I just remember that the young recycler from Bosnia who came to our ISWA Novi Sad event made sure to respond to each phone-call, even though he was in the roaming and it must have been costly.
Bank fees	Also, there are small bank fees that they have to pay (not significant, but still expenses).
Small Injuries	Smaller injuries at work that require antibiotics or other treatment – for those who are not able to access health care.
Occupational illness	Regarding health, what we noticed is that high blood pressure problems are very present among the Roma population in general, and that this may be an occupational illness, or it may be related to ethnicity. Virtually all of the interviewees would complain that they themselves or members of their immediate families have high blood pressure.
Police harassment	The Governance and Institutional research team did not actually encounter reports of police harassment – that is, bothering collectors for no reason. Collectors report that the police are generally tolerant of collecting “willing to look the other way”, but take action in response to citizen complaints
Police attention: litter	When there is a lot of litter in streets, they have to react as other citizens are complaining.
Police attention: motorised transport of collectors	When the transport vehicles of collectors are creating loud noise and pollution, smoke, extreme gasoline fumes, and someone complains, the police have to react.
Conclusion: this really is a story with two sides and both are valid.	Police can look the other way only so many times. If we manage to introduce an ID card system, we can say that the first step has been made to solve this problem as well

Buyers were interviewed in their place of business in the cities. In contrast to the situation in emerging economies outside Europe, recycling shops in Serbia are not found near or at the edge of the landfill, they are more likely to be close to the communities, suggesting that they are buying separated or processed materials, since the processing is done at home by most collectors.

In some of the smaller landfills, the team interviewed “landfill guards”. These are Roma householders, whose dwelling is located next to the landfill, who have been designated by the landfill operator as having the occupation of a semi-formal “guard” at the landfill, and are responsible for monitoring activity outside of JKP working hours and during the night. They make contact with formal authorities in case of fire, or “unauthorized” access²⁰.

NGOs and community activists were interviewed in their offices or in the municipality or in a café or other location of their choice.

Roma focal points, that is, municipal employees (or in some cases non-employees) designated as the administrative point of contact for legal, administrative, and socio-economic issues of Roma residents, were interviewed in their offices at the municipality, in cases where the municipalities had such a position. The Governance and Institutional research team encountered the fact that the situation with official Roma co-ordinators is quite complex, and although it peripheral to the main lines of the project, the importance of this position in relation to future integration activities merits a short aside-trip to introduce the situation that was encountered.

²⁰ Authorisation is a fluid concept, which is informally defined as collectors that have not made an agreement with JKP and/or with other informal recyclers to collect at the landfill. In Svilajnac, there were a number of fights between the semi-formal guard and another competing recycler that is considered as an intruder, but is still coming regularly.



Box 1.

Roma Co-ordinators in Serbia, Anno 2017

Although all Serbian municipalities are required to have – and claim they have – a Roma Coordinator, there is considerable variation in the nature of the office. While the larger municipalities had a Roma Coordinator who is a civil servant and receives a salary, this is not always the case. Especially in the smaller municipalities, in their inquiries about whom to interview, the Governance and Institutional research team encountered some designated Roma Coordinators who are retired or independent, but continue to be identified with the co-ordination function – and especially its political mobilisation dimensions – in a semi-official middle ground. Some co-ordinators have reached retirement age but stay in the function and are thus able to leverage maintaining a salary or some type of social benefits for themselves or their constituents, such as one-off social welfare supports for families in their settlements, or some infrastructure improvements such as access roads, or some other kind of “deal” to maintain their status, and working engagement. This may also benefit the municipalities, who may want to keep a former co-ordinator with a strong political standing in the Roma community, close to the municipal structures. These individuals are still informal coordinators and people of influence among the Roma constituency, even though they are not formally employed to act as such. There is an interesting example in Svilajnac, where the former Roma Coordinator is running a local Roma NGO modestly subsidized from the municipal budget to advocate for Roma constituency.

4.4 Research Results: Interviews with the Collectors and Buyers

4.4.1 Informal Collectors

The majority of informal street and dump pickers in smaller municipalities collect Polyester Terephthalate (PET), Old Corrugated Containers, (OCC) and paper (including old newspapers, ONP), and when available ferrous and non-ferrous scrap metal. Collectors report that there is very little metal available to them because citizens are selling it themselves. The focus of our interviews was therefore the informal street and dump pickers who collect PET, OCC and paper/ONP.

Informal collectors have been doing this work for many, many years in the same manner and without any improvements in terms of infrastructure, equipment, personal protection, uncertain legal framework, poor working conditions, inadequate means of transportation, inadequate storage space, and no processing or baling equipment. In other words, in personal experience and observation, the way informal collection was done 20 years ago is largely the same today²¹. The workers (entrepreneurs, self-employed persons) are mostly of Roma ethnicity. There is no hierarchy in the work and there are no “bosses” they work for.

²¹ That waste picking has changed little in 20 years is a particularly interesting and useful insight, as it means that the team can use the detailed monograph on Serbian waste picking, *A Paper Life* (Simpson-Hébert et al 2005), as a supplement to the field work, since it falls

There is a strong ethical code within communities / Roma settlements where typically a majority of families are involved in waste collection, and they respect each other's schedules, routes and locations. However, they are not ready to think about working together and connecting horizontally, as their need to provide money to put food on the table each day prevents them imagining a broader co-operation there.

There is a prevalent opinion among “professional full-time” collectors that there is less and less material every year and therefore also more competition – both between Roma informal recyclers and part-time economic refugees getting into waste picking. Many Roma collectors told us: “even white people pick waste now, not just us ‘Gypsies’ (sic)”. A clear picture emerges that the more skilled and experienced collectors are doing well and earning a decent remuneration for this very hard work, but that their situation is far from secure.

What has also changed is the perception of the public sector towards informal collectors, and specifically of local self-governments and communal enterprises: the interviews demonstrate that it is now very possible for them to imagine partnership with each other, partially also due to years of giving attention to the topic through local projects, initiatives, and donor support. In some sense there appears to be a return to an earlier tolerance or co-existence, since the end of the State Socialist period of Yugoslavia, as reported in *A Paper Life*, there was much more tolerance by JKPs than in the intervening period – the authors report that in that time, the children of collectors used to be offered by JKP employees to ride the garbage trucks to get to school (Simpson-Hébert et al 2005). The difference is that in 2005 there was tolerated social co-operation, whereas now there is a clear ability to imagine technical and professional co-operation.²² The implication is that the time may well be ripe for structural integration and formalisation.

4.4.2 Socio-economic Conditions

Roma informal collector families in Kruševac (three settlements) and Svilajnac (two settlements in the city centre) live in organised settlements with basic urban services, including sanitation, paved access roads, electricity, and water. There are also families of Roma informal collectors living near the landfill in Kuršumljija and Svilajnac, and a group of Roma informal collector families resettled from Kruševac living on the Aleksandrovac landfill itself.

Roma persons who are integrated in the urban parts of municipalities report that they rarely collect recyclable materials, as the neighbours object to littering and this discourages them from collecting. This is the reason that the families living in the landfill in Aleksandrovac report that they do not wish to move to housing in the centre of

²² In the intervening 10–15 years of high levels of attention to the demands of EU harmonisation, accompanied by the privatisation of the service chain, the EU-conform regionalisation of disposal, and the entry of large Western European companies into the solid waste collection sector, the relationship between collectors and the service chain was not so good, and many formal stakeholders categorically rejected the potential for integration of “illegal recyclers” into public services (Unpublished project documents from *Fair Waste Practices* and other grey literature available from the archives of DTI).



Aleksandrovac, as it would deny them both their current regular and easy access to recyclable materials from the landfill, and the social space to sort and process materials near their homes.

4.4.3 Socio-economic Status: documented and invisible

In social systems terms, the Roma informal collectors can be divided into two categories, depending on whether they have personal identity and legal permanent residence (“documented” or “domiciled”), or do not, in which they are referred to as “invisible” or “undocumented”.

Those in the “invisible” category have no documents, either because:

- they fled Kosovo during the war and were re-settled in certain municipalities,
- they belong to certain categories of “readmittees” returning to Serbia after several generations in Western Europe,
- they are cross-border migrants, or
- because of their current status and choices, such as the families living on the Aleksandrovac landfill.

The characteristics of “invisibility” include

- no identity documents,
- no access to social welfare, no regular health or medical
- access (and sometimes none at all), and
- lack of access to education, resulting in children not being in (or able to go to) school.

The specifics of medical and educational access vary from municipality to municipality. In some instances, the “invisibles” are able to access some basic medical services and doctors see them in emergency cases, but they do not have the same complete access to health or medical services as the documented and domiciled population. Most of those resettled from Kosovo have some sort of temporary ID that gives them access to some of these services. The situation with schools is similar: – children resettled from Kosovo can go to school, but their biggest challenge is language, which is also a challenge for them to communicate with the settled Serbian Roma population. The Governance and Institutional research team observed that there are serious tensions between Kosovo Roma and domiciled Roma.

The documented or domiciled collectors consist of individuals or families having Serbian identity documents who live in organised settlements, are known to the Roma co-ordinators in their city, and receive social payments and child support and send their older children to school. We interviewed one such family in Kruševac: the husband receives a pension and he and his wife collect recyclables to supplement their pension income. This is also true of documented families receiving social and child support: they have access to medical and health services and their children go to school.

Documented informal collectors are also in a stronger position professionally, since they are more likely to have access to the landfill and co-operation with the communal enterprises (especially when the JKP has one or more externally funded projects). They are known to the Roma

co-ordinators and thus are easier to reach for consultation, and for purposes of organising. They are aware of their privileged status and often complain about the population resettled from Kosovo, saying that they are now working the containers and producing litter, which creates a bad reputation for all collectors and gets them in trouble with citizens and municipal services.

Both types of collectors are functioning entrepreneurs. They source recyclables from waste, and sell them to buyers who are semi-formal or formal scrap yards and recycling shops. Many of those interviewed confirmed that there is trust between informal collectors and the buyers. The prices are transparent and respected and payments are made on time. The cash flow and the materials are legalised at the point of transaction, and the collectors mostly receive the money transferred to their bank accounts. When there are cash payments they are legalised and documented with receipts.

This gives the collectors in these cities a semi-formal status that is regular enough to convince some representatives of the formal service chain that the collectors are officially legalised, which is technically not the case: collectors of both types are outside of the system and are technically operating illegally when collecting from landfills and from/around containers. Yet this impression suggests recognition of the benefits of this activity and a willingness to legalise the activity. This implicit acceptance by many formal actors suggests that there is mutual recognition and respect that could become the basis for formalisation.

Informal collectors at three levels appear to be earning quite well. Based on questions of how many kilos of which types of materials collected, days of work, and price per kg, the team was able to come up with estimates of gross earnings per day. These gross earnings are before the collectors pay the costs of public transport or own vehicles to get to the collecting area or to move the materials to the buyer, nor do they include other costs such as legal or illegal parking or other fines; medical costs for accidents and injuries, or costs of transporting, processing, or storage of materials. For those collecting on foot, there is a shadow price of transport for what they would be paying to have a tricycle or motorised transport. In general, the larger collectors have more explicit costs of doing business, and operate more or less like “normal” Serbian businesses.



Table 10.
Indicative calculation of the gross (pre-expense) income of three levels of informal collectors

Type of collectors	material collected	hours per working day (25 days/month)	days per month	kg per day	kg per month	dinars per kg	dinars per month	dinars per calendar day
Small scale collectors	PET	4	25	35	750	18	13,500	450
Medium scale collectors	PET	8	25	90	2,250	18	40,500	1,350
90 kilos per day of PET is around 2,250 kilos per month x 18 dinars per kilo is app. 40,200 dinars per month, or app. 1,600 dinars per day.								
Large scale itinerant buyers	PET	8	25	2,000-3000	50,000	18	900,000	30,000
Large scale collectors and itinerant buyers	OCC/ paper	8	25	3,000-5,000	75,000	4	300,000	10,000
Illustration: at Svilajnac landfill, there are 5 informal waste pickers working 8 hours a day (following the Communal Enterprise working hours – waiting for their trucks to unload at the landfill, which is a common practice in all of the cities we worked at) and one waste picker working 3 hours a day, collect a monthly quantity of 12 tonnes per month. This quantity is removed from the landfill and sold.								

Source: interviews with collectors and buyers. The calculations have been made by the project team and triangulated with other stakeholders, but have not been verified with collectors themselves.

By cross-referencing with buyers and JKPs, the researchers became convinced that these gross income levels – representing more income than is reported – are plausible. The team reports that they were able to see for themselves the life style of some of the large collectors (especially the ones exclusively selling from the landfill). This brings approximately RSD 4,000 gross income on a daily basis, for some even RSD 5,000 dinars, which is gross income 100,000 dinars per month and more than doubles the estimation calculated above.

Their mode of working is thus pretty similar to that of formal businesses. So to understand the financial benefits of this gross income, it is necessary to develop (and validate) the pro-forma costs of the doing business. On the simplest level, the large informal collectors usually have a truck or a car for transportation and have expenses of vehicle maintenance, fuel, registration and amortization, and sometimes of additional staff. Table 11 presents a pro-forma list of likely expenses of collectors. Since expenses were not directly researched by any of the teams, this remains to be completed in further work on integration. For a fuller picture of the financial costs and benefits of collecting, these cost posts need to be further researched, and ideally should be calculated and benchmarked per day, so that they can be extrapolated to monthly or yearly expenses.

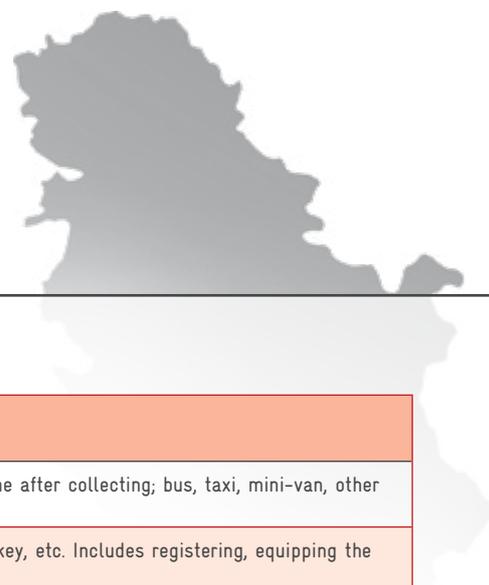


Table 11.
Pro-forma list of likely expenses of doing business for informal collectors in Serbia

Pro-forma Expense Category (reported /on evidence)	Explanation
Personal transport	To get from home to the collecting area and to return home after collecting; bus, taxi, mini-van, other paid transport.
Collection equipment – capital/ investment costs	Cost of purchasing, a tricycle, van, motorcycle, horse, donkey, etc. Includes registering, equipping the first time, licensing, etc.
Collection equipment – maintenance costs	Cost of amortization, maintenance, parts, repairs, replacement tires/oil; annual inspection, parking, fuel, (in the case of animals: keeping, inoculations, smithing, maintaining harness and cart, veterinary care)
Collection equipment operating costs	fuel fodder in the case of animals consumables such as big bags
Costs of collection driver if other than collector	auto or animal driver
Paid collection labour	payments to workers including or not including taxes depending on facts
Unpaid family labour	use to allocate income over number of family members working on recycling
Storage	Costs to rent or own premises or share of cost of house if storage is at home/ also costs of fines for materials stored in public places
Processing	If different from storage, costs to rent or own premises or share of house; also processing costs paid to Syndicate or other centralised processor or baler
Costs of Transport	Costs per DAY paid to transporter or rental costs for truck or shared costs (example Papir Servis) to have materials delivered
Costs of Transport	Costs per TONNE transported if applicable
Violations or (reported) Corruption	Traffic or zoning violation fines or bribes or ransom for confiscated material or other forms of payment for problems
Interest	Costs of borrowing money for transport or other
Taxes deducted from payment for materials	In case the buyer deducts the VAT or other taxes due for the transaction
Brokerage, Commissions	In case the seller has used a broker and paid a commission per kg or per tonne
Waiting time for payment after delivery	Length of time on average to be paid after delivery of materials; (0=cash paid on delivery)
Medical costs	paid for doctor or hospital visits / medicines for injuries or illness directly related to collecting or processing
Leave equivalent: non-paid non-working days	Estimated non-working days per year due to injury, illness, pregnancy, holidays, weddings, funerals, etc.
Equipment failure	Estimated non-working days per year due to
Work clothing and equipment	In case of purchase: shoes, boots, gloves, winter clothing, rucksacks, other
Costs associated with care of pre-school children	In case the collector has to pay someone so as not to take the children with them to landfill or for collecting
Insurance/related cost	In case there is some kind of medical or accident or auto insurance
Average hours/day collecting/ processing	To be modelled

Insights: The research confirms the hypothesis that many collectors are professionals who operate in a similar way to formal businesses, and for whom legalisation, formalisation, and integration may be a logical next step. The research lightly discredits the hypothesis (often put forward by WIEGO and the International Labour Organisation) that classic labour organising always needs to be the basis of any legalisation and integration initiatives.



4.4.4 Demographics in the Belgrade Settlements

Of the 150 total interviews with collectors, detailed individual interviews were conducted with 50 waste pickers in 14 locations in Belgrade: Kamendin, Resnik, Čukarica (Makiš 1, Makiš 2 and Čukarička Padina), Rakovica, Tošin Bunar, Goverđi Brod, Marinkova Bara, Orlovsko Naselje, Jabučki Rit, Naselje Deponija, Miljackovačka Šuma and Mislodin.

The locations were selected to cover the Roma informal collectors who had been resettled from the informal settlements “Gazela Bridge” and “Belville”; and who are now living in the “container settlements”; collectors not yet resettled, that is, still living near of within urban settlements; and collectors resettled to the City outskirts. The interviews were recorded, but the team stated to the interviewees that they are anonymous.

Below, is the summary of the results of the interviews in smaller cities:

Table 12.
Ages of those Interviewed

Age	Number of persons	Percentage (rounded)
Up to 35	17	34%
36-50	26	52%
Over 50	7	14%
Total	50	100%

Table 13.
Reported urban-rural distribution

Area Category	From Cities	Number of persons	Percentage	Average income [*** per month/year?]
Urban	Belgrade, Novi Sad	41	82%	30,000 dinars per?
Rural		9	18%	15,000 dinars per
Total		50	100%	What comes off?

Table 14.
Means of Transportation of the small-city collectors

Means of Transport	Number Reporting	Percentage
Car	21	42%
Van	6	12%
Foot or bicycle	23	46%
Total	50	100%

Table 15.
Main materials collected when available

Material	Number of collectors reporting that they collect this material	Percentage of collectors reporting that they collect this material (based on N=50 persons interviewed)
Paper	50	100%
Ferrous & Nonferrous Metal	50	100%
Polyester Terephthalate	47	94%
Rigid Plastic	18	36%
Flexible plastic (film)	11	22%
Food	5	10%

The researchers restricted the 50 detailed interviews to professionally active informal collectors, but some of them report that they have recently moved from dominantly urban areas to rural, due to the resettlement activities of the City. The team has estimated that about half of informal collectors interviewed in the Belgrade area are between 36 and 50 years of age – and this is thus the dominant age category for professional collecting activity. Those living or having recently been resettled in rural areas work to support themselves and their families by collection of recyclable materials, but it proves to be very difficult and costly. It is estimated that living in the rural settlements will under best circumstances allow informal collectors to gross up to half of the revenues made by informal collectors of an equivalent age, sex, material preference, and level of professionalisation living in urban areas.

Insight: if the consequences of re-settlement are so egregious, then a formalisation or legalisation option that would allow collectors and their families to continue to live in their settlements should be attractive.

4.4.5 Buyers in the region

The team interviewed small, medium, and large buyers. The method of “snowball research” – using one source to find the next one, and so building towards interviewing all members of the system – runs into a predictable dilemma around “protection of sources”. This is because the team approaches informal collectors to ask whom they sell to, or finds buyers to ask whom they buy the materials from. In both cases there is some form of relationship of trust between the two, as well as the possibility that either one is protecting their relationship to avoid competition from a third party – such as the person asking the question. The Governance and Institutional team researchers were usually able to establish a relationship of trust and convince the interviewees that they were not competitors, meaning that the second visit had a climate of openness and both buyers and sellers responded more directly, gave the requested information in a more complete way, and were visibly more relaxed.



In Svilajnac, there are three registered buyers, but only one of the three buys PET and paper, as well as scrap metal, whereas the other two are scrap metal shops. Bojan, the PET and paper buyer, requests his suppliers to clean the PET bottles before he purchases them, which is not convenient for the informal workers collecting at the landfill based on loads discharged by the waste truck.

Informal collectors from Kuršumljia sell mostly to Jugoplastik in Merošina – a municipality 50 km away from Kuršumljia. They are paid to their bank account for the materials sold.

The firm Grejač from was buying glass until recently for 1–3 dinars for kilo, but they are not buying or producing at the moment, and explain this by saying they have too little glass and it is of poor quality.

Table 16.

Recycling shops and buyers identified by the researchers

Name of Firm, size	Location – street and city/town GPS location	Name of proprietor / telephone	Main equipment observed / purpose (processing/ storage)	Main material bought	Other materials bought	Selling to/ Subsidiary of/ comments	Source
Recycling Shop Sale	Novi Sad	Sale	A few lorries, press, closed storage space for material and press	PET		Greentech	Visit Team 2
Recycling Shop Branislav	Novi Sad	Branislav	A few lorries, closed storage space for material and press	PET, paper		Papir Servis	Visit Team 2
Recycling Shop Dejan, small shop (but according to Greentech the biggest Novi Sad buyer of PET after Greentech)	Novi Sad, near Najlon Pijaca, in the North of Veliki Rit settlement	Dejan	A variety of machines, several closed storage/work spaces, a press, a mobile press integrated into a lorry, several lorries	PET	paper	3 companies, but not Greentech. PET to a Turkish company via intermediary in Montenegro. Seeks direct export to Turkey to get rid of the middleman in Montenegro, but export license difficult	Visit Team 2
Recycling Shop Velja and Sons	Novi Sad, near Najlon Pijaca, South of Veliki Rit Settlement	Velja	A press for PET, a lorry, a yard with a protective fence, a roof over the press	PET, paper		(see chapter on Veliki Rit for more information)	Visit Team 2
Recycling Shop Fatima and Selman, (start-up) They would like to officially register their business as recycling shop.	Novi Sad, Veliki Rit Settlement	Fatima and Selman	"measuring machine "from Dejan.	PET		"captive" to Dejan with equipment supplied by him. Small yard with provisional fence, they want to clean up one more yard next to their own, where there is a 'wild dump' at the moment. They need financial support to clean up the yard. (see chapter 'Veliki Rit for more information.	Visit Team 2
Recycling Shop Papir Servis Novi Sad	Novi Sad (near Veternik, by the stadium Vujadin Boskov)		Two or three closed storage and work spaces with several machines, several lorries	Paper	PET		Visit Team 2
Neighbourhood Recycling Shop Zelena kuća	Novi Sad, Petrovaradin		Equipped workshop to build containers and engage in re-use of old materials for new purposes, offers workshops for school children in re-use of waste materials	Glass, electric and electronic waste	Paper, PET		Visit Team 2
Neighbourhood Recycling Shop Živimo zajedno	Belgrade, Dorćol		One lorry, a house in Dorćol where two rooms serve as workshop for the separation of PET bottles from their lids	PET	paper		Previous information Team 2
Recycling Shop Svilajnac	Svilajnac		Several presses and closed work and storage spaces	PET, paper, metal			Visit Team 2/3
Gole Aleksandrovac (closed his business, still has a press for PET)			A press for PET, a car he used to collect PET in the city (see chapter on Svilajnac)				Interview Team 2/3
Recycling Shop Milan Kuršumljia			See chapter on Kuršumljia				Visit Team 2/3
Recycling Shop Papir Servis Kruševac							Visit Team 3
Recycling Yard of Public Utility Services Kruševac							Visit Team 2/3

Team 1: Technical research team

Team 2: Social research team

Team 3: Governance and institutional research team



Photo image 8
Recycling shop Bela Crkva



Photo image 9
Recycling shop Novi Sad



Photo image 9
Recycling shop Novi Sad

4.4.6 Value Chain Assistance and co-operation

The research suggests that value chain buyers in Serbia are not supporting their suppliers – or that they themselves are in such distress that they have had to let the suppliers “fall down”. This is despite indications that there is unfilled demand for certain materials.

Collectors say that buyers are almost exclusively oriented towards profit. Their strategy appears to be to improve their sourcing by securing the loyalty of as many informal collector-suppliers as possible so that the collectors will bring materials to their premises, but in return for loyalty, they do not provide any form of support or reward.

In Serbia, as opposed to some neighbouring countries, there is little or no investment or assistance to improve the collection, processing, or transport capacity of first-line collectors. In other countries varying from the USA to Tunisia or Tanzania, factories or EPR systems do provide “downstream” assistance” to their supply chain in order to buy loyalty, guarantee availability of materials, achieve greater profits through a better economy of scale and ensure continuity of supplies.

Common forms of assistance from buyers to suppliers include providing (lending) balers or small vehicles; purchasing or guaranteeing loans for individual micro-collection vehicles such as tricycles; co-signing or guaranteeing loans, pre-financing inventory (paying for materials before they are delivered) or shortening official payment times. Of these only the last appears to be operating in Serbia.

Larger buyers very often invest in equipment for their suppliers, such as baling machines or big bags. The Serbian collectors interviewed miss this type of support and actively seek it. They state that they would accept used/second-hand equipment as a gift or to be loaned/used, and say that they would maintain it well. The obligations could be specified in a contract, so that everyone in the chain benefits.

4.4.7 Co-operation with JKPs and Local Authorities

One general observation of the situation is that to collectors, one acceptable form of successful cooperation between the local self-government and informal collectors would be to implement some of the models of private public partnerships, but in a way that all of the activities of all participants are well regulated, especially at the local level.

There is already some limited co-operation occurring between informal collectors and JKPs and municipalities. In Kruševac, contracts have been executed between the informal collectors of recyclables and the Recycling Centre within the JKP, stipulating that for the period of July 2016 to July 2018, the informal collectors will be selling their materials to the Recycling Centre and will obtain 1 dinar higher price than the market offers.

Collectors have signed contracts with the JKP that entitle them to be able to receive push carts and protective work equipment, but they complain about the slow (and ‘amateuristic’) procedure of taking the materials from them at the Recycling Centre, involving them having to stay until the workers sort PET by colour, bale and weigh the materials before paying. This process takes hours now at this early stage of the cooperation – hours that the informal collectors cannot afford to lose. There is willingness on behalf of both sides to work on this issue.



The Recycling Centre is selling also to Ekostar Pak and Umka Paper Factory, plastic to Gogić Plastika. This agreement still has to be worked out and tested, since these informal collectors are used to selling materials to Papir Servis Kruševac (also purchasing from collectors in Aleksandrovac). The new agreement still has to be worked out and tested, since up to this point the informal collectors have been selling materials to Papir Servis Kruševac, which is also purchasing from collectors in Aleksandrovac, and is seen by both sides as a relationship of trust that has been in place for many years.

4.4.8 Phantom junk shops

Out of the research emerged a category of “phantom” or “nomadic” semi-formal buyers that are very hard to track. Such a buyer may register a junk shop in a specific location and operate for a while as a legal business. And maybe after some months or years, if there is an economic downturn or for other reasons, the premises are closed but the business continues as and operates informally. When times improve and more materials are looking for buyers, they register another junk shop under a different name in a new location. Needless to say, such operations are very hard to track. As far as we know, there is at least one such informal buyer from Jagodina operating in Svilajnac and our research participants find him to be very fair in terms of prices and terms of payment.

4.5 Interviews with Other Stakeholders

4.5.1 Roles and responsibilities of local self-government in waste management

The institutional framework for sustainable waste management has been prescribed by the National Assembly and the Government. Local authorities represent one set of actors in this framework and are responsible to

- define and develop a local waste management plan and create appropriate conditions for its implementation, including financing the infrastructure;
- prescribe, secure, organise and implement the process of managing communal non-hazardous and inert waste generated in or disposed of on its territory;
- develop and publicise the prices and procedures for collecting fees for services related to managing communal waste, presumably collection, transfer, and disposal;
- create a regulatory framework and issue and enforce permits; and
- develop a monitoring and evaluation framework and monitor and control the legal measures pertaining to waste management at the local level.

LSGs are implementing these responsibilities through their administrative and inspection services, while the local communal enterprises are typically in charge of collecting the waste from households or containers serving households and landfilling it.

For informal collectors, this means that the municipal communal, environmental, sanitary inspection services are tracking and controlling their informal activities, including sanctioning practices which fall in the domain of the non-

legal or non-official, that is, technically illegal.

In reality – especially in smaller municipalities – the inspection services are mostly willing to allow the informal collectors to carry on their activities, provided that they keep a low profile, do not litter, and in general behave in a way that does not attract the negative attention of citizens. During the research, it was noted that inspection services often resolve all these issues in conversation with the collectors and are very rarely issuing fines or penalties.

In general, and in contrast to the situation 10 years ago, the relationship between the LSG and the informal collectors is very positive and it stretches to local communal enterprises, as well, but also to the local police branches, which are under auspices of the Ministry of Interior rather than local government. The local police officers are mindful of the work-related challenges of informal recyclers and demonstrate good will and a tendency to co-operate. But these remain in the domain of personal relationships, and informal collectors remain vulnerable because their status is not protected in policies, laws or contracts. And this good will is not generally demonstrated by private waste management companies working in the larger cities.

Another function of the local authorities pertaining to specifically Roma informal collectors is the function of Roma Coordinator. Roma Coordinators are there to ensure that adequate measures and policies are in place to facilitate and promote Roma integration at all levels of LSG functioning. As the majority of collectors are part of the Roma population, Roma Coordinators are focal persons employed by the municipal authority to protect Roma interests and smooth their relations with the local self-government. While these are official staff positions, as Box 1 indicates, they are not always filled and there are an increasing number of alternative ways of filling in this function. Researchers encountered one such interesting – and potentially sustainable variant for Roma co-ordination in the Municipality of Svilajnac. Instead of employing a person to act as Roma Coordinator, the municipality has contracted a Roma protection organisation to act as the focal point of communication and co-operation between the local self-government and Roma residents. This model allows for greater flexibility and physical closeness to actual everyday issues that need to be addressed.

4.5.2 No municipal census info on collectors

In general, the smaller the municipality, the smaller the volume of potentially valuable recyclable materials; and where there are few recyclables, there are also hardly any informal collectors. But none of the municipalities and cities that were part of this research has documented the precise number of informal collectors. Working estimates are made by Roma coordinators and communal enterprises, except in some cases where a project is operating. Kruševac is participating in such a project supporting the informal collectors, and therefore the estimate of 40 active informal collectors working there is likely to be reliable.

4.5.3 Communal enterprises (JKPs)

Representatives of the communal enterprise stated that they were generally supportive of the idea of inclusion of informal collectors in source separation, and recycling. There was little evidence that



this positive statement produced practical activities to actively integrate informal collectors, other than those in Kruševac, where integration was promoted by a project.

In principle, if JKPs are involved in separation of recyclables (at source, in special containers, or post-collection) as part of a project, and if the JKP has some benefit along with receiving some equipment, they will remain committed to separating recyclables, but only for the duration of the project. As soon as the project is completed, these activities are scaled down and partially transferred to the private / informal sector. This suggests that involving the informal sector in such projects from the beginning would be both more effective and more sustainable, and that the communal enterprise would still receive the benefits of disposing of less waste and taking credit for more recycling.

Co-operation with collectors makes a lot of sense for JKPs who say that they are not recycling because they lack technical expertise or human resources. A frequent justification is, that separation and recycling are not economically advantageous, but without activity-based costing, or activity-oriented budgets, this claim is empty, since, none of the enterprises has actually done the calculation – nor is it obvious whether they know what their costs or are able to analyse them by activity.

Thus a key enabling condition for more structural integration of informal collectors would be to strengthen the capacities of LSGs and JKPs to actually make an economic analysis with real income and expenses to evaluate feasibility of separate collection of recyclables, or post-collection hand or mechanical separation. Sources of economic benefit are likely to include:

- reduction of waste deposited in the landfill
- reduction of costs of collection, fewer trips per collection vehicle per day or week²³
- opportunities for reducing frequency of waste collection and substituting recyclables collection
- reduction in littering and costs of cleaning up illegal dumpsites and/or waterways
- reduction of plastics in agricultural places

An intuitive estimate of these benefits explains to some extent why communal enterprises in all of the places visited during the research allow informal collectors to collect materials directly from the landfill. This is actually where tolerating informality makes the least sense – with tacit approval of the communal enterprise, these collectors are extracting materials for which all of the collection and transport expenses, and the landfill gate fee, have already been made and the fee charged to citizens, while the materials are sold in the market and outside of the public waste management system.

²³ During the introduction of separate recyclables collection in Europe and North America in the 1980s, there was a great deal of work done to document the cost reductions associated with optimising routing for waste trucks, based on predictable decreases in the volumes of mixed waste as a consequence of diverting many materials to recycling. This information is interesting to economically stressed JKPs, and it is even more interesting for LSGs negotiating with private waste collection companies, who often claim that separating materials at source will only add to their costs.

According to JKP in Kruševac, the informal collectors there create problems by littering while digging through the containers to find materials, taking PET bottles out of the designated containers, and leaving the other waste laying around the containers and causing additional expense for their staff to clean the streets. They understand that this is likely something that only a small number of collectors do, but still it happens, and it creates a bad name for all of the collectors, as well as reflecting badly on recycling in general and on the JKP in particular. This bothers the citizens and their complaints risk creating interference in the otherwise well-developed communication channels between the informal collectors and the JKP.

4.5.4 Local authorities (LSGs, Local Self-Governments)

All of the local self-governments interviewed claim to be supportive to development of inclusive source separation and recycling approaches which explicitly involve informal collectors, but nothing in the research suggests that they take positive action to enable real or practical forms of cooperation to be established.

There is a very important opportunity here, for LSGs to enable integration and higher rates of recycling. They could do this through working within the boundaries of existing legislation and regulations. For example, without any change in the law, the LSG could provide locations for collectors to store materials; they could work with collectors and the value chain to install balers allowing the collectors to bale paper and plastic and aluminium, and get much better transport efficiencies and better prices; they could further provide assistance in project development for investors or donors to support these activities. This is a win-win approach, because without depending on any difficult national decision-making, LSGs could take integration of collectors “into their own hands”. And there would be large benefits: the social protection budget would be reduced, a part of the informal sector would be employed or contracted, the JKP would have fewer problems with shortages of human resources, and all parties could reduce the costs of siting, construction, operation, re-construction, maintenance, and closing of landfills.

4.5.5 90% collected by the informal sector

According to the data from all municipalities, compared and cross-checked between buyers, collectors and Communal Enterprises: 90% of PET, paper, and OCC is collected by informal collectors and 10% by the public sector. For other materials, such as LDPE (low-density polyethylene) film and WEEE (waste electric and electronic equipment), the public sector has a stronger role in the collection. The very same 90% is reported by EXPRA, the Extended Producer Responsibility Alliance, to be collected by the informal sector in 10 Southern and Eastern European packaging schemes, including those in Serbia (Scheinberg et al 2016).

4.5.6 Underground containers: a growing source of conflict

The introduction of underground containers has resulted in pushing many street pickers to shift their collecting work from the street to working on dumpsites and landfills, usually under less favourable conditions. The recyclables reaching the landfill have been compacted together with



organic waste and liquids, and are of lower quality and value. Paper from the landfill has a very low value, and for other materials such as glass or aluminium, the effort involved in upgrading them to get better prices is significant. Moreover collectors working on landfills are exposed to more risks to their health and safety than those working on the street, picking recyclables from public containers and litter baskets, or collecting beverage containers and cardboard from cafes, shops, and restaurants.

The problem is compounded by arrangements giving recycling shops exclusive or concessioned preferential rights to recyclables that are brought to the landfill. The recycling shops exploit this exclusivity to offer waste pickers lower prices for their materials. This is a problematic trend, and the rapid expansion of the use of underground containers exacerbates the situation, which has the perverse effect of lowering recycling rates and directing more materials to landfill. The impact on collectors is also problematic, as those who do not want to work the landfills, may risk their lives to actually go inside the underground containers to get materials.

One alternative way of using underground containers would be to combine them in clusters with 'social recycling containers', perhaps similar to the PET cages, or following the colour and shape schemes of the packaging systems. This would give residents and businesses the choice whether to discard their recyclables in a container accessible to collectors and destined for recycling, or hand them over to communal enterprises in the underground containers—mixed with non-recyclable waste or separated. This model has been implemented in Pirot municipality, in cooperation with communal enterprises, by the Pirot board of the Syndicate.

4.6 Research Results: Belgrade and the Institutional Context:

4.6.1 Formal recycling plans in Belgrade

City officials report that, at the time of writing, they have plans for 11 out of 16 Belgrade municipalities to be partially or completely covered by a two- or three-bin collection system. One 240L container will be designated paper, a second 240L container will be for PET, and the third 240L container for residual waste. The separate collection of glass and textiles are reported planned in the near future. The City continues to invest in the separation system and works towards switching to source separation and door to door separate collection. The Belgrade communal enterprise "Čistoća" – officially the most successful communal enterprise in Serbia – also collects the recyclable materials, separates them by colour, grades them, and sells the materials to the value chain.

4.6.2 Belgrade and informal collectors

The City of Belgrade is working towards implementation of EU directives related to waste separation and recycling, while a private partner will be in charge of landfill diversion. Five private companies have been shortlisted from 11 that applied in a tender for the selection of a private partner to cooperate with the City of Belgrade in the rehabilitation of Vinča landfill and the construction of a waste management facility where heat and power will be generated.

From interviews with the various stakeholders representing the City, including the landfill management, the researchers learned that:

- The City management structures are well aware of the issue of informal collectors, their activities, their assumed numbers, which are reported to be 12,000 according to the data of the Syndicate. They know the characteristics of the collectors' operations, such as materials harvested, routes, means of transportation, storage locations, and other information. Under the cooperation with EIB and EBRD (since the 2009 settlement relocations), the City has participated in some of the efforts to include informal collectors in formal waste management structures.
- Some 10 families are living at the Vinča landfill and work there under contracts with the registered companies. The materials collected are sold to the communal enterprise "Čistoća" which is charged with operating the landfill.
- IFC is the lead consultant in PPP process, but the City is relying on EIB and EBRD procedures specifically in relation to compliance with social and environmental standards, because it needs to comply to qualify for loans it needs to finance the PPP. The standards of the World Bank group prescribe that the families living at the landfill need to be provided with housing outside of the disposal facility. The ones already employed in the waste management system will keep their jobs; the ones currently not employed will be offered jobs in the waste management system. This is conform the World Bank/Inter-American Development Bank guidelines for inclusion in landfill closure or reconstruction (Cohen et al 2013), and applies only to the families living at the Vinča landfill.
- The private companies operating the landfill were offering employment to many of the individuals living at the landfill, but the collectors refused, based on the salary not being satisfactory and based on not wanting to commit to the regular working hours²⁴. Currently, the families at the landfill are Roma who migrated from Šabac and are not registered in Belgrade. It is assumed that Belgrade Roma can earn a larger income through informal waste collection, supplemented by social welfare – and this is assumed to be why they decline permanent employment opportunities offered at the landfill.
- The "Čistoća" employs around 600 Roma waste workers annually on contracts for a variety of activities, but there is no continuity, since Roma waste workers often move to do other work, or physically change location.

4.6.3 Modernisation in the Belgrade municipality

City authorities report that they are engaged in upgrading and modernising the City waste management system, including thinking about a public private partnership and loans, which seems to take all of the attention off the livelihoods of numbers of families depending on informal participation in the waste system.

²⁴ Such refusals are not uncommon: service chain organisations (JKPs)



City authorities report that they are engaged in two aspects of modernisation with a potential to affect informal recycling:

- The City is committed to increasing recycling. It is installing or upgrading the underground residual waste containers. All of the current underground containers will be replaced with containers for separate discharge of recyclables where possible (also underground); where it is not possible, on-the-ground recycling islands will be formed. This will allow for implementation of the monitoring system, since the City plans to reach average EU material recovery rates within the next few years, and also to recover part of the investment in the system from the materials collected. The spaces for the work of informal collectors will be drastically reduced by removing the “on-the-ground” standard containers from which informal collectors are currently collecting recyclable materials. With the new containers and recycling islands, the control will also be stricter.
- The City reports that it has operationalised three recycling centres with recycling sorting lines, and the fourth is former SWIFT facility, with a total of 7 centres planned to be completed by end of 2017; the final planned number of recycling centres is 12, plus two locations for transfer stations. The citizens will be able to deliver household hazardous waste to these centres – including e-waste, batteries, household appliances, wires, paint, etc. They do not have this possibility at the moment and often leave it near the containers, and it is then collected and sold by informal collectors. As citizens get used to the new system, informal collectors will be cut off from yet another source of income

05

Chapter 5.

**Precedents and Context:
Informal Recyclers In Serbia
and its Neighbours in Literature
and Projects**



5.1 Serbian and Global Research and Action on the Informal Sector

Scholarship on the Roma in Serbia goes back to Yugoslav times, but the first document that specifically highlighted the professional activities of Roma informal collectors is the 2005 publication *A Paper Life*, by Mayling Simpson-Hebert and Dr. Aleksandra Mitrović and her associates at DURN, the Association for the Development of Roma Communities. This classic ethnography provides a valuable baseline for collecting before the activities of EU accession had commenced to influence solid waste and recycling, documents the settlement patterns, (paper) recycling activities, and relationships between collectors and JKPs.

5.2 IFC Recycling Linkages (www.ifc.org and www.waste.nl)

The first Serbian informal sector project intervention (following the publication of *A Paper Life* in 2005) was financed by the International Finance Corporation, a member of the World Bank Group, in the period of the so-called “Stability Pact”. The Recycling Linkages Programme operated between 2006 and 2008, and had two main activities: training for formal and informal stakeholders, and a research programme called TA-Roma – Technical Assistance to Roma. WASTE, of the Netherlands, was involved in both programmes, and managed the field work and wrote the report for TA-Roma, working with Dr. Aleksandra Mitrović, co-author of *A Paper Life*.

The main findings of this report were that Roma informal recyclers had much in common with informal recyclers elsewhere in the world: they were highly skilled in recycling but lacked other kinds of knowledge such as how to get a zoning permit or what the rules are for an industrial workplace in the city. A key finding was that RIRs, because of their minority and disadvantaged status, have little or no access to financial services, either as individuals or businesses. Other findings, such as the fact that the enabling environment was making their work difficult, and that they had a need for more linkages with formal structures, are confirmed in the current report. The TA-Roma report was never published but is available from WASTE, www.waste.nl, or from the editor of this report.

5.3 Fair Waste Practices (www.waste.nl and www.dti.org.rs)

Many of the recommendations from TA-Roma were used to formulate the Fair Waste Practices project, financed by the Dutch Ministry Foreign Affairs between 2009 and 2011. Fair Waste Practices had a local and a national focus, working with informal recyclers – many of them refugees from Kosovo – in eight South Serbian municipalities, four centred around Prokuplje/Niš and four around Pirot. At National Level one of the partners was the Standing Conference of Towns and Municipalities, and the project financed two years of a stakeholder platform that met regularly, with strong central government participation. The registration of the occupation “Collector of Secondary Raw Materials” in the Serbian Register of Official Occupations occurred during the project period and can be at least partially credited as an outcome of the project.

The local component involved preparing recycling plans for the eight municipalities. This was only partially successful: the plans are available but the municipalities were themselves not ready to take action, saw little value in the plans, and complained that the project gave them work but no money. A similar complaint from Yurom Centar, the forerunner of the Roma League in Serbia, caused it to withdraw from the project and cancel their co-operation project.

In terms of direct support to collectors, the project was more of a positive force. It organised, for the first time in Europe, micro-credit for informal collectors, through the Serbian micro-finance bank MicroFinS. The qualification process for the credits formed the basis for distinguishing between different kinds of informal recyclers in Serbia:

- “full-time professional” collectors, generally Roma men or families
- “part-time professional” collectors, generally Roma men or families
- elderly non-Roma persons, both men and women, occasionally picking cardboard from the street to supplement their pensions
- occasional collectors, alternating waste picking with agricultural and construction activities, and
- Roma community members, especially teenagers, who live on or near the landfill (or dump) and go there occasionally to pick waste for pocket money.

The micro-credit loans were only available to the full-time professionals and some of those loans are still out and being regularly repaid.

Fair Waste Practices also had a strong component of dialogue and communication: during the project through the Stakeholder Platform and as its last event, a conference entitled “Pandora’s Container” organised at ski resort Kopaonik in October of 2011, where more than half of the participants were informal recyclers from South Serbia. The two main spokespersons for the Niš-based Syndicate, report that this meeting and the Fair Waste Practices project inspired them to build the Syndicate from 300 to 2,000 members. The Fair Waste Practices report is available from DTI, www.dti.org.rs.

5.4 Boku TransWaste, 2008–2012 (https://www.up2europe.eu/european/projects/formalisation-of-informal-sector-activities-in-collection-and-transboundary-shipment-of-wastes-in-and-to-cee_147086.html)

The TransWaste Project was one of the earliest projects looking in detail at informal re-use activities in Northern and Central Europe, and their transboundary component. While the TransWaste project website is no longer available, a summary is available at the abovementioned site.

The TransWaste project focused primarily on trans-boundary trade in second hand items, including WEEE, furniture, white and brown goods, and clothing, and made some important experiments in legalising, documenting, and organising informal activity. The most important insight from this project may be that projects are not a useful modality for working on informal integration, which needs to be anchored in law and endorsed by stakeholders in government and industry.



TransWaste was the only project in the last 10 years to focus on the informal re-use and second-hand trade, which predominates informal activity in the “old EU”, and provides livelihoods to thousands of informal collectors in Paris, Rome, and Athens, but the Italian Social Development Organisation Occhio di Recciclone (the eye of the Recyclone), based in Rome, has published many studies and advocacy papers, and participated in the European recyclers’ meetings in Antwerp and Novi Sad. (www.occhiodelriciclone.com)

5.5 The Swift Recycling Centres

(<https://serbia.iom.int/projects/sustainable-waste-management-initiative-healthier-tomorrow-swift>)

The Swift Recycling initiative operated between 2010 and 2012. The website listed above indicates that it has been taken over by the International Office for Migration, which managed the component of registering informal recyclers and their families and giving them identity papers. The website description is brief:

“...The SWIFT Initiative aims to formalize the informal waste sector and provide the most vulnerable population, such as the Roma Population, with assistance in accessing their citizenships rights in the health, education, employment and social protection services.

The SWIFT initiative has three core activities embedded in all three projects:

1. Health and Environment – Ensuring access to health services and occupational health, supporting environmental protection that is beneficial to health.
2. Income Generation and Employment – establishing recycling centres and formal, safe, sustainable employment
3. Social Mobilisation – establishing working entities (cooperatives), providing support and assistance to vulnerable populations and authorities for access to citizenship services (health, social protection, employment, personal documentation and education), supporting non-discrimination (ethnic and gender).

SWIFT I pilot project supported establishment and functioning of a recycling centre in the Belgrade municipality of Zvezdara, and the development of 6 additional recycling centres and satellite collection stations are planned through SWIFT II and III projects.

All three projects within the SWIFT Initiative have been implemented by UNOPS, WHO and IOM, as a joint programme. IOM’s role in the implementation of the SWIFT projects is related to improving access to registration and education for all target groups, in particular marginalized and vulnerable Roma in the municipalities selected to host the SWIFT Centres. Through the SWIFT IOM component was making in SWIFT I: USD 340,000 in SWIFT II EUR 70,000 and SWIFT III USD 200,000”.

This presentation avoids the controversy around the project, some of it financial, and some attributable to the lack of experience in recycling of the managing organisations. Informal recyclers interviewed in settlement Deponije in 2013 said about SWIFT “They stole our money”, and only agreed to talk to us when we made it clear that we had nothing to do with SWIFT.

Based on the information available, it is likely that the core idea of “eliminating the middleman” to give more money to informal recyclers was based on insufficient knowledge of how the recycling industry works, and, especially, the large amounts of working capital that those middlemen – in their position as the bridge between informal and formal trading – are required to mobilise. Anecdotal information suggests that the payment component failed: recyclers brought materials but were paid in coupons rather than in cash, there were limits to the amounts they could bring, and it appears that redemption of the coupons did not work well – or at all.

5.6 Methodological Development for Engagement with Informal Collectors in Former Yugoslavia: WIEGO Consultation in 2011-2013

(www.dti.org.rs, or www.springloop.nl)

In 2011 WIEGO, the UK-based charity Women/Workers in the Informal Sector Globalising, Organising, agreed to provide seed money financing to WASTE NL to organise a consultation with informal recyclers in former Yugoslavia and other Balkan and South-eastern European countries. The consultation took researchers to Bosnia-Herzegovina/Republika Srpska, Montenegro, Serbia, Skopje and two smaller cities, Kochani and Strumica, in Macedonia, Albania, Rome, and Athens. Additionally, NGOs were contacted in Bulgaria, Croatia and Slovenia, but could not find any organisations that were working with informal recyclers. The final report, available from www.dti.org.rs, focused in on Serbia and Macedonia, but included more general information on the other countries. The results were presented at the International Solid Waste Association Global Congress in São Paulo in September of 2014.

5.7 “Challenges to separate collection systems for different waste streams – barriers and opportunities”, ISWA/EXPRA/RDN Conference, Bucharest, October 2014

(www.expra.eu)

This meeting brought together representatives of EPR compliance organisations in more than 10 Southern and Eastern European countries and Turkey. While nothing in the title suggests this, the presentations were universally focused on the problems between EPR packaging systems and informal packaging recyclers. Virtually every single country was experiencing losses of around 90% of covered packages, which were reaching the value chain via informal channels. Rather than celebrating the fact that the informal sector in these countries was (and is) contributing to reaching EU targets, the attendees were instead ventilating their frustration and sharing ideas about how to win the war with the informals. But the idea of buying traceability, which has since been tested in Romania in relation to aluminium UBC, was one positive outcome. Another was that EXPRA, the Extended Producer Responsibility Alliance, opened a line of communication with its members about the informal sector, and delegated Mr. Alphan Eröztürk of CEVKO, the Turkish Packaging Trust, to represent them at meetings. He reported on the issues facing CEVKO at the two FAIRE meetings at the ISWA congresses in Antwerp in 2015 and Novi Sad in 2016.

5.8 Collision to Collaboration

(Scheinberg et al 2016, www.springloop.nl)

In 2016 Waste Management and Research published From collision to collaboration – Integrating informal recyclers

Chapter 5

Precedents and Context: Informal Recyclers In Serbia and its Neighbours in Literature and Projects

and re-use operators in Europe: A review, a comprehensive review article on informal recycling and re-use in Europe. The main goal was to understand how the European (Roma) informal sector is represented in the scholarly literature on social policy, waste management, recycling, extended producer responsibility, and related subjects, as well as to elucidate the nature of the conflicts between informal and formal stakeholders. The main conclusions were that the literature reports re the most conflicts in EU member states, including the "new EU" countries like Bulgaria and Romania, are between the informal sector and the private service providers, and that this is then also the axis of most integration projects. In contrast, in pre-accession countries like Serbia, conflicts with the informal sector are more likely to come from friction with social or finance ministries or competition with the formal value chains.

The clearest conclusion from the review is that structural integration, legalisation, and formalisation interventions work when they are designed to make permanent change in the condition and position of informal collectors. Collectors also understand this, and are often suspicious of projects and not very interested in participating in project- or programme-based interventions. Further insights are merged with insights and conclusions from the research in the following chapter.



06

Chapter 6.

Informal Collecting in Serbia – Research Results and Insights



In this chapter we combine the insights from the research, the review of previous informal projects and studies, the work of the Platform, and other contributions, in order to focus on (many and varied) answers to the first research question: What do we need to know about Roma (and non-Roma) informal collectors and Serbian systems of informal recycling to design schemes for improvement, with the focus on integrating informal recyclers into official systems and schemes?

This chapter is loosely organised into six sections

1. Vocabulary of informal sector integration
2. Stakeholders and relationships
3. Collectors and Communities
4. Collecting as a profession
5. Relationships with the Value Chain
6. Ideas about Integration

6.1 Vocabulary of Informal Sector Integration²⁵

This document continues a global process of articulating and using concepts and definitions in a consistent way. Here are some key terms and how they are used in this report and especially in the recommendations:

- **Co-operation:** This generally refers to an intention to communicate and work together in practice, based on a particular circumstance, and the will of the individuals.
- **Inclusion, social inclusion, inclusivity:** These are part of a global political vocabulary (www.inclusivocities.org) and refer to integration approaches articulated by formal institutions. Inclusivity leads to creating norms as to how they have to change themselves or their realms of influence, in order to work more with a formerly excluded or disadvantaged group, in this case Roma informal recyclers. Inclusivity has additional dimensions of the human rights, moral, ethical, and political motivations on the part of its advocates or the relevant policy- and law-makers.
- **Integration:** This is the broadest concept and refers to a variety of activities involving mutual accommodation of informal and formal actors to allow them to work together and co-operate. "Integration" includes and subsumes the entire landscape of interventions including all of those in this section.
- **Formalisation:** Formalisation refers to a demand by formal institutions and their political supervisors for one-sided integration approaches, requiring adaptation by the informal sector actors. Formalisation is generally defined in a normative way by formal institutions, especially in the service and value chains, and is directed at informal actors. Formalisation measures often articulate a demand for changes by the informal collectors in order to be able to continue their work, and have moral, ethical, and political motivations, often expressed in normative terms by labelling the informal activities as 'illegal'.
- **Legalisation:** Legalisation is normative, facts-based technical and practical description of the specific, verifiable, and available actions to be taken by

informal collectors in order for them to be able to legalise their income-producing activities, and also in some cases their personal identity. Legalisation is facts-based, and in general stripped of the moral, ethical, and political dimensions of formalisation. Some examples: get a drivers' licence or diploma, register as a transporter, request a building or zoning permit, etc. In the case of Roma informal recyclers, their educational and social disadvantage may mean that they simply do not know how to do these things, nor that they have a right to do them. Legalisation is more important to informal integration in Europe than in emerging economies elsewhere, because in Europe it is a pre-condition to all other actions and interventions. Legalisation applies to individuals. In contrast, outside of Europe organising is seen as the pre-condition to integration, and organising is an activity of groups.

- **Structural integration:** Has a focus on introducing changes in the overall system (usually the service or value chains) which are not based on a project or programme. In principle, structural integration will never be time-bound and will never have a date at which it stops.
- **Paths or spaces for integration, legalisation, or formalisation.** This concept is discussed further in the chapter on recommendations. It refers to specific measures that make it easier – or possible – for informal actors to move into a formal, legal, regular relationship with formal institutions and authorities. For example, going to driver education and taking a drivers' test is a path to legalise the use of a motorised vehicle.
- **Fiscal legalisation:** means registering a business or an individual in the government system of taxes, having a tax identification number.

6.2 Advantages and Disadvantages of Informality

The research elaborated both advantages and disadvantages of informality: a selection is listed here.

- **Collectors as victims of harassment and discrimination**
Many informal collectors reported to us to be regularly attacked by passers-by. Another form of harassment is for them to be denied access to collect at the premises of large generators of packaging materials, such as cafes or restaurants or shops.
- **Collectors as objects of interventions and initiatives by others**

An overview and brief analysis of all major activities intended as support to informal collectors in Serbia in the last decade suggests that collectors themselves are seldom the initiators of such programmes, projects, or activities. The researchers heard statements that no initiative ever originated from collectors' community, and implementation of such programmes, projects, and activities could not be possibly be imagined without the intervention of civil society.

²⁵ This section copyright Anne Scheinberg, adapted from earlier publications



This builds on the ideas of non-Roma Serbs that members of the Serbian Roma community are not willing or able to help themselves, and need assistance from outside. This is a very subtle and paradoxical statement, because it represents a toxic mixture of widespread socio-cultural prejudice against Roma persons (in all occupations or without work) in combination with broad social disapproval of waste picking and informal recycling, which in its most harsh form can be understood as a claim that informal recycling is stealing. This discourse has a tendency to trouble every conversation about informal integration, even when the specific informal collectors are not from the Roma community.

This is paradoxical: Roma, says the received wisdom, are not willing to take action to help themselves, making them victims but also implying that they are to blame for refusing to take action. But Roma informal collectors are helping themselves – they have created livelihoods in recycling, and are supporting themselves and their families by their collecting activity, actually a legal and legitimate source of income. Calling collecting stealing and denying Roma and non-Roma collectors access to materials through legal initiatives or the placing of underground containers, looks like blaming them for doing what they are blamed for not doing – helping themselves. In the middle of this paradox, the complaints that collectors are unjustly collecting social welfare payments is another dimension to this “catch-22”.

The belief that (Roma) collectors will not take an initiative to improve their conditions or organise themselves is based on a broad assumption that all collectors are Roma, and that this ‘passivity’ or ‘inability to take an initiative’ is an ethnic characteristic of all Roma in Serbia. And indeed, until recently, most information and experience pointed in this direction. Fortunately, the organising activity of the Syndicate in Niš, and some self-organising initiatives encountered during the research reported on in this document, suggest that this is changing.

A more nuanced interpretation of this phenomenon is that most (Roma) collectors would prefer to remain doing what they are doing, as long as it supports them, rather than to take risks to promote changes that might worsen their situation or put their families at risk. It appears that this, rather than passivity, explains why initiatives to change their working situation are rare. The collectors themselves do not want to change their economic activity, and so they of course do not take any initiatives to do something else. Other stakeholders often initiate something either because they assume that collecting is a “choice of last resort”, or because of self-interest: they may have an interest in eliminating competition.

Another way of shedding light on this puzzle is that “doing something” for collectors in Serbia is unlikely to take the form of organising themselves. Organising is not a self-evident choice for informal collectors, because the economic benefits are not clear to them, and they have no time for it, they need to be collecting. Latin American informal recyclers form the exception to this: they come from a culture with strong and explicit norms of social solidarity, and have considerable and successful experience with initiating organising and

improvement of their profession, and creating co-operatives, associations, and networks. Yet even there, where this deep tradition exists, civil society, labour unions, chambers of commerce and political organisers continue to play an important role. In India, where the Association of Indian Waste Pickers is a growing political voice in the solid waste policy landscape, virtually all organising has been done by civil society organisations or action researchers in social science or the environment.

- Collectors as “the other”, not Serbs, not acceptable. At a certain level, Serbian Roma (and those in other countries) appear to receive blame for purely being Roma, and therefore not being or acting like Serbs or other “white” ethnic groups. Statements like ‘we can’t talk to them’ or ‘they have no representatives’, or complaining about their ‘current manner of living and working’ appear to be primarily about this non-Serb identity.²⁶

In terms of interventions, these perceptions are likely to trouble the policy dialogue and confuse the issues. Those working on informal integration can limit the damage by relying on principles of participatory planning and development: begin by asking, consulting, listening, and to give as many decisions as possible to those who are most affected. This has been the basis of the research, and it is a strong foundation for further actions.

6.3 Potential for Integration

What follows is a summary of key insights of this research, supplemented by those in previous projects:

1. The availability of a path to personal legalisation of collectors and their families, and supporting them to get documents, citizenship, and a social safety net, is a pre-requisite to integrating them into the work of recycling or waste management.
2. Working groups or platforms work! The distance between authorities and formal private companies and collectors, especially Roma collectors, is a barrier to co-operation that cannot be bridged by one or two meetings. A longer-term engagement via working groups or a stakeholder platform give all participants the social and political space to make acquaintance, learn to talk to each other, and build trust. Only when these steps are taken, is it possible to tackle difficult issues such as social service payments or taxes.
3. Informal collectors and other informal or semi-formal actors in the recycling chain have a clearer understanding of their situation than NGOs or authorities. They know better what they want and what is good for them. Interventions that depart from an idea that formal stakeholders or authorities or experts or religious institutions know best what to do, has failed.
4. Engagement of local and national authorities is essential, to create new paths to integration in law and practice.

²⁶ From a document used by the Chamber of Commerce in their contribution to this report.



5. Serbian and former Yugoslavian informal collectors tend to see themselves as entrepreneurs, rather than as workers. While this differs per age, sex, experience, and whether they are living and working in a small or large city, the assumption that everyone should become an employee does neither match the self-conception nor the ambitions of most informal collectors.
6. There are several consequences of this “entrepreneurial identification”:
 - a. informal collectors are more interested in “better business” than “better living conditions”. They want better prices and more stable markets.
 - b. informal collectors identify themselves as professionals and want respect for their profession as well as the means to become better professionals. For this reason occupational recognition is usually high on their list of priorities.
 - c. it is not safe to operate from an assumption that informal collectors would prefer a “clean job”; nor are most people interested in an exit from (independent) collecting. When an exit is offered, 15-20% of the group of collectors may choose this, and another 15-20% will choose to continue working with waste but as employees of the service or value chains.
 - d. money is important and any intervention that causes a loss or reduction of the money that they earn from daily collection will likely not work – even over the very short term.

6.4 Stakeholders and Relationships: The Institutional Landscape and the Informal Sector

The observations, interviews and case stories in Chapters 3, 4, and 5 present a complex picture of stakeholder relationships with informal collectors, and especially Roma. While there are a variety of relationships of cooperation and competition, the most positive relations are with researchers, ministries, and with some EPR stakeholders. In contrast, there are few positive relationships with service or value chain stakeholders, where there is competition and a fear of free riding.

6.5 Collectors as Roma in Poverty

Roma informal recyclers are generally seen as Roma first and recyclers second – and many Serbs, even at high levels of government, don’t ever see that identity as a recycler. As Roma, they harvest much of the prejudice and social resentment of ordinary Serbs or other non-Roma ethnic groups living in Serbia – who are having their own troubles making ends meet in an economically unstable economic period.

6.5.1 Reflections and insights on collectors as Roma

External stakeholders such as the co-authors of this report and their institutions are coming to realise that in overall system terms, the ability of informal collectors to continue their current model of life and work over the long term is at best threatened and at worst already at an end. This is in part due to dramatic changes in the landscape of urban waste management and recycling, initiated by adoption and enforcement of the EU Waste Directive (European Commission Website, 2017) and associated technical, institutional, and economic changes. As formal institutions move to

comply with EU recycling norms, they claim the right to commercialise the recyclables and thus threaten to become a powerful but fundamentally ignorant competitor to the informal collectors, without the knowledge or competence to accomplish recycling from within public institutions.

This raises the question of how to approach and stimulate structural integration of the large group of (full-time) collectors into a changing waste governance landscape. What modes of co-operation and legalisation can preserve livelihoods within the framework of expected financial, social and institutional demands of formalisation? And what measures must the waste management system take to open spaces or paths for integration and legalisation?

It is perhaps useful to note that the drive to require informal collectors to organise themselves is a common global expression of the frustration of (well-meaning) formal institutions in dealing with many independent recycling agents. Formal institutions like representation, that is, some guarantee that if they talk to a “leader” and make agreements, that the leader will “make it true” with their constituents. However, there is little evidence that Roma society has either a leadership structure or the cultural tradition of one individual speaking for others.

This study has produced some evidence to the contrary: Roma informal collectors do have some experience with organising and creating collectivities. And their initiatives worked, but ultimately were frustrated by external forces in the enabling environment, which could not accept this as a legitimate or adequate form of organisation.

It is also clear that collectors understand the risks of organising and integrating better than most other stakeholders. They are highly sensitive to the potential that participation in a project will jeopardise their commercial relations and economic equilibrium. For this reason, it is important to note that there is a reluctance to participate in projects – where non-collectors are financed to work with collectors, but the collectors get no economic benefit. Projects often end before they achieve clear results, and are likely to leave informal collectors no better off – and in some cases worse off – than they would have been without the project. Collectors are justifiably wary of projects, which seek to influence (or distort) existing market relationships, and may place participating collectors – and also their non-participating colleagues or competitors – at risk of losing their market access. So, structural approaches to targeted change are to be preferred. It is of course possible to “projectise” steps in a long-term approach to structural integration, as long as success is defined as improvement over the long term, that is, after the end of the project period.

6.5.2 Employment vs collecting and selling for daily income

In a number of the interviews, the collectors talked about the advantages of collecting, and their relative difficulties to transition to formal employment. Many collectors, who finance themselves on a daily basis without any savings, find it problematic to enter an employment relationship, where they receive their first salary only after one full month of work. They report that they are not able to finance themselves or their families during that first month.



6.5.3 Social payments and collecting

There is a broad assumption – which all the teams appear to share – that all Roma collectors are receiving social payments – a hypothesis neither verified nor refuted by the research. Under current depressed economic circumstances in Serbia, it is politically unpopular that Roma enjoy a form of government support which “ordinary Serbs” cannot claim. This may explain why a relatively large focus of the discussion about informal recyclers is about how collectors are ‘abusing’ or ‘cheating’ the social welfare payments system by earning money from recycling. When the amounts earned are large, the tone of the discussion becomes more venal, especially since it is generally assumed that the collectors’ revenues from trading recyclables represent their net income, without considering their risks or costs of doing business, such as transport or storage space.

It is not clear why collectors are singled out for this blame: it is obvious that it is not possible to live from social benefits alone in Serbia. Most people on social benefits earn a supplementary income through informal activities. Yet, in Serbia at the moment, more and more mechanisms are established to police and abolish the possibility of side-incomes. This trend represents part of what can be seen as the closing of the spaces for Informal collectors (Roma and non-Roma) to collect materials.

6.6 Collectors and Communities – Through their own eyes

6.6.1 Collectors: individual entrepreneurs, based in communities, with few hierarchies

The collection of recyclables is organised by individuals, sometimes shared within a family, but extremely seldom are there horizontal relationships or business associations beyond the individual. Roma informal recyclers best fit the definition of “self-employed” persons, or micro-enterprises.

Collectors harvest materials every day and sell them the same day to a recycling shop. The relations between collector and shop are transaction based: informal collectors go where the price is best or where they are most comfortable. Even when they have “favourite” buyers they are not faithful to them, but go to the nearest, most convenient, or highest-paying buyer. Moreover, in contrast to assumptions or statements in the literature, in Roma communities there are no ‘bosses’ or so called “intermediaries” who function as employers²⁷.

Collectors do not have access to common or individual commercial spaces for storing materials. As a result they use spaces on the street or in undeveloped or abandoned buildings. In some cases sorting and storage occur at home in the community.

It is possible to have a discussion about common space or organising a co-operative but there is not usually much interest in this, as it appears to RIRs to be too complicated or risky.

²⁷ Some modern Roma ethnography and sociology nuances this to state that the internal organisation of Roma communities is flat or egalitarian, but that in relation to outsiders, Roma communities may accept an active individual as a spokesperson in specific situations. This does not mean, however, that the spokesperson can make commitments by which others in the community are willing to be bound.

The unit of work in collecting is virtually always a kilo or an item (like a circuit board), and seldom a payment per hour. The economic agent in Serbian informal collecting is thus clearly the individual. This has many implications, but in relation to collecting, the most important is probably about the importance of identity. In cases where Roma Informal recyclers (and especially Readmittees) have no identity papers and no legal place of residence, this also means that

they are disadvantaged in business: they cannot have a bank account or provide an identity number for a receipt; there is no legal or secure place that they can store materials. In some cases this leads to a preference for living on the landfill, where there is space for storage.

6.6.2 Long-term commitment, but not necessarily full-time

The Governance and Institutional team of researchers asked questions about the length of time collecting. From this line of questioning they learned a number of things from nearly 100 persons. Some of which appear to contradict each other, which is not strange, because they talked to collectors in different types of cities, of many different ages, types, and occupations within collecting. What follows is a selection of the information.

- Collecting is not necessarily a passion, and if something else comes along, collectors may switch to some other form of work.
- Collectors alternate collecting with agricultural work and other short-term opportunities.
- Some collectors do the work of collecting for a long time – most are more than three years, some more than 30 years, or in multiple generations.
- Collectors value their independence: a job with a regular salary is not necessarily attractive to them, especially if they cannot get paid every day.
- Collectors know the value chain culture and protocols well, and prefer to trade with professionals at private sector junk shops than with public service corporations, which appear to them to be ‘amateuristic’ and not to know the value chain rules and conventions.
- Collectors understand the business of collecting better than public service organisations.
- Personal relations are important in decisions of where to sell – but price is usually even more important.
- The concept of loyalty is variable – most collectors have places they prefer to sell but there is not a real basis to be able to say that they have exclusive commercial relationships.

6.6.3 “Organising” and “self-organising” may have more potential than is generally thought

The research has shed new light on the issue of organising in the Serbian Roma collecting sector. In contrast to previous informal integration initiatives, this study has identified a number of axes where incipient organising potential can be seen, or where there have been examples of Roma collectors making ‘arrangements’ with each other to reduce costs and increase efficiency.



- Roma collectors organised collective transport of paper, including a collective payment system that operated via a collector-driver, but they couldn't figure out how to avoid the conclusion of the tax authorities that that driver was making too much money and should lose social benefits.
- When designing paths to legalisation, formalisation and integration, this issue is an important test case. The need is for some kind of intervention could support this form of co-operation and self-organising, opening possibilities for this type of arrangement between informal collectors to result in a correct allocation and reporting of income among them.
- Informal collectors working on some landfills are able to respect each other's territories, materials, and relationships with certain trucks and companies

6.6.4 Roma settlements – business units for storage and commerce

From literature and earlier field work it is clear that the settlement is the centre of collecting, as well as the dwelling place of the collectors. Communities in medium-sized cities like Kruševac, as well as in larger cities like Niš, Novi Sad, and Belgrade, are often strategically located either close to the source of materials – the city centre, the landfill, a factory – or in a good location to store and sell materials. This highlights one of the problems with relocation policies and programmes: they are displacing RiRs not only from their homes, but also from their ability to undertake their economic activities.

The results of the field work add a dimension to understanding the importance of Roma Settlements for collecting. It appears that many Roma settlements have many of characteristics of business units, and can be considered to be something like a company – which in turn can become a vehicle for organising and integration. Communities supply collectors with available (if technically inadequate) interim storage spaces for recyclables on a large scale, and communities may have significant amounts of recyclable materials passing through every day. Here we understand, for the first time in the literature, that it may be possible to analyse Roma settlements as a kind of proto-business unit. It appears that buyers have commercial relations with communities, and not only with individual collectors living in communities. As such, communities appear to represent a field of competition for recycling shops, which claim to want to bind as many collectors as possible to them, as a way to ensure adequate materials flow.

Bonds between collectors and recycling shops are strengthened by the recycling shop providing loaned collection equipment to collectors (like jumbo bags), or giving credits (see Novi Sad Veliki Rit). But recycling shops are also in an asymmetrical power relationship with collectors, as Centres for Social Work sometimes come to them to inquire about 'side incomes' of suppliers as a way of inspecting for cheating. So collectors prefer to trade with those recycling shops that do not share information on their suppliers with public institutions.

6.6.5 Organising potential of Roma settlements

This insight that communities are proto-business units, raises the possibility to consider them as the primary axis of organising, specifically as a form of proto-organisation that could be strengthened to achieve scaling and better marketing opportunities. The research shows only a few examples of the community as the basis for organising, and none up to now based on any kind of collective marketing agreements on the level of the settlement. There is not yet evidence as to whether this kind of co-operation to increase the bargaining power of all individual collectors. But the research does show that collecting families within the community do accommodate each other's schedules. And the example of two junk shops competing for the business of community members suggests that there is some organisational potential and a community-based path to integration.

The prevailing ideas about informal integration, heavily influenced by the International Labour Organisation (ILO) and WIEGO, have held that organising is a primary intervention, and that horizontal solidarity relationships, member based organisations, and the formation of co-operatives or trade unions are the main recommended organising modalities. This is a point of view which is consistent with Latin American experience with the Solidarity Economy, but not with the realities of Serbia in a period of pre-accession. From this research, for the first time, we see the settlement or community as a proto-co-operative or association, and this is worth investigating further, and could shift both collectors and their supporters out of what is sometimes presented as a fact and also a stalemate: the assumptions that (a) Roma will not organise themselves, (b) organisation must be the first step to integration, and that (c) therefore no integration could be possible.

It is time to break through this impasse by looking at what is possible in Roma communities and for Roma informal collectors, and designing targeted and permanent positive changes based on existing possibilities and what is already working.

6.7 Collectors in the Value Chains: Dependencies Between Collectors and Buyers

6.7.1 Process flow analysis: collectors' niches and contributions to the service and value chains

Figure 22 presents a conceptual, system-wide process flow diagram prepared based on the research results of the three teams. It is interesting to note, that collectors occupy some unique niches not shared by other actors, meaning that in terms of urban ecology, they are making some specific contributions to the overall circularity of the system. They are not, it should be noted, bringing materials to the landfill. They are extracting materials and bringing them to the value chain for sale. They share other niches with local authorities or the service chain: these are the activities where we are likely to find friction or competition.

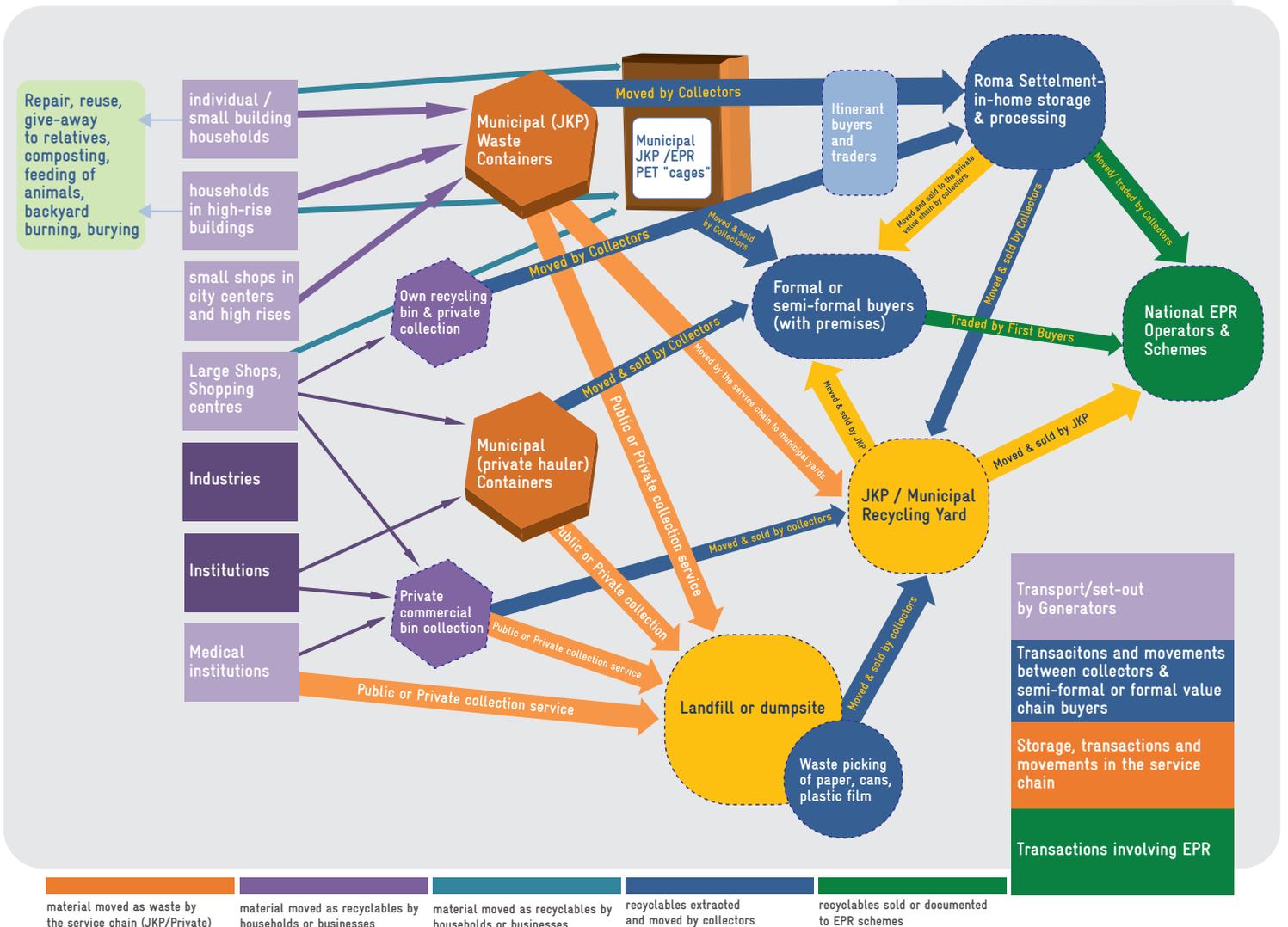


Figure 22. Conceptual Process Flow of Collecting in Serbia
Source: elaborated by the editor based on the research results from the teams

Explanation of Figure 22

1. The purple shapes and arrows represent household and commercial generators of waste and recyclables – and the arrows show how the waste and recyclables are moving from these generators into the system.
2. The orange and yellow shapes show the infrastructure (mostly containers) belonging to the service chain, that is, local self governments, public utility companies, and private collection and landfill companies (operating under contract to local authorities or independently). The orange arrows show the movement of materials to the disposal site -- most of the transactions are thus to disposal. There are only two yellow arrows going from the JKPs to mid-level traders (a low-value market) and to the EPR system – a subsidised packaging management system which may or may not actually recycle these materials.

3. Blue represents recyclables. The thin turquoise- blue arrows going from generators to storage show source separation activities. The darker blue arrows show the private value chain movements, including collectors and semi-formal and formal junk shops and processors. These blue arrows show the unique position of collectors in the system. It is highly significant that collectors are the only party moving large amounts of recyclables within the system, and the main suppliers to the value chain. This is one main source of their environmental, social, and economic value to the local self governments – they are providing a great deal of transport, for which they are not being compensated.
4. The green represents the EU-conform Extended Producer Responsibility systems for the capture of packaging waste. The public utility companies are providing the EPR systems with some subsidised packaging streams,



but the informal sector is providing much more. This is one area where the blue and the yellow arrows go to the same destination, meaning that there is competition between the informal collectors and the formal institutions. Also the Roma traders in their settlements are making a strategic choice between selling to the green EPR systems, selling to value chain buyers, or bringing materials to the public utility (JKP) yards.

Insights from Figure 22

1. Collectors occupy some unique niches not shared by other actors.
2. In terms of urban ecology, they are making some specific contributions to the overall circularity of the system.
3. They are not, it should be noted, bringing materials to the landfill, only the service chain does that.
4. This means that if the service chain were to start effective selective collection, on the models of the “old EU,” the collecting activities at the landfills would become much less interesting to collectors.
5. Collectors are the only actors extracting materials from disposal sites to sell to the value chain. They are limiting the cost of disposal at the landfills; this would be even more effective if it could be arranged through separate collection.
6. Collectors are also the only ones bringing separated materials to the yards of the Public Utility Companies, so without them the JKPs would be spending much more money in transport.

They compete with local authorities or the service chain in selling materials, but they are alone in primary extraction. This is an important signal and explanation for the high percentage of materials passing through informal hands on the way to the value chain buyers.

6.8 The Issue of Social Payments – Barrier to All Forms of Legalisation, Formalisation, and Integration

The issue of social payments, more than other topic, emerged from the research as a core issue to be addressed as part of any intervention designed to facilitate legalisation, formalisation, and integration. All researchers and contributors to the study appear to have assumed that there will be a policy decision that the process of integration of the informal collectors will require social institutions to separate collectors from social support payments – and that the collectors will resist or evade this.

It appears that this is a dominant Serbian discourse about informal collectors, and that solving it is seen as one of the main barriers to integration, especially since most of the discussion about solutions has some element of sanctions or punishment – a kind of implicit presentation of the idea that Roma – collectors or not – do not deserve these payments, and that their cheating has to be stopped or prevented before there can be real movement in the direction of integration.

Perhaps the most damaging part of this discourse is the implication, first, that every Roma person is receiving social payments, secondly, the (false) assumption that all collectors are Roma, and, as a result, the seemingly unavoidable conclusion that every Roma informal collector is therefore surely cheating – the tax system, the social services payments, and all the hardworking employed Serbs who pay punitively high employment taxes. The research results clearly challenge some of these assumptions, pointing out, first, that in the current economic slump, large numbers of people other than Roma and other than collectors are receiving social payments, and secondly, that social payments are not by themselves enough to provide a decent livelihood: at best they are only a supplementary income, and those eligible for social payments include large numbers of non-Roma and non-collectors who are able to survive through a range of supplementary and largely informal economic activities – from gardening to repairing automobiles to selling home-made or second-hand items at flea markets.

There are several problems with this approach to “the social payments problem”. First, it represents a bundling of assumptions and implicit allegations about collectors and social payments but is not supported by facts. Secondly, it does not appear that the researchers asked the collectors they met, in a neutral way, what their ideas are in relation to this issue. The exception to this was in relation to the Syndicate, and this research produced some practical suggestions. But considering the dominance of this discourse, the contribution of collectors themselves to finding solutions is rather limited.

A key step in moving to intelligent policies and inclusive and fair strategies for social integration of Roma collectors is to deconstruct this discourse and understand the different parts of it. Here are some thought experiments focusing on the policies and practices.

6.8.1 Trading recyclables – a reality check

One of the key realities about all recyclables trading is that it is risky, uncertain, and has fluctuations of great amplitude. This is true of all value chain enterprises, ranging from collectors “at the bottom of the pyramid” all the way up to the paper and steel mills and their holding companies at the top. Trading recycling is risky – and not only for of informal collectors and small scale traders, but for everyone in the business. And although the activity and service of collecting can be stabilised through establishment of routes and various formalisation and integration models, Serbian collectors are not paid for this activity. Their incomes are not from the work of collecting, but from selling the recyclables, and that is a risky and highly variable source of income. In other words, at their current scale and in their current form of working, Serbian informal collectors have little influence on whether the sale of the materials supports them or not.



All forms of commodities trading have steep price fluctuations – as is shown by any graph of the price of oil or wheat or gold over time²⁸. It is also one of the reasons that payment times in the industry are seldom less than net 90 days. These variations are what make commodities trading attractive – good traders can buffer their liquidity and hedge the losses and operate at a scale that allows them to win big on the gains. But small traders of recyclables do not trade on a scale that allows them to hedge – and so they are using the social payment system to cover their downside risk, without having the economies of scale that would allow them to create a buffer based on the upside benefits.

6.8.2 The same social safety net rights as other workers and entrepreneurs

The dominant policy proposal is to endorse the policy of inclusivity, and, to cover the risks to of disease, old age, and injuries by organising access to medical care, pension, and other social safety net functions, such as are accessible to workers or self-employed persons. A special element for collectors is that their work is risky, so that there is some need for a social payment system that can balance the risks involved in collecting and trading recyclables. The strategy is to work with collectors to reach agreements on alternative mechanisms to cover the risks involved in collecting, as well as normal risks and problems of regular work.

6.8.3 Compensating the positive environmental externalities of collection

There is another dimension to this discussion that is important for Serbia. Collecting is actually creating both economic and non-economic benefit for LSGs and the national government institutions, as it raises the recycling rates for the Republic of Serbia and moves towards meeting EU goals. So when thinking about social payments, it is worthwhile to consider whether creation of mechanisms to reward collectors for the work of collecting and recycling, such as price supports or diversion credits, could be an element of a legalisation package.

6.8.4 Financial and fiscal options in answer to the social payments dilemma

A few models briefly described here to give an idea of how this could move from assumptions to practice. Some of the existing local policies are already experimenting with mechanisms that can be serve as the basis for future developments, such as one-time social welfare support implemented in Niš as 100 hours working engagement benefit offered to unemployed beneficiaries of social welfare.

- Service payments based on hours worked, or on performance in terms of kilos diverted from disposal, for separate collection of recyclables, or for other services related to the work of a JKP. Collecting (or street sweeping or processing of organics) can be understood as a regular activity that is not subject to the same risks as trading. So if collectors were to get a performance-based payment from the PUC or the LSG (or some other source) for the activity of collecting,

similar to the provisions of Decree 596 in Colombia, they might not need social payments.

- Diversion credits, or paying collectors for keeping materials out of the landfill. In theory, every tonne of material that passes through collectors' hands does not go to the landfill, it goes to the value chain. If it did not do that, the collectors would stop with their activities. So payment of a diversion credit could replace the social payments, and this would also have the beneficial effect of keeping the materials flowing to the value chain (and away from the landfill) even when the price of the materials is too low to cover all the costs of collecting (assuming it is possible to know what those costs are).
- Own contributions to a fund (or to the fund that pays the social payments) If collectors themselves were to pay into an insurance fund or pay some form of contribution to social payments, they could be entitled to collect social payments when they have a problem with collecting or trading, that is, when they do not earn enough to support their families.
- Agreements between the tax office, collectors and recycling shops to resolve the question of side-incomes on top of social benefits, by introducing special, low-taxation system for small start-up enterprises
- Agreements for withholding of a percentage of the value of transactions at value chain buyers such as junk shops, processors, and exporters. The amount withheld would be credited by the junk shop to the tax withholding account of the individual collector selling the materials, to pay his or her share of taxes and social insurance premiums.
- Integrating data management on collection activities with traceability for Extended Producer Responsibility traceability systems. The idea is that both taxation and traceability call for a universal data registration system, and that one single system for tracking rights and obligations makes more sense than multiple systems.

Moving towards the conclusions, we close this section by signalling a need to take both research and communication with collectors and other stakeholders into a new area: that of consultation, argumentation, open discussion, of how to organise the legalisation of collecting. In the process, we believe that it will be possible to arrive at a satisfactory approach for integrating collectors into the taxation and insurance system in a fair way. The leadership role of the Platform in this is clear. The key point here is that whatever is proposed has to originate with the collectors themselves, and serve their needs. The failed formalisation in Turkey is an important object lesson: an offer was made but none of the informal collectors chose to accept it, because they could see no benefit and a considerable amount of disadvantage.

²⁸ In fact, the price of plastics in the market is always directly related to the price of oil, and the prices of other recyclables are indirectly related, as paper, metal, and glass industries are highly energy intensive, and most energy costs are related to the price of oil.

07

Chapter 7.

Conclusions and Recommendations: Towards a Programmatic Framework



In this journey towards a new, more positive balance and relationship between collecting and the service and value chains, trust between all parties is much more important than any of the substantive issues, and nurturing that trust is perhaps the most important task of the next phase of the solid waste modernisation and informal integration effort.

The researchers, Platform members, and other contributors have, as a part of their research, proposed many specific interventions to integrate the informal sector, which are clustered and classified and woven into the recommendations in this chapter. But before they can be adequately understood, or operationalised, it is important to understand the different ways of framing these organisational, technical, social, and tax-related proposals for stabilising the status of informal collecting, legalising the work of the collectors themselves, and also for legalising and documenting the kilos that they divert from recycling.

In this section we present 12 recommendations. Each recommendation is followed by explanation.

The main concept for framing the recommendations is the concept of paths. All interventions proposed depend on the stakeholders agreeing to create paths to legalisation, formalisation, and integration. A path traces the direction of travel, acts as an invitation to the traveller, and becomes safer and more passable the more it is used. We are introducing the concept of three primary paths: legalisation, formalisation, and integration. Among the new insights and information proceeding from this research, it has become, for perhaps the first time, clear that there are not, at this point, any clear paths, nor any road map, for how to proceed with integration. By elaborating three key paths, we are beginning to create this road map or blueprint for integration, and by association, a range of activities that support it.

A second key concept is that of vehicles for change. Vehicles carry stakeholders along the path in a more powerful way than they could manage on their own. The vehicles are not part of the road map, but they are essential to travelling the paths. The two specific vehicles are: (1) the enabling environment, and (2) sustainable financial instruments.

Finally, because of its extreme relevance to the topic, we have a section on framing informal integration in the context of the European Circular Economy.

7.1 Legalisation: Pre-requisite for Integration in the European Sphere of Influence.

Recommendation 1:
Create a development partnership between the collectors, national and local authorities, the public (JKP) and solid waste sector, donors and private service and value chain companies, to open paths to legalisation for collectors in the framework of the Platform.

A path to legalisation describes a process that is followed over a period of time that allows informal collectors to move gradually to regularise their personal identity, legalise their collecting activities, and/or regularise the status of their enterprise. Collectors themselves need to be legal, in order to legalise their activities. In the current climate of assuming that all Roma informal recyclers are cheating in relation to social payments, it is fair to say that these allegations are blocking the opening of such paths. The legal space for integration without sanctions does not yet exist, but creating it is a key pre-condition for legalisation.

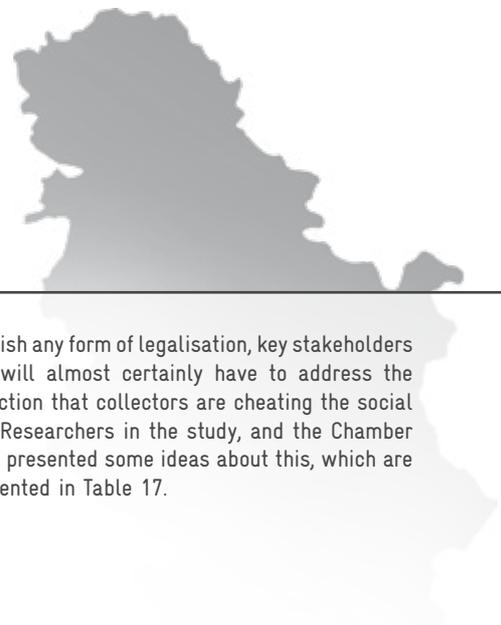
In this activity, we can conceive as the development partnership being between donors; the collectors; local authorities; relevant ministries of labour, internal and social affairs, and commerce; and, because most collectors are Roma, of ministries and institutions charged with Roma affairs, migration, and re-admission. All of these institutions are (or should be) present in the Stakeholder Platform, and so opening and negotiating paths for legalisation becomes the main task of the Platform in the next phase.

In specific, we see that there needs to be some kind of establishment of a “zero year” after which legalisation is required for all who want to continue collecting. Those who legalise themselves create a break with the past, and the governmental institutions, formal organisations, and tax authorities respect that break, and make hard agreements not to enforce backwards in time. Nothing before that year can be used against the collectors. Legalisation is thus about process, while prevailing ideas about formalisation and integration are more about the content – such as financial formalisation via the tax system or social integration via the systems of health and education.

This is also the way Decree 596 in Columbia works, although there the focus is on organisation, instead of legalisation. Specifically, Colombian collectors have to join an organisation, a union, or a co-operative by a certain date, in order to qualify to receive the service payments authorised in the decree.

Applying this concept in Serbia, the Ministry of Labour (or economic or environmental affairs) could have several forms of initial or pre-registration – as an individual, as a member of a Syndicate, as a member of a community – that any collector could manage. This is a kind of entry into the process: it should be light, (nearly) free of charge, available in any city in Serbia, and possible to do in one trip to the city.

The only purpose of this initial or pre-registration is to create a point of entry into the system, that will entitle them to go further, and which will protect them from backwards enforcement. Removing this risk of backwards enforcement is essential to creating willingness for collectors to enter the legalisation path, because if it is not clearly available, collectors will hold back due to their fears of being punished for their previous semi-legal informal status, precisely at the moment that they could be convinced to move into the realm of legal business or employment.



Such an entry point has to be the product of a broad agreement with local and national government stakeholders, preferably anchored in law. But in any case it will be necessary to gain agreement among all stakeholders on a kind of amnesty that prevents social welfare or tax officials from enforcing into the past.

Whether this space comes via amnesty or specific exceptions, the combination of actions of formal institutions to facilitate and accept legalisation, the path for legalisation is primary. Only when the path is there, is known to collectors, and appears to them to be safe, low-risk, and with a high probability to make them better off than they are now, can we expect that the collectors will travel the path to legalise themselves and their collecting operations.²⁹

In order to accomplish any form of legalisation, key stakeholders and the Platform will almost certainly have to address the broad-based conviction that collectors are cheating the social payments system. Researchers in the study, and the Chamber of Commerce, have presented some ideas about this, which are collected and presented in Table 17.

Table 17.
Inventory of potential legalisation approaches

Intervention	Explanation
Establishing trading Identity as a path to legalisation	For Roma informal recyclers settled in Serbia, there is not usually any issue of establishing personal identity: settled Roma usually have identity papers and their children can go to school. Refugees from Kosovo have partial rights and partially established identity. Readmittees – those returning to Serbia after long periods of (legal) residence in Western Europe – are likely to lack valid identity papers in Serbia, and a long process is necessary to get an ID card.
Allow readmittees to use trading identify as a basis for legalising their identity	The research suggests that value chain traders are seeking to make purchasing arrangements with readmittees and former refugees as a way of increasing their supplier networks. Establishing identity based on trading relationships – perhaps combined with telephone numbers and a foreign ID or travel document – could make it easier to bring these two categories of informal recyclers into a legalisation and formalisation path.
Licensing of persons via identity badges: visual identity as the path to legalisation	The idea from one of the teams is that the provision of a license could be the basis for a transparent and legal relationship between collectors and the service chain, specifically the JKPs. Such a license could also provide entry into the EPR compliance process, but would be a less direct intervention, as the EPR schemes are not so interested in labour, but in due diligence about packaging materials. The principle here is to legalise individual natural persons and make their legal status easily recognisable via a visual identifier such as a badge or ID card.
Legalisation of collectors as self-employed persons	The concept of green employment implies principles of dignified labour which is safe, regulated in terms of status, and which is subject to salary payment. This measure may stimulate self-employment and full integration of vulnerable groups and especially Roma, who represent the largest percentage.
Legalisation path via the tax for self-employment: this initiative comes from the Syndicate and has been adopted as one of the ingredients of integration by the Chamber of Commerce	Development of Roma entrepreneurship, self-employment, and integration in waste management systems. <ul style="list-style-type: none"> • An independent collector is registered as an unemployed person with the National employment service; • Once registered, the collector meets the condition for self-employment subsidies published by the National employment service which amounted to approximately 1,300 EUR in 2015, • This is followed by registration of the entrepreneurial activity with the Agency for business registers under the code 3510, “collector of non-hazardous waste”, following a very simple procedure which lasts 24 hours in total, • Once the decision issued by the Agency for business registers is received, the collector may have the seal produced and may open a bank account, • A registered entrepreneur pays lump-sum taxes for the activity of waste collection. According to the data of the Tax administration in Belgrade, the tax amounts to about 90 EUR month.
Roma League Proposal for Legalisation of Tax Status	There is an initiative (launched by the Roma League and Independent trade union of collectors of secondary raw materials) that a registered entrepreneur – collector of secondary waste materials should be exempt from payment of taxes and contributions for up to five years of conducting the activity.
Floor Income as basis for diminishing social welfare	An alternative would be to tie the exemption to a floor income that represents the costs of doing business plus the full value of social welfare payments and subsidies. Only when income is above this level, does the collector begin to lose social welfare payments, but they can keep the subsidies until a second level. A related (but somehow punitive) proposed restriction is that no self-employed individual, or members of his or her nuclear family, may be beneficiaries of any other form of social aid except for children’s allowance.

²⁹ The integration initiatives of the Turkish Packaging Trust, CEVKO, appear to have failed because this legalisation path was missing. Informal collectors refused CEVKO’s invitation to integrate because they were not convinced that it would make them better off. (Alphan Eröztürk, Managing Director, CEVKO, in a presentation given in Antwerp in 2015).



7.2 Formalisation: Recognition and Acknowledgement in the Service and Value Chains

Recommendation 2:

Planning and capacity development for formalisation Serbian national stakeholders, and the Platform, should strengthen the focus on waste management and recycling planning, with robust capacity interventions for public institutions and service chain stakeholders in the areas of establishing a baseline and calculating costs of inaction, activity-based budgeting and costing, participatory planning, stakeholder consultation, and environmental protection.

Formalisation, following legalisation, means that formal institutions in the service and value chains accept Roma and non-Roma informal collectors as professional recyclers who are legitimate partners in the work of municipal cleaning and recycling. Formalisation is thus more about professionalisation and informal collectors preparing to enter economic niches in the service and value chains, than about personal status. Legalising a Roma semi-formal junk shop might mean that it gets a zoning permit for three trucks to park on its territory, but that is not the same as entering into a contract with the JKP to collect recyclables from 15 packaging "cages" in the city centre. This second type of relationship, via a contract or a concession or simply a named place in the formal activities of cleaning, waste management, and recycling, is what we refer to as formalisation.

By "formalisation" we understand that the waste management system restricts access to materials or eligibility for contracts to formally recognised or registered businesses. Formalisation is a politically based intervention that places the main burden of change on the informal recyclers: they are the ones who have to get identity cards, tax registration numbers, permits, contracts, and the like. The main lines of activity include facilitating waste picker action to formalise individuals and enterprises, and to some degree also lobbying or stimulating local authorities to accept and do business with waste picker groups. "Owners" of formalisation are seldom informal collectors themselves, but rather, local, national, or international NGOs, and in some cases, progressive local authorities. Here the research has been very helpful in highlighting a specific weakness of collectors (and their representatives in the Syndicates): they are neither able to scale their activities, nor to use this scaling to achieve better logistics or marketing conditions. Part of the problem here is that the enabling environment is neither favourable nor easy to negotiate, as the aborted initiative with collective marketing to Papir Servis illustrates.

A path to formalisation in the service chain is thus a process for the PUC or the LSG or a private landfill or collection contractor (to name a few), to analyse their own operations and identify operations where collectors or junk shops (or other informal actors) can fill a gap, supplement or improve their operations, or add value to the overall landscape of public services in Serbia. Stakeholder support for formalisation could mean creating various kinds of standard agreements or "small" permits that make the legalisation

and formalisation paths available to everyone; working with local or international suppliers of processing or transport equipment for standardised designs and prices; asking consultants to design and test specific forms of inclusive source separation and concessionising different parts of the separate collection system; and the like.

In this process, the role of solid waste and recycling planning and activity-based costing and budgeting plays a central role: public institutions don't know well what their activities cost, and so they are not in a situation to recognise which activities of collectors benefit the system. The disagreement in Kruševac about "paying collectors for our own materials" points to a lack of capacity to calculate avoided costs of collection and disposal – and this is based on a lack of experience with activity-based costing.

Modern techniques for costing and budgeting represent invisible but essential institutional and organisational components of solid waste modernisation and upgrading. The role of the Platform in facilitating this form of service chain formalisation is thus critical, because through it, legalised informal collectors and potential partners are able to jointly imagine and plan a future with economic and operational niches for formalised enterprises and professionals. A key part of this is supporting capacity development for local authorities and PUCs to understand and value the environmental consequences of poor disposal and collection – the so-called "costs of inaction".

And once they have more powerful tools, LSGs and PUCs, together with their private sector agents, are better able to imagine a future in which collectors have an important role in implementing recycling and attaining targets and circular economy goals. Formalisation is thus largely about capacity development for all relevant stakeholders: beginning with for formalised collectors, and including as well LSGs, PUCs, JKPs, and private companies, the Standing Conference and other professional and trade organisations. A key focus of the capacity interventions is to inform processes of tendering, negotiating and co-operating and evaluating the benefits (or problems) of formalisation. This creates a priority recommendation for capacity development to understand system dynamics, and be able to calculate costs and benefits of specific activities. Formalisation and integration of informal collectors and processors in the service chains has a long history in emerging economies like Brazil and the Philippines. The strategies tested there to operationalise formalisation, combined with proposals from the researchers, can be interesting to Serbian stakeholders and the Platform. Some are listed in Table 18.



Table 18.
Service Chain Formalisation Approaches Potentially Interesting for Serbian Stakeholders and the Platform

Zonal authorisation – intermediate path to safety, operational organising, and reduction of harassment	Zonal authorisation is a form of concessionisation, in which one or a group of informal collectors have a privileged or exclusive right to collect and move freely (and without harassment) in a zone, neighbourhood, village, or on a dumpsite. Members of the Governance and Institutional research team encountered zonal authorisation for the landfill in Bjeljina (Republika Srpska in Bosnia-Herzegovina) in 2013: the landfill had the names of 15 collectors and would admit some or all of them each day. Official identity papers were not required, as long as the persons could identify themselves somehow, or were known to the landfill personnel. Like full identity-based legalisation, zonal authorisation may be attached to a person with a unique identifying badge or id card or mobile telephone number, but it can also be attached to a company or a vehicle license plate. In all forms, we can consider it is a “lighter” mechanism, which can be temporary or conditional as well as permanent, and it carries fewer rights. Authorisation is a tool used in many emerging economies – to authorise recycling companies to sponsor landfill pickers in district landfills in Botswana; to authorise junk shops to serve as Materials Recovery Facilities in Manila, to authorise cardboard collectors in Hungary in the 1990s. It is a practical measure to reduce harassment and increase orderliness, and it can serve as a test of or precursor for more permanent and structural approaches.
Contracting of Informal Enterprises in Larger Cities	In larger cities with populations above 100,000 persons, there many options, especially because there is a large volume of materials available. Given the failure of many projects dealing with organising informal collectors, we have to indicate the weak points of organising: lack of managerial knowledge and capacities, lack of trust and willingness to join in business activities with other collectors (joint company/association/cooperative). There are two possible lines of action: 1) Collaboration with SSSS on organising 2) Forming of working unit for recycling within the communal enterprise, such as for example parking service in Kraljevo within the communal enterprise: this unit can employ workers either directly, or through cooperatives/associations and pay them based on quantities collected This needs to be accompanied with capacity building of collectors, especially with regards to organising, waste management system, management of the workload, value chain and municipal chains. There still stands an issue of lack of legal documents.
Micro-PPPs between JKPs and Small Collectors’ Groups in smaller municipalities	In smaller cities and towns (population below 100,000 persons), there are small quantities of communal waste and small quantities of separated recyclables, small numbers of individual collectors – individual contractual obligations with collectors. For municipalities/cities over 100,000: there are enough collectors that work alongside each other and have awareness that they have to organise themselves or accept formal employment in order to continue collecting recyclable materials.

7.3 Formalisation and Value Chain Strengthening

Recommendation 3:

Value chain marketing support component
Create a marketing support component that works with collectors, value chain businesses, agricultural enterprises, and business incubators/technology parks, to organise themselves around scaling activities: creating storage space, better logistics; more knowledge about highgrading and negotiation. The paper, glass, organics, and e-waste value chains are the priority for these activities, as the markets for metals and certain plastics are functioning quite well without intervention.

Formalisation in the value chains and the finding of niches for co-operation and doing business is in some sense easier and more ‘natural’, because informal collectors are already value chain stakeholders. By “formalisation” we understand that the waste management system restricts access to materials or eligibility for contracts to formally recognised or registered businesses. Formalisation is a politically based intervention that places the main burden of change on the informal recyclers: they are the ones who have to get identity cards, tax registration numbers, permits, contracts, and the like. The main lines of activity include facilitating waste picker action to formalise individuals and enterprises, and to some degree also lobbying or stimulating local authorities to accept and do business with waste picker groups. “Owners” of formalisation are seldom informal collectors themselves,

but rather, local, national, or international NGOs, and in some cases, progressive local authorities.

The type of interventions that support the development of sustainable, inclusive, high-performance recycling include: (a) direct support to collectors and the Syndicate(s) and other incipient or self-organising groups, such as the Recycling Association in their marketing efforts; (b) interventions to improve the potential for marketing materials, such as setting up selling co-operatives or facilitating collective marketing agreements with larger formal value chain players; (c) exploring the potential for attracting new recycling or circular economy businesses to Serbia in the (currently under-developed) areas of paper, e-waste, and organics valorisation³⁰; (d) capacity development for collectors in terms of issues of scaling and the potential for better facilities and infrastructure; (e) leveraging of financial access through micro-credit or equipment funds; (f) introducing information and data management tools; and (g) specific projects for strengthening collector and small scrap shop marketing in the paper, glass, organics and e-waste sectors.

³⁰ The connections between the research teams and Serbian business incubators in Niš and Belgrade offer interesting business development opportunities in the traditional recycling sectors of glass and paper; the Technology Parks provide a very interesting opportunity to attract electronics refurbishing and component and device parts and repair operations to Serbia, that could serve all of the Balkans.



Table 19.
Focus on Value Chain Improvement as A Formalisation Path

Intervention	Description and Precedents
Registration and legalisation of transactions and materials	A variant of the system, which was the basis for the Gerdau Steel-GIZ project on steel supply chain strengthening in Brazil and Mexico, legalises the transactions and withholds taxes only at the final level of the value chain.
Clearer permitting for premises	In terms of formalisation, there are a number of small recycling shops with semi-formal status, and itinerant traders without premises or storage. Value chain formalisation could include working on clearer permitting and operating guidelines for storage, processing, and trading. Included could be a permit for storage in a residential area under strict guidelines.
E-integration	Another form of institutionalisation is to be connected by app to a network of junk shops and receive bulletins by text message as to when particular materials are sought by the markets. or for collectors to have an individual or group concession for a regular collection route in the city (the integration modality in the 2014 GIZ/SWEEP-Net project Structural Integration of the informal Sector in Tunis). Integrated collectors might have responsibility the emptying specific packaging containers, so that the JKP knows which collector to call when "his" containers in the city centre are full, so that he can go and empty them.
PPPs, Business development, recycling incubators	Since the research was completed for this report, China has announced that it is closing its borders to imports of plastics, e-waste and other recyclables, potentially including paper. This will certainly have a detrimental effect on the ability of collectors to market materials in Serbia. Connecting the (formal and semi-formal) recycling sector to the various business development initiatives may be an indirect activity, but it could produce some new in-country markets.
Micro-credit and loan guarantees	In the Fair Waste Practices project collectors in Serbia were offered micro-credit and had a good payback experience. This and other forms of loans or lease-purchase agreements support scaling of operations and better market access.

7.4 Co-operation within the Value Chains and Supply Chain Strengthening

Recommendation 4:
Work on PPPs with partners in the value chains for better markets
Work with local organisations and consultants to identify private sector partners for one or more strategic partnerships to strengthen the market for paper, glass, and e-waste components. Work with the agricultural sector for partnerships for valorisation of organic waste from households and businesses. Mobilise German and European enterprise and technology export funds as a strategy for financing these partnerships.

GIZ has co-financed a model value chain improvement project in the multi-year DeveloPPP strategic Partnership with Gerdau Steel in Brazil and Mexico, in a project about strengthening the Gerdau supply chains. Using this project as a model for a Strategic Partnerships with a paper, glass, organics and e-waste value chain operators in the region could have important economic, social, and environmental benefits for collectors, LSGs, for Serbia as a whole, and for the European ambition to move towards a circular economy. With this "pull" collectors can improve their earnings and local self-governments can afford to divert more materials from disposal via inclusive separate collection systems.

7.5 Integration: Two-way Accommodation to Improve Results and Co-operation

Recommendation 5:
Institutionalise occupational recognition rights, privileges, obligations, and a professionalisation process
Within the activities of the platform, explore ways to institutionalise this occupational recognition and operationalise it as a path to integration. This could include development of training materials and a certification or diploma process that documents professional competence, and can qualify the certified collectors for micro-credit or other forms of support.

The third important concept is integration. We use this to refer to the institutionalisation and stabilisation of co-operation, partnership, business relationships, and in some cases employment, as well as improved trading relationships between formalised collectors and small traders on the one hand, and institutions and companies in the service and value chains on the other. Integration is more about practices and roles than about rights.

Occupational recognition is a primary pillar of all integration activities, because it institutionalises the profession of collector at national level. Fortunately Serbia has "collector of secondary resources" as an official profession, but this gain is vulnerable, because it was created administratively and is not protected by law. So, one priority for the Platform is to facilitate the anchoring of collector occupational recognition in law. In many countries, occupational recognition opens important gateways, for example, identity or professional legalisation, rights to education, social service payments, medical access, and marketing opportunities.



It would be useful to establish both a process to claim occupational recognition on a personal basis, via set of criteria (if any) for granting it, and a set of rights or privileges or opportunities that are associated with it. This should be a participatory process in which Syndicates, Associations of Recyclers, value chain companies, Social and Labour ministries, the Standing Conference, the International Solid Waste Association (ISWA), the Extended Producer Responsibility Alliance (EXPRA) and advocates participate to shape the institutions for occupational recognition. Moreover, there is room for work in the area of professionalisation, such as: capacity development, not only among collectors, but also among LSGs to professionalise their relationship with collectors and value chain enterprises.

The syndicate in combination with junk shops, the Chamber of Commerce, and the Serbian Ministry of Labour could sponsor a professionalisation trajectory that would allow collectors to get some kind of diploma or certificate showing that they know their profession, and this could in turn establish eligibility for specific jobs or contracts. Such a diploma could also be the basis for collectors to qualify for micro-credit to enable business strengthening and scaling of operations. Readmittees with experience in recycling outside of Serbia could find easier entry into the Serbian recycling economy – both informal and formal – with such a diploma and if their level of knowledge is high, they could potentially also qualify as instructors or certifiers.

7.6 Organisation

Recommendation 6:

Support to collectivities in scaling and organising, no new organising initiatives
Support, document, and benchmark existing organising initiatives and collectivities, such as the Niš Syndicate and its local boards, and the Association of Recyclers, rather than engaging in new, project-based organising initiatives. For example, there is an institutional organising initiative in Novi Sad, involving the Syndicate and another Roma student organisation.

The third pillar of integration is organisation, although, as has already been mentioned, this requires a delicate hand and the support of on-going autonomous initiatives, by collectors, to organise themselves. Membership in an organisation, union, or association is another path to integration.

While organising may not be attractive to many collectors, the experience of the initiators of the syndicate suggests that it has a role to play for some collectors in some parts of Serbia. And like individual collectors, the Niš syndicate is having issues with scaling and sustainable business models, and can use the support from the enabling environment, including government institutions, financial institutions (including micro-lending programmes), NGOs and donor organisations.

Recommendation 6 requires understanding what has motivated these existing organising initiatives, and how “being organised” has affected the members. What, for example, are the costs of organising? Do members feel

supported economically, socially, politically, or in terms of professionalisation? Which of these dimensions need strengthening, and how can national institutions, LSGs, and the Platform fit into those needs? It might be interesting to organise a kind of “open tender” or small grants facility available to incipient or existing collectivities, that begins with capacity building in both recycling and organising, and then provides practical support to strengthen their membership, support their legalisation and formalisation initiatives, and mobilise funds for investment in facilities and equipment that contribute to scaling.

Since the Syndicate is the first instance of successful organising of collectors in Europe, its existence sets an important precedent. At Serbian and European level, it could be important for the Syndicate be connected to labour organisations in Brussels, such as the International Trade Union Confederation, as well as being recognised by the Serbian trade unions and offered membership in the Serbian labour confederation. The EU programme for Social partners, the International Labour Organisation, and NGO or Social Democratic partners, could perhaps facilitate this.

This is also a recommendation as to what to avoid: direct organising of recyclers is not recommended. Global experience of organising is that the costs of organising (for legalisation, formalisation, or integration) mean that collectors may have less disposable income and feel “worse off” in the short and medium term. So there is a high risk when external partners push this agenda; they can be blamed and collectors can fail to take ownership of the organising, and this works against structural and positive change. In contrast, when collectors organise themselves, as in the case of the Niš Syndicate, they own the intervention, and take responsibility for both positive and negative consequences.

7.7 Working with the Enabling Environment: Changes to Legislation and Strengthening of Institutions

Recommendation 7:

Work with the Platform on amending the law on waste management and introducing recycling and diversion targets, and inclusivity provisions

The Platform is well placed to open discussions on institutionalising European objectives to divert materials from disposal in Serbian law and practice. The goal here is to have clear recycling and organics management targets for households, LSGs, businesses, institutions, and agriculture.

As some of the researchers and Platform participants have pointed out, part of the problem with informal collectors in Serbia is that service chain – the PUCs and JKPs and their local self-government owners – were formed and came to maturity under a different system, and are in the beginning of a more fundamental modernisation process. Up to now, it is mostly the infrastructure and technical approaches that are being modernised so that the tangible and visible parts of collection and landfilling are looking more and more like those in Western Europe. But the core of sustainable waste management practice – well-functioning institutions and sustainable and self-correcting financial mechanisms, still remain in a very

early stage of modernisation. Cheap and universal disposal and well-organised collection of mixed waste in cities are still the main goals of waste management activity, as the Law clearly indicates, but resource efficiency is nowhere in the picture.

Informal collecting is part of the activity called “recycling”, which is in principle a private activity in the value chains. In contrast, for countries in the European Union or in the process of acceding to it, publicly organised “municipal recycling” is an official policy goal and there are binding rules and performance targets set by the European Union. Compliance is required for member states.

These targets have not yet been introduced or operationalised in Serbia, and therefore no LSG has any kind of external motivation to divert materials from disposal. Neither do they have the experience or tools to understand and operationalise the key financial concepts that drove recycling development in the 1980s in North America and North-western Europe: activity-based costing and the avoided cost of disposal, itself a sub-category in the larger concept of opportunity costs or costs of inaction.

Recycling targets or inclusivity policies are important tools to institutionalise integration in the service chains. Important concepts in European waste management legislation regarding recycling, valorisation, or the value chains and the EU endorsement of the “hierarchy” and “the circular economy” should be considered for further implementation into national legislation. The potential for real integration of collectors in the medium to long term will depend on Serbian institutions giving recycling, together with repair, re-use, and refurbishing (of importance in electronics), and separate management of bio-wastes, a priority place in law and regulations, so that incentives are clearer and rewards for good performance are operationalised.

This does not mean that households are the point of enforcement: in the Netherlands, Germany, and other EU countries, meeting targets are obligations of local authorities and the service chain, and are based on organising the entire waste system on minimising disposal once it has been controlled and modernised. The discussion on the 4-Rs and the circular economy is an important component of collector integration, both in terms of appreciating the value of recycling activities and in understanding how EU countries like Germany have built integrated waste management systems that contain disposal costs and provide environmental benefits.

7.8 Structural Integration

Recommendation 8:

Pilot structural integration via inclusive recycling planning in medium-sized cities and public and private institutions³¹. The Platform, if supported to become a true stakeholder platform and institutional home for informal integration is well-placed to support pilots of different models of integration in its partner cities and institutions. This idea could be operationalised via small tenders to Serbian organisations, value chain businesses, NGOs, or associations such as the Standing Conference.

³¹ An example of a relevant type of institution is Nikola Tesla Airport, the customs office, national parks, Novi Sad University, or various types of private commercial or non-commercial institutions.

In order to advance the project of integration of the informal sector, it is necessary to work as well on other modernisation elements: integration of recycling and diversion goals; pricing of disposal; making space for non-state actors such as micro, small, and medium-sized enterprises, and for informal collectors and traders as well.

“In fact, when the tender for reorganisation and management of the sanitary landfill in Vinča has been concluded, that the World Bank (IFC) provides consulting assistance, when the public call for partnership in Niš has been announced for the second time, when our landfills in Belgrade, Novi Sad, and Prijepolje are on fire, it is time to be brave and open full inclusion of collectors in the cycle of investments in public utility infrastructure. Without their support, logistics, collection, municipal waste management and special waste stream management, and waste management in Serbia may be jeopardized in full implementation of the plan and mandatory objectives in collection”. (Siniša Mitrović, Serbian Chamber of Commerce, from text prepared for this report.)

One type of physical modernisation, underground containers, has been repeatedly singled out by collectors as a barrier to inclusion. Collectors report that they are experiencing serious problems with the rapid expansion of underground waste containers, which are presented as a means to prevent access to the recyclables. A more inclusive approach would modernise collection using dual containers, green isles, drop-off centres for separate collection, and inclusive separation at source and separate collection.

7.9 Capacity development in the service chain in small- and medium-sized cities

Recommendation 9:

Focus integration interventions and related institutional development and capacity building on small- and medium-sized cities

There are large numbers of collectors in small- and medium-sized cities such as Kruševac. Working with these cities may provide a better opportunity to advance the integration agenda, especially because their physical systems and institutions are not yet (fully) modernised, and so there is room for innovation.

According to UN-Habitat, the UN’s “urban” agency, most growth will occur in secondary cities in the coming years. GIZ as one donor active in the sector, is already supporting some of these cities, and has a good relationship with the JKPs and the LSG officials. Other donors and development banks are also active there. Bringing secondary cities into the Platform and organising both training and discussions around modernisation of institutions could likely also serve to open up the discussions on integration and working with collectors to improve recycling.

In contrast, national and regional capital cities such as Belgrade and Novi Sad, who are already far advanced in



investments in physical modernisation, are far along a path to EU-conform institutions and systems and have made some basic decisions about whether to develop along an inclusive path and involve collectors, or an exclusive path and deny access to materials. While Belgrade is working inclusively, Novi Sad is not. Rural areas have almost no recyclables, so integration can best be addressed via the city which is administratively in charge of villages.

The choice of alternatives which are “friendly” for collectors would lead to a sustainable, transparent, and financially well-organised service chain that preserves regular, legal and transparent points of access for collectors to extract recyclables and valorise them. There are enough recyclables to support most collectors, but partial or widespread

restriction of access could create severe tensions in the society resulting from insufficient inclusion of collectors and their alienation when denied legal and legitimate solutions useful for them and the community alike.

Additional legal and institutional approaches are presented in Table 20. These can be understood as recommendations to the Platform, to Serbian Ministries and national and LSG governmental stakeholders, and to donors and development banks working on solid waste management and recycling in the framework of EU accession.

Table 20.
Legal and institutional interventions to support inclusive modernisation of the service chains

Intervention	Description and justification
The Syndicate(s) as a force for legalisation and formalisation	These Niš and Pirot Boards of the (original) Syndicate are indicative of how a labour organisation, which in its essence political, can serve as a vehicle not only of organising, but also as an operational business, strengthening the position of collectors and improving their business opportunities. The familiarity of the Niš Syndicate has with the local collectors has been a strong factor in opening discussions with the LSG, and promoting inclusive waste management and recycling. Working through existing local Syndicate boards and encouraging the formation of the new ones can be a force for legalisation, formalisation and inclusion of the informal collectors in service chain recycling and better value chain marketing.
National and Local support to new Legal Frameworks at local level.	Work with local governments to register informal collectors in synergy between LG inspection services, NES, Centre for social work, SSSS/Roma associations.
Planning for Source Separation: Capacity Development for LSGs, PUCs and JKPs	LS and communal enterprises to conduct calculations of economic viability. Communal enterprises as owners of waste and separated waste should make calculations of economic feasibility of waste selection (do they have enough human resources and equipment) vs. income. If the result is negative, they should consider involving informal collectors. Two types of municipalities: smaller municipalities and cities, since in smaller municipalities our research says that communal enterprises are not involved in real separation.
Payment of diversion credits to authorised recyclers	Following the Colombian example institutionalised by Decree 596 of 2016, is to create a system of diversion credits to compensate recyclers for the environmental benefits and public services they are creating. A diversion credit, a per tonne (or per kg) payment for materials documented to have been sold to the value chains. It is a fixed service fee and does not depend on the price paid for the materials, only on proving that they have been sold. In Colombia, only registered recyclers are entitled to this payment, and not all junk shops are authorised to report quantities under this system. The core idea behind diversion credits is that the local authorities benefit from their activities, and that since they are official recycling agents responsible for diversion and resource efficiency, it is only fair that the local authority lay them for their work and the benefits it creates.
Daily cash payments – a way of transitioning to paid employment	From a project in Macedonia (Association of Informal Recyclers Macedonia participating in the Workshop with Informal Waste Recyclers at the ISWA Congress 2016 in Novi Sad) we know that the managers of the recycling yards have advocated for paying out salaries in the form of daily cash payments, as a means to retain an employment relationship people that had previously lived from waste picking. It is not clear if this is necessary over the longer term, but it could be a good transitional strategy to bring people who would prefer to have regular employment, into a sustainable relationship with the JKPs. The recycling shop in Veliki Rit managed to employ some younger people, who lived from waste picking, on his recycling yard by paying them on a weekly basis.
Diversion credits to build up credit balances to pay for social insurances and a substitute for social support payments	In Serbia, it could be possible to use this system to establish rights to social insurances: rather than paying out the diversion credit, it could be credited to a social payment bank that would allow registered collectors to have access to normal social benefits such as medical care, pension, and pregnancy, disability, or sick leave, vacations and holidays, and also school places for their children. This is similar to the system used for the members of KKP, the recyclers' labour union in Pune, India, to establish the waste pickers' rights to social safety net payments on the same basis as those employed in other professions. Country-wide registration of transactions – by name or ID number of the recycler – could be used to document that a collector has diverted a minimum amount of materials per year from disposal to recycling. Once this threshold is reached, the recycler could “earn” other benefits, or build up a fund for savings and equipment.
Legalisation of materials in the value chain	The principle here is to legalise the materials handled and authorise the natural person who has diverted them to the value chain to exercise certain rights and privileges based on the volume of recyclables diverted. While legalisation is a permanent status, authorisation could be temporary and contingent upon performance, and volumes.



7.10 Extended Producer Responsibility (EPR): key aspect of the enabling environment

Recommendation 10:

Explore win-win integration activities with Serbian EPR packaging organisations like Sekopak and Ekostar Pak, companies like Greentech that implement the recycling, and EPR associations like EXPRA, the Brussels-based EXTended Producer Responsibility Allianc

The research had a minor focus in relation to inclusive packaging systems and Extended Producer Responsibility (EPR). There are many global initiatives for inclusive packaging and EPR, but not in Europe. The situation in most Southern and Eastern European countries is that the informal collectors capture 80-90% of the covered materials, and the formal EPR systems get the rest. Serbia already has more co-operation between collectors and EPR compliance systems than its neighbours, but there is room for improvement through additional forms of integration.

Table 21. Some Legal and Institutional Interventions in packaging and e-waste EPR systems

Intervention	Description and justification
Track all transactions to qualify for diversion credit and traceability payments	Make agreements with EPR systems about traceability payments – paying collectors for documenting their recycling activities by type of packaging
Social payment “floor” based on net income	Set “floor” for net collecting income – that is, after deducting costs of doing business – that is equivalent to social payments; and then agree with collectors to phase out social payments in a transparent way after the “floor” net income is achieved and maintained for two consecutive years
Inclusion of collectors through service payments from the private service chains and the PUCs	The issue of business inclusion of collectors may require redesigning the existing Decree and Rulebooks on waste streams. If, within the system for subsidizing waste management operators, the amount of compulsory compensation for collectors is clearly determined, the operator of the system is obliged to transfer all the money to the collector. As it is, the operator of the system may not directly finance secondary collectors, because secondary collectors do not have permits and are not registered as entrepreneurs to be paid directly by the operator of the system.
Training for collectors to contract for management of special waste streams	The same issue arises in special waste streams, where the operator which performs waste treatment finances suppliers, small companies, but collectors are not directly financed. Thus, the informal collector is not systematically protected or entitled to a portion of the subsidy the state pays to the system operator, and which should be paid to the collector as the first in the chain. Successful environmental economies, such as Slovakia, guarantee 60% of the subsidy to the collector; this model turned out to be successful both in terms of amounts and infrastructure, and fully beneficial for inclusion of the poorest in the society. It is recommended that the Law on packaging and packaging waste management and Decree on the amount and conditions for allocation of incentives (Official Gazette of RS, no. 88/09, 67/10, 101/10, 16/11 – oth. regulation, 86/11, 22/12 – oth. regulation, 35/12, 48/12 – oth. regulation, 41/13 – oth. regulation, 81/14 – oth. regulation) are amended.
Separate collection in larger cities	In larger cities, the communal enterprises are engaging in some form of separate collection and selling the materials; relationships with the informal sector in places like Kruševac can be described as tense, and in Novi Sad there is outright war over the spread of underground containers. Neither case is stable, because in Serbia there is no clear national or local legal framework with recycling targets, or requiring any form of separate collection. From the point of view of the law, PUCs are only in the service chain, and their mission is to keep cities clean as directed the Law on Waste Management and the Law on Communal Cleansing Activities.
Traceability and data registration in the frame of Extended Producer Responsibility	The Law on Packaging and Packaging Waste (Zakon o ambalaži i ambalažnom otpadu), governs producer responsibility, which in practice means ensuring a safe end of life. In smaller municipalities, the amount of materials that is diverted from landfill by all activities – municipal, informal, EPR, or other routes – does not have to be recorded; nor are recycling rates or progress towards meeting official targets calculated. This means that when there is a discussion about informal collectors, there are only rumours, assumptions and allegations being passed around, neither real nor verifiable numbers. An important first step could be to work with all stakeholders – in the framework of the Platform – to standardise definitions, and create one specific set of algorithms and a clear model for PUCs and LSGs (and their agents and those co-operating with them) to record the tonnes disposed and those diverted from disposal. An important function of this system is to be able to attribute tonnes diverted from disposal and sold to the value chain, to the collectors selling them, so that they can be “credited” with the tonnes as part of a certification process. Paying diversion credits or traceability fees could then be a natural next step.
Integration as benefits transfer from EPR Packaging Systems	A key potential source of benefit is the payments due to those who recover packaging and document traceability to the EPR national operators. But the current system might need modification, making it necessary or desirable to take the following actions: Increase diversion credits for captured recyclables, which collectors could be paid directly by system operators. It is necessary to define the new role, rights, and obligations of operators of the packaging waste system. The key issue is in the undefined percentage of income an operator would be obliged to invest in the collecting and recycling network. A packaging collector should have the right to incentive should he or she delivers waste for treatment to recyclers operating at the territory of the Republic of Serbia, if they exist for the given type of packaging waste. This practice exists in numerous countries in the region, such as Hungary and Croatia. Monitor the national project on a multi-sectorial level (ministries of finance, labour and employment, trade, internal affairs, and environmental protection)

Strengthening Upstream Source Separation at Municipal Level	Source separation provides an important win-win path to integration. Supporting all large and medium-sized cities, following the example of Belgrade, to adopt inclusive source separation. In 2012, the City of Belgrade adopted legislation which introduces the notion of municipal packaging waste and the obligation of legal entities and entrepreneurs to ensure its collection from business facilities by cooperating with the PUC having jurisdiction. Amendments of the Decision on maintenance of hygiene (Official gazette of the city of Belgrade, no. 27/2002, 11/2005, 6/2010 –oth. decision 2/2011, and 10/2011) is a first step on this path. "Municipal packaging waste generated in households, industry, crafts, and other activities may not be mixed with other household waste, and may not be disposed of in containers and by containers". This city decision would be strengthened and improved by including a definition of the status of a collector, and specifying the specific paths for the PUC and the collectors to take, to ensure inclusion in the system, and to specify the tools for monitoring and enforcing compliance with the inclusivity provisions
Talking to the European Commission about informal recycling	Ultimately, Serbia and its neighbours will join the European Union and comply with the provisions of both the Waste Framework Directive and the Circular Economy Package. In this process, Serbia could plan an important role in bringing the issues of informal collecting, and especially Roma Informal Recyclers, to DG Environment and the European Commission, as part of discussions about how to make recycling work in "the new EU".

7.11 Sustainable Financial Approaches to Inclusive Service Chain Modernisation

Recommendation 11:

Pilot, document, and institutionalise inclusive high-performance recycling, and source separation of recyclables and organics, together with financial and economic tools to reward recycling

Test different models of co-operation between collectors, JKPs, and the value chains and for those that work, recognise them and create guidelines and training materials for other cities and private waste generators, based on their experiences.

In recent years (since 2010) in the Republic of Serbia, significant effort has been invested in the area of establishment of modernised and regionalised European-conform waste management system; most regulations have been passed, and most of them are considered to be harmonized with relevant regulations of the EU, as presented by the Republic administration to the European Commission at the bilateral screening held in Brussels in November 2014.

Restricting disposal to landfills is the first step of the "modernisation ladder", but the paradox is that after landfills complying with EU standards are established, the next required steps are to minimise the amount of waste that goes to them, so that landfills are used only in utmost necessity. New investments in the area of waste need to be largely directed to separation and recycling of valuable materials found in waste. It is necessary to close landfills which are not in line with regulations faster and improve enforcement of legal regulations on waste. The most reliable tool for doing this also makes financial sense: charging prices for disposal based on letting users pay the full costs of landfilling. But Serbian regions and cities are far from achieving this, yet another indication that "full harmonization with the Waste Framework Directive has not been achieved yet" (the Working document of the Commission, Republic of Serbia, Progress Report, Brussels 2014).

As the process of transposition continues, the issue of costs of operation and functioning of the recycling parts of the system will present a severe challenge in future; thus, it is necessary to develop a sustainable financing mechanism

as soon as possible. Activity-based budgeting is essential to more serious preparation of plans and assessments of financial implications of the solution as envisaged in the National waste management strategy.

The recommendations of the Report of the European Commission strongly support universal source separation of waste, thus opening an economic and technical niche for informal collectors and giving them a clear role in the service chain. Conventional (exclusive) European-style source separation where the PUC is the recycling operator, appear to be too expensive for Serbia, based in part on the experience to date, because those systems have seldom recovered significant amounts of materials, and many cities refuse to implement them because of the costs of investing in personnel and equipment. Moreover, JKPs and cities are poor at marketing, and in cases where the materials are separately collected, the risk is high that the JKPs will simply end up sending them to the landfill.

In this transition there is a need for including collectors, not only for reasons of equity, but because they know better how to work with the value chains and market the materials. Also as separation moves upstream, it is to be expected that there will be less and less recyclable waste for them in containers; they do not have access to underground containers; they will not have access to recycling yards in their towns, but they still have to make a living. Giving them the responsibility for collection of separated recyclables and allocating some payments for the service they are providing is a robust approach to ensuring recycling success over the longer term.

In order to make a place for collectors to be strong partners in modernisation of waste management and increased recycling, it will be necessary for some modification of the laws and rules, and possibly also for the conditions for harmonisation of waste systems in the EU accession process. This is why it is necessary to transparently implement the process of registration of collectors and their full integration in the service and value chains so that they can take over separate collection of recyclables and organics from households and businesses, thus decreasing costs of operation of public companies, and achieving full inclusion. If the process takes place without collectors included in the waste management chain in Serbia, the issue of existence of the poorest citizens will become burning and unforeseeable, and may act as a trigger of significant social tensions.



7.12 Circular Economy Context

Recommendation 12:

Overarching recommendation: Bring informal integration into the circular economy package in a structural way
Co-ordinate economic development initiatives with the ideas of circular economy activities, such as increased recovery and repair, refurbishing, and tech sector activities.

On 2 July 2014, the European Union accepted proposals which will transform Europe into a circular economy and stimulate recycling in member-states (European Commission 2017). Through these plans, Europeans are requested to recycle 70% of municipal waste and 80% of packaging waste by 2030. Landfilling of packaging waste will be prohibited as of 2025. This is a fundamental change from linear economy towards circular economy, re-use and recycling are becoming a rule, while waste is deemed as a matter of past.

Serbia needs to keep heading towards that goal, so as to make its economy more competitive, saving, and environmentally friendly. This is why a Centre for circular economy was established within Serbian Chamber of Commerce, to work on development of the Circular economy strategy in Serbia.

The basis for change is already operating, and it is important for Serbian stakeholders to create interventions in informal integration and in relation to informal re-use and recycling within the policy landscape of the This package of legal, regulatory, institutional, and technical reforms proposes far-reaching changes to how materials are managed in Europe, and appears to provide a productive institutional home for regularising recycling and re-use activities, with room for inclusivity.

Public institutions in Serbia and other pre-accession countries may feel that they are being asked to “change horses in mid-stream”. They are in the middle of an EU-financed and EU-conform investment and development process to modernise and regionalise their solid waste systems, close local landfills, and build engineered sanitary landfills with a projected 30-year lifespan (Waste Framework Directive Website, 2017). Reconciling this with circular economy ambitions to close landfills and prohibit landfilling of certain materials is not easy, and may seem like “mission impossible”.

Into this already paradoxical situation, the issue of building inclusivity into the modernisation process may seem like it is too much. Yet there is no real alternative, because collectors are the experts on circular economy in today's terms – and that is what we call recycling. So alongside with modernising disposal, Serbian cities and towns, and the Standing Conference that represents them will need to figure out feasible approaches to formalisation and business inclusion of informal collectors, as they are the most important link in a successful and profitable chain of waste. Green jobs generated in waste management are aimed at employing the poorest and bringing benefits to the company, as collectors diminish logistic costs of collection. Structural change is preferred to project-based integration, since projects have so far generally failed to produce long-term change”. (Scheinberg et al 2016, p. 834)

Collectors are everywhere; they are well positioned in terms of territory, close to waste and its source of generation. The most expensive secondary raw materials are those which are collected at landfills and dumps, as they significantly increase the operator's cost of treatment, because the material needs to be additionally cleaned from landfill impurities. For business inclusion to be successful, the collector must be registered, trained for issuance of the Document on waste movement, and as such, professional service for companies or HoReCa sector which hand over generated daily amounts of waste to registered collectors for further handling. Such “win-win” organisation guarantees stability of the waste collection system in Serbia, increased recyclable and useful raw materials, diminishing of pressure on landfills, saving of resources, and benefits for the environment and social existence of collectors.

Annexes



i. Annex 1. Legal Basis for Integration

a. The Law on Waste Management ("Official Gazette of RS", no. 36/09 and 88/10)

Article 5, Definitions

28) Waste collection is the activity of systematic collection, sorting, and/or mixing of waste for the purpose of transport;

29) A collector is a natural or legal entity collecting waste;

Article 70

A permit for collection and/or transport of waste shall be issued to the entity registered to perform the activity of collection, i.e. the entity which has the status of a shipper in accordance with laws which regulate shipping in public transport, i.e. local shipper, in accordance with laws which regulate international public transport except in the following cases:

1. If the waste generator transports by itself waste to the waste management plant which has a permit for this, using own transport vehicles, if the amount of waste does not exceed 1,000 kilometres per shipment, excluding hazardous waste;
2. For the entity which transports waste from the household to containers, collection centres, or the waste management plant, or returns packaging or used products to the manufacturer or seller;
3. For natural entities, i.e. individual collectors who collect separated waste at the territory of a local self-government unit.

The application for the permit from paragraph 1 of this Article shall contain data on the applicant, registration for the purpose of performing the activity, type of waste, location and collection equipment, transport vehicles, and other data upon request of the body competent for permit issuance. The permit from paragraph 1 of this Article determines compulsory measures of handling inert, non-hazardous, and hazardous waste on collection on collection, i.e. transport, in accordance with provisions of this Law and other regulations. The permit from paragraph 1 of this Article shall be issued for the period of five years and may be renewed.

If a legal or natural entity from paragraph 1 of this Article fails to act with conditions prescribed in the permit, the body competent for permit issuance shall pass a decision on revocation of the permit, in accordance with Article 67 of this Law. (End of Article)

b. The Law on Business Entities ("Official Gazette of RS", no. 36/2011, 99/2011, and 83/2014 – oth. law)

The notion of the entrepreneur, Article 83

- An entrepreneur is an able-bodied natural entity who performs the activity with the aim to earn income and who is registered as such in accordance with the Law on registration.
- A natural entity performing a freelance occupation shall be entered into a separate register, regulated by separate regulations, and shall be deemed an entrepreneur in the sense of this law if this is thus determined by such regulations.
- An individual farmer is not an entrepreneur in the

sense of this law, unless a separate law regulates the matter differently.

- A self-employed person, entrepreneur, or company owner is any person who makes one's living through pursuing a business activity, contract-based work, or as a freelancer. More precisely, a self-employed person is the person who is employed or performs a business activity independently or within a small group of people, with or without other employees of his/her company, while the company is a business entity the key role of which is to manufacture goods and render services for the purpose of earning profit.
- A private entrepreneur, in the sense of the Law on private entrepreneurs, is a natural entity who establishes a business and performs the activity independently for the purpose of earning profit.
- A private entrepreneur shall perform the activity independently, under the conditions and in the manner as prescribed by law. A natural entity entered into a separate register, performing a freelance activity regulated by separate regulations, shall be deemed an entrepreneur if this is thus regulated by such regulations.
- An entrepreneur may perform any activity, except for activities for which a separate law prescribed that they may not be performed by a business.

ii. Annex 2. The bureau of Statistics: Single nomenclature of job positions

a. Simple occupations

Simple occupations include performance of simple and routine tasks which call for use of manual tools and significant physical strain. This group is divided into 6 types, 11 sub-types, and 33 groups.

96 Occupations involving waste collection and other simple occupations

961 Occupations involving waste collection and public area cleaning

9611 Occupations involving collection and transport of waste

9611 Asanator

9611 Rodent control assistant

9611 Knackery worker (knacker)

9611 Collector

9611 Slag/ash collector

9611 Dog catcher

9611 Cesspool cleaner (faeces collector)

9612 Collector of secondary raw materials

9612 Waste sorting worker

9612 Collector of secondary raw materials

iii. Annex 3. Glossary of Terms and Abbreviations

There are many different terms in use for different parts of the solid waste and recycling systems. The terms in this glossary are the ones that the project team agrees to use. Wherever possible these are drawn from standard English-language use in the UK and in the USA. This glossary of terms is (lightly) adapted from Scheinberg, Simpson, and Gupta 2010, and has been used in several grey literature documents since.



Term	Other Terms or Abbreviations Used	Working Definition
Activities at source	prevention, reuse, backyard burning, source reduction	waste management activities of households and household-related personnel such as burning, burying, feeding waste to animals, segregation, reuse for own consumption
Avoided cost of disposal	diversion credit	the amount that would have been paid per kilo for disposing of materials in a controlled or sanitary landfill and paying the official tipping fee
Avoided costs		the costs associated with formal obligations of the public authority to manage wastes, that are made unnecessary by informal collection and recycling activity.
Broker	stockist, dealer	a trader in one or more types or grades of recyclables who trades without ever being the physical owner of the materials, usually having no storage place
Capital cost	investment cost, capital, purchase cost	the amount it costs to purchase new equipment, facilities, space, buildings, etc.
Capture rate	separation rate	a percentage relationship between the amount of recoverable materials that are directed to processes of recycling or composting and the total amount collected
CBO	community-based organisation grassroots organisation	a group organised to provide a solid waste function or service in a community, often fully or partially staffed by volunteers
Characterisation study Waste audit	composition study	a study describing the components of a particular waste stream, that results in a list of materials and their percentage occurrence
Collection coverage	coverage, effectiveness	the percentage of the total (household and commercial) waste generating points that have regular waste collection or removal
Collection efficiency	efficiency, collection coefficient	one or more measures of the performance of the collection system, usually expressed as households/vehicle/day or tonnes/litre of fuel used or distance travelled/litre of fuel
Commercial waste	business waste, shop waste, small quantity generator waste	waste which comes from shops, services, and other generators which are neither residential nor industrial. Sometimes includes institutional or public sector waste.
Community	barrio, barangay district	a grouping within a city, it may be as small as a group of neighbours or as large as a sub-municipal division which may or may not have formal governance functions
Composition	characterisation physical composition	see characterisation
Composting	treatment, organic waste management	the aerobic decomposition of materials from living organisms under controlled conditions and in the presence of oxygen
Construction & demolition waste	debris, C&D, rubble, contractor waste	waste from the process of construction, demolition, or repair of houses, commercial buildings, roads, bridges, etc. Generally divided into commercial construction waste from construction companies, and do-it-yourself (DIY) waste from homeowners making their own repairs.
Controlled landfill	sanitary landfill	an engineered method of disposing of solid wastes on land, in which the waste is compacted and covered every day. a controlled landfill is not sealed from below and does not have leachate collection system. Specifically having controlled access at the point of entry, and usually, a weigh-bridge
Co-operative	co-op, buyers' club, sellers' co-operative, association	an enterprise organised as a co-operative with multiple owners who participate in the activities. In some Latin American countries, co-operatives have a special tax status and so are a favoured form for establishing a business.
Cost per tonne, cost per input ton	price of disposal, cost of collection	the cost for a process step, or for a whole subsystem, divided by the number of tonnes that enter that step. Note that for many steps, input tonnes are not equivalent to output tonnes.
Costs, net costs		pro-forma modelling of typical costs for a PFD step. When the step models valorisation, both purchase and sale of materials are included in the calculation. Revenues for services paid by one party to another party are not included.
Coverage	collection rate	see collection coverage
Depot	deposit, drop-off, community collection point, community container	a container, site, or facility designed to receive waste materials and/or separated recyclables directly from the generator.
Disposal	discharge, dumping, throwing away	discharge of waste in a place designed to be its permanent resting place



Disposal site	dumpsite, dump, depot	the site where solid wastes are deposited on land without precautions regarding human health or environment.
Disposal-illegal	wild dump, illegal dump	disposal of waste at a site different from one officially designated by the municipal authorities
Disposal-legal	controlled dump-site, landfill	disposal of waste at a site designated by the municipal authorities
Dry waste	recyclables, packaging inorganic waste	what is left when organics are separated at source. alternatively, a way of describing a fraction that is to be further sorted into its components
Dump picker	scavenger, waste picker	woman, man, child or family who extracts recyclable materials from disposal sites, often living on or near them.
Dumpster	container, skip	a vessel to contain waste, usually larger than 1 m3 and used for more than one household
Effectiveness	coverage	refers to whether the system works and the services are actually provided. Is often measured in terms of collection coverage
Efficiency	collection efficiency	refers to the relationship between costs and value, and generally refers to the greatest value for the least cost.
Environmental costs. Carbon footprint		costs of emissions, energy use, and extraction of raw materials, if they can be expressed in terms of tonnes of CO2 equivalent
Extrapolate	estimate, model	apply coefficients or ratios from one area or set of data to another
Ferrous metals	iron, steel	metals which contain iron and which react to a magnet and are subject to rusting
Formal sector	official, government	in the study, used to mean the official solid waste authorities and the activities they sponsor and operate.
Formal waste sector	solid waste system, solid waste authorities, government, materials recovery facility	solid waste management activities planned, sponsored, financed, carried out or , regulated and and/or recognised by the formal local authorities or their agents., usually through contracts, licenses or concessions
Formalisation	integration, recognition	a process or intervention that results in informal recyclers or informal service providers achieving a level of recognition as having a role in the solid waste and recycling system. Formalisation is usually institutionalised in a contract or other document, and gives informal recyclers certain rights of access and protection from criminalisation or harassment by the police.
Generator	waste producer, household, source	the source of the waste; the place or person or institution that represents the point at which a product or package stops being useful and becomes a discard, or waste.
Household	family, compound, extended family. dwelling unit abbreviation: hh or HH	A group of people sharing a living space, often defined in municipal or tax law as a unit for administrative, legal, or cultural purposes. In many countries a "normal" household is a nuclear or extended family. In Africa a household often includes second or third-degree relatives, servants, and others. Household size is therefore highly context-sensitive
Household container	garbage can, waste can, waste bin, bag, dustbin, bin	the vessel used by a household or commercial generator to store and set out the waste materials, usually made of metal, plastic, rubber, or a basket
Household waste	municipal solid waste, domestic waste, rubbish, MSW, non-dangerous waste	discarded materials from households which are generated in the normal process of living and dying. In countries and cities lacking developed or sewered sanitation, includes also significant amounts of human excreta, especially faeces.
Incineration	burning, combustion, waste-to-energy, mass incineration	a controlled industrial high-technology process by which solid, liquid or gaseous combustible wastes are burned and changed into gases and heat, that then is used to generate electricity or heat water or air
Inert material	finer dust sand and gravel	the fraction of solid waste which does not burn and also does not decompose: ash, dust, gravel, grit, etc. In African countries, inerts are high because floors are often made of dirt, and sweepings are a large portion of domestic waste
Informal recycler	rag picker, waste picker, reclaimer, scavenger, salvager, waste trader	an individual, family, or micro-enterprise that earns money by finding, extracting, or separating valuable items from mixed waste or purchases or barter for valuable materials from generators. The "informal" aspect means that they are not part of, sponsored by, paid by, or in some cases recognised by the local authority responsible for managing waste and/or cleaning streets



Informal sector	waste pickers, rag pickers, scavengers, junkshops	the combination of individuals or businesses who are involved in recycling and value chain activities but are not recognised by the formal solid waste authorities, or who operate in violation of or in competition with formal authorities.
Informal waste collector	truck pickers, illegal collectors, pirate collectors	individuals or enterprises who are involved in service chain activities but are not sponsored, financed, recognised or allowed by the formal solid waste authorities, or who operate in violation of or in competition with formal authorities.
Input	data, assumptions	the quantitative values that are the basis for modelling
Integration	formalisation, legitimisation	A process, intervention, or series of events that results in the local authority "making space" for informal recyclers and/or informal service providers as recognised contributors to the waste management system. There is a broad range of activities that fall under integration, see the special section at the end of this glossary.
Itinerant waste buyer /collector	IWB, collectors, separate collection MSE	woman, man, child, family or enterprise that purchases or barter for source separated recyclable (or organic) materials from households, shops or institutions, usually focusing on one specific material or type of materials. In South-eastern Europe the collection is not paid for, but considered a "donation".
Jumpers	crew, collectors, truck pickers	Crew members riding on or in the collection vehicle who segregate recyclables during collection. Some are regular paid workers in the formal crew, others are informal "friends" of the crew who are allowed to accompany the collection because their activity reduces labour for the paid crew and reduces costs of transport to the dumpsite. However, such activity has a cost and may slow the efficiency of collection by as much as 30%
Labour	work, job, livelihood activity	The mobilisation of one's own bodily physical or mental resources to perform work, either for oneself or one's family or for an employer or other institution.
Labour costs	salaries, piecework payments, shadow pricing,	costs paid for labour or as a fee which is a proxy for labour. Where there are informal process steps that do not show a labour cost, the labour costs have been compensated in some other way.
Landfill	dump, dumpsite, disposal facility, land burial site	While a "landfill" is often defined as "the engineered deposit of waste onto and into land", there are many degrees of control and technology. Usually a landfill refers to a technical facility with at a minimum a fence, a weigh-bridge and registration of incoming vehicles, and some form of management so that the area used for tipping is organised and limited.
Materials balance	PFD (process flow diagram), mass balance, value chain analysis	a visual schematic representation of the movement of materials through the entire waste system or only the formal or informal waste system, which indicates the weight of each fraction at each stage. Usually begins with generators at the left, showing process steps as geometric figures and transport steps as arrows.
MRF	materials recovery facility, intermediate processing centre (IPC), intermediate processing facility (IPF) recycling processing centre	an industrial facility of moderate scale, co-financed by a public authority. A MRF is designed for post-collection sorting, processing, and packing of recyclable and compostable materials. It is usually of moderate technical complexity with a combination of automated and hand-sorting. The inputs are usually commingled or mixed recyclables and not mixed waste. The outputs are industrial grade materials, usually crushed or baled and separated by type, colour, etc. An IPC / IPF has the same processes but is privately owned by value chain enterprise.
MSE, micro and small enterprise.	micro-enterprise, junkshops, materials recovery facility	the smallest enterprises and businesses, smaller than SMEs, usually having less than 10 workers. In this document refers also to individual and family businesses, not related to NGOs and CBOs
Municipal Authority	municipality, local authority, mayor's office, city hall, city, town, village	a unit of local government with autonomous governance, responsibility, and representation, usually with at least some taxation authority and decentralised and devolved responsibilities, including waste management, housing, public transport, policing, water, sanitation
Net cost, net benefit	cost, benefit, profit margin	the positive or negative value of something after all costs or benefits have been calculated, in this case the cost to process one tonne of materials
Net income	net revenue	the positive or negative amount earned by an individual or business on a kilo of recyclable materials, after all costs have been paid out
Non-ferrous metals	coloured metals semi-precious metals aluminium, copper,	metals that do not contain iron and are not magnetic, such as copper, aluminium, brass, bronze, silver, nickel, pewter
O&M cost	operating and maintenance cost, operating cost	costs associated with on-going operations, such as energy, supplies, labour, rents, etc.



Opportunity cost	lost revenue	the imputed or estimated loss associated with making a choice for using time or resources to do a and therefore not choosing to do b
Organic waste	bio-waste, green waste, wet waste, organics, GFT, putrescibles, kitchen waste, garden waste, compostables, food scraps, brush	the putrescible or biodegradable fraction of domestic and commercial wastes, includes kitchen and garden wastes, sometimes includes meat and fish wastes and dairy or animal products, Garden wastes include woody products, soil, leaves, weeds, post-harvest wastes, rotting fruit and vegetables, dead insects and small animals, etc.
Organised reuse	repair, reuse, product recycling, second-hand trade,	a commercial or livelihood activity focused on extraction, repair, and sale of specific items in the waste stream. Example: the recovery of up to 20 different types of glass bottles in the Philippines, or the group of second-hand stores called "kringloop" in the Netherlands. Informal re-use is much more common in high-income countries than informal recycling, as the latter has usually been eliminated in the modernisation process
Pre-processing	sorting, screening, sieving, compaction, densification, size reduction, washing, drying	preparing waste materials for subsequent processing without adding significant value to them
Primary collection	pre-collection, house-to-house collection	organised collection or movement of domestic waste from households or commercial generators. In cases where the term "primary collection" is used, the waste does not move directly from the generator to the disposal site, but goes through several intermediate steps.
Process flow diagram	PFD, materials flow, chain analysis	a visual schematic representation of the movement of materials through the entire waste system, which DOES NOT indicate the weight of each fraction at each stage
Processing	beneficiation, upgrading	manual or mechanical operations to preserve or re-introduce value-added into materials. Usually involves densification, size reduction, sorting, and packaging or transport
Recovery rate	capture rate	a percentage relationship between the amount of recoverable materials that reach recycling, composting or energy recovery and the total amount generated
Recyclables	recoverables, commodities, secondary resources	industrial materials which have been discarded by their original users and captured by a formal or informal recycling system to be recovered for sale to the industrial value chain.
Recyclers	reclaimers, waste pickers, MRFs, junkshops, value chain businesses	Individuals, families, entrepreneurs, companies, co-operatives, associations, or other institutions involved in recycling
Recycling	valorisation, recovery, circular production and consumption	a contested word, which at its core, means the return to economic use of "secondary resources" meaning items, materials or substances (like sand or water) which have been discarded by their most recent economic owners or users. Includes processing and transformation of valuable materials that would otherwise be disposed. The recycler first extracts or collects the materials, then cleans, sorts, and/or upgrades ("beneficiates") them to meet specifications, and trades them to a value chain enterprise.
Recycling	in Western Europe	In the European Union, "recycling" usually is restricted in meaning to refer only to the last step in the value chain, where secondary resources are re-processed in an industrial facility to make new products or materials. Outside the European Union, the term is used more generally to refer to all the steps in the value chain, starting with extraction from waste or collection at the source. This report generally uses the non-EU interpretation.
Recycling or composting market	end-user industry, buyer, dealer, broker, exporter	a business, individual, organisation or enterprise that is prepared to accept and pay for materials recovered from the waste stream on a regular or structural basis, and that then .
Residual waste	rest-waste, rest-fraction, residue, rejects	the discarded materials remaining in the waste stream or on the sorting line because they are not recyclable or compostable because they are perceived to have little or no monetary value
Resource recovery	recycling, recovery, energy recovery, materials recovery. energy from waste	process of extraction of retained value added from materials or products, and also used to refer to generation of energy from wastes. In English-speaking countries, the term "resource recovery" is usually interpreted to mean burning materials to create heat and electricity.
Reuse	second hand use	use of waste materials or discarded products in their original manufactured form without significant transformation
Sample	sub-set	a representative part of a whole that allows conclusions to be made about the whole by investigating only a small part



Sanitary landfill	landfill, state-of-the-art landfill	an engineered method of disposing of solid wastes on land in a manner that protects human health and the environment. The waste is compacted and covered every day, the landfill is sealed from below and leachate is collected, and there is gate control and a weigh-bridge
Sanitation	solid waste, urban cleansing, waste removal services	in the "French sense" used to refer to urban environmental activities including solid waste management, removal of excreta, city cleaning. Most "sanitation" is about removing something that is seen as being dirty; the value of the service is the clean, empty space left behind.
Scrap dealer	junkshop owner, scrap trader, consolidator, owner of a go down, waste buyer	Individual or business purchasing materials for recycling or composting, storing them, upgrading or processing them, and then reselling them. An entrepreneur who trades in recyclables and uses a dedicated storage place.
Secondary collection	transfer, small transfer station	the movement of wastes collected from households from their first point of discharge into a larger vehicle, that transports them to processing, larger-scale transfer or final disposal.
Separate collection	segregated collection, collection of recyclables, organics collection, selective collection	collection of specific classes of materials from the waste stream, that have been kept separate from each other by the generator or first user, or disposed of in different receptacles. The collection may handle different types of materials at a different time, or on another day, in a different container or vehicle or place, or in another way so as to maintain the separation and maximise the recovery.
Separation at source	segregation at source	actions taken by a household to keep certain materials separate from others
Shadow price	proxy price, hedonic price, contingent valuation	a reasonable estimate for the price of something based on extrapolating the price for something similar. It is important to research and action on informal recycling because informal recyclers do not usually get an explicit wage, but they live from the revenues of trading the recyclables they extract. When comparing costs of informal and formal activities in a city waste system, shadow pricing can be useful to compare efficiency.
SME	small and medium-sized business, small business	businesses usually having between 11 and 50 employees or workers
Socio-economic costs		costs associated with impacts to individuals or family units, sometimes differentiated by age, sex, economic or political power, ethnicity, religion, physical condition, or achieved or inherent status.
Solid waste	garbage, trash, waste, rubbish	materials that are discarded or rejected when their owner considers them to be spent, useless, worthless, or in excess.
Sorting	classification, high-grading, selection	mechanical or manual separation of mixed waste materials into single-material components, or to a mix of different materials that can be handled together ("commingling"). In some cases classifying a mixed single-material stream into specific grades or types of that material
Source	generator, origin	the point at which a material is defined as waste and discarded. usually either a house or a business
Source separation	separation at source, segregation at source	actions taken to keep and store certain materials separately from commingled (mixed) waste at the point of generation
Street picker	street scavenger, waste picker	woman, man, child or family who removes recyclable materials from dumpsters, streets and public places
Swill	pig slops, organic waste	Food wastes collected from the households, restaurants, farms, cafeterias, food processors and other agro-commercial sectors which are either sold or used as food for pigs or in some cases chickens
Tipping fee	dump fee, tip fee	the amount that is charged for disposing of waste at a facility, usually assessed per tonnes, per cubic metre, or per vehicle. May be paid on site or registered at time of delivery and invoiced later.
Transfer	transit, collection point, depot, secondary collection	the movement of wastes from their first point of dumping to final disposal; it usually includes some very basic processing: compaction, pre-sorting or size reduction.
Transfer station	transit point	a place where waste from collection vehicles is assembled before being transported to disposal sites or treatment stations.



Treatment	decontamination, processing, pre-treatment, milling, mixing, baling, composting	manual or mechanical operations to make discarded or disposed materials or mixed waste more dense, cleaner, and closer to industrial specifications. Usually includes densification through baling, compacting, or cutting into smaller fragments, cleaning, washing, drying, decreasing smell or bad appearance, or removing of contaminants, so it is easier to sell to the value chain, burn or bury in a landfill.
Valorisation	recycling, recovery, conserving value added	recovery of materials separated from or extracted from the waste stream because of their retained value. Which is the basis for trading to the industrial or agricultural value chain. Valorisation involves pricing, payments, bartering, or other kinds of trading activities that benefit someone in the transaction.
Value added	added value, resource value	the amount of worth added to resources in the process of manufacturing
Value chain	industrial or agricultural value chain, recycling sector, recycling industry, agricultural sector	the group of enterprises connected by trading of recyclable, re-useable, compostable, or otherwise valuable materials, who are involved in extracting, processing, transporting and/or using secondary resources in industrial or agricultural production
Waste audit	waste assessment, walk-through	a visit to a factory, office, or institution for the purpose of inventorying and analysing the ways in which waste is generated, handled, managed, and removed.
Waste picker	scavenger, rag picker, informal recycler	Person who identifies and extracts or collects recyclable materials from streets, public places, collection trucks, transfer stations, and legal or illegal/informal disposal sites.
Weigh bridge	scale, scale house, wheel scale, truck balance	a facility for weighing trucks and producing weight slips that register the weight of the full vehicle and then the empty vehicle
Wet waste	organic waste, green waste, organics, swill, pig slop	Used both for the physically wet part of the waste stream and to describe compostable waste separated at source from dry or recyclable waste

Integration, examples

Recognizing the dignity of pickers as people and their need for work; tolerating their activities and reducing official harassment of them;
 Giving social assistance to picker families; educating picker children so they can do other work;
 Allowing pickers access to windrow compost facilities, in order to reduce the amounts of non-organics in the waste;
 Employing pickers at recovery facilities, including those at dump sites, to work on conveyer belts;
 Legalizing picking; requiring the registration of pickers; subjecting them to regulations and laws;
 Allowing, encouraging or organising co-operatives or small enterprises of former pickers; allowing these to negotiate access to wastes either for waste trading, or a combination of primary waste collection services and waste trading;
 Providing job security and special protection to waste pickers; intervening in prices for recyclables to guarantee a basic living wage for pickers.

iv. Annex 4. Civil Society and Other Contacts

ŽIVIMO ZAJEDNO. Udruženje za pomoć osobama sa smetnjama u razvoju [CSO for helping people with disability]
 Old Town, Studentski trg 18, Beograd; telefon: 011 26 29 787e-mail: zivimozajedno@hotmail.com; <http://zivimozajedno.rs/>"

Republički Sindikat Sakupljača Sekundarnih Sirovina), via Šaban Saljević (current president), Knjaževačka street 8, NIŠ

v. Annex 5. References

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