TransWaste

Formalisation of informal sector activities in collection and transboundary shipment of wastes in and to CEE

Deliverable 6.3.2

Transnational Action Plan

for the Formalisation of informal sector activities in collection and transboundary shipment of wastes in and to CEE

8th period of the project TransWaste

Funded by CENTRAL EUROPE

December 2012

Gudrun Obersteiner

with contributions from

Roland Linzner, Andreas Pertl, Silvia Scherhaufer ,Elisabeth Schmied,

Andrej Sondej ,Jan den Boer and Ulrike Lange

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF

CENTRAL EUROPE COOPERATING FOR SUCCESS.

EUROPEAN UNION EUROPEAN REGIONAL DEVELOPMENT FUND

CONTENT

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF

List of Tables

List of Figures

1 Introduction

Informal waste collection activities, waste picking or the collection of recyclable materials from the waste stream in order to make a living from it by processing or reselling secondary raw materials or goods are well known in developing countries. The existence of a similar situation also in Central Europe has more or less been neglected to date.

Informal means “without formal assignment, not official” and the term “informal economy” refers to all economic activities by workers and economic units that are – in law or in practice – not covered or are insufficiently covered by formal arrangements. This sector is also often called the “black” or “hidden” economy. The **informal waste sector** refers to individuals or enterprises who are involved in waste 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 (Scheinberg, 2010).

The Central European informal collectors, in many cases but not solely poor people belonging tothe ethnic group of Roma, are collecting electronic scrap, scrap metals and bulky waste mainly as their only income source without any statutory permits like authorisation for waste collection or labour permits. They pick up commodities in one of the economic well-developed EU 15 member states, bring it to their home countries (in most of the cases they come from CEE countries) and sell it at flea markets.

Investigations have shown that the current situation of informal activities is unsatisfactory especially for the waste management associations and the municipalities in the involved Western European Countries (Austria and Germany), mainly because they are afraid to have financial losses. The legal basis is not explicitly clear for the situation, therefore the executive authority in many cases refuses to act against waste pickers.

Within the frame of the CENTRAL EUROPE programme co-financed by the ERDF (European Regional Development Fund) the Institute of Waste Management from BOKU-University of Natural Resources and Life Sciences, Vienna works with partners from Austria, Germany, Hungary, Poland and Slovakia on the project **TransWaste** (www.transwaste.eu) with the aim to formalise informal sector activities in Central Europe and therefore provide legal solutions for the informal/illegal activities. A win-win situation should be provided for all affected stakeholders.

This Transnational Action Plan provides a step-by-step guideline based on the results of the analysis of legislation, economic, social and environmental impacts and contains a detailed description of procedures necessary to formalise the informal sector.

2 Informal Waste Collection in Europe

2.1 Background

The formal waste collection in Europe is regulated by European and national law. Nevertheless the implementation of waste collection and treatment activities differs from country to country. Table 1 shows an overview on the different possibilities to collect bulky waste, WEEE and metal scrap in five case study countries.

Table 1: Implementation of collection of vbulky waste, WEEE and metal scrap in 5 case study countries

	Bulky Waste					WEEE					Metal Scrap				
	AT	GE	HU	PL	SK	AT	GE	HU	PL	SK	AT	GE	HU	PL	SK
Recycling Center	x	x	x	x	x	x	x	x	x		x	x			
Kerbside Collection (door-to door)	x	x	x	x	x				x	x	x	x			
Container				x	x				x	x					
on demand	x	x	x							x	x	x			
along normal houshold waste collection				x											
Producer						x	x	x							
Green points WEEE collection points								x	x						
Metal Shops (in HU license necessary)													x	x	x

Depending on the formal activities also informal activities differ and cause different problems. It can be summarised that the more the official waste management system is regulated and specialised the more problems occur with informal activities.

In general there are three different basic collection systems of bulky waste existing in each partner country. Some collection systems are more common than other. In Austria and Germany waste collection centres or recycling centres are more common. In Poland and Hungary these types of collection centres have rarely been implemented but are existing.

- Waste collection centres (called in Austria), recycling centres (called in Germany): inhabitants: Citizens are allowed to bring their bulky waste, WEEE and metals to the recycling or collection centres. The types of accepted waste and fees depend on the waste management associations. If the fee for the recycling centre is included in the general waste fees the delivery is mostly for free, if not, the citizens have to pay an amount of around 5 to 20 Euros for delivering the bulky waste. WEEE is allowed to take over free of costs.
- Kerbside collection: The kerbside collection is currently not very common anymore in Austria and Germany but it is still common in Poland and Hungary. Typically twice a year specific announced kerbside collections take place. The citizens are instructed to put their commodities / bulky waste in front of the house, on the sidewalk.
- Collection via call (on demand): The collection via call is an individual possibility for the citizens to give away their bulky waste. In this case one has the possibility to contact the waste organisation to set a date at which the bulky waste is collected. This collection service is provided in Austria, Germany, Hungary and Slovakia.
- Open containers: Large containers are placed regularly (e.g. twice a year) at a certain location and subsequently filled by the citizens. This collection system is the most common option in Poland, Slovakia and Hungary.

- Collection alongside normal household waste collection. Bulky waste is put next to the bins or containers and then taken by the waste collection company during the household waste collection. This kind of collection system was only reported from Poland.

Waste management associations or companies organising bulky waste collections are highly affected by informal sector activities in all cases of collection systems. They moan about financial losses as informal collectors also collect valuable materials, like metals and about littering next to collection points.

2.2 Actors of the informal sector in Central Europe

Informal collectors appear in every country in Central Europe. Mostly people from Eastern European Countries come to Western European Countries to collect still useable goods, like furniture, electronic goods, household equipment or textiles. Cross border activities are the consequence. For example informal collectors are coming from Hungary to collect in Austria, Germany or even in the Netherlands, but also collectors from Poland are coming to collect in Germany. Additionally Hungarian or Polish informal collectors are collecting in their own countries. On the other hand informal collection activities are also carried out by Austrians or Germans themselves. It applies for people who like to collect antiques or need substitute parts for electronic equipments. These activities are only happening n small scales.

Investigations showed that informal waste collectors in Europe can be divided into three groups:

1. Waste pickers on landfills

The poorest group of waste collectors includes mostly individual waste pickers. Members of this group are usually people with no official income. Waste collection is sometimes the only source of income for members of this group, they make an everyday living of it. They live in shanties along landfills and collect recyclables directly from the landfill. Such situation appears e.g. in Romania or Serbia even in the last years. Items of interest: recyclables.

2. Waste Collectors (Kerbside)

Waste collection is a kind of informal “employment” for this group of people, which can be seen as the key group of waste-pickers who are active between different countries. These people either operate outside (or even inside) of waste collection centres, during official kerbside collection of bulky waste or directly at household level. They are equipped either with a car and trailer or with a van. They often only go for short distances and normally are not specialised to a specific type of items. Within this group there are as well people that search more orless randomly for any items of possible sell or use as collectors that regularly visit the same waste collection centres or municipalities. A significant share of those people belong to the minority of Roma and Sinti. Sometimes whole families belong to this group. Many of the items they find they use for their own needs. Items of interest: metals, wood for heating, and all re-useable and sellable goods like WEE, clothes, bicycles and furniture.

3. Waste Collectors with additional other income

To this group belong pensioners and people who have another income (often close to minimum wage). Members of this group act similar to members of group 2 but they also go for far distances (e.g. from Hungary to the Western part of Austria, Switzerland, Germany) and they are often specialised for specific items. They don´t take „everything“ but are more concentrated on valuable

goods. Within this group also regional second hand dealers who look for valuable items at waste collection centres or regional pensioners who e.g. come for fire wood can be detected.

2.3 What is the problem with informal waste collection

As the focus of the informal waste collection is the selling of collected goods, these activities contribute to waste prevention and conservation of resources. But by inappropriate disposal and especially if collected goods cannot be sold any more also ecological disadvantages can occur. This may be the case because of worse waste management standards in the country of destination of goods or even by illegal dumping by the collectors. The precariousness of these informal activities depends not least on the type of items collected. The potential danger to the environment is higher if electric appliances are collected than for furniture or clothes. Beside this ecological aspects economic and social aspects have to be taken into account.

2.3.1 The challenges of the current situation

Economic challenges

Revenues from recyclable fractions form the financial basis for modern waste management systems and are used for the maintenance of their necessary infrastructure. Informal activities in waste collection and transboundary shipment of waste, which form the only source of income for many informal collectors, compete with authorised municipal and private waste collection structures.

Ecological challenges

Problems arise when parts of waste which are not usable anymore are treated and recycled at inadequate places in the target countries. Due to the transboundary shipment of waste some regions are facing an increasing amount of waste. Both improper waste handling and disposal (especially littering) may contribute to serious environmental impacts.

Social challenges

Informal waste collectors are disadvantaged in the European harmonisation process. If their access to waste is denied as a result of modernisation or competition they might lose their only source of income. In addition informal waste collectors sometimes endanger their own health by treating hazardous waste improperly.

2.4 Dimension of informal collection

Investigations showed that 46% of German administrative districts and 76% of the Austrian administrative districts show at least irregular informal collection activities. But also in Eastern European countries the collection of re-usable items is common. In 21% to 50% of the municipalities of region Nyugat-Dunántúl (Hungary) informal collectors occur and in 80% of the South-West region of Slovakia informal waste collectors were detected.

2.4.1 Origin of informal collectors

The origin of informal collectors coming to Germany, Austria and Slovakia was determined in the course of the project TransWaste by interviews with various stakeholders. The results are

presented, **Fehler! Verweisquelle konnte nicht gefunden werden.** and **Fehler! Verweisquelle konnte nicht gefunden werden.**.

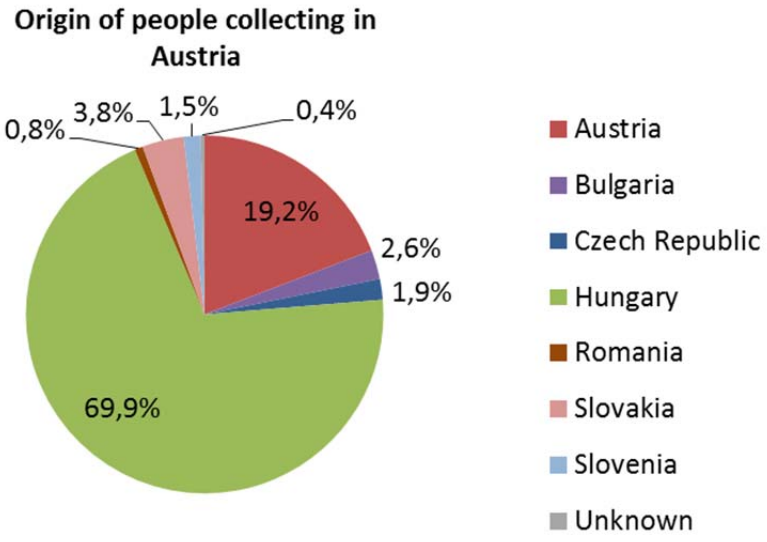

Figure 2.1: Origin of the collectors which carry out their informal activities in Austria (n = 266)

In Austria almost 70% of the informal waste collectors come from Hungary (Figure 2.1). In Germany the nationalities of Romanian, Hungarian, Polish and Czech collectors with a percentage of around 80% are the most observed nationalities. Most (88%) of the informal collection activities in Slovakia were carried out by Slovakian collectors; 12% come from Hungary.

2.4.2 Types of informal sector activities

Informal sector activities are very specific in each observed country as they depend on the specific waste collection system in each region and on the living standard of the inhabitants. It was observed that the poorer the inhabitants, the more need for used goods occurs.

Collection at waste collection centers either takes place inside or outside the waste collection center. In both cases inhabitants who deliver their items are asked for those items. Inside the WCC sometimes commodities are taken out of containers.

Collection at household level takes place either in the frame of :

- **official kerbside collections**, where waste pickers pass by the houses two or three days in advance to look for goods which have already been put out on the pavement by residents or
- **collector induced** where waste pickers inform the households in a specific region in advance via flyer on their coming. Additionally so-called
- **household induced collections** apply, where households put their waste outside their property on the assumption that waste collectors (e.g. also other inhabitants) will take these materials. Another type of collection is that residents explicitly ask waste pickers (e.g. waiting in front of waste collection centers) to accompany them home and remove certain goods.

Collection in containers takes place in Poland and Slovakia where for the official collection of WEEE and bulky waste often containers are provided at certain locations.

In Poland additionally to the described collection activities (abroad and within Poland) waste pickers collect mainly metal scrap and metal packaging and sell them to metal dealers.

In general also collections at companies take place but were not part of the investigation.

2.4.3 Composition of collected items

The composition of collected items was investigated in the course of observations of informal vehicles crossing the Austrian-Hungarian border (see Figure 2.2). About 47 Vol-% (furniture, household commodiities) could be categorised as “not problematic” in terms of hazardous waste or valuable waste. 13 Vol-% of the items belonged to the very valuable metal fraction and another 19 Vol-% were WEEE. For Germany a specialisation of the waste pickers to WEEE was reported by interview partners (60%).

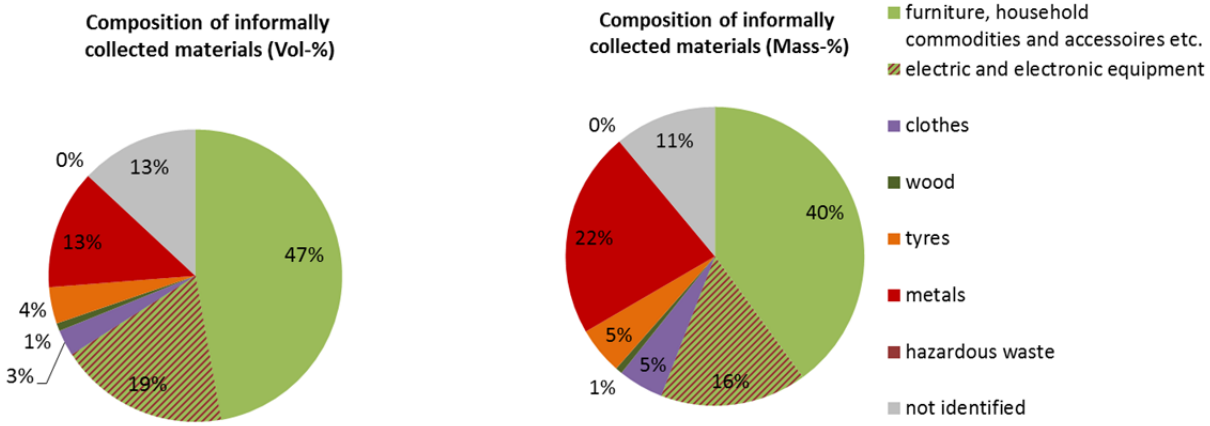

Figure 2.2: Average composition of informally collected items by Hungarian collectors crossing the Austrian-Hungarian border (vol-%)

The composition of goods traded at second hand markets in Lower Silesia (Poland) is shown in Figure 2.3.

Figure 2.3: Average composition of traded 2nd hand goods at markets in Lower Silesia (Poland)

2.4.4 Amounts involved in informal sector activities

The determination of amounts was a big challenge, as no comparing data has been evaluated so far. Methodologies had to be invented which fit to the situation of informal sector activities in Central Europe. As the informal sector activities differ in the participating countries, methodologies had to be adapted to fit to each scenario. Therefore each country developed its own methodologies to determine amounts (TransWaste, 2010).

Table 2: Range of informally collected amounts of the total (informally and formally) collected waste

Range of informally collected amount	AT	SK	PL
Bulky Waste/reusable items	13%	4%	9%
Wood	1%		
WEEE/electric and electronic equipment	21%	11%	2%
Metals	23%		10%

Informally collected amounts [kg/cap.yr]	AT	AT--> HU	PL/Lower Silesia	GE --> PL/Lower Silesia
Bulky Waste/reusable items	3,8		0,3	
Wood	0,1			
WEEE/electric and electronic equipment	1,5		0,1	
Metals	2,1		34,0	
mixed 2nd hand items collected in Western Europe and transported to Eastern Europe		8,3		6,1

The results show that the influence of the informal sector in the formal waste management should not be neglected. Depending on the fraction and the country up to 23% of the total available amount is collected in an informal way. For bulky waste and the WEEE fraction the re-use of the main part of the collected items can be assumed but for metals mainly a financial loss for the official systems hast to be hypothesized. It could be shown that the amount of items transported from Austria to Hungary with about 8 kg/cap.yr is comparable to the amount transported from Germany to Poland, where for the region of Lower Silesia about 6.1 kg/cap.yr are offered on second hand markets.

2.4.5 Reactions to informal sector activities

Four different strategies could be detected concerning the interactions with informal sector activities by municipalities or authorities at waste collection centers, which lead to different ecological, economical and social consequences:

- Informal collection is allowed and encouraged (“stimulation and integration into the formal system”) – Case I
- Informal collection is tolerated but ignored (“Negligence”) – Case II

- Informal collection is combated unsuccessfully – Case III
- Informal collection is inhibited by the police (“Repression”) – Case IV

3 Legal background/compliance

As already mentioned waste picking resp. collecting of material leads to different challenges as various approaches meet: on the one hand the situation of informal activities is very unsatisfactory especially for the waste management associations and the municipalities in the involved Western European Countries (e.g. Austria and Germany), mainly because they are afraid to have financial losses. On the other hand collected products are sold again, what means that they are re-used and therefore have a contribution to waste prevention and resource optimisation efforts. This implies that the legal situation is a steady point of discussion. The legal framework which deals as basis information in this context is the Directive 2008/98/EC on waste (Waste Framework Directive).

3.1.1 General legislation for “re-use”

The Waste Framework Directive (WFD, Directive 2008/98/EC on waste) provides the legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. Furthermore it enforces re-use. The former three-step hierarch was enlarged to a five-step hierarchy beginning with prevention, then preparing for re-use, recycling, energy recovery and finally disposal (see Figure 3.1).

Figure 3.1 WFD structure (source: EC, 2013)

The Waste Framework Directive (2008/98/EC) should have been transposed by member states until December 2010. Revisions to the Directive have been and still will be implemented in the member states through the Waste Regulations and ancillary legislation.

The Directive encourages waste reduction and gives a new dimension to prevention as member states are obliged to draw up and implement waste management plans and waste prevention programs no later than 2013. So the directive requires member states to take appropriate measures to encourage firstly, the prevention or reduction of waste production and its harmfulness and secondly the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy.

Re-use is a measure for waste prevention, as the product is re-used in its original form and for its primary purpose, e.g. a washing machine is reused as washing machine and not recycled to metals

and plastics. Moreover the annex 4 point 3f (Directive 2008/98/EC on waste) states to promote the reuse and repair of appropriate, disposed products and components thereof through accredited centres and networks.

Besides re-use, also “preparing for re-use” is part of the WFD. That means “checking, cleaning or repairing recovery operations, by which products … that have become waste are prepared so that they can be re-used without any other pre-processing” (WFD, Art.3, p.16). These actions are within the waste context and therefore all waste related regulations have to be applied.

Definition of waste

The definition of waste and the definition of “end of waste” play a significant role for defining a product as reusable or not. According to §5 of the Directive a material is ceased to be waste,

- if it was subject to a recycling process and can be used for defined purposes,
- if a market demand exists,
- if defined standards are met and
- if it is not producing harmful impacts to the environment.

As general framework for national laws the European Waste Framework Directive has to be used. European laws have to be implemented into national laws subsequently. Therefore there are slightly different national laws on waste and waste management. In this TAP the Austrian waste management law shall serve as an example representatively for other national laws. According to the Austrian Waste Management Act 2002 (AWG 2002, § 2, Par. 1, 2) wastes are moveable objects which the holder intends to dispose of (wants to get rid of it = subjective waste term) or for which treatment is required if the collection and treatment is of public concern (objective waste term) e.g. hazards to human health or environment.

Furthermore, waste generators (with the exception of households), collectors and operators (recycling, disposing of or treatment of waste) are obliged to keep records of the type, quantity, origin and destination of wastes.

According to §15 Par. 3 AWG 2002 the collection, storage or treatment of wastes outside approved facilities and outside locations designated for collection and treatment is not permitted. § 15 Par. 5 defines that if the waste owner is not authorised or able to treat wastes he is obliged to hand them over to authorised collectors / operators. Furthermore, waste collectors and operators are obliged to register at the provincial government office and need a permit to carry out their activities (§§24a, 25a).

This may lead to following conclusions:

- **If households want to get rid of material, the subjective waste term is fulfilled. Households are obliged to dispose of their waste using an authorised collection system.**
- **Informal collectors are not registered and do not have permits according to the AWG 2002.**
- **Therefore: both participating households and informal collectors act illegally.**

In answer to these conclusions bulletins have been issued in many municipalities to inform inhabitants of these practices, underlining how in such cases both households and collectors are deemed as having acted illegally (to date no penalties have been imposed).

On the other hand, re-use in general has been a well-known practice for a long time, maybe not always used with that wording. Different concepts exist where people hand over things, which they don`t use any longer e.g. ebay or flea markets of the fire brigades or charity organisations. There is no intention to dispose of material but to give things to other people who need them.

So the main question to be clarified is “are these products waste or not”. According to the Austrian Waste Management Act (§ 2, Par. 1) the question which occurs is, do the households want to get rid of material or do they provide products? Based on that, there are two possibilities: either the items are given as a donation or there is a real disposal.

Is there a real intention of getting rid of the items, “waste” was produced and a lot of requirements according to the different waste directives come into force. Several consequences for each involved person occur (e.g. the obligation of the households to hand over waste to authorised collectors).

Due to the absence of concrete definitions about the “intention to dispose of” in the AWG 2002 or the Waste Framework Directive the judicature and European Court of Justice (EuGH) of the Austrian Higher Administrative Court (VwGH) has to be adducted (interpretation conc. expertise Niederhuber and Bauer, 2010). According to different interpretation of these courts the following points should be considered:

- The definition “waste” has not to be interpreted narrow; the evaluation has to include full circumstances.
- “To dispose of something”: The handover of properties is focused to dispose of something; this is the predominant reason for the dissemination/handover.
- (Aim of) Transaction: The “aim of disposal” has to come into effect.
- “Experience of life” - that could mean that many people prefer giving re-usable items to someone else who can still use them instead of throwing them away.
- Non-paid handover related to the payment of transport concedes the will for disposal.
- On the other hand the handover in return of payment concedes no will for disposal.

Based on the regulatory framework possible solutions for the collectors to act in a formal, regulated way were identified and one of them is that under special circumstances a donation of items can take place and therefore no waste management requirements apply. The items are subject to the free movement of goods (see Figure 3.2).

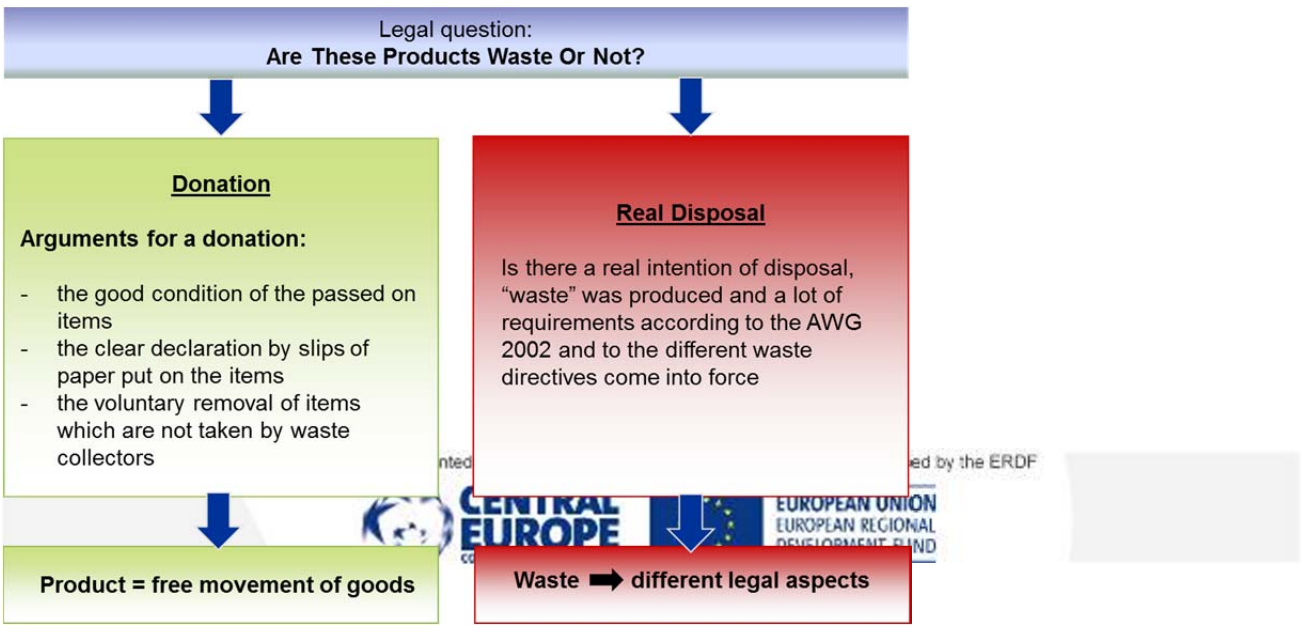

Figure 3.2 Graphical description of legal background

Beside these conclusions in terms of waste management different other regulations regarding transport issues, selling activity issues and so on (cf. Deliverable 6.1.2 of PR 4) would come into force. The cross-border transport is for example one of those important aspects. The cross-border transport of products is subject to the free movement of goods. If wastes are transported, that is only permitted if the collectors would have a waste collection permission, all requirements have to comply with the requests according to the Waste Transport Regulation (WTR, 2006). That means that there is an obligation to provide information for “Green” listed waste. For ”Amber” listed waste a notification is obligatory.

Out of the above mentioned findings, several solutions for all involved countries were developed and described in the next chapter.

4 Formalisation ideas

As described in the former sections the informal waste collection activities turned out to be relevant compared to formal waste collection, they are not preferred by the local authorities and in most cases they are even illegal or at least belong to a so called legal “grey area”. On the other hand it is obvious that in most cases the re-use of goods and the accompanying waste prevention helps to save resources and give the poor social classes the possibility to get a regular income. Within the TransWaste project therefore formalisation ideas were developed in order to find legal possibilities to collect usable items and give them a second life and therefore to contribute to a better environment by waste prevention but also to a better environment and livelihood for the collecting people (very often members of the ethnic group of Roma and Sinti). As conclusion the following strategies have been further developed and improved.

In Hungary the ISHS Organization (www.ishs.at) was registered in December 2011. Training material was developed to show the collectors the legal way to collect second hand items and to inform them that they are not allowed to take waste under any circumstances. In Austria and Poland the Re-Use corner idea turned out to be favourable. This idea focusses on the waste collection centers where the households can decide whether their goods are still useable or not. In Austria a Business plan for the implementation of a cross border socio economic enterprise dealing with the collection and repairing of used goods (WISE) was prepared. In Slovakia the Retourette idea was implemented as pilot case. With this formalisation idea informal collectors shall be motivated to bring the collected electro equipment (complete) and leave it for a fee in waste collection company.

In the following sections the possibilities of formalisation which are suitable to be implemented also in other European countries are described more in detail to act as guideline for interested stakeholders all over Europe.

When implementing one of the case studies in other regions the following aspects have to be taken into account: county-specific waste management system, WEEE collection quotas, the tradition and the willingness of the population and their needs, the opportunities for change and most important the law.

4.1.1 Formalisation A: “International Second Hand Service” (ISHS)

The basic idea of this pilot case was to establish an association of used item collectors and retailers in order to support the informal collectors and change their state into “formalised” collectors that do not collect and transport waste, but used items. These items are sold at Hungarian flea markets. .So it was intended to change the status of the illegal waste collectors to legal used item collectors and retailers. This formalisation idea is outside of the waste system and therefore waste relevant legal acts do not apply directly. The collectors hold direct contact with the households via their internet platform (www.ishs.at) and via flyers where they announce their coming and their activities.

The main aim of the association (International Second Hand Service: www.ishs.at) is to unite individual collectors, collector groups or companies dealing with used item collection and retailing and provide a training to the members what they have to concern to act in a legal way. Training materials shall secure legal compliancy of the members of the association have been developed and can be seen as Annex 1 of this document. The core part of the training material included a detailed description of where, what and how to collect used items and what procedures have to be fulfilled to secure that collectors do not collect waste. This part of the training material was basically developed based on a legal opinion of an Austrian lawyer having expertise in waste management. Other topics

of the training dealt with language skills, transportation safety, basics of entrepreneurship and environmental protection.

The main idea of this formalisation concept is that only items are collected where the function is proved by the former owner. Therefore a transfer list was developed where the former owner has to specify the goods which he donates or sells and where he has to certify with his signature that the items are still functioning and useable. The households are informed on possible punishments for so called fraudulent evasions (this is the case if the household wants to get rid of waste and e.g. want to safe costs by handing over their waste to not authorised people (without a waste collection permission). The Transfer List can be seen as Annex II of this document.

This Formalisation possibility was implemented during the TransWaste project between Austria and Hungary in the year 2012

4.1.2 Formalisation B: „Re-Use Corner"

A Re-Use Corner is an especially dedicated area either directly at I) Waste collection centers or at II) other institutions. All people (former informal collectors as well as other people) interested in re-use get access to still re-usable items (either to buy or for free), that are left there by inhabitants of the municipality.

Re-Use corners might be implemented in a big variety of versions. In general one has to distinguish between an implementation directly at (in or by) a waste collection center or at any other location (often combined with a second hand shop) which will not be topic in this Action Plan. The concept may follow more a flea market where goods are sold as they come in or they can be checked, repaired and later sold with guarantee.

The Re-Use Corner at Waste Collection Centres following the flea market concept is a low-cost and low-tech solution leading to tangible waste prevention. It could as well serve as a first step in the creation of centres and networks for repair and re-use, as these should be established in all EU member states. The advantage of this concept is that people who e.g. clear their cellar or garret only have one way for the real waste items as well as for re-useable items. There is also the possibility for waste management authorities to document the items and include them in re-use quotas ordered by law.

It is advised to get started in an easy to realise manner, as it was done in Poznan. With little efforts a re-use system can be established and experiences and know-how of e.g. the market and support of the authorities can be obtained in preparation of eventual expansion of the system.

As the topic 'waste or used item' is not completely objective, it is advised to contact the inspecting authorities beforehand, in order to make them confident with this new phenomena and obtain their legal advice. The layout of theRe-Use Corner and its regulations can be tailor-made based on this opinion (e.g. creating a separate re-use zone, always purchasing items, even for free, etc.).

Implementing a Re-Use Corner at a waste collection centers is depending on available space and also on staff resources supporting inhabitants in both the delivery of re-usable items and also potential customers. Therefore it is necessary to keep the Re-Use Corner as simple as possible. So starting the corner would be much easier, especially from a legal point of view, if electro-equipment would be left out. This is also due to the fact that electronic equipment bears risks in case the items are damaged. In order to carry out inspections and a declaration that electronics can be re-used

needs qualified personnel. This could be implemented as another step, when the legal background of selling used electro-equipment to a third person (especially the question of liability) is more clearly defined.

Another important point is that waste fees should not be increased just to implement such a corner, because then the citizens of the municipality would have to bear the costs. So no additional costs shall occur for citizens to implement Re-Use Corners. From an economic point of view one has to consider also cost savings for municipalities for certain reusable streams due to decreased material that has to be disposed of.

The prices of the items should really kept low to make the Re-Use corner accessible for everyone. Used items sorted in price categories will make the purchasing process much faster and therefore less work intensive. Sometimes it would also make more sense to give away items then to store them for months and years. Items which are not taken, although they are for free, can then be easily allocated to disposal at the Waste Collection Centres (WCC).

What really would make the donation at Re-Use Corners much easier is a change in the actual Waste Management Acts (e.g. Austrian AWG 2002). There it is defined that an item becomes waste when the owner wants to get rid of it. But driving to a WCC where a Re-Use Corner is situated does not automatically imply that the owner wants to get rid of all of his items, maybe he/she just wants to see that his/her items get a second life. So §2(1) of the AWG 2002 needs to be refined in case of re-use. Another possibility that can be seen in Scandinavia is that Re-Use Corners and WCCs are on the same area of land but located spatially separate

The “Re-Use Corner” under the name of "New Life” has been operating since May 2012, at Wrzesińska Street No. 12 in Poznan (Poland). It is located in a container with a capacity of 30 m3, which is placed at the entrance to the WCC and constitutes the re-use zone. Investment expenditures for the entire project were small and confined only to re-painting of the old container that was already in possession of ZZO. An employee of "Gratowisko" handles also the point "New life".

Another Re-Use Corner is planned to be implemented in Gablitz (Austria) in the near future.

The Re-Use Corner at Waste Collection Centres following the “brand concept”: Similar to the before mentioned concept the goods are collected directly at the waste collection center but they are checked and repaired (if necessary) and a guarantee is given on the items. This concept is much more sophisticated and needs more manpower but also higher prices can be charged. Often goods are transported from the waste collection center to a separated sales outlet. Such re-use concepts already exist in Europe (e.g. http://www.revitalistgenial.at/header/englisch.html or http://www.dekringwinkel.be).

In general re-use centers only can be seen as formalisation possibility for informal collectors if they follow a low prise concept. As buying labelled high price products cannot be afforded by poor people. So the low price concepts could help for both: the formalization and legalization of informal waste collection if they get official admission to goods at waste collection centers where they now collect the same goods in-official and illegal and the waste prevention principle. More sophisticated systems with higher prices and often looking for “brand”-worth goods might more fulfill the re-use principle but fail to integrate informal collectors.

4.1.3 Formalisation C:Work Integrated Social Enterprise (WISE)

The basic idea of this formalisation concept was the creation of a re-use center working as a Work Integration Social Enterprise (WISE) acting cross border. This WISE re-use center should work and trade with re-usable items and also offer repair and clearing out services for Western and Eastern countries (thus countries where the informal collectors collect their goods and where they sell their goods).

There may be intersections with other formalisation concepts as a WISE could be implemented for all other ideas as well. Former informal collectors will be employed as transit workers with the goal of providing them with vocational training and education and preparing them for a successful inclusion into the general labour market. Some of the transit workers may even be retained in the WISE as a part of its core staff. A business plan of such a Re-Use WISE, the business idea, marketing strategy, start-up procedure and financial plan were elaborated and are attached to this document as Annex III.

In the financial area it is important to provide a solid financing scheme due to the planned enterprise being a WISE and very probably not being able to operate independently, i.e. requiring external financial assistance. It should be investigated whether there are any funding programmes available from the government or labour market institutions. Also, the costs of the transit workers and their training should be carefully assessed. Regarding marketing, the general status of re-used products in the country/region of the interested partner should be thoroughly investigated, especially with regard to supply and demand of re-usable products, their market image and PR activities needed to ensure adequate public interest.

In networking, the idea of interregional/international cooperation should be followed. This is especially true in areas where significant supply from one region can be met by significant demand from another. Also, in the case of lacking know-how or organisational knowledge, possible cooperation which could result in a know-how or knowledge transfer should be assessed and, if needed, undertaken.

An important point of this idea is, thatthe WISE will be financed through subsidies combined with a certain percentage of funds sourced from the project´s business operations. Due to the projected enterprise being a socio-economic operation, it can not be reasonably expected to be able to sustain its own financial needs in any short or mid-term period. Therefore, a long-term financing scheme will have to be set up in cooperation with public authorities to ensure the successful implementation of the WISE. The expected financial benefits are the increase in taxable revenue in the region and the transfer of former informal waste collectors into the first (formal) labour market what constitutes a taxable working-situation either.

4.1.4 Formalisation D: „Retourette“

One specific idea was developed to improve the situation due to informal activities and related problems during WEEE-collection. According to European legislation and also implemented in national law producers and importers are responsible for the environmentally sound recovery and treatment of the collected WEEE (“producer’s responsibility”). The re-use of WEEE has a high priority. The hand on of still working WEEE in whole to repair companies and other users shall be encouraged. A rate of separate collection of at least 4 kg on average per inhabitant per year from private households must be achieved by 31 December 2006. By the new WEEE Directive 2012/19/EU new collection targets are set. From 2019 every Member State will be required to collect

and properly dispose of 85 per cent of the WEEE generated within its borders every year. Responsible WEEE producer responsibility organisations fear that it is impossible to reach this targets not least because of informal activities and also because if illegal collected items are transported from one country to another country this is much more difficult.

The main idea was to offer citizens who want to dispose of old electrical and electronic equipment the possibility to bring these items (in a complete state and good condition) to a designated location and simultaneously to offer an alternative for informal collectors to do the same. The economic revenue for them is equivalent to a purchasing price calculated per kg for delivered equipment as can be seen in the following Figure. The conditions are as following:

- Complete state of delivered electric and electronic equipment – that means no missing parts or partially dismantled pieces allowed. Appliances must not necessarily be functioning.
- No purchasing of items from institutions or other organisations in this pilot case.

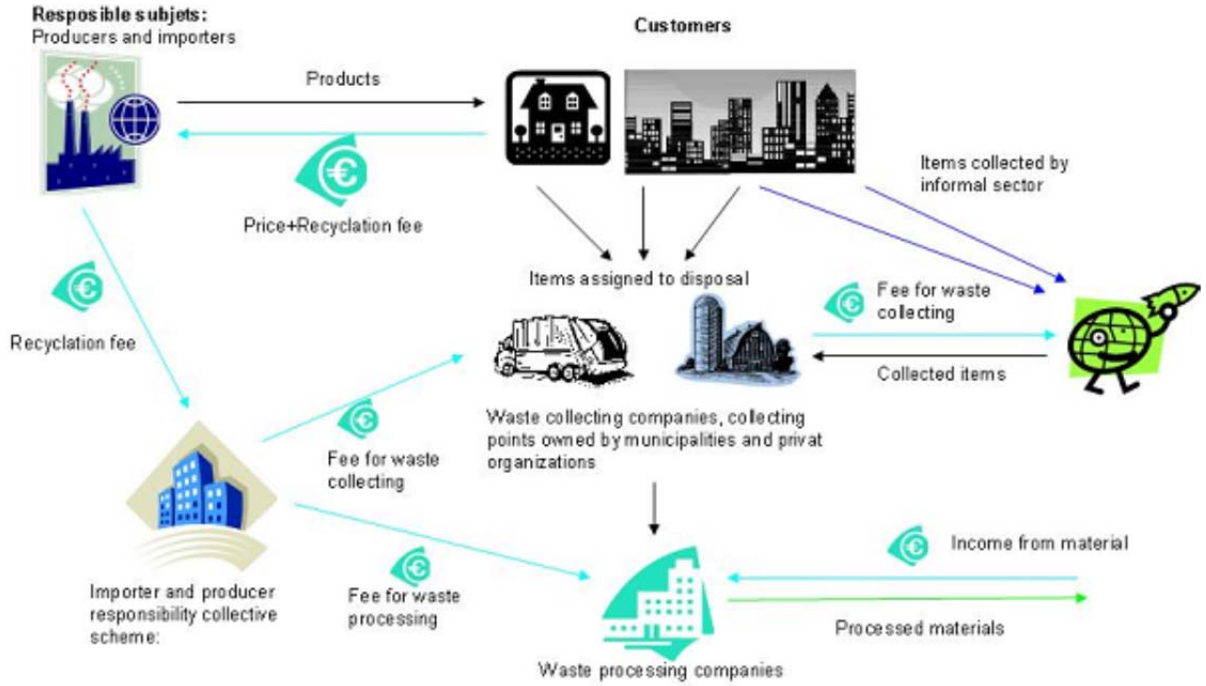

Figure 1: Description of material and finance flow for WEEE

If a person will deliver an electronic device in a complete state to a collection point, this leads to an elimination of the possibility of unauthorised waste processing, the release of hazardous substances and illegal dumps. Electronic appliances collected within this formalisation concept are included in the reports of collected WEEE so partially contribute to increase the statistics of collected amounts per capita, in accordance with the increasing limits imposed by the requirements of the EU. In addition, this option provides the potential for the development of re-use activities since the devices delivered by the citizens are in complete state and often more functional.

The implementation of this pilot case helps to increase the sustainability of jobs in waste management organisations employing people from lower social classes of income or people at risk of social exclusion. It also serves as income possibility for informal collectors without forcing legislation due to unauthorised WEEE-dismantling.

5 SUSTAINABILITY ASSESSMENT

The formalisation ideas are developed as pilot cases and partly implemented in different project member states. Out of the already known findings the evaluation of the pilot cases took place to evaluate the situation of the informal status quo against formal activities but mucu more to investigate the effects of the described formalisation ideas.

Informal sector activities affect all three pillars of sustainability. The environment is affected by littering and uncontrolled disposal of hazardous substances, such as cooling liquids from refrigerators, but also by a prolongation of the use phase of the re-used products. The society might be affected by informal collectors who “prowl” around the neighbourhood; on the other hand they provide additional services to inhabitants. The economy is influenced by a loss of revenues from secondary raw materials, such as metals, but also by cost savings for waste treatment through waste prevention. Informal sector activities therefore show both positive and negative effects on sustainability. In the following the main impacts of formalisation activities are described..

The **environmental assessment** was carried out via the methodology of Life Cycle Assessment (LCA) in the tool GaBi 5.0. Environmental effects were determined for in total 12 indicator products, which are favoured by informal collectors and which might be environmentally crucial. Furniture, such as couch, cupboard or plastic garden chair, and other non-electronic equipment, such as bicycle, tyres and clothes are from an environmental point of view beneficial to collect via the formalisation ideas. The share of reuse is increased, which leads to a prevention of production of new products, and illegal disposal is decreased, which decreases environmental pollution, within the formalisation ideas compared to the status quo. Outstanding are the clothes. The production of textiles is very energy intensive. The reuse of textiles can therefore significantly reduce the overall environmental impacts.

Furthermore the disposal options of each country are influencing the results. In Eastern European countries the most used end of life option for bulky waste is still landfilling. If a product which can’t be sold for reuse is landfilled in the countries where it is transported to instead of recycled or incinerated which is common in origin countries, it is therefore not beneficial for the environment. A striking example is the plastic garden chair with the consideration of the Ozone Depletion Potential. The incineration brings more benefits to the environment in terms of heat and electricity than reuse and landfilling. The transport in the collection activities is in general not significantly influencing the total results. Exceptions are shown with products such as couch, cupboard and tyres in case of Ozone Depletion Potential and Photochemical Ozone Creation Potential, where the influence of the transport worsens the results of the formalisation ideas.

Electrical and electronic equipment is different, as the emissions of the use phase largely influence the overall effects. If the emissions of the production phase are lower than the emissions of the use phase, than the benefits of reuse can’t be guaranteed anymore. It is depending on the energy efficiency and the technological change of the products. Is the energy efficiency of an old equipment higher than from a new one, than reuse makes sense only to a certain extent. From an environmental point of view the products fridge and LCD TV are not beneficial to collect in all formalisation ideas. The higher reuse potential, which can be achieved with the formalisation ideas, leads to more environmental emissions in most of the considered environmental categories. The lawnmower is crucial. Some environmental categories show benefits, some show burdens. It’s difficult to state under which circumstances a lawnmower would be beneficial. Yet, it is defenite that the hotspots which influence the results are the energy efficiency compared to a new product and

the illegal disposal activities. If the energy efficiency compared to a new product is not much different and illegal disposal activities can be banned in the formalisation ideas, then the reuse of a lawnmower is also environmentally beneficial. The same applies for the CRT monitor and the laptop computer. Other electronic products such as small EEE are beneficial to reuse in the formalisation scenarios, as they don't undergo significant technological change in short term.

In case of metal products a reuse of metals is still environmentally beneficial compared to recycling. The driving distance does though play a significant role, because of the high density of the steel products. It is therefore recommended for the formalisation idea that steel products are allowed to be taken if a reuse of the product for its original purpose is intended. A collection of metals for trading as a secondary raw material is prohibited in the formalisation ideas.

The **economic assessment** aimed to show up economic influences of informal sector activities on Eastern (Hungary, Poland) and Western European (Austria, Germany) waste management systems on the one hand. The economic situation of informal collectors was analysed in Poland and Hungary on the other hand.

Regarding the waste management perspective, the contribution showed an influence of informal activities on the cost – revenue - balance of all fractions and for Eastern as well as Western European countries. Key factors that significantly influence the results are the prevalent waste treatment method and the market prices of recyclables. Thereby the informal activities only have a positive influence on the cost – revenue – balance of Western European countries, if the loss of revenues through lower amounts of recyclables is not higher than the cost savings through missing amounts for transportation and treatment. Considering Eastern European countries the informal activities show a positive influence, if the waste treatment technology is focused on recycling. Nevertheless waste management systems in considered Eastern European countries still lack regarding an efficient accomplishment of state of the art waste treatment measures. Therefore mostly additional costs for imported informal material could be observed. Continuative an adaption process of waste treatment techniques and altering market prices of valuable materials will change the current situation.

The assessment revealed that the formalization process can cause higher profit margins for Hungarian traders considering maximum values, whereas Polish traders receive lower profit margins in comparison to the informal scenario in all observed scenarios. It is based on already low income level of Polish traders, whereas additional costs, such as taxes of 18 % lower the profit margin in the formalized scenario.

Nevertheless those data are subject to major fluctuations as income is strongly dependent on amount and quality of collected goods as well as costumer demands. Hence, an organization and therefore an optimized and structured collection could lead into an improved income situation for informal collectors. An indicator for this hypothesis is found to be the collected and sold amount per kilogram. Through structured accomplishment of collection the span between collected and sold amount per kilogram might decrease.

The **social assessment** methodology applied within the TransWaste project follows a 2-step approach:

1. Assessment of the current, informal situation:
    a. quantitative assessment
    b. qualitative assessment
2. Assessment of the formalisation scenarios

For the qualitative assessment of the current, informal situation the relevant stakeholders were interviewed by the TransWaste team members in the various countries. Most interviews were done face-to-face, in some cases telephone or mail contacts proved to be more practical. It should be kept in mind, that the resulting assessment reflects opinions of the interviewed stakeholders, that may be quite subjective.

Summarising it can be concluded, that the current informal situation leads to positive social effects for the consumers in the receiving countries (Eastern European countries). To a lesser extend this is true for the receiving countries' authorities (except for Poland). The formal sector in the generating countries undergoes negative effects by the informal collection of used items, whereas the residents assess the situation rather positive (especially in Austria). And last but not least, for the informal collectors themselves their activities also have a negative effect. This effect is the strongest for the Hungarian informals, followed by their Slovakian and Polish colleagues.

For almost all stakeholders any formalisation scenario will lead to an improvement of the social situation. For the inhabitants (or at least the clients at the markets) of the receiving countries the scenarios WISE and Re-Use Corner have minor negative impacts. The main reason for this is the raising of the prices for the second hand goods. Partly this is compensated by the higher quality that these goods possess.

Combinations could very well complement each other and neutralise their mutual negative social impacts. For example a combination of ISHS and Re-Use Corner would sustain the service level for the inhabitants in the generating countries and simultaneously provide the consumers in the receiving countries with both cheap product and products of higher quality. As not all current informal collectors could be incorporated within the ISHS association, additional options to obtain used items in the local Re-Use Corners in the receiving countries would be beneficial.

Furthermore, the implementation of one of the proposed scenarios might be complemented by other initiatives. For example the introduction of Re-Use Corner in eastern countries would lead to less informal collectors in the Western countries, thus enabling better chances for the introduction of Re-Use and Repair Networks.

The obtained social effects of the implementation of the considered scenarios from the viewpoint of various stakeholders were combined by applying a number of different perspectives with accompanying weighting sets to them. This lead to the following ranking of formalisation scenarios, in order of decreasing foreseen positive social effects:

WISE > ISHS > ReUse Corner East > ReUse Corner West = Retourette

6 STEP-BY-STEP ACTION PLAN: POLICY RECOMMENDATIONS

In many cities around the world, and especially in the rapidly developing ones, a considerable number of people sustain themselves and their families by reclaiming reusable and recyclable materials from what others have cast aside as waste. The informal sector often poses a major policy dilemma for city governments. The presence of large communities of people making a living from waste, often in appalling sanitary conditions, can be an embarrassment to politicians. Therefore need for action is detected by waste management authorities and policy makers.

Different guidelines can be recommended concerning general waste management planning issues some of them also integrating informal sector activities in their planning (e.g.: ISWA Solid Waste guideline for successful planning www.iswa.org or Integrated Sustainable waste Management ISWM).

According to such guidelines the following procedure can be summarised (more details can be found in the original guidelines):

- Step 1 - Start a participatory planning process
- Step 2 - Analyse the existing waste management situation
- Step 3 - Publish and circulate the findings of the analysis
- Step 4 - Formulate a draft action plan and budget, including a plan for cost recovery
- Step 5 - Present the action plan to the stakeholders and incorporate their comments and input
- Step 6 - Refine and formulate a final action plan, which is approved by the City Council or other legislative body
- Step 7 - Implement action plan and monitor the result

In the following specific guidelines for the situation in Central Europe which is generally useable for regions with existing waste management structures according to e.g. European standards are developed.

TransWaste Principles

Principles were established to serve as a basis for the project's activities. In general principles shall show which focus is set within the project and which boundaries need to be considered by the project team. They are therefore an important tool for uniting the project team to follow one common goal.

Based on this also the basic steps for the formalisation of informal sector activities in Central Europe have been drawn. The guidelines follow the following principles

- Improvement of livelihood of informal collectors: the living conditions of some collectors are very poor. They are often unemployed and dependent on transfer payments and have hardly enough goods for daily life. This situation is intended to be changed.

- No change of the basic reuse activities: their core activities, meaning the resale of still useable goods, shall remain the same. It is often their main income and their profession. These activities shall not or only insignificantly be replaced by other activities.
- Environmental improvement: the consequence of formalization should not be illegal dumping. Adequate disposal of unsold items but also of reused items at the end of their second life have to be taken for granted.
- Defining informal collector activities as a profession (business): the activities of informal collectors have no common and accepted name. It is necessary to define it as a profession and to name it to become recognized by all stakeholders.
- Keeping cost-neutrality for households: waste management fees need to be kept steady. No additional costs which may be due to implementation of formalization strategies shall be allocated to the households.

Experiences have shown that co-operation and co-ordination between the different stakeholder groups like a city council, a provincial government, service users, NGOS, CBOS, the private sector (formal and informal), and donor agencies, will ultimately lead to increased sustainability of a waste management system, such as changes in behaviour and sharing of financial responsibilities. On the other hand, ignoring certain activities or groups (for example the informal sector that recovers and recycles a substantial amount of waste in most countries in the South) will result in decreased sustainability of the system. Therefore a participatory approach was used within the TransWaste project and is also proposed for future activities.

Step by step guideline

1. Analyse the existing situation:
    a. What is the amount of waste collected by informal activities? Try to map the informal system and the way of materials through the system, where are the interfaces with other stakeholders?
    b. What is the problem? Financial losses by formal waste management companies or municipalities? Embarassement by informal activities, etc.
    c. Who has the problem: which stakeholder group is affected? Who is stakeholder? Households, Waste management companies, municipalities, police, informal collectors? What are the values / attitudes and beliefs of stakeholder in the context of certain problems?
    d. What exactly are the Activities of the informal collectors? What do they collect? Where do they collect?
2. Start a participatory process to find a solution
    a. Invite all relevant stakeholders (Informal collectors, regional, local, national authorities (from all affected countries – prepare proper translation!), waste management authorities, municipalities, police…)
    b. Show the problem of each affected party
    c. Show the relevance of the topic
    d. Show the legal background
    e. Discuss possible solutions

f. Ask all stakeholders what they can do to improve the situation!

3. Formulate formalization ideas based on your specific circumstances
4. Discuss and improve the formalization ideas together with the stakeholders in the participatory process
5. Implement the formalization ideas and monitor the results

Relevant issues for success

Keep it legal

A relevant issue for the formalisation of informal activities in terms of re-use was the implementation of the new Waste Framework Directive 2008/98/EC which announces waste prevention as the most important point of the new waste hierarchy and includes a new part “preparation for re-use” in the waste hierarchy. The so called “ReUse Corner” idea exactly aims at this goal as the lifespan of products is prolonged and items are not designated to be waste.

If possible the outcomes of the participatory process and the formalisation concepts should be implemented in at least regional legal frameworks. This was done during TransWaste e.g. within the Waste management plan of Lower Silesia (PL).

What really would make the donation at ReUse Corners much easier is a change in the actual Waste Management Acts, where it is defined that an item becomes waste when the owner wants to get rid of it. But driving to a WCC where a ReUse Corner is situated does not automatically imply that the owner wants to get rid of all of his items, maybe he/she just wants to see that his/her items get a second life. So §2(1) of the AWG 2002 needs to be refined in case of re-use.

Keep it simple

Implementing e.g. a ReUse Corner at a WCC is depending on available space and also on staff resources supporting inhabitants in both the delivery of re-usable items and also potential customers. Therefore it is necessary to keep the ReUse Corner as simple as possible. So starting the corner would be much easier, especially from a legal point of view, if electro-equipment would be left out. This is also due to the fact that electronic equipment bears risks in case the items are damaged. In order to carry out inspections and a declaration that electronics can be re-used needs qualified personnel. This could be implemented as another step, when the legal background of selling used electro-equipment to a third person (especially the question of liability) is more clearly defined.

Keep it cheap

Another important point is that waste fees should not be increased just to implement such a corner, because then the citizens of the municipality would have to bear the costs. So no additional costs shall occur for Austrian citizens to implement ReUse Corners. From an economic point of view one has to consider also cost savings for municipalities for certain reusable streams due to decreased material that has to be disposed of.

The prices of the items should really kept low to make the ReUse corner accessible for everyone. Used items sorted in price categories will make the purchasing process much faster and therefore less work intensive. Sometimes it would also make more sense to give away items then to store them for months and years. Items which are not taken, although they are for free, can then be easily allocated to disposal at the WCC.

REFERENCES

Scheinberg A, Simpson M and Gupt Y (2010) Economic aspects of the informal sector in solid waste management. Main report volume 1. GTZ (German Technical Cooperation) and the Collaborative Working Group on Solid Waste Management in Low and Middle Income Countries (CWG), Eschborn, Germany.